Environmental Resources Management

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May 23, 2016
AGL Macon - 0176740

Mr. David Brownlee
Unit Coordinator
Response and Remediation Program
Georgia Department of Natural Resources
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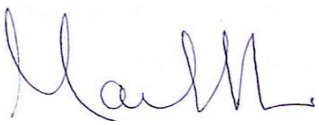
Subject: **VRP 2nd Semiannual Progress Report**
Atlanta Gas Light Company
Former Manufactured Gas Plant Site Macon, Georgia
HSI #10511

Dear Mr. Brownlee:

Attached please find one hard copy and two cd copies of the ***VRP 2nd Semiannual Progress Report*** for the Atlanta Gas Light Company Former Manufactured Gas Plant Site located in Macon Georgia.

Should you have any questions, please do not hesitate to contact me.

Sincerely,



Mark A. Fleri, P.E.
Project Manager

Attachments

cc: Greg Corbett, AGL Resources
Erik Rolle, Georgia Power
Carol Geiger, Kazmarek Mowrey Cloud Laseter LLP
Hollister Hill, Troutman Sanders
Herbert Ernst, Environmental Cost Management

Environmental Resources Management

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May 23, 2016

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Subject: **VRP 2st Semiannual Progress Report**
Atlanta Gas Light Company
Former Manufactured Gas Plant Site Macon, Georgia
HSI #10511

I have enclosed electronic versions of Transmittal of Electronic version VRP 2st Semiannual Progress Report Atlanta Gas Light Company Former Manufactured Gas Plant Site Macon, Georgia HSI #10511 pdf files on Compact Disc to accompany the hard copy report. This certification states that the electronic copy is complete, identical to the paper copy and virus free.

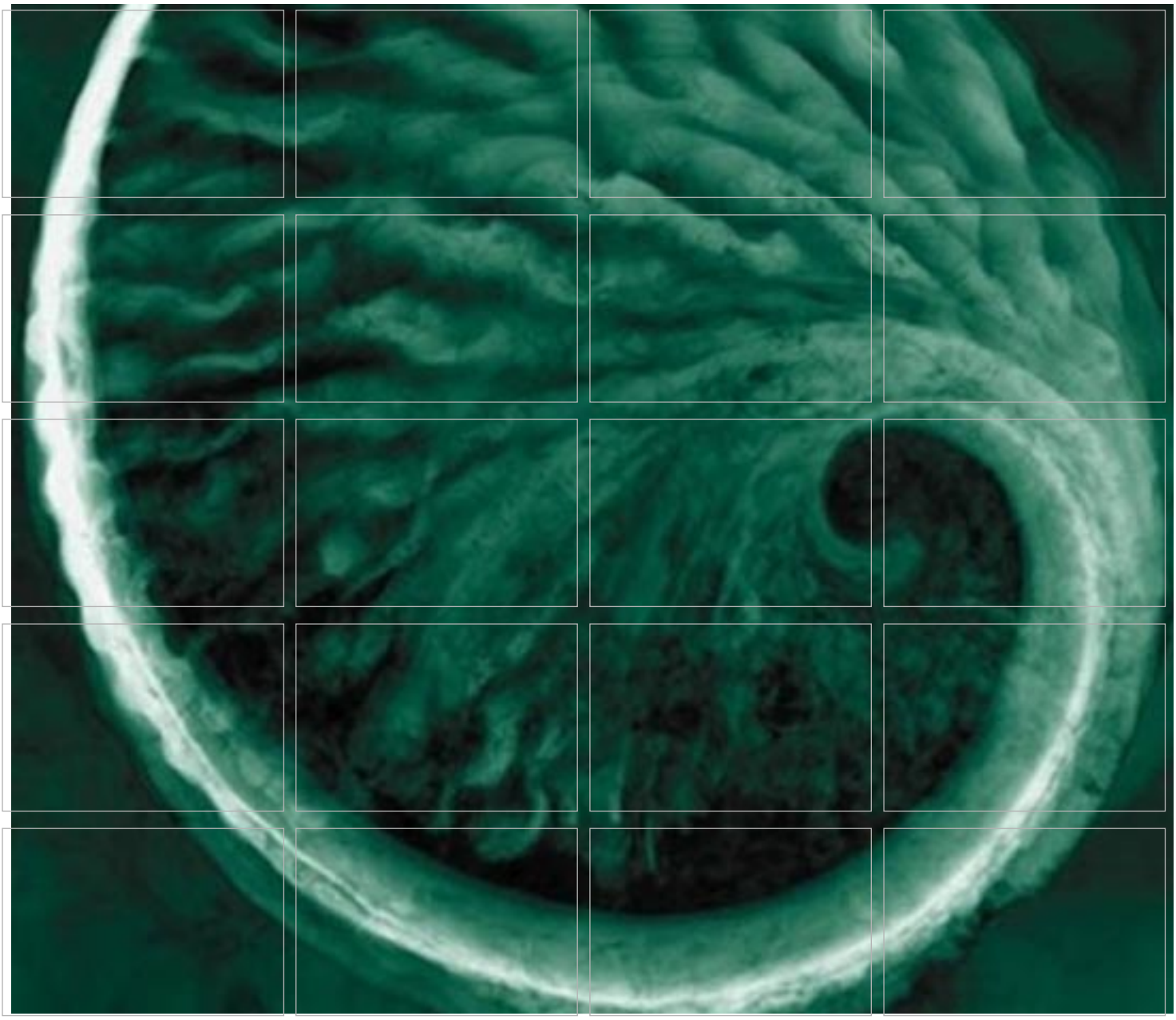
I, Holly H. McDonald, on May 23, 2016 made a complete electronic copy of the following document:

Transmittal of Electronic Version of the Submittal of the
VRP 2st Semiannual Progress Report
Atlanta Gas Light Company
Former Manufactured Gas Plant Site Macon, Georgia
HSI #10511
then confirmed that the electronic copies did not contain a virus utilizing Symantec antivirus software.

You can contact me at 678.486.2700 with any questions or comments.

Best regards,

Holly H. McDonald



2nd Semiannual Progress Report

Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia
HSI #10511

May 21 2016

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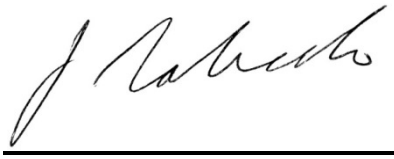
Atlanta Gas Light Company

2nd Semiannual Progress Report

Former Manufactured Gas Plant Site
Macon, Georgia HSI #10511

May 21, 2016

ERM Project No. 0176740



Jorge Salcedo, PG
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ACRONYMS AND ABBREVIATIONS

AGLC	Atlanta Gas Light Company
BPLM	By-Product Like Material
CAP	Corrective Action Plan
CAP A	Corrective Action Plan Addendum
COI	Constituent of Interest
CSM	Conceptual Site Model
DNAPL	Dense Non-Aqueous Phase Liquid
EPD	Environmental Protection Division
ERM	Environmental Resources Management
GMWP	Groundwater Monitoring Work Plan
HSI	Hazardous Site Inventory
HSRA	Hazardous Site Response Act
ISS	In-Situ Solidification
MGP	Manufactured Gas Plant
MUDA	Macon Urban Development Authority
POD	Point of Demonstration
PWR	Partially Weathered Rock
UEC	Uniform Environmental Covenant
VI	Vapor Intrusion
VIRP	Voluntary Investigation and Remediation Plan
VEFR	Vacuum Enhanced Fluid Recovery
VRP	Voluntary Remediation Program
VRPA	Voluntary Remediation Program Act

1.0 INTRODUCTION

This *2nd Semiannual Progress Report* is being submitted on behalf of Atlanta Gas Light Company (AGLC) for the former Macon Manufactured Gas Plant (MGP) site located in Macon, Bibb County, Georgia (Figure 1-1). Two MGP facilities formerly operated in the area of Mulberry Street and 6th Street in Macon. The former MGP located at 137 Mulberry Street (southeast of 6th Street) has been the subject of numerous investigation and corrective actions since the 1980s. This portion of the Macon MGP site is referred to as the Mulberry Street MGP (also referred to as the Eastern Portion MGP in previous correspondence). The property is bounded by Walnut Street, 7th Street, Mulberry Street, and 6th Street, and is currently owned by Macon Urban Development Authority (MUDA.

The second MGP was located northwest of 6th Street. Investigation of this property began in 2005 and in 2007; soil and groundwater impacts requiring additional investigation were identified during the demolition of structures on the property. The results of the investigation established that this location was a separate former MGP site that used different MGP production processes relative to the Mulberry MGP. This former MGP is referred to as the Western Portion MGP (Figure 1-2).

AGLC and the Georgia Environmental Protection Division (EPD) entered into Consent Order EPD-HSR-227 on July 11, 2000. The Consent Order was administered under the Hazardous Site Response Act (HSRA) and the Site was listed on the EPD Hazardous Site Inventory (HSI) as number 10511. AGLC completed a series of investigations and implemented numerous EPD-approved corrective actions while under the HSRA program to address residual MGP impacts in the unsaturated and saturated materials at the Site and on neighboring parcels.

AGLC submitted an application to enter the Georgia Voluntary Remediation Program (VRP) and a Voluntary Investigation and Remediation Plan (VIRP) to EPD in October 2014. On January 14, 2015, AGLC and EPD signed and executed Consent Order EPD-VRP-12, providing for transition of the Site from regulation under HSRA to the VRP. EPD acknowledged acceptance to the VRP in correspondence dated May 21, 2015 and provided comments on the VIRP in correspondence dated May 26, 2015. For the purposes of this document, the term "Site" is defined as the portion of AGLC's contiguous property and any other owner's property potentially impacted by the former MGP operations.

The Site, additional VRP-qualifying properties, and adjoining properties are shown on Figure 3-1.

Under the VRP, the schedule for submittal of progress reports is May 21st and November 21st annually. The purpose of this report is to provide EPD with an update of activities completed since submittal of the *1st Semiannual Progress Report* on November 21, 2015. In addition, the progress report describes upcoming planned activities. In correspondence dated May 26, 2015, EPD provided comments to the October 2014 VIRP; the comments were addressed in the *1st Semiannual Progress Report*. No additional comments have been received from EPD at the time of preparation of this report.

2.0 ACTIVITIES COMPLETED SINCE 1ST SEMIANNUAL PROGRESS REPORT SUBMITTAL

This section describes all activities that have been completed since the *1st Semiannual Progress Report* was submitted in November 2015. These activities include implementation of the corrective actions detailed in the 2014 CAP Addendum (ERM, 2014) and groundwater monitoring and sampling events.

2.1 REMEDIATION PROGRESS

The following corrective action activities have been conducted at the site since the time of the *1st Progress Report* submission:

Primary Site Activity	Completion Date
Planning, Permits, and Coordination	05/15/2015
Mobilization	05/18/2015
Site Prep and Baseline Air Monitoring	06/05/2015
Excavation, Stockpiling, T&D	04/15/2016
In Situ Stabilization/Solidification	11/18/2015
Utility Removal (Gas, Electric, Phone)	10/15/2015
Site Backfill and Grading	04/15/2016
Site Vegetation Restoration	04/15/2016
Utility Restoration	04/29/2016
Roadway Restoration	04/29/2016

Appendix A provides the Corrective Action Completion Report with details regarding the completion of the soil excavation, in situ solidification (ISS), and site restoration work for the Western Portion former MGP site.

2.2 *GROUNDWATER INVESTIGATIONS AND MONITORING*

Groundwater sampling at the site is typically conducted in February (annual event) and August (semiannual event). As discussed in Appendix A, ISS into the saprolite for remediation of MGP-derived byproduct-like material (BPLM) and/or source materials below the groundwater table at the former Macon MGP site was completed in late 2015, excavation of unsaturated soil to remove BPLM and/or source material was completed in mid-April 2016, and site restoration activities were completed in late April 2016. These activities are known to have the potential to create disturbances in the aquifer for some time following implementation. The short duration between completion of the corrective action and an event completed in February could provide anomalous results; therefore, groundwater sampling was postponed until April 2016.

As an interim measure to monitor potential variations in localized groundwater flow, groundwater elevation and total well depth measurements were collected on March 3, 2016 from each accessible alluvium and bedrock groundwater monitoring well. Each well was also evaluated for the presence of dense non-aqueous phase liquid (DNAPL).

A groundwater monitoring report summarizing the results of the March 2016 groundwater level monitoring event and the April 2016 groundwater sampling event is included as Appendix B.

2.3 *BEDROCK DNAPL INVESTIGATIONS*

2.3.1 *DNAPL Observations and Measurements*

During this reporting period DNAPL was observed in MW-111D and MW-309D. The presence of DNAPL in these two (2) bedrock wells is consistent with historical observations.

MW-111D

DNAPL accumulation monitoring was conducted at MW-111D in January, March and April 2016. The following summarizes DNAPL monitoring and recovery efforts at MW-111D since the August 26, 2015 VEFR event.

MW-111D		
Date	**Event**	**Observations – DNAPL Thickness (feet)**
August 26, 2015	Pre-VEFR Monitoring	0.13 ft
August 26, 2015	VEFR	0.00 ft post-VEFR
October 4, 2015	DNAPL Monitoring/ VEFR Follow-up Event	0.00 ft
January 19, 2016	Interim Monitoring	0.55 ft
March 3, 2016	Interim Groundwater Level Monitoring	0.68 ft
April 4, 2016	Semiannual Monitoring	1.4 ft

MW-309D

DNAPL was first observed in MW-309D during well development in July 2015 following well installation. The following table provides a summary of DNAPL thickness monitoring and DNAPL recovery efforts at MW-309D since the August 26, 2015 VEFR event.

MW-309D		
Date	**Event**	**Observations - DNAPL Thickness (feet)[1]**
August 26, 2015	Pre-VEFR Monitoring	Estimated 10 ft of DNAPL with NAPL globules suspended in water column
August 26, 2015	VEFR	0.00 ft post-VEFR
October 4, 2015	DNAPL Monitoring/ VEFR Follow-up Event	Estimated 1.1 ft of DNAPL with minor NAPL globules suspended in bottom 2 ft of well
January 19, 2016	Interim Monitoring	Estimated 1.5 - 7 ft of DNAPL
March 3, 2016	Interim Groundwater Level Monitoring	Estimated 1.5 - 7 ft of DNAPL
April 4, 2016	Semiannual Monitoring	Estimated 1.5 - 7 ft of DNAPL

[1]Thickness of DNAPL estimated. Range was difficult to determine due to density, conductivity and emulsification of the DNAPL in the well.

Additional bedrock wells are planned to further investigate the presence of DNAPL in the vicinity of MW-309D (see Section 3.2).

2.3.2 DNAPL Recovery

The first vacuum enhanced fluid recovery (VEFR) event was performed in February 2011 to remove DNAPL in MW-111D. There have been subsequent events performed in September 2013 (MW-111D and MW-302D), May 2015 (MW-111D), and August 2015 (MW-111D, MW-309D and SW-1). No VEFR events were completed during the monitoring period.

2.4 VAPOR INTRUSION EVALUATION

No vapor intrusion (VI) investigation activities were conducted during this monitoring period.

2.5 SURFACE WATER

Monthly monitoring of rainfall in the Macon area was completed during this reporting period to determine if the Ocmulgee River incurred a 100-year flood event. Such an event would require a supplemental river survey be conducted by AGLC. A 100-year flood event did not occur during this period.

No additional surface water investigations or corrective actions were completed during this monitoring period. Per Comment 2 of the May 26, 2015 EPD correspondence, a summary of the history of investigations and corrective actions completed for the Ocmulgee River near the Site was provided in the *1st Semiannual Progress Report*. A description of the surface water exposure pathway, including surface water and sediment data, was included.

2.6 REGISTERED PROFESSIONAL SUPPORTING DOCUMENTATION

To document the direct oversight of the development of the Voluntary Remediation Plan, implementation of corrective action and long-term monitoring, a monthly summary of hours invoiced and description of services provided by Hunter Sartain, P.E. (Georgia No. 032318) to the VRP participant since the previous submittal to EPD is shown in the following table:

Hunter Sartain, P.E. (Georgia No. 032318)		
Month	Hours Invoiced	Work Completed
November 2015	73.0	Oversight of the work summarized in this report
December 2015	29.5	
January 2016	57.5	
February 2016	34.5	
March 2016	29.0	
April 2016	27.5	

3.0 PLANNED CORRECTIVE ACTIONS AND INVESTIGATIONS

The following sections describe corrective actions and investigations that are planned to be initiated and/or completed during the next monitoring period. A projected milestone schedule is included as Figure 3-1.

3.1 GROUNDWATER INVESTIGATIONS AND MONITORING

3.1.1 Semiannual Groundwater Monitoring

As approved by EPD, groundwater monitoring of alluvium wells was suspended during the ISS and excavation activities. As ISS and excavation activities were recently completed, the first post-corrective action groundwater monitoring event was postponed from February 2016 to April 2016 (Section 2.2) to avoid the collection of potentially anomalous data resulting from the recent disturbances to the aquifer.

During the next reporting period, groundwater monitoring will be conducted in accordance with the Alluvial Groundwater Monitoring Work Plan (GMWP) provided in Appendix H of the 2014 CAP Addendum, with revisions as shown in Table 3-1. The GMWP is intended to provide data regarding constituents of interest (COIs) in wells to monitor corrective action conditions and outline overall effectiveness of the remedy at the site.

During the next reporting period, bedrock groundwater monitoring will continue per the *Bedrock Groundwater Monitoring Plan* (Appendix I of the 2014 VIRP). The bedrock groundwater monitoring network is shown in Table 3-2.

The objective of the groundwater monitoring program is to collect data necessary to evaluate corrective action effectiveness, monitor impacts to the dissolved phase plume and DNAPL impacts, and provide information to update the conceptual site model (CSM) as necessary. After four post-remediation semiannual bedrock and alluvial groundwater sampling events, the need and/or value of continued performance verification monitoring will be assessed for VRP regulatory compliance. The analytical schedule and frequency will be adjusted, as needed to continue compliance demonstrations. The next groundwater monitoring event is scheduled for August 2016.

3.1.2 *Bedrock Well Installations*

Additional wells will be installed to better define the extent of DNAPL in bedrock. The total number and location of additional bedrock wells will be determined based on results of the ongoing bedrock investigation and monitoring program. These wells and any others installed to refine understanding of the extent of dissolved phase impacts will be incorporated into the semiannual groundwater monitoring schedule upon installation, and the results documented in future VRP progress reports.

3.2 *BEDROCK DNAPL INVESTIGATION AND RECOVERY*

DNAPL investigation activities are planned for the next reporting period to refine the CSM in regard to DNAPL presence, extent, and recoverability. The proposed investigation locations are shown on Figure 2-1. The investigation will be completed in accordance with the methods described in the DNAPL Investigation Work Plan provided in Appendix G of the VIRP.

Two primary investigatory borings (DIB-7 and DIB-8) will be advanced, with a contingent boring to be advanced northeast of DIB-7 if DNAPL is detected at DIB-7. Sump wells are proposed for installation at locations where potentially recoverable DNAPL is encountered. Two additional locations (proposed locations MW-310D and MW-311D shown on Figure 2-1) will be advanced to investigate the extent of DNAPL identified at MW-309D and to provide groundwater quality information southwest and east of MW-309D. If recoverable DNAPL is detected in partially weathered rock (PWR) during the drilling of these wells, a sump will be installed and a second borehole will be advanced adjacent to the sump in order to install shallow bedrock well. If DNAPL is not encountered, only the shallow bedrock well will be drilled and installed.

Results of the DNAPL investigation and DNAPL monitoring and recovery efforts will be provided in subsequent semiannual progress reports.

3.3 *VAPOR INTRUSION EVALUATIONS*

If warranted based upon COI concentrations and Site conditions, current and applicable VI guidance will be used to determine whether the VI pathway may be complete at the Macon MGP site. The VI pathway may be complete where a building is located or is planned and where reported COI concentrations may pose an unacceptable risk for existing buildings or future construction. Control methods (e.g., Uniform Environmental

Covenants [UEC], barriers or specific construction design) may be utilized to mitigate the potential for vapors to enter indoor air in existing buildings or future construction.

The small unused building located on the corner of 6th Street and Mulberry Street (Prodigy Woodworks parcel) is being planned for demolition in 2016, to be replaced by a parking lot. A UEC will be placed on the parcel requiring control measures, (e.g., installation of a vapor barrier) as part of the construction of any future structures on the property. The UEC will eliminate the concern for a complete VI pathway at the Prodigy Woodworks parcel.

3.4 SURFACE WATER EVALUATION

A summary of activities that have been completed to support that the surface water exposure pathway associated with the Ocmulgee River has been eliminated was included in the *1st Semiannual Progress Report*. As detailed in that report, a substantial river armoring event was completed in 2004. A baseline river bottom survey and two subsequent surveys to monitor for erosion and scouring of the armored portion have been conducted since 2004, with the most recent event completed in October 2015. The October 2015 survey demonstrated that a minimum of three (3) feet or more of sediment cover remains in the armored area.

Based on the history of the investigation, remediation, and subsequent monitoring of the Ocmulgee River sediments near the Upper and Lower Outfalls, the compliance certifications previously provided, and the historical monitoring, the *1st Semiannual Progress Report* recommended that sediments and surface water be excluded from further evaluation. As such, no surface water evaluations are planned to occur during the upcoming reporting period, and monitoring of rainfall in the Macon area will be discontinued.

3.5 MODELLING AND POINT OF DEMONSTRATION WELLS

As discussed in section 2.1 of this report, corrective actions for alluvial groundwater were completed in April 2016. Investigations of dissolved phase impacts will continue with semiannual groundwater monitoring event, and investigation of DNAPL presence in bedrock is planned for the next reporting period (Sections 3.1 and 3.2) . Data collected during the

next reporting period will be used to monitor post-corrective action conditions and to evaluate when the aquifer has returned to steady-state (or static) conditions. Once the data set considered to represent steady-state groundwater conditions is considered sufficiently robust, the CSM will be updated and groundwater modelling will be performed. Modelling will be used to determine and validate the locations of point of demonstration (POD) wells.

As shown in Figure 3-1, it is anticipated that two (2) groundwater monitoring events (semiannual event in August 2016 and an annual event in February 2017) will provide sufficient data to beginning the modelling and POD well evaluation efforts. Groundwater conditions will be evaluated following each event and additional groundwater sampling will be completed if necessary to meet project objectives and milestones (i.e., wells may be added to the proposed schedule, or a quarterly sampling event may be completed).

3.6 RISK ASSESSMENT AND REPRESENTATIVE EXPOSURE CONCENTRATIONS

Post-corrective action groundwater COI concentrations and results of the ongoing bedrock investigations will be evaluated during the next reporting period, and groundwater monitoring wells will be installed and sampled as necessary to comply with VRPA delineation requirements. If warranted, additional properties may be entered into the VRP. Upon completion of the post-implementation monitoring of the effectiveness of the corrective actions described in Appendix A, the bedrock investigations described in the 2014 VIRP and herein, and inclusion of any additional properties into the VRP, the human health exposure pathway assessment and risk evaluation outlined conceptually in the VIRP for COIs in soil and groundwater will be completed.

3.7 UNIFORM ENVIRONMENTAL COVENANTS

Continued monitoring and maintenance activities, and/or restrictions on disturbance of soil, and/or restrictions to groundwater use at VRP-qualifying properties will be implemented as needed in the form of UECs. Existing UECs (e.g., current restriction on groundwater use at the MUDA property) will be revised if appropriate and new UECs will be enacted as necessary based on post-remedy conditions and the results of the risk evaluation.

4.0 REFERENCES

ERM, 2014. *Western Portion and MW-101 Area Groundwater Corrective Action Plan Addendum.* Prepared by Environmental Resources Management, February 2014.

ERM, 2014a. *Voluntary Investigation and Remediation Plan*. Prepared by Environmental Resources Management, October 2014.

ERM, 2015. 1st Semiannual Progress Report. Prepared by Environmental Resources Management, November 2015.

Tables

Project No. 0176740
Atlanta Gas Light Company

Environmental Resources Management
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Table 3-1
Alluvial Well Groundwater Monitoring Network
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Monitoring Well I.D.	Hydrogeologic Unit	Screened Interval ft bgs	Proposed Sampling Schedule
AMW-1	Alluvium	9.7 - 19.7	Completely excavated during corrective action implementation
AMW-2	Alluvium	4.6 - 14.6	Annual Sampling
AMW-3	Alluvium	5.7 - 15.7	Abandoned - Inside ISS Footprint
AMW-4	Alluvium	11.3 - 21.3	Abandoned - Inside ISS Footprint
AMW-5	Alluvium	12.7 - 22.7	Abandoned - Inside ISS Footprint
AMW-6	Alluvium	11 - 21	Semiannual Sampling
AMW-7	Alluvium	8.1 - 18.1	Abandoned - Inside ISS Footprint
AMW-8	Alluvium	8.2 - 18.2	Abandoned - Inside ISS Footprint
AMW-9	Alluvium	8.4 - 18.4	Destroyed During Remedy Implementation
AMW-10	Alluvium	18.4 - 28.4	Abandoned - Inside ISS Footprint
AMW-11	Alluvium	5 - 15	Annual Sampling
AMW-12	Alluvium	10 - 20	Annual Sampling
AMW-13	Alluvium	10 - 20	Annual Sampling
AMW-14	Alluvium	5 - 20	Annual Sampling
AMW-15	Alluvium	6 - 21	Annual Sampling
MW-07	Alluvium	5 - 15.5	Gauge Only
MW-08	Alluvium	9 - 19	Annual Sampling
MW-09	Alluvium	8 - 13	Abandoned - Inside ISS Footprint
MW-10	Alluvium	7.5 - 17.5	Gauge Only
MW-11	Alluvium	5 - 12	Gauge Only
MW-12R	Alluvium	4.5 - 14.5	Annual Sampling
MW-14	Alluvium	3 - 15	Annual Sampling
MW-15	Alluvium	3 - 14.5	Semiannual Sampling
MW-21	Alluvium	3 -10	Annual Sampling
MW-23	Alluvium	5 - 20	Gauge Only
MW-25	Alluvium	10 -25	Gauge Only; within corrective action excavation footprint and covered by debris. Attempt to recover.
MW-26	Alluvium	5 - 20	Gauge Only
MW-28	Alluvium	2 - 17	Gauge Only
MW-101	Alluvium	5 - 15	Semiannual Sampling
MW-102	Alluvium	5 - 10	Semiannual Sampling
MW-103	Alluvium	10 - 20	Annual Sampling
MW-104	Alluvium	5 - 20	Annual Sampling
MW-105	Alluvium	15 - 25	Gauge Only
MW-106	Alluvium	9 - 19	Gauge Only
MW-107	Alluvium	8 - 18	Gauge Only
MW-108	Alluvium	10 - 20	Semiannual Sampling
MW-109	Alluvium	13.5 - 23.5	Annual Sampling
MW-201	Alluvium	10 - 20	Abandoned - Inside ISS Footprint
MW-202	Alluvium	10 - 20	Abandoned - Inside ISS Footprint
MW-204	Alluvium	13 - 23	Abandoned - Inside ISS Footprint
MW-205	Alluvium	14 - 29	Semiannual Sampling
MW-206	Alluvium	16 - 31	Abandoned - Inside ISS Footprint
MW-207	Alluvium	15 - 30	Abandoned - Inside ISS Footprint
MW-400	Alluvium	6 - 16	Semiannual Sampling
MW-401	Alluvium	6 - 16	Annual Sampling
MW-12IR	Intermediate	11 - 21	Annual Sampling
MW-14I	Intermediate	19 - 24	Annual Sampling
MW-104I	Intermediate	15 - 20	Gauge Only

Note: Installation of additional alluvium monitoring wells is not proposed at this time. The need for additional wells will be evaluated and modifications to the monitoring well network and/or schedule will be provided in semiannual progress reports

Table 3-2
Bedrock Groundwater Monitoring Network
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

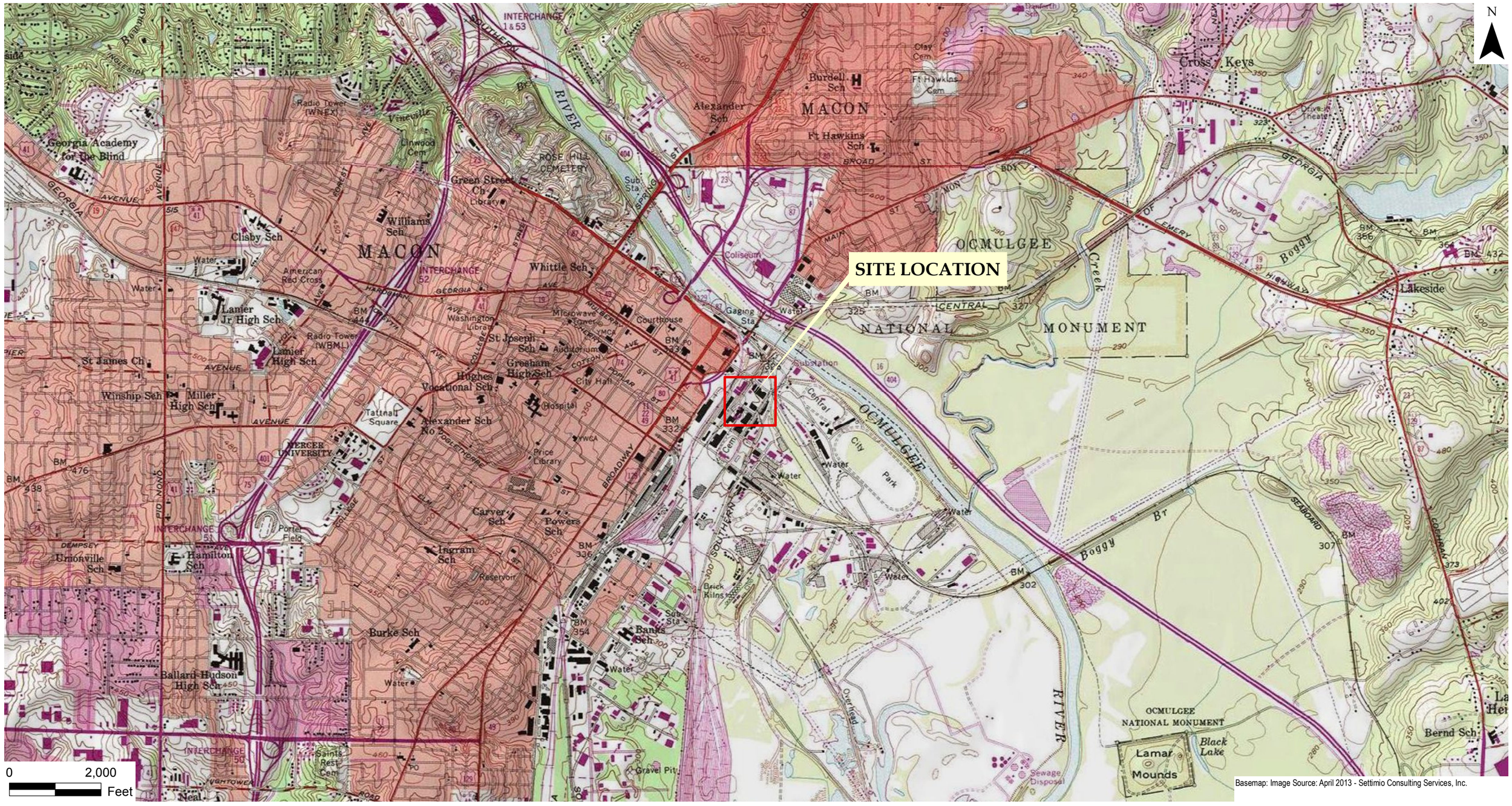
Monitoring Well I.D.	Hydrogeologic Unit	Screened Interval ft bgs	Proposed Sampling Schedule
MW-08D	Shallow Bedrock	38 - 53.5	Gauge only
MW-09D	Shallow Bedrock	46.5 - 56.5	Abandoned - Inside ISS Footprint
MW-12DRR	Shallow Bedrock	37 - 52	Semiannual
MW-12DD	Deep Bedrock	87 - 97	Annual
MW-22D	Shallow Bedrock	44 - 66	Annual
MW-23D	Shallow Bedrock	23 - 36	Semiannual
MW-24D	Shallow Bedrock	30.5 - 40.5	Semiannual
MW-25D	Shallow Bedrock	50 - 57.5	Semiannual; within corrective action excavation footprint and covered by debris. Attempt to recover.
MW-26D	Shallow Bedrock	31 - 42	Annual
MW-27D	Shallow Bedrock	43.5 - 48.5	Annual
MW-27DD	Deep Bedrock	105 - 115	Gauge only
MW-108D	Shallow Bedrock	48.5 - 58.5	Annual
MW-110D	Shallow Bedrock	28 - 43	Semiannual
MW-111D	Shallow Bedrock	33 - 46.5	Semiannual
MW-112D	Shallow Bedrock	26 - 36	Annual
MW-113D	Shallow Bedrock	29.5 - 39.5	Annual
MW-114D	Shallow Bedrock	45 - 55	Gauge only
MW-115D	Shallow Bedrock	45.5 - 55.5	Abandoned - Inside ISS Footprint
MW-200DR	Shallow Bedrock	29.5 - 39.5	Semiannual
MW-204D	Shallow Bedrock	30.5 - 45.5	Semiannual
MW-205D	Shallow Bedrock	28 - 43	Semiannual
MW-205DD	Deep Bedrock	90 - 100	Semiannual
MW-206D	Shallow Bedrock	31 - 46	Annual
MW-207D	Shallow Bedrock	34 - 46.5	Annual
MW-300D	Shallow Bedrock	33 - 43	Annual
MW-301D	Shallow Bedrock	36 - 46	Semiannual
MW-302D	Shallow Bedrock	35 - 45	Semiannual
MW-302DD	Deep Bedrock	70 - 100	Semiannual
MW-303D	Shallow Bedrock	50 - 60	Abandoned - Inside ISS Footprint
MW-304D	Shallow Bedrock	41 - 61	Annual
MW-305D	Shallow Bedrock	34.5 - 41.5	Semiannual
MW-306D	Shallow Bedrock	32.5 - 51	Semiannual
MW-307D	Shallow Bedrock	34 - 58	Semiannual
MW-308D	Shallow Bedrock	72 - 110	Semiannual
MW-309D	Shallow Bedrock	35 - 45	Semiannual
MW-310D*	Shallow Bedrock	TBD	Semiannual
MW-311D*	Shallow Bedrock	TBD	Semiannual

* Proposed shallow bedrock wells to be installed; no additional bedrock wells are proposed at this time. The need for any additional wells will be evaluated and modifications to the monitoring well network and/or schedule will be provided in semiannual progress reports

Figures

Project No. 0176740
Atlanta Gas Light Company

Environmental Resources Management
3200 Windy Hill Road SE, Suite 1500W
Atlanta, Georgia 30339
(678) 486-2700



ERM

Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	5/3/2016	SCALE:	AS SHOWN	REVISION:	0
FILE:	D:\AGL_Macon\MXD\2016 04 2ndSAPrgRpt\AGLMcn2ndSAPrRpt_1-1_Topo.mxd				

CONTOUR INTERVAL 10 FEET
DOTTED LINES REPRESENT 5-FOOT CONTOURS
NATIONAL GEODETIC VERTICAL DATUM OF 1929

GEORGIA

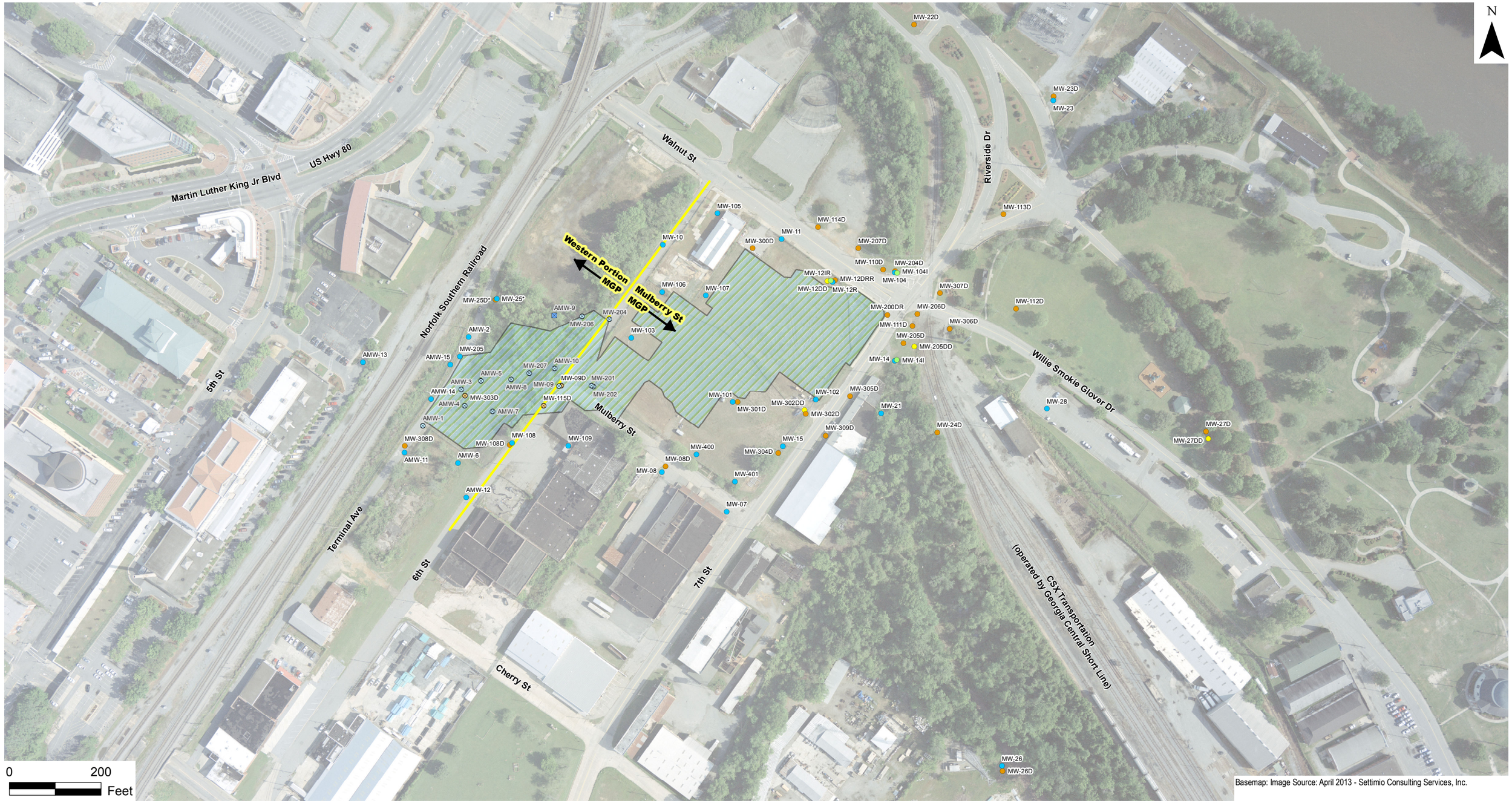
QUADRANGLE LOCATION

FIGURE 1-1 - TOPOGRAPHIC SITE LOCATION MAP

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



ERM

Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	5/18/2016	SCALE:	AS SHOWN	REVISION:	0
FILE:	S:\0176740 - Macon Remediation\Figures\AGL_Macon\MXD\2016 04 2ndSAPrgRpt\AGLMcn2ndSAPrRpt_1-2_SiteMap.mxd				

- Shallow Well
- Abandoned Shallow Well
- Destroyed Shallow Well
- Intermediate Well
- Shallow Bedrock Well
- Abandoned Shallow Bedrock Well
- Deep Bedrock Well
- ISS Mass

NOTE: * MW-25 & MW-25D were within the shallow excavation footprint & were covered by debris.

FIGURE 1-2
SITE MAP

Atlanta Gas Light Company

Former Manufactured Gas Plant

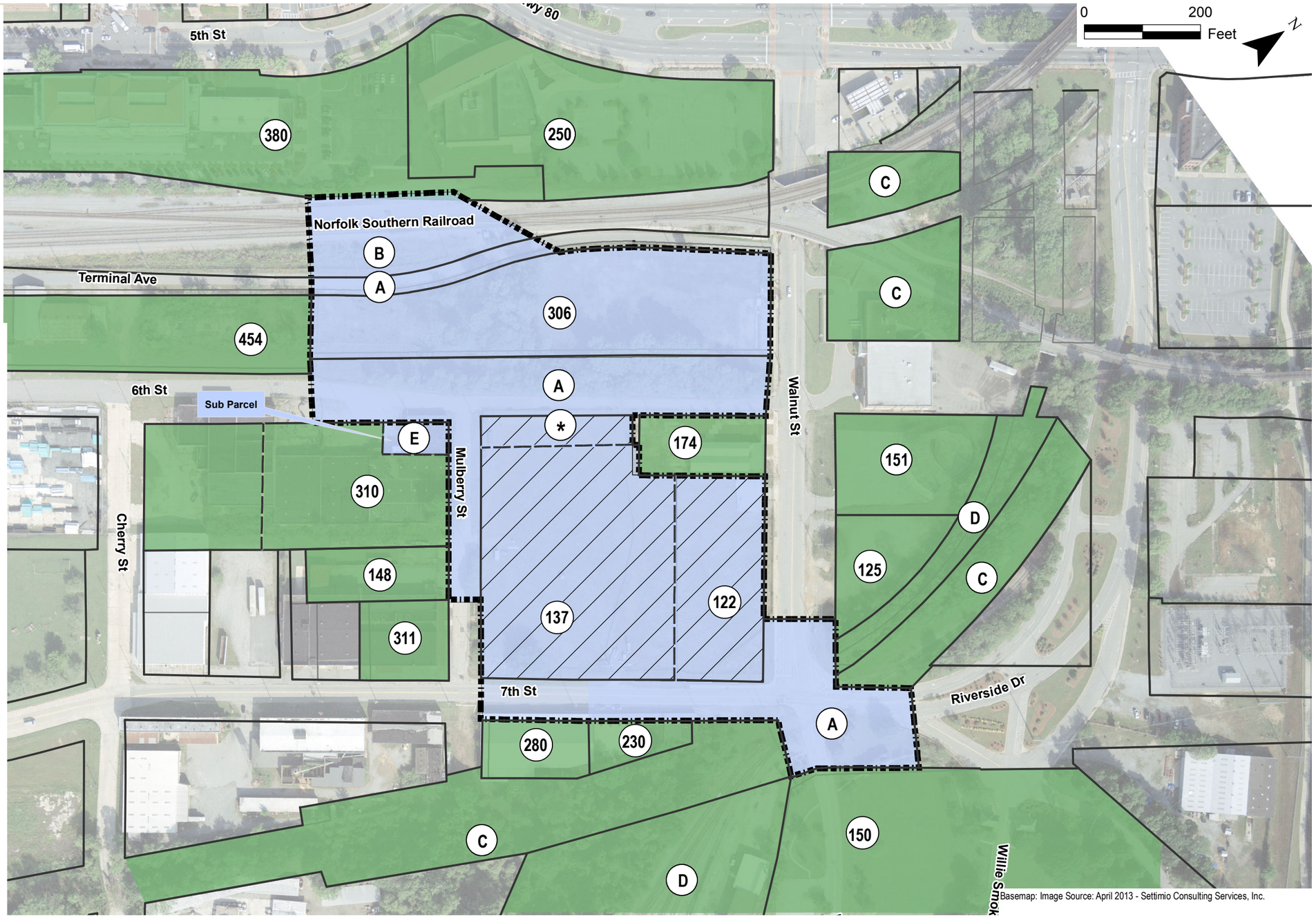
Macon, Bibb County, Georgia

APPLICANT & QUALIFYING PROPERTIES

306	Owner: AGLC (Applicant)	*Tax Parcel ID: R073-0384*
137 122	Owner: Macon-Bibb Co Urban Dev Auth	*Tax Parcel ID: R074-UTIL, R074-0223, R074-0205*
A	Owner: City of Macon	*Tax Parcel ID: N/A*
B	Owner: Norfolk Southern	*Tax Parcel ID: N/A*
E	Owner: Prodigy Holdings LLC	*Tax Parcel ID: Sub Parcel of R081-0135*

ADJOINING PROPERTIES

C	Owner: Norfolk Southern	*Tax Parcel ID: N/A*
125 151	Owner: Bobby C. Lanford	*Tax Parcel ID: R074-0218, R074-0216*
230	Owner: Bernard B. Smith et al	*Tax Parcel ID: R074-0204*
150	Owner: Bibb County	*Tax Parcel ID: ST89-0027*
280	Owner: Seventh Street Invest LLC	*Tax Parcel ID: R074-0209*
D	Owner: CSXT	*Tax Parcel ID: N/A*
311 148	Owner: ECI Contracting Group	*Tax Parcel ID: R082-0004, R074-0202*
310 454	Owner: Prodigy Holdings LLC	*Tax Parcel ID: R081-0135, R081-0076*
174	Owner: Marillac Properties LLC	*Tax Parcel ID: R074-0200*
250	Mercer University	*Tax Parcel ID: R073-0403*
380	Macon-Bibb County Transit Authority	*Tax Parcel ID: R073-0399*



ERM

Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	5/3/2016	SCALE:	AS SHOWN	REVISION:	0
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Macon-Bibb County Urban Development Authority Propoerty (Agreement Pending)

* Unnumbered Parcel (per Macon-Bibb County Tax Assessors GIS)

280 Address Number (per Macon-Bibb County Tax Assessors GIS)

Property Line

VRP Applicant & Qualifying Properties Boundary

FIGURE 1-3 - PROPERTY OWNERSHIP MAP

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



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Environmental Resources Management

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DATE:	5/3/2016	SCALE:	AS SHOWN	REVISION:	0
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- Deep Bedrock Well
- Shallow Bedrock Well
- Completed DNAPL Investigation Boring
- Proposed DNAPL Investigation Boring
- Proposed Contingency DNAPL Investigation Boring
- Proposed Shallow Bedrock Well
- DNAPL Recovery Sump
- Existing ISS Area

NOTE:

All proposed locations approximate and may be moved upon site conditions.

Sump wells will be installed in addition to shallow bedrock wells if recoverable DNAPL is observed at bedrock surface.

FIGURE 2-1
COMPLETED & PROPOSED DNAPL INVESTIGATION BORING LOCATIONS

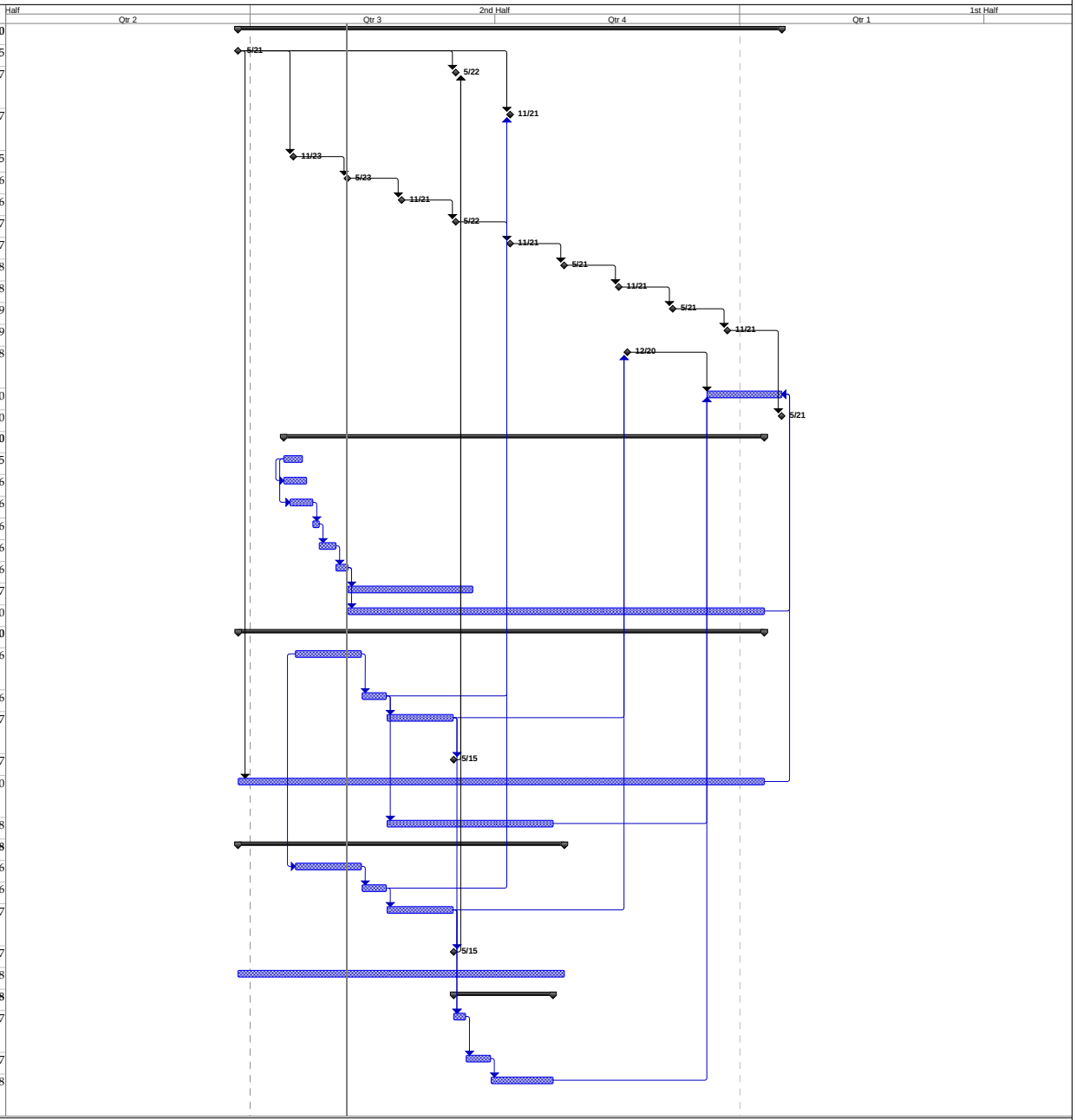
Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia

Figure 3-1
VRP Projected Milestone Schedule
AGLC - HSI Site #10511
Macon, GA

ID	Task Name	Duration	Start	Finish
1	**VRP Schedule and Deadlines**	**1306 days**	**Thu 5/21/15**	**Thu 5/21/20**
2	Acceptance Into VRP	1 day	Thu 5/21/15	Thu 5/21/15
3	Completion of Horizontal Delineation of Release for All Affected Parcels	1 day	Mon 5/22/17	Mon 5/22/17
4	Update CSM to include Vertical delineation (if required) and Final Remediation Plans, and Costs	1 day	Tue 11/21/17	Tue 11/21/17
5	1st Semiannual Progress Report	1 day	Mon 11/23/15	Mon 11/23/15
6	2nd Semiannual Progress Report	1 day	Mon 5/23/16	Mon 5/23/16
7	3rd Semiannual Progress Report	1 day	Mon 11/21/16	Mon 11/21/16
8	4th Semiannual Progress Report	1 day	Mon 5/22/17	Mon 5/22/17
9	5th Semiannual Progress Report	1 day	Tue 11/21/17	Tue 11/21/17
10	6th Semiannual Progress Report	1 day	Mon 5/21/18	Mon 5/21/18
11	7th Semiannual Progress Report	1 day	Wed 11/21/18	Wed 11/21/18
12	8th Semiannual Progress Report	1 day	Tue 5/21/19	Tue 5/21/19
13	9th Semiannual Progress Report	1 day	Thu 11/21/19	Thu 11/21/19
14	Update VIRP Application and Incorporate all Qualifying Parcels and Associated Documentation	1 day	Thu 12/20/18	Thu 12/20/18
15	Prepare Compliance Status Report	180 days	Fri 9/13/19	Thu 5/21/20
16	Submit Compliance Status Report	1 day	Thu 5/21/20	Thu 5/21/20
17	**Alluvial Groundwater**	**1153 days**	**Thu 10/22/15**	**Mon 3/23/20**
18	Compete ISS	45 days	Thu 10/22/15	Wed 12/23/15
19	T&D all Waste Materials	55 days	Thu 10/22/15	Wed 1/6/16
20	Backfill and Compaction	55 days	Thu 11/12/15	Wed 1/27/16
21	Site Grading	15 days	Thu 1/28/16	Wed 2/17/16
22	Site Restoration	40 days	Thu 2/18/16	Wed 4/13/16
23	Corrective Action Completion Report	28 days	Thu 4/14/16	Mon 5/23/16
24	Modelling, POD Verification	300 days	Tue 5/24/16	Mon 7/17/17
25	Alluvial GW Monitoring (including POD Wells)	1000 days	Tue 5/24/16	Mon 3/23/20
26	**Bedrock Groundwater**	**1262 days**	**Fri 5/22/15**	**Mon 3/23/20**
27	Obtain Site Access for Bedrock Groundwater Investigation	160 days	Mon 11/30/15	Fri 7/8/16
28	Conduct Bedrock Groundwater Investigation	60 days	Mon 7/11/16	Fri 9/30/16
29	Incorporate Additional Parcels into VRP Qualifying Properties as Required	160 days	Mon 10/3/16	Fri 5/12/17
30	Completion of Delineation of Bedrock Groundwater	1 day	Mon 5/15/17	Mon 5/15/17
31	Bedrock Groundwater Monitoring (including POD Wells)	1262 days	Fri 5/22/15	Mon 3/23/20
32	Groundwater Modelling and Risk Evaluations	400 days	Mon 10/3/16	Fri 4/13/18
33	**DNAPL Investigations and Remediation**	**783 days**	**Thu 5/21/15**	**Mon 5/21/18**
34	Obtain Site Access for DNAPL Investigation	160 days	Mon 11/30/15	Fri 7/8/16
35	Conduct DNAPL Investigations	60 days	Mon 7/11/16	Fri 9/30/16
36	Incorporate Additional Parcels into VRP Qualifying Properties as Required	160 days	Mon 10/3/16	Fri 5/12/17
37	Completion of Delineation of DNAPL	1 day	Mon 5/15/17	Mon 5/15/17
38	Passive DNAPL Recovery	783 days	Thu 5/21/15	Mon 5/21/18
39	**Vapor Intrusion Evaluation**	**240 days**	**Mon 5/15/17**	**Fri 4/13/18**
40	Complete VI Screening based on Investigations (as required)	30 days	Mon 5/15/17	Fri 6/23/17
41	Evaluate VI Control via UEC	60 days	Mon 6/26/17	Fri 9/15/17
42	Prepare VI Investigation and Risk Evaluation, if required	150 days	Mon 9/18/17	Fri 4/13/18



Project: Macon MGP Site VRP
Date: Fri 5/20/16

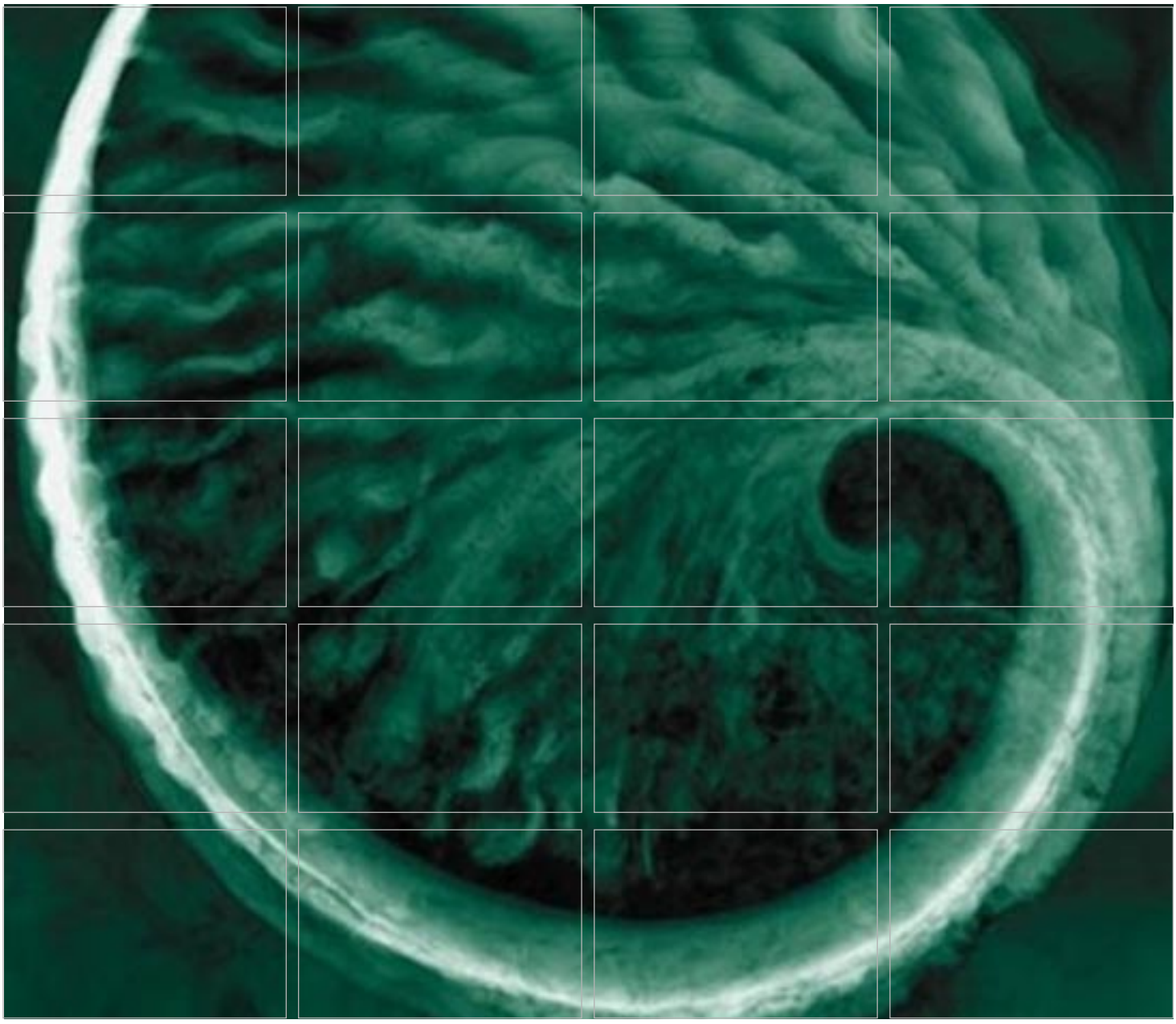
Task | Split | Milestone | Summary | Project Summary | External Tasks | External Milestone | Inactive Task | Inactive Task | Inactive Milestone | Inactive Summary | Manual Task | Duration-only | Manual Summary Rollup | Manual Summary | Start-only | Finish-only | Progress | Deadline

Corrective Action Completion Report

Appendix A

Project No. 0176740
Atlanta Gas Light Company

Environmental Resources Management
3200 Windy Hill Road SE, Suite 1500W
Atlanta, Georgia 30339
(678) 486-2700



Corrective Action Completion Report for Remediation of the Former Manufactured Gas Plant Site

Western Parcel
Macon, Georgia

May 21, 2016

www.erm.com

ERM

The world's leading sustainability consultancy

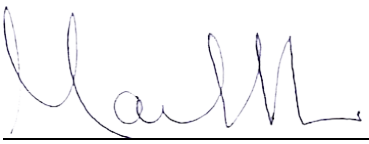
Atlanta Gas Light Corporation

Corrective Action Completion Report for Remediation of the Former Manufactured Gas Plant Site

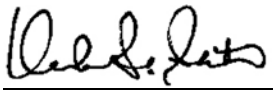
AGLC
Western Portion
Macon, Georgia

Date: May 21, 2016

Project Number 0176740



Mark Fleri, P.E.
Senior Project Manager



Hunter Sartain, P.E.
Principal in Charge

Environmental Resources Management
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Atlanta, Georgia 30339
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www.erm.com

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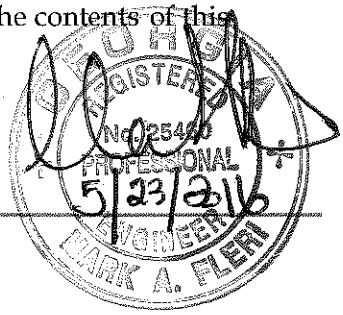
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LIST OF ACRONYMS

AGLC	Atlanta Gas Light Company
amsl	above mean sea level
ANS	American Nuclear Society
ASTM	American Society for Testing and Materials
BPLM	by product like material
bgs	below ground surface
BPLM	byproduct-like material
CACR	Corrective Action Completion Report
CAP Addendum	Corrective Action Plan Addendum
cm/sec	centimeters per second
COI	constituents of interest
DGA	Donaldson, Garrett, & Associates, Inc.
EPD	Environmental Protection Division
GAC	granular activated carbon
GSI	Geo-Solutions, Inc.
GGBFS	ground granulated blast furnace slag
gpm	gallons per minute
HASP	Health and Safety Plan
HSI	Hazardous Site Inventory
ISS	*in situ* solidification
LEAF	Leaching Environmental Assessment Framework
mg/m^3	milligrams per cubic meter
MGP	manufactured gas plant
MWA	Macon Water Authority
NOI	notice of intent
NPDES	National Pollutant Discharge Elimination System
PID	photoionization detector
PPE	personal protective equipment ppm parts per million
psi	pounds per square inch
QA	quality assurance
RRS	risk reduction standards
SU	standard unit
TVOC	total volatile organic compounds
UCS	unconfined compressive strength
VOC	Volatile Organic Compound
w:c	weight of water per weight of cement ratio

PROFESSIONAL ENGINEER CERTIFICATION

"I certify that I am a registered professional engineer who has received a baccalaureate or post- graduate degree and have sufficient training and experience in remedial action engineering and related fields, as demonstrated by state registration and completion of accredited university courses that enable me to make sound professional judgments regarding remedial actions. I further certify that I have participated in the preparation and have reviewed the contents of this report."



Mark Fleri, P.E.
Georgia Professional Engineer License No. 25460

1.0 INTRODUCTION

This *Corrective Action Completion Report* (CACR) is being submitted on behalf of Atlanta Gas Light Company (AGLC) for the Macon former Manufactured Gas Plant (MGP) site located in Macon, Bibb County, Georgia (Figure A-1). The remedial action area is located east of downtown Macon, and is bounded in general by Terminal Avenue to the west, Walnut Street to the north, and 6th Street and/or Mulberry Street to the east.

Two MGP facilities formerly operated in this area. One of the MGP facilities was located at 137 Mulberry Street and the other was located on what is now Terminal Avenue (*Western Portion MGP*). Surrounding features and the location of these former MGP sites are presented in Figure A-2.

The Macon former MGP Site was previously listed on the Georgia Environmental Protection Division (EPD) Hazardous Site Inventory (HSI) as HSI No. 10511. AGLC has performed a series of investigations and implemented several EPD approved corrective actions, which have addressed the unsaturated and saturated materials at the Site.

AGLC submitted an application to enter the Georgia Voluntary Remediation Program (VRP) and a *Voluntary Investigation and Remediation Plan* (VIRP) to EPD in October 2014 (ERM, 2014). The *Western Portion and MW-101 Area Groundwater Corrective Action Plan Addendum* (Groundwater CAP-Addendum [ERM, 2014a]) was included as an appendix to the VIRP. The Macon former MGP Site was accepted into the VRP on May 21, 2015 and entered into EPD Consent Order EPD-VRP-012. For the purposes of this document, the term "Site" is defined as the portion of AGLC's contiguous property and any other owner's property potentially impacted by the former MGP operations.

The VRP remedial action included in the VIRP and Groundwater CAP-Addendum (ERM, 2014a) was implemented from May 2015 through April 2016. This CACR has been prepared by ERM to satisfy the requirement for remedial action completion reporting within 90 days of the finish of remedial activities, as described in the Groundwater CAP Addendum (ERM, 2014a).

2.0 SUMMARY OF THE CORRECTIVE ACTIONS

As described in the VIRP, the Site remedy consisted of two distinct components:

- Excavation and off-site disposal of vadose zone soils that were impacted above established Risk Reduction Standards (RRS) , or were visually observed to contain MGP-related byproduct-like material (BPLM); and/or source material.

- In-Situ Solidification (ISS) of media below the water table with a cement-slag-bentonite grout mixture. The limits of ISS encompassed the full horizontal and vertical extent of alluvial soils where soil borings encountered MGP-derived BPLM.

A summary of the VRP remediation activities is presented in Table A-1. Figure A-3 shows the pre-existing conditions at the Site prior to the start of this remedial action. The ISS treatment area extended horizontally from the edge of the previously-existing ISS monolith west to Terminal Avenue, as shown on Figure A-2. The top of the ISS monolith varied from 8 feet to 13 feet below ground surface (bgs), while the bottom of the ISS monolith varied from about 12 feet bgs to 30 feet bgs, which included penetration of at least two feet into the saprolite unit beneath the impacted alluvial soil, or to refusal. In addition, widths of three ISS columns were installed around the perimeter of the ISS area at least five feet into the saprolite unit. This "key" into saprolite provides greater probability that the ISS was installed into competent material to limit the potential migration of contaminants from the residual monolith.

The goal of the VRP ISS remedy was to remove MGP-impacted soil above groundwater and replace with clean back-fill, and to immobilize MGP-derived BPLM within a low-permeability soil- cement monolithic matrix. The VRP remedial action was specifically designed to address BPLM and source material in alluvial soils and, consequently, protect groundwater in the alluvium. The low hydraulic conductivity of the soil-cement matrix will significantly reduce the mobility of groundwater through the new ISS monolith and thereby retard the contact of constituents of interest (COI) with alluvial groundwater.

3.0 PROJECT ORGANIZATION AND CONTRACTING

ERM prepared the Remedial Design for the project as part of the *Request for Proposal for In-Situ Solidification (ISS) of Source Materials and Associated Activities* (ERM, 2014b) and then implemented the remedy providing construction management, safety services, quality assurance (QA), and subcontracted construction services. ERM directly subcontracted the following services:

- Geo-Solutions, Inc. (GSI): Remedial construction
- AES: Chemical Analytical Laboratory and ISS Leachability Analyses
- KEMRON: Geotechnical Laboratory and ISS Leaching Procedure Extractions
- Donaldson, Garrett, and Associates, Inc. (DGA): Surveying
- Ground Penetrating Radar Systems, Inc. (GPRS): Utility locate services
- Vibra-Tech Inc.: Monitoring ISS ground vibration on the neighboring Norfolk Southern property
- Ferrell Gas: Relocation of a propane tank on an adjacent property near the ISS limits
- Ridge Environmental Solutions: Permanent Restoration Fencing

GSI was selected as the remedial construction contractor on this project. GSI performed all general construction duties including soil excavation, disposal and installation of the solidified ISS monolith. GSI used a number of direct subcontractors and material and equipment providers, including:

- AA Action Fence Company: Temporary Construction Fencing
- SBX: General Site Preparation Tree Clearing and Earthwork
- Lehigh: Supplier of Portland cement and granulated ground blast furnace slag (ISS reagents)
- H&H Environmental, Inc.: Supplier of bentonite (ISS reagent)
- Advanced Disposal: Transport and disposal of impacted soil and debris
- Neff Rental: Construction equipment rental
- Rain for Rent: Contact water treatment system, storage tanks (frac tanks), and transfer pumps
- Geotechnical Environmental Consultants (GEC): Geotechnical testing of backfill soil and nuclear density field testing of compacted backfill and asphalt
- Sam Hall and Sons: Sidewalk and curb installation, road pavement reconstruction, utility relocations and restoration
- Middle Georgia Hydroseeding: Soil Amendment Placement and Seeding

TRC who performed third party perimeter air monitoring was subcontracted by Kazmarek Mowrey Cloud Laseter, LLP (KMCL).

4.0 SITE PREPARATION AND EXCAVATION

4.1 SITE PREPARATION

ERM and GSI mobilized to the Site on May 18, 2015. Appendix A-1 is a photographic log of the project activities. DGA performed a pre-construction topographic survey and staked out the necessary project controls.

During mobilization, GSI took delivery of rental equipment, traffic control barriers and signage, temporary facilities, and materials. Six flatbed trucks delivered the pieces of the ISS crane on May 27th, and crane assembly commenced immediately. Initial site work included installation of erosion controls, storm water basin excavation, and installation of storm water diversion berms, the gravel haul road, trailers, parking area, and truck staging area. GSI also installed perimeter fencing with privacy/dust control fabric, placed traffic barriers and signage, received reagent storage equipment (cement "pigs") and reagents (bentonite).

Once equipment and materials were mobilized, GSI prepared the crane to receive the ISS drilling platform; erected, plumbed, and wired the grout batch mixing plant; took delivery of reagents (Portland cement and slag, bentonite); began excavation of topsoil and overburden soil from within the ISS footprint; and constructed a lined stockpile for temporary storage and testing of potentially-impacted soils.

Following mobilization and set-up of temporary facilities, GSI transported the assembled crane and auger into the ISS footprint.

4.2 PREPARATORY EXCAVATION

4.2.1 Storm Water Detention Basin Excavation

Excavation of approximately 500 cubic yards of soil for the temporary storm water detention basin was performed between June 6th and June 9th. This excavation did not encounter any impacted soil. Excavated soil and topsoil were stockpiled for testing and later reuse as fill. Photographs of the work, as well as the completed storm water detention basin after a rain event, are provided in Appendix A-1.

4.3 MONITORING WELL ABANDONMENT

As noted in the *1st Semiannual Progress Report*, a total of three (3) bedrock monitoring wells located within the footprint of the ISS work were abandoned in May 2015 prior to mobilization to the Site and initiation of the corrective actions. During the course of the corrective actions, 13 alluvial monitoring wells located in the footprint of the soil excavation and/or ISS work area were abandoned.

Abandoned alluvial wells located within the footprint of the ISS monolith were "over-drilled" by the ISS auger and all of the remnant well casings were thereby incorporated into the ISS monolith. Alluvial wells located outside the ISS area but within the soil excavation area were excavated during the excavation activities. Two (2) wells in the vicinity of the corrective actions (MW-25 and MW-25D) were covered by debris during the site restoration activities; the wells will be located and assessed for future monitoring. One well (AMW-9) was potentially destroyed during the corrective action activities; an attempt will be made to locate the well and assess suitability for future monitoring. The locations of the abandoned wells and additional details are shown on Figure A-2 and well abandonment records are included in Appendix A-2.

4.4 CORRECTIVE ACTION EXCAVATION AND CONFIRMATION SAMPLING

Prior to initial ISS work, the majority of the necessary soil excavation work to remove soils in excess of applicable RRS was performed. Some areas were remediated concurrently or after the ISS work. Work in each area is described in more detail in subsections below. Soils with confirmation sample results above applicable RRS were excavated, directly loaded onto transport vehicles, and disposed offsite.

Confirmatory samples were collected and analyzed to demonstrate that soil at the excavation limits met applicable remedial goals. The confirmation sample results are presented in Table A-2. When a confirmation sample resulted in an unacceptable concentration, over-excavation was conducted (rendering the original sample obsolete), and a new confirmation sample was collected. Table A-2 presents the confirmation sample results, the applicable RRS (parcel specific), and the statistical computation showing compliance with the applicable RRS. Analytical results for confirmation samples are provided in Appendix A-3.

Remedial excavation areas (Areas 4, 5, 6, 7, and 10) were located outside the ISS limits. The remaining identified remediation areas overlaid the ISS area, and were excavated to enable the ISS work. The excavation areas are shown on Figures A-4, A-5, and A-6. Confirmation sample locations are presented where applicable.

4.4.1 Area 1- Type 4 RRS

As shown on Figure A-4, Area 1 excavation was limited in depth from 0 to 2 feet bgs. Impacted soil was not anticipated above remedial goals in Area 1 (Type 4 RRS), and was to be excavated only to access deeper impacted soil and/or to access the ISS drilling elevation.

Approximately 1,330 cubic yards of soil and material were excavated from Area 1. Approximately 950 cubic yards of soil were excavated and transported

to the on-site soil stockpiles area for re-use. Refer to Section 6.1 for discussion about the stockpile management and testing.

From within Area 1, approximately 380 cubic yards of asphalt and concrete pavement were removed and transported off-site for disposal.

4.4.2 Area 2 - Type 4 RRS

Area 2 was comprised of known impacted soil from 0-2 feet bgs as shown on Figure A-4. Originally delineated to contain 2,640 cubic yards of soil, the limits of Area 2 were extended to due to elevated confirmatory sample analytical results. Approximately 3,160 cubic yards of soil were excavated from Area 2 and disposed of off-site.

4.4.3 Area 3 - Type 4 RRS

As shown on Figure A-4, Area 3 excavation depth was 0 to 2 feet bgs. Area 3 was anticipated to contain soil that was not impacted above remedial goals, and was to be excavated only to access deeper impacted soil and/or to access the ISS drilling elevation.

Approximately 1,300 cubic yards of soil and material were excavated from Area 3. Approximately 1,200 cubic yards of soil were excavated and transported to the on-site soil stockpiles area for re-use. Refer to Section 6.1 for discussion about the stockpile management and testing.

From within Area 3, approximately 100 cubic yards of asphalt pavement were removed and transported off-site for disposal, solely because the asphalt could not be reused on site.

4.4.4 Area 4 - Type 4 RRS

The Area 4 excavation depth was from 0 to 2 feet bgs, as shown on Figure A-4. Soil from Area 4 (approximately 235 cubic yards) was excavated and transported to the on-site soil stockpiles area for re-use. Refer to Section 6.1 for discussion about the stockpile management and testing.

4.4.5 Area 5 - Type 2RRS

Area 5 was comprised of known impacted soil from 0-2 feet bgs as shown on Figure A-4. Originally delineated to contain 106 cubic yards of soil, the limits of Area 5 were extended to the north due to elevated confirmatory sample analytical results. Approximately 130 cubic yards of soil were excavated from Area 5 and disposed off-site.

4.4.6 *Area 6 - Type 4 RRS*

Area 6 was comprised of known impacted soil from 0-2 feet bgs as shown on Figure A-4. Originally delineated to contain 1,066 cubic yards of soil, the limits of Area 6 were extended due to elevated confirmatory sample analytical results. Approximately 1,252 cubic yards of soil were excavated from Area 6 and disposed of off-site.

4.4.7 *Area 7 - Type 2RRS*

Area 7 was comprised of known impacted soil from 0-2 feet bgs as shown on Figure A-4. Originally delineated to contain 280 cubic yards of soil, the limits of Area 7 were extended due to visual impacts in the soil. Approximately 400 cubic yards of soil were excavated from Area 7 and disposed of off-site.

4.4.8 *Area 8 - Type 4 RRS*

As shown on Figure A-5, Area 8 extended from 2 to 6 feet bgs. Area 8 was anticipated to contain soil that was not impacted above remedial goals, and was to be excavated only to access deeper impacted soil and/or to access the ISS drilling elevation.

Approximately 7,730 cubic yards of soil were excavated from Area 8. Of this volume, approximately 7,515 cubic yards of soil were excavated and transported to the on-site soil stockpiles area for re-use. Refer to Section 6.1 for discussion about the stockpile management and testing.

Although anticipated to be un-impacted, approximately 215 cubic yards of soil from within Area 8 were removed and transported off-site for disposal, due to visual, olfactory, and/or PID impacts. Once these conditions were observed the soils were disposed directly off-site without additional testing.

4.4.9 *Area 9 - Type 4 RRS*

Area 9 was comprised of known impacted soil from 2-6 feet bgs as shown on Figure A-5. Area 9 was originally delineated to contain 2,605 cubic yards of soil. The limits of Area 9 were not extended during the field activities, thus the original quantity was excavated and disposed of off-site.

4.4.10 *Area 10 - Type 4 RRS*

Area 10 was comprised of known impacted soil from 2-6 feet bgs as shown on Figure A-5. Originally delineated to contain 465 cubic yards of soil, the limits of Area 10 were extended to the north and east due to elevated confirmatory sample analyses and the presence of an old steel tank and MGP-related structures. Approximately 610 cubic yards of soil were excavated from Area 10 and disposed of off-site.

4.4.11 *Area 1 - Type 4 RRS*

As shown on Figure A-6, Area 11 extended nominally from 6 to 10 feet bgs. Area 11 was anticipated to contain soil that was not impacted above remedial goals, and was to be excavated only to access the ISS drilling elevation. Although the depth of Area 11 was to extend nominally to 10 feet below grade, in a few small areas the ISS elevation was encountered shallower than 10 feet.

Approximately 7,390 cubic yards of soil were excavated from Area 11. Of this volume, approximately 5,310 cubic yards of soil were excavated and transported to the on-site soil stockpiles area for re-use. Refer to Section 6.1 for discussion about the stockpile management and testing.

Although anticipated to be un-impacted, approximately 2,080 cubic yards of soil from within Area 11 were removed and transported off-site for disposal, due to visual, olfactory, and/or PID impacts. Once these conditions were observed the soils were disposed directly off-site without additional testing.

4.4.12 *Area 12 - Type 4 RRS*

Area 12 was comprised of known impacted soil from 6-10 feet bgs as shown on Figure A-6. Area 12 was originally delineated to contain 1,205 cubic yards of soil. The limits of Area 12 were extended due to sensory impacts in the soil, and 1,275 cubic yards of soil were excavated and disposed of off-site.

4.4.13 *Area 13 - Type 4 RRS*

Area 13 was comprised of known impacted soil from 6-10 feet bgs as shown on Figure A-6. Originally delineated to contain 1,100 cubic yards of soil, the limits of Area 13 were extended due to sensory impacts in the soil. Approximately 1,195 cubic yards of soil were excavated from Area 13 and disposed of off-site.

4.4.14 *Area 14 - Type 4 RRS*

Area 14 was comprised of known impacted soil from 6-10 feet bgs as shown on Figure A-6. Approximately 655 cubic yards of soil was excavated with 400 cubic yards of soil disposed of off-site.

4.4.15 *MGP Structures*

A historic MGP gas holder was encountered at the southwest corner of the ISS area, shown on Figures A-4, A-5, and A-6. The gas holder was comprised of brick walls and a brick bottom, and measured approximately 60 feet in diameter and about 14 feet deep as measured from the top-of-pavement elevation on Terminal Avenue.

The gas holder was excavated in two phases (north and south) in consideration of ISS sequencing objectives. The north phase was excavated prior to ISS to access the drilling elevation. The south phase was located outside the ISS area, and was excavated after the ISS work was completed, in part to take advantage of the ISS mass for slope stability on one side of the excavation. The final excavation depth of the holder impacts was approximately 18 feet bgs.

Excavation progressed until all features identifiable by sensory observations had been removed (bricks, black soil staining). Removed material was transported and disposed off-site. The removal limits were then confirmed through soil sampling and analysis as shown on Figure A-5

Two confirmation samples were collected at the eastern and western portion of the holder wall approximately midway between grade and the groundwater table or 5 feet bgs. Two additional samples were collected to determine if the sand encountered in the holder could be used for backfill. Locations of the samples can found on Figure A-5. The subsequent results indicated that both the confirmation samples and the sand samples passed the Type 1 RRS.

Additionally, two exploratory trenches were completed south of the gas holder to a depth of 4 feet to investigate the area for the presence of additional MGP structures. Shallow (<3 ft) building footers were observed, but no additional MGP structures were identified during the exploratory trenching.

4.4.16 Prodigy Property Debris

As part of the final site preparation activities prior to remediation or ISS work, approximately 1,672 tons of loose construction and demolition debris (wood, concrete rubble) was removed from the Prodigy property south of the site. The material was transported and disposed off-site.

4.4.17 Utility Excavation

In 6th Street north of Mulberry Street, MGP-like impacts were discovered in initial cut and cap pit excavated by a separate AGLC contractor during their efforts to disconnect the gas service through the project site. The AGLC contractor vacated the initial pit, and shifted the disconnect location and completed a second cut and cap pit approximately 110 feet farther north in 6th Street. These locations are shown on Figure A-4.

ERM/GSI later remediated the initial cut and cap pit location. Soil was excavated from 0-3.5 feet bgs as shown on Figure A-4. Approximately 10 cubic yards of soil were excavated from this utility pit and transported and disposed of off-site. The excavation limits were then confirmed through soil sampling and analysis (Figure A-4).

4.4.18 Utility Corridors

Utility corridors were constructed for the benefit of the City of Macon. The Terminal Avenue, Mulberry Street and 6th Street corridors were constructed by removing the ISS columns to 10 feet below street grade. The Terminal Avenue corridor columns removed consisted of ISS rows 2 through 4; the 6th Street corridor columns removed consisted of ISS rows 28 through 33; and the Mulberry Street corridor columns removed consisted of ISS rows 34 through 48 from the edge of the MUDA ISS mass to within six feet of the Prodigy Woodworks building (Figure A-7). The utility corridors were then backfilled with clean fill as described in Section 6.0.

4.5 ISS WORKING PLATFORM EXCAVATION

The ISS working platform elevation was designed in accordance with the specifications included in the 2014 CAP Addendum to be 3-4 feet higher than the historic low groundwater level. The ISS working platform is the surface upon which the ISS crane was positioned to provide a stable work surface for the crane and drill attachment. The ISS platform elevations varied across the site due to the steep groundwater gradient across the area. The excavation to the ISS working platform began at about 10 feet bgs (the bottom design elevations for excavation Areas 11-14 within the ISS footprint) and continued to approximately 3-4 feet above the target top of ISS column elevation.

4.6 PRE-ISS EXCAVATION

Just prior to drilling the ISS column the remaining overburden (top of ISS working platform to top of ISS column) was excavated to allow for the survey and placement of center column stakes to determine the exact depth and alignment of each column to be drilled. The soils removed to construct the working platform were characterized based on visual observations, odor and PID readings and were transported to the clean stockpile areas for further characterization or transported offsite for disposal as appropriate based on observations and laboratory analytical results of stockpile areas.

Approximately 12,100 cubic yards of soil from the pre-ISS zone were excavated and transported to the on-site soil stockpiles area for re-use. Refer to Section 6.1 for discussion about the stockpile management and testing.

Although anticipated to be un-impacted, approximately 3,680 cubic yards of soil from within the pre-ISS soil zone were removed and transported off-site for disposal, due to visual, olfactory, and/or PID impacts. Once these conditions were observed, the soils were disposed directly off-site without additional testing.

5.0 IN-SITU SOLIDIFICATION

In-situ solidification was performed using a crane-mounted auger to mix soil with grout comprised of cement, ground granulated blast furnace slag (GGBFS), and bentonite. ISS commenced on Thursday, July 9, 2015. Between July 9 and November 18, 2015, GSI solidified a total of 47,075cubic yards of alluvial soil through the installation of 1,125 10-foot-diameter ISS columns. A total of 27 columns were advanced to refusal. All refusals were consistent with variations in saprolite thickness and resistance; no refusals were attributed to obstructions as can be seen in Figure A-7. Table A-1 contains a high-level summary of daily construction activities, Table A-3 summarizes the construction qualities of each ISS column, and Table A-4 summarizes ISS quality control sample results. Figure A-7 shows the as-built column locations along with the QC sample locations. Figure A-8 shows the final grade of the top of ISS columns and associated top and depth/bottom elevation of each column are included in Table A-3. Multiple pictures of the ISS operations are included in Appendix A-1.

5.1 GROUT MIX DESIGN AND GROUT BATCH PLANT

Based on the results of bench-scale treatability study performed by KEMRON and as proposed in the Groundwater CAP Addendum (ERM 2014a), a grout mix of 6-7 percent cementitious material (4.5 % GGBFS cement and 1.5-2.5 % Portland cement) and 0.5 % bentonite was selected for full-scale implementation (Appendix A-4). Reagent quantities were calculated based on an estimated (wet) soil unit weight of 125 pounds per cubic foot. The selected grout mix was similar to that used for the 2002 remedial action at the Site[1].

Each of the solidification reagents (GGBFS, Portland cement, and bentonite) is a fine-grained off-white powder. Flatbed trucks delivered bentonite in 1,000-pound "jumbo bags," and GSI used a forklift to empty the bentonite into a silo to feed the grout batch plant. Pneumatic pumper trucks delivered GGBFS and Portland cement. GGBFS and Portland Cement was stored in a bulk storage vessel known as a "pig" prior to pneumatically transferring the reagent to individual silos to feed the grout batch plant..

Screw augers transferred the reagents from the silos into a 1,000-gallon batch mix tank. Scales beneath the mix tank allowed the operator to control and record the weight of water, bentonite, GGBFS, and Portland cement delivered to each batch of grout.

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[1] In 2002, the selected grout mix was initially 4.5 percent slag, 1.5 percent Portland, and 0.5 percent bentonite. It was adjusted over the course of that remedial action to a final mix of 3.6 percent slag, 2.4 percent Portland, and 0.5 percent bentonite. Due to the short duration of this project, an additional 1 percent of cement/slag was added to reduce curing time required to meet the performance standards.

The reagents were homogenized in water to create grout using a high-shear paddle-blade mixer. Completed grout batches were pumped to a separate 1,000-gallon holding tank to await transfer to the ISS crane auger rig.

5.2 ISS CRANE AUGER RIG OPERATION

At the direction of the crane operator, a positive displacement pump sent grout from the holding tank via a 2.5-inch diameter reinforced rubber hose (used for concrete pumping application) up the crane mast to the top of the auger assembly, where the hose mated with a swivel fitting and the grout descended through the wet "kelly" bar to the auger and was sprayed from the trailing edge of one or more auger flights. The crane operator and grout batch plant operator communicated to adjust the grout flow rate to match the drilling and soil mixing progress. Typical flow rates ranged from 30 to 100 gallons per minute (gpm).

The crane operator typically installed each column in thirds: penetrate a third of the depth (typically 8 to 10 feet), surface the auger to scrape off soil stuck to the flights, and then mix the soil well in that 5- to 7-foot interval. The operator repeated this pattern for the second third and bottom third of the column depth, typically surfacing the auger once per interval. After reaching the design bottom elevation as determined by a fixed height reference[2] or upon encountering refusal as documented and approved by the QA Officer, the crane operator made a total of six mixing "passes" to homogenize the soil-cement within the column.

The general definition of refusal was less than 0.5 feet of penetration in 15 minutes. All determinations of refusal required the approval of the project manager. After the design bottom elevation (or refusal) was met, mixing passes typically required 15 to 45 minutes each.

5.3 ISS COLUMN LAYOUT

All ISS columns were installed with a 10 feet diameter multi-blade auger mixer. In order to cover the entire ISS footprint with maximum efficiency, the interior columns were spaced 8.67 feet-on-center in a hexagonal pattern. Every column overlapped its neighbors to form a continuous monolith.

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[2] GSI employed a total station to determine the depth of each column based on the depth of the lowest teeth of the auger (not the pilot bit) by reference to a fixed point on the Kelly bar. Vertical reference benchmarks were set by the contracted surveyor.

[3] A single mixing pass was defined as either top-to-bottom or bottom-to-top. Three mixing passes so-defined were necessary to satisfy ERM's design and to achieve complete mixing

5.3.1 Interior Columns

Interior columns required the use of Mix Design 2 and would only be installed after the perimeter columns were installed. This sequence minimized the potential transport of MGP impacted materials and served to reduce the groundwater intrusion in the work area. The mix design was revised later in the work as discussed in Section 5.5.4 below.

5.3.2 Perimeter Columns

The design called for the perimeter columns to be installed first and keyed five feet into saprolite to prevent the potential minimize the potential conveyance of MGP impacted materials from migrating beyond the ISS boundaries. The original design contemplated the installation of one row of bentonite perimeter columns but this was revised to require the use of Mix Design 1 rather than bentonite and increase the perimeter column width from one row to three rows for constructability reasons. As mentioned in Section 5.5.4 below the mix design was revised to Mix Design 2 later in the work.

5.4 SPOILS GENERATION AND w:c RATIO

The ISS process generates spoils (also called grout fluff or swell) whose volume is roughly equal to the volume of grout injected. In saturated soils like those below approximately 293 feet amsl at the Site, every cubic foot of grout injected results in approximately one cubic foot of spoils to be managed. ERM designed the work to minimize the volume of spoils generated by minimizing the volume of grout injected; however, decreasing the volume of grout means increasing the reagent concentrations in the grout (e.g., 100 gallons at 10 percent is the same as 50 gallons at 20 percent). As reagent concentrations increase, grout becomes stiffer, more viscous, and less useful as a drilling fluid.

The amount of water in the grout was expressed as weight of water per weight of cement (plus bentonite), or w:c ratio. The target w:c ratio was 1.4:1-2.0:1, which was used in the bench-scale treatability study but proved too stiff for the full-scale field application. The thinner grout mixture proved necessary to provide the auger enough drilling fluid to adequately mix the column without wasting reagent. The controlling variable was the quantity of fluid required to mix the column. When the w:c ratio was optimized to account for soil conditions, the grout addition was adjusted to deliver the target quantity of reagent in that volume of fluid. The appropriate w:c ratio for the Site ranged from about 2.5:1 for soils with more sand to about 3:1 in soils with more clay[4].

During soil mixing, ISS spoils[5] were allowed to swell up from the top of ISS elevation until they reached the "top of solidified spoils" elevation (3 feet higher). The spoils then cured in place (solidified) to become part of the ISS monolith.

5.5 ISS QUALITY ASSURANCE/CONTROL SAMPLING AND ANALYSIS

GSI performed QC sampling of the ISS throughout the course of remedy implementation, following the guidance of its *Quality Control Plan* (Appendix A-5). Columns selected by the ERM QA Officer for geotechnical confirmation and/or QA testing (described below) are shown on Figure A-7. QC sample collection methods and results are described below.

5.5.1 *Sampling Methods*

Depth-discrete ISS samples were retrieved using a hydraulically driven tube sampler immediately after the auger completed mixing each designated column. One depth-discrete sample was collected from a 5-foot interval selected by the ERM QA officer (e.g., a 15- foot column may have been sampled at 5, 10, or 15 feet). Shackled to an excavator bucket, the tube sampler dipped into the freshly mixed column, paused at the designated depth, and opened to collect a sample. The tool collected approximately 1 gallon of sample at a time, which the contractor QC Officer captured in a 5-gallon bucket.

After making the field observations described below in Section 5.5.3, the contractor QC Officer passed each sample through a 0.25-inch (#4) wire mesh sieve into a single bucket to create a composite sample. The QC Officer then filled plastic cylindrical molds with the composite sample and placed the molds in a humid, sealed cooler at between 60 ˚F and 80˚F ("standard cure" conditions) to begin the curing process. Cylinder quantities were determined by the ERM QA officer. More details regarding the sample collection/curing process are described in Section 5.5.5.

5.5.2 *Sampling Frequency*

ISS mix samples were collected once every 250 cubic yards stabilized for the first 4,000 yards, after which samples were collected once every 750 cubic yards. Samples were collected from 78 of the 1,125 columns installed representing 47,075 cubic yards of soils solidified, or one QC sample collected for every 604 cubic yards. Sample columns were selected by the ERM QC Officer to be well-distributed across the treatment area as shown on Figure A-7.

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[4]Similar w:c ratios (2.5:1 to 3:1) were reported for the ISS performed in 2002

[5]Grout spoils or grout "fluff" is the mixture of cement grout and impacted soil that returns to the surface during ISS column drilling/installation. The top of ISS elevation was set at the low groundwater table, and the top of solidified spoils elevation was set at the high groundwater table (4 feet higher). This design is consistent with the ISS performed at the Site in 2002 and limits the ISS monolith to the saturated zone defined by the high groundwater table.

5.5.3 *Visual Criteria*

The QA Officer visually evaluated every depth-discrete sample at the time of collection in the field, prior to sieving and compositing and before the soil-cement cured and hardened, for the following criteria:

- Homogenous and evenly mixed material (even, consistent color with little or no unmixed soil)
- Absence of separate-phase BPLM

5.5.4 *Geotechnical Laboratory Testing and Criteria*

Each ISS soil-cement sample collected was sent for laboratory analysis of geotechnical performance criteria. These parameters were evaluated on the cured soil-cement sample cylinders:

- Unconfined compressive strength (UCS): greater than 50 pounds per square inch (psi)
- Permeability (or hydraulic conductivity, K): lower (i.e., less permeable) than 1x10-6centimeters per second (cm/sec)
- Wet/dry durability: less than 10 % relative mass loss (compared to control) after the completion of 12 wetting and drying cycles

UCS was measured by American Society for Testing and Materials (ASTM) D 1633: Standard Test Method for Compressive Strength of Molded Soil-Cement Cylinders. Permeability was measured by ASTM D 5084: Standard Test Method of Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter. Wet/dry durability was measured by ASTM D 4843: Standard Test Method for Wetting and Drying of Solid Wastes.

ISS quality control sample results are summarized in Table A-4. Geotechnical laboratory reports are provided in Appendix A-6. Throughout the project ERM conducted QC of the geotechnical results to ascertain compliance with the performance criterion or make adjustments as needed. The primary performance criteria are UCS and permeability. One hundred percent of the UCS and hydraulic conductivity results complied with the performance criterion.

Eight wet/dry durability results were found to be non-compliant with the requisite specification. On September 28, 2015 ERM directed the contractor to use Mix Design 2 for all remaining columns to achieve compliance. Mix Design 2 consisted of increasing the overall reagent dosage rate from 6.5% to 7.5% by increasing the Portland Cement content from 1.5% to 2.5%. Between September 28 and October 13, 2015 three columns did not meet the requisite specification for wet/dry durability.

On October 22, 2015 ERM made an additional field adjustment to the mix design (s) to achieve compliance with the project needs by increasing the reagent dosage. The overall additive dosage rate was increased to 8% by reducing the GGBFS content from 4.75% to 3.75%, increasing the Portland Cement content from 2.5% to 3.75% and keeping the bentonite content the same at 0.5%. All subsequent wet/dry results passed as a result of the revised design mix.

As part of the corrective actions, ERM had the ISS contractor remix the perimeter columns at Remix Areas 1-3 and interior columns in Remix Areas 4-6 (Figure A-7). The remix of the perimeter columns required the revised mix design dosage rate and required the column be remixed from top of column to the historical low groundwater table. By removing and remixing the upper column above the historic low groundwater table the resulting composite column would function as originally designed since the lower portions of the column would not be subjected to the annual groundwater fluctuation.

Remix #	Remix Date	Production Day	Column Number
1	November 19,2015	August 19, 2015	P22, R22 and T22
2	November 20, 2015	August 20, 2015	V22, X22, Y23, X24 and Y25
3	November 21, 2015	November 21, 2015	BS 11, BT12, and BS13
4, 5, and 6	February 17 /18, 2016	October 19,2015, September 1, 2105, and August 29, 2015	BA27,BC27, BE27, BG27 BI27, BK27, BM27,BO27,BQ27,BS27, BU27,BW27,BY27,CA27, CC27,CE27,CG27,CI27 and CK27

Two interior areas for production days 9/3/2015 and 9/9/2015 were not remixed because of the location in the ISS mass which precludes the columns from exposure to groundwater fluctuations. The columns for each of these production days were surrounded by columns which passed all three performance criteria.

ERM provided correspondence to the Georgia EPD and discussed the approach with EPD on January 28, 2016 regarding this modification to the mix design. The correspondence is included in Appendix A-7.

5.5.5 Leachability Testing

Of the 78 ISS samples collected, 10 were selected (based on a frequency of one per 5,000 cy solidified) for additional testing of post-treatment leachability. The original *Macon Site Soil and Groundwater Corrective Action Plan (*ThermoRetec, 2001) called for ANS 16.1 testing every 1,000 cy. However, in correspondence with EPD on August 20, 2015 (after an EPD site visit) the leachability testing program was modified to allow for both ANS 16.1 testing and LEAF 1315 testing at a frequency of one per 5,000 cy. The EPD correspondence can be found in Appendix A-8. Both methods were utilized at this frequency during the project execution.

Geotechnical laboratory analytical reports including the results of the leachability testing are provided in Appendix A-6 and complete leachability data summary tables and laboratory reports are provided in Appendix A-9.

Table A-5 presents a summary of the statistical evaluation of the data sets. Observations of the analytical leachability test results indicate the following:

- Of the 37 analytes (COIs) that were evaluated using leachability methods on post-treatment ISS samples, only three (3) indicated concentrations greater than a potentially applicable regulatory standard (i.e., residential RRS for benzo(a)pyrene, dibenz(a,h)anthracene and naphthalene) in both methods, with one (1) additional COI exceeding the potential RRS for the LEAF methods (cadmium).
- The overall frequency of non-detect concentrations for samples tested is 87.3% in the case of the ANS 16.1 Method, and 84.4% in the case of the LEAF Method.
- The overall frequency of COIs below the potentially applicable RRS, in leaching test results for ANS 16.1 and LEAF methods is 99.7%% and 99.6%, respectively.
- Of the 37 analytes (COI) that were evaluated using leach methods on post-treatment ISS samples, only two (2) indicated concentrations above the potentially applicable non-residential RRS (naphthalene and dibenz(a,h)anthracene).
- The overall frequency of COIs below the non-residential RRS, in leachability test results for ANS 16.1 and LEAF methods is 99.8% and 99.6%, respectively.

5.5.6 Sample Curing

All ISS mix cylinders were cured on site for at least the first three days following sample collection. Samples were held on site under "standard" conditions in humid coolers and then shipped to Kemron via their courier as soon as possible after the samples cured for a minimum of three days.

5.6 ISS EQUIPMENT DEMOBILIZATION

ISS column installation work was completed on November 18, 2015, and demobilization of the ISS equipment began shortly thereafter. The ISS rig exited the excavation near the Seventh Street construction entrance, and the tracks, undercarriage, auger, and Kelly bar were decontaminated using a pressure washer. The grout batch plant was also dismantled shortly following the completion of ISS, but was later reassembled to address outstanding wet/dry durability failures on the eastern perimeter. GSI demobilized the batch plant equipment on flatbed trucks to their yard in Pittsburgh, PA during the week of February 21, 2016.

5.7 *TRIMMING GROUT SPOILS TO DESIGN ELEVATIONS*

Concurrent with ISS equipment demobilization, GSI prepared the ISS footprint for backfill and restoration. During ISS column installation, grout spoils were allowed to cure in place above their final design elevations and the cured spoils were graded or "trimmed" before backfilling the ISS footprint. Grout spoils were allowed to cure in place for at least a week prior to trimming. The final top of spoils layer was a well-cured and a competent part of the ISS monolith.

Figure A-8 shows the surveyed top of grade for the solidified media across the ISS footprint. In addition, the columns and their respective depths and final grade are shown in Table A-3.

5.8 *TRANSPORTATION AND DISPOSAL OF MEDIA/WASTE*

Throughout the project, transportation and disposal (T&D) of impacted media and wastes was conducted. Wastes transported and disposed included:

- Unsaturated soils from Areas 1-14;
- ISS spoils trimmed above the high water table;
- Miscellaneous bricks, concrete, and debris encountered during excavation;
- Concrete and asphalt encountered during the removal of roads for utility work; and
- Vegetative matter.

A total of 60,411 tons of material described above was transported and disposed of in the Advanced Disposal, Wolf Creek Subtitle D landfill in Dry Branch, GA. The T&D log and all supporting disposal information is provided in Appendix A-10.

5.9 *UTILITY CORRIDORS*

In addition to the final grading, additional excavation of ISS spoils was conducted to allow for the planned utility corridors (within the right-of-ways) consistent with the City of Macon needs for future utility work. Figure A-9 also presents the location of the utility corridors at the site.

6.0 BACKFILL AND RESTORATION ACTIVITIES

This section describes the backfill and restoration activities performed on the site following the completion of remedial excavation and ISS work.

6.1 STOCKPILED SOIL SAMPLING AND ANALYSIS FOR RE-USE

Approximately 15,000 cubic yards of native soil were excavated and stockpiled by GSI, and then sampled and analyzed by ERM, for potential re-use on site as fill material. Approximately 11,800 cubic yards of this soil were transported to the on-site soil stockpile areas for testing. The remaining 3,200 cubic yards of stockpiled soil were stockpiled and tested within the ISS area.

A total of sixty (60) stockpile soil samples were collected from an estimated volume of 15,000 cy, a frequency of one sample per 250 cubic yards of native soil. The stockpiled soil analytical results are provided in Table A-6, and laboratory reports are included in Appendix A-11.

All of the stockpiled native soil met acceptable RRS and was used as on- site fill material, for final cover and final grading. A total of 1,500 cubic yards of tested soil exceeded residential RRS but met non-residential RRS, and thus was placed as fill over the ISS monolith, in the southern portion of the AGLC-owned portion of the Site south of Terminal Avenue. The remaining 13,500 cubic yards of tested soil met residential RRS and were able to be placed anywhere on the site as backfill without restriction.

Soils meeting the Type 2 RRS were used as backfill in the following areas:

- Mulberry Street Subgrade (utility corridor)
- 6th Street Subgrade (utility corridor)
- Terminal Avenue Subgrade (utility corridor)
- City of Macon and Prodigy properties fill
- General backfill on the AGLC property

6.2 BACKFILL PLACEMENT, COMPACTION, AND TESTING

Native soil backfill was placed as follows in different site areas:

- Subgrade Under Roadways: 8-inch loose lifts, compacted to 95% maximum dry Modified Proctor density (ASTM D-1557). The top two feet of soil subgrade under the roadways was compacted to 98% of maximum dry Modified Proctor density. These provisions meet Macon-Bibb County requirements for soil backfill placement beneath roadways.

- A minimum of two feet of clean fill (meeting Type 2 RRS), was placed over the ISS swell surface as part of final grading.
- All other site areas including the ISS area: soils were placed in 12-inch loose lifts, compacted to 90% maximum dry Modified Proctor density.
- The bottom of the Holder excavation was sufficiently below the groundwater table that self-compacting trap rock was placed in the bottom 5 feet (12-17 ft bgs) of the excavation, without post-placement compaction.

Necessary compaction was achieved in the native soil backfill with sheep foot rollers, operated in varying static and vibratory modes, depending on soil behavior and location. A smooth-drum roller was used at times for fine grading compaction.

Appendix A-12 contains the Modified Proctor moisture-density laboratory reports generated by Geotechnical & Environmental Consultants (GEC-Macon, GA) from testing performed for soils excavated and stockpiled on site for reuse. Table A-7 summarizes the compaction testing results.

Field compaction testing was performed at a minimum frequency of one test per 5,000 square feet per lift. Testing was performed by nuclear densitometer (i.e., "Troxler" testing) via ASTM D-6938. Results were compared to the laboratory Modified Proctor tests to confirm that sufficient compaction was achieved. Appendix A-12 contains the field density testing reports.

Geo-Solutions addressed failed compaction tests either by re-compacting the area until a passing test was obtained, or (in several cases) removing the compacted lift, blending it with drier fill to decrease the moisture content, then replacing and re-compacting the lift.

6.3 YARD AND STORM DRAINAGE IMPROVEMENTS

During site preparation, a storm water detention basin was constructed at the lowest surface elevation of the site at Walnut Street and 6th Street to intercept storm water sheet flow to minimize the potential for transport of sediment off site during construction. Additionally during this time a lined gravel drainage trench was installed to intercept a surface water seep identified at the entrance to the site at Walnut Street and tied into the detention basin as shown on Figure A-9.

As part of final site restoration, GSI installed additional gravel drainage trenches as shown on Figure A-9. The detention basin was also retro-fitted into a permanent storm water detention basin, with an outfall pipe tied into the Macon Bibb County storm drainage system in Walnut Street.

6.4 FENCING, TOPSOIL, AND SEEDING

During construction activities, existing fencing was removed on the MUDA property, the main site, and along parts of Terminal Avenue on Norfolk Southern property. Temporary 8-foot-high chain link fencing was installed during construction. At the end of construction, the MUDA fence and Norfolk Southern fence were restored along the original fence lines with new chain link fencing to match the existing fencing. The 8-foot-high construction fencing and entrance gate were left in place along Walnut Street. On the main site, the existing site fence along part of Terminal Avenue was maintained. The remainder of the AGLC property was fenced along the property line with new fence. All final fencing is shown on Figure A-9.

Topsoil was not imported for site restoration. Rather, the backfilled native soil was amended with the addition of composted organics from Proganics, to support vegetation. Based on chemical analyses by the Georgia Cooperative Extension Service, organic material was added to achieve the minimum five percent specified in the specifications, and lime and fertilizer selected

After spreading the organic material, lime, fertilizer, Bermuda seed, and mulch were applied by hydro seeding. The seed selection, seed application rate, and amendment materials and rates were appropriate for the area and the planting season encountered. As of April 22, 2016, the grass is well established with an estimated 70 percent coverage across the Site. Follow up inspections will occur during the performance period to monitor growth.

6.5 FINAL RECORD SURVEY

DGA performed a topographic and final features survey after the completion of all work at the Site. Figure A-9 is a record survey of the final features, which includes all Site improvements made during the performance of the work that are observable above ground.

6.6 FINAL CONSTRUCTION DEMOBILIZATION

GSI demobilized all equipment and facilities between February 24 and February 29, 2016. Restoration activities continued after this time, and were performed by GSI subcontractors. Final demobilization of all site parties including ERM, and all remaining equipment and supplies, occurred during late April 2016.

7.0 SITE MANAGEMENT AND ENVIRONMENTAL CONTROLS

The Site was managed to protect workers and the community from exposure to environmental hazards and to minimize disturbances to adjacent buildings and traffic. ERM required GSI to institute a number of environmental controls, including storm water diversion and collection, runoff prevention, contact water collection and treatment, dust and odor mitigation, and traffic controls. A third party implemented perimeter air monitoring to document the concentrations of dust and volatile constituents leaving the Site.

7.1 PERIMETER MONITORING

TRC implemented perimeter air monitoring on behalf of KMCL to document the concentrations of dust and volatile constituents leaving the Site. The perimeter air monitoring program consisted of continuous monitoring of total volatile organic compounds (TVOC) and particulates (PM_{10}) from four stations surrounding the Site. A meteorological station measured wind speed, wind direction and ambient temperature. In addition, Summa canisters were used to collect time-weighted average ambient air samples weekly, with predominant upwind and downwind samples submitted for analysis by EPA Method TO-15. Background sampling was conducted in May 2015 before the start of remediation activities, and the remediation phase monitoring continued throughout the project until all ISS, excavation, stockpiling or loading of potential impacted soils was complete. No action levels for TVOC (1.0 ppm) or PM_{10} (150 µg/m^3) were exceeded at any of the locations throughout the project. TO-15 results collected during the remediation phase were generally similar to background concentrations, and upwind and downwind sample results were generally comparable. Based on the air monitoring data collected, there were no significant air emissions impacts to adjacent properties associated with the remediation.

7.2 STORM WATER MANAGEMENT

The Site received about 21 inches of rainfall over the 10 months (May to March) this work was performed. Extensive use of silt fence and straw bales on the downgradient edges of unimpacted stockpile and work areas mitigated off-site sediment transport.

ERM's design required GSI to construct a shallow earthen berm to direct clean rainwater from about 3 of the 5 acres of the Site upgradient of the main work area into a temporary storm water detention basin. The excavation and construction of this basin was described in Section 4.2.1. Under normal conditions, the basin contained less than 1 foot of water. During several rainfall events, it filled to within 2 feet of the ground surface, and then receded by

infiltration at a rate of about 1 foot per day. GSI obtained a National Pollutant Discharge Elimination System (NPDES) GAR100001 general permit. None of the storm water collected in the detention basin was ultimately discharged, and no storm water exceedances were noted during the performance of the work.

Impacted areas were protected from storm water run-on by shallow earthen berms (in the case of the ISS footprint and excavation area) and lined earthen berms (for the impacted stockpile and wheel wash areas).

7.3 CONTACT WATER MANAGEMENT

Contact water was containerized using two (2) 20,000 gallon frac tanks. Five (5) tank volumes of water was collected and re-used for ISS production (i.e., approximately 100,000 gallons of water). The generation and management of contact water are further described in this Section.

7.3.1 Rainfall Contact Water

Earthen berms minimized storm water run-on to the excavation, stockpile, and wheel wash areas. Rain that fell into impacted areas became contact water and was containerized, treated, and disposed as described below. Approximately 21 inches of rain fell into the (roughly) 0.5-acre ISS footprint while it was an open excavation, which generated rainfall contact water. Contact water was pumped from the excavation using 3-inch diameter diesel-powered centrifugal pumps and was conveyed through 2.5-inch diameter reinforced rubber hoses to on-site frac tanks: portable steel tanks that hold approximately 20,000 gallons each. The treatment, reuse, and disposal of contact water are described later in this Section.

7.3.2 Contact Water Reuse

GSI had mobilized two frac tanks (about 20,000 gallons each) and filled them with rainfall contact water. The contact water was stored on site and was used for mixing grout for ISS.

GSI mobilized a water treatment system from Rain for Rent at the beginning of the project. The treatment system consisted of two duplex bag filter housings configured with 25 and 10 micron bags in series followed by two 1,500-pound granular activated carbon (GAC) vessels in series. GSI operated the treatment system using a 3-inch diameter transfer pump to convey water from the influent frac tanks to the two effluent holding tanks. A 4-inch diameter pump was dedicated to pumping treated water from the holding tanks to the grout batch plant.

No water disposal occurred during the execution of the project.

7.4 DUST AND ODOR MITIGATION

GSI utilized a variety of engineering controls to suppress dust and odor generation and transport. Dust suppression included plastic film covers for all stockpiles, potable water spray onto haul roads, the use of fabric shrouds around the grout batch plant and the bentonite loading silo, and bag filter housings on the slag and Portland cement pneumatically loaded silos.

Fabric installed around the entire perimeter fence line provided dust and odor mitigation by acting as a partial barrier to off-site transport and by promoting mixing and dilution of air currents that flowed up and over the fence.

Odor suppression and mitigation included plastic film covers for all stockpiles, application of spray foam (Rusmar AC-645, dispensed from a PFU 400/25 unit) to impacted stockpiles and disturbed areas within the ISS footprint.

7.4.1 Stakeholder Communication

During the work a notification concerning odors was received from Prodigy Woodworks property owner, which is the parcel adjacent to the southern limits of the project site on September 15, 2015. GSI, ERM's contractor immediately addressed the issue by increasing foaming activities. Subsequently, the property owner followed up and confirmed that the odors had dissipated. No other notification or formal complaints concerning odors were received throughout the duration of the project. As mentioned in Section 7.1, based on the air monitoring data collected, there were no significant air emissions impacts to adjacent properties associated with the remediation.,

7.5 TRAFFIC CONTROLS

The ISS footprint extended into the right-of-way and onto City of Macon streets (Mulberry, 6th, and Terminal Avenue). As a result, road closures were conducted, with appropriate signage for detours to accommodate traffic during the project. Temporary fencing extending across the full width of the roads was used.

8.0 HEALTH AND SAFETY

ERM, GSI, and their subcontractors completed the work with no first aids, OSHA recordable or lost time incidents injuries. A total of approximately 47,733 on-site man-hours were expended in the execution of the work.

8.1 PERSONNEL MONITORING AND CONTROLS

GSI performed personnel air monitoring for VOCs in the breathing zone on a real-time basis using a PID. During the course of the work, the VOC levels measured by GSI in the breathing zone did not exceed the prescribed action levels in the Project HASP.

The minimum level of personal protective equipment (PPE) required for work within the exclusion zone was Level D: steel toe boots, hard hat, safety glasses with side shields, safety vests or hi-visibility clothing, and hearing protection (when necessary). While working within the active ISS footprint excavation area (near the crane), personnel donned disposable coveralls and boot covers or rubber boots. Personnel working more than 6 feet off the ground (such as climbing the grout batch plant silos or operating the aerial man lift) utilized fall protection equipment. Respiratory protection was not required for any task performed by GSI personnel.

9.0 JOB SUMMARY TOTALS

- 60,504 tons of impacted soil, ISS spoils, and debris were disposed as non-hazardous waste at the Wolf Creek Landfill (Subtitle D).
- 47,075 cubic yards of saturated soil were solidified via ISS through the installation of 1,125 - 10 ft. diameter columns.
- Approximately 15,000 cubic yards (in-place) of backfill were utilized to attain the final site grade and provide cover to the ISS mass.
- Roadways and utilities have been restored and are fully functional.
- All confirmation soil samples met the appropriate risk reduction standards specific to each parcel.
- All performance standards for the ISS mass were obtained and validated through geotechnical testing of 78 ISS mix samples.
- Leachability testing results have been obtained and can be utilized for future groundwater impact evaluations.

10.0 REFERENCES

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ERM, 2015. *1st Semiannual Progress Report*. Prepared by Environmental Resources Management, November 2015.

ThermoRetec, 2001. *Macon Site Soil and Groundwater Corrective Action Plan*. Prepared by ThermoRetec Consulting Corporation, December 2001.

Tables

May 21, 2016
Project No. 0176740
Corrective Action Completion Report

Environmental Resources Management
3200 Windy Hill Rd. Suite 1500W
Atlanta, GA 30339
(678) 486-2700

Table A-1 Construction Activities Summary
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Date	ISS Columns Completed	ISS Volume (CY)	Total PTD ISS Volume (CY)	T&D at Wolf Creek Landfill (tons)	Total PTD T&D (tons)	Notes
5/18/2015						Mobilization
5/19/2015						Preparatory Work
5/20/2015						Preparatory Work
5/21/2015						Preparatory Work
5/22/2015						Preparatory Work
5/25/2015						Preparatory Work
5/26/2015						Preparatory Work
5/27/2015						Preparatory Work
5/28/2015						Preparatory Work
5/29/2015						Preparatory Work
6/1/2015						Preparatory Work
6/2/2015						Preparatory Work
6/3/2015						Preparatory Work
6/4/2015						Preparatory Work
6/5/2015						Preparatory Work
6/8/2015						Preparatory Work
6/9/2015						Preparatory Work
6/10/2015						Preparatory Work
6/11/2015						Preparatory Work
6/12/2015				530.21	530.21	Excavation, T&D
6/15/2015				443.77	973.98	Excavation, T&D
6/16/2015				599.06	1573.04	Excavation, T&D
6/17/2015				638.78	2211.82	Excavation, T&D
6/18/2015				761.26	2973.08	Excavation, T&D
6/19/2015				844.15	3817.23	Excavation, T&D
6/22/2015				665.05	4482.28	Excavation, T&D
6/23/2015				1023.15	5505.43	Excavation, T&D
6/24/2015				817.24	6322.67	Excavation, T&D
6/25/2015				1043.21	7365.88	Excavation, T&D
6/29/2015				903.84	8269.72	Excavation, T&D
6/30/2015				706.95	8976.67	Excavation, T&D
7/1/2015				909.72	9886.39	Excavation, T&D
7/2/2015				473.87	10360.26	Excavation, T&D
7/6/2015				126.4	10486.66	Excavation, T&D
7/7/2015				124.22	10610.88	Excavation, T&D
7/8/2015				128.31	10739.19	Excavation, T&D
7/9/2015	1	70.1	70.1			ISS
7/10/2015	2	134.98	205.08			ISS
7/11/2015	1	63.62	268.7			ISS
7/13/2015	5	319.87	588.57			ISS
7/14/2015	6	358.18	946.75			ISS
7/15/2015			946.75			ISS
7/16/2015	1	66.91	1013.66			ISS
7/17/2015	7	413.27	1426.93	764	11503.19	ISS, T&D
7/18/2015	8	477.53	1904.46			ISS
7/19/2015			1904.46			ISS
7/20/2015	8	456.31	2360.77	598.76	12101.95	ISS, T&D
7/21/2015	9	514.68	2875.45	845.78	12947.73	ISS, T&D
7/22/2015	8	446.06	3321.51	276.7	13224.43	ISS, T&D
7/23/2015	6	347.5	3669.01	295.37	13519.8	ISS, T&D
7/24/2015	7	409.77	4078.78	163.04	13682.84	ISS, T&D
7/25/2015	5	285.7	4364.48			ISS
7/27/2015	9	406.21	4770.69	437.21	14120.05	ISS, T&D
7/28/2015	8	452.44	5223.13	354.71	14474.76	ISS, T&D
7/29/2015	8	403.8	5626.93	535.55	15010.31	ISS, T&D
7/30/2015	11	453.81	6080.74	511.55	15521.86	ISS, T&D
7/31/2015	7	319.97	6400.71			ISS
8/1/2015	7	267.7	6668.41			ISS
8/3/2015	14	428.14	7096.55	589.71	16111.57	ISS, T&D
8/4/2015			7096.55	601.11	16712.68	T&D
8/5/2015			7096.55	574.98	17287.66	T&D
8/6/2015			7096.55	616.49	17904.15	T&D
8/7/2015			7096.55	500.93	18405.08	T&D

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Date	ISS Columns Completed	ISS Volume (CY)	Total PTD ISS Volume (CY)	T&D at Wolf Creek Landfill (tons)	Total PTD T&D (tons)	Notes
8/10/2015	16	455.73	7552.28			ISS
8/11/2015	13	447.08	7999.36			ISS
8/12/2015	17	483.81	8483.17	305	18710.08	ISS, T&D
8/13/2015	18	542.74	9025.91	265.82	18975.9	ISS, T&D
8/14/2015	11	340.62	9366.53	439.24	19415.14	ISS, T&D
8/15/2015	7	227.19	9593.72			ISS
8/17/2015	10	299.89	9893.61	431.85	19846.99	ISS, T&D
8/18/2015	10	329.71	10223.32	445.99	20292.98	ISS, T&D
8/19/2015	8	339.07	10562.39	352.67	20645.65	ISS, T&D
8/20/2015	13	626.27	11188.66	440.46	21086.11	ISS, T&D
8/21/2015	8	369.8	11558.46	365.86	21451.97	ISS, T&D
8/22/2015	13	640.75	12199.21			ISS
8/24/2015	9	467.14	12666.35	845.84	22297.81	ISS, T&D
8/25/2015	15	570	13236.35	643.7	22941.51	ISS, T&D
8/26/2015	21	721.42	13957.77			ISS
8/27/2015	18	707.46	14665.23	392.58	23334.09	ISS, T&D
8/28/2015	4	180.08	14845.31	549.01	23883.1	ISS, T&D
8/29/2015	16	666.6	15511.91			ISS
8/31/2015	17	712.84	16224.75	442.08	24325.18	ISS, T&D
9/1/2015	17	659.69	16884.44	538.6	24863.78	ISS, T&D
9/2/2015	15	544.27	17428.71	590.05	25453.83	ISS, T&D
9/3/2015	18	611.72	18040.43	749.5	26203.33	ISS, T&D
9/4/2015	9	288.89	18329.32			ISS
9/9/2015	19	648.95	18978.27	485.98	26689.31	ISS, T&D
9/10/2015	16	586.12	19564.39	419.85	27109.16	ISS, T&D
9/11/2015	19	649.38	20213.77			ISS
9/12/2015	14	474.95	20688.72			ISS
9/14/2015	19	602.81	21291.53	343.97	27453.13	ISS, T&D
9/15/2015	16	582.84	21874.37	255.91	27709.04	ISS, T&D
9/16/2015	14	536.88	22411.25	265.69	27974.73	ISS, T&D
9/17/2015	15	640.8	23052.05			ISS
9/18/2015	11	436.7	23488.75			ISS
9/19/2015	18	459.31	23948.06			ISS
9/21/2015	21	622.43	24570.49			ISS
9/22/2015	23	628.61	25199.1			ISS
9/23/2015	19	537.71	25736.81			ISS
9/24/2015	19	796.13	26532.94			ISS
9/25/2015	16	643.55	27176.49			ISS
9/26/2015	10	381.19	27557.68			ISS
9/28/2015	6	160.88	27718.56			ISS
9/29/2015			27718.56	497.47	28472.2	T&D
9/30/2015			27718.56	109.48	28581.68	T&D
10/5/2015	14	541.78	28260.34			ISS
10/6/2015	15	574.24	28834.58			ISS
10/7/2015	17	603.04	29437.62			ISS
10/8/2015	5	189.79	29627.41			ISS
10/9/2015	12	516.6	30144.01			ISS
10/10/2015	8	377.96	30521.97			ISS
10/11/2015	11	503.71	31025.68			ISS
10/13/2015	14	593.38	31619.06			ISS
10/14/2015	16	677.4	32296.46			ISS
10/15/2015	18	598.88	32895.34			ISS
10/16/2015	19	571.99	33467.33			ISS
10/17/2015	9	260.97	33728.3			ISS
10/19/2015	13	455.27	34183.57			ISS
10/20/2015	12	636.38	34819.95			ISS
10/21/2015	16	827.47	35647.42			ISS
10/22/2015	14	692.66	36340.08			ISS
10/23/2015	16	688.32	37028.4			ISS
10/24/2015	5	257.83	37286.23			ISS
10/26/2015			37286.23	430.01	29011.69	T&D
10/27/2015			37286.23	622.49	29634.18	T&D
10/28/2015	16	803.35	38089.58	501.37	30135.55	ISS, T&D

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Date	ISS Columns Completed	ISS Volume (CY)	Total PTD ISS Volume (CY)	T&D at Wolf Creek Landfill (tons)	Total PTD T&D (tons)	Notes
10/29/2015	15	699.41	38788.99	867.24	31002.79	ISS, T&D
10/30/2015	9	438.11	39227.1	985.14	31987.93	ISS, T&D
11/2/2015	6	439.26	39666.36	457.03	32444.96	ISS, T&D
11/3/2015	8	624.89	40291.25	646.97	33091.93	ISS, T&D
11/4/2015	8	520.81	40812.06			ISS
11/5/2015	12	737.97	41550.03	853.58	33945.51	ISS, T&D
11/6/2015	8	506.75	42056.78	903.33	34848.84	ISS, T&D
11/7/2015	6	393.23	42450.01			ISS
11/9/2015	9	595.12	43045.13	473.89	35322.73	ISS, T&D
11/10/2015	7	473.57	43518.7	500.96	35823.69	ISS, T&D
11/11/2015	10	535.11	44053.81	487.02	36310.71	ISS, T&D
11/12/2015	11	560.18	44613.99			ISS
11/13/2015	8	613.99	45227.98			ISS
11/14/2015	7	368.21	45596.19			ISS
11/16/2015	11	522.31	46118.5			ISS
11/17/2015	13	659.32	46777.82			ISS
11/18/2015	6	304.7	47082.52	919.9	37230.61	ISS complete
11/19/2015				1034.59	38265.2	T&D
11/20/2015				994.07	39259.27	T&D
11/23/2015				980.33	40239.6	T&D
11/24/2015				847.76	41087.36	T&D
11/30/2015				839.9	41927.26	T&D
12/1/2015				706.35	42633.61	T&D
12/2/2015				238.1	42871.71	T&D
12/3/2015				708.19	43579.9	T&D
12/4/2015				464.53	44044.43	T&D
12/7/2015				1152.34	45196.77	T&D
12/8/2015				567.08	45763.85	T&D
12/9/2015				21.11	45784.96	T&D
12/10/2015				548.41	46333.37	T&D
12/15/2015				519.18	46852.55	T&D
12/16/2015				450.38	47302.93	T&D
12/21/2015				396.67	47699.6	T&D
12/22/2015						Site Restoration
12/23/2015						Site Restoration
12/24/2015						Site Restoration
12/25/2015						Site Restoration
12/26/2015						Site Restoration
12/27/2015						Site Restoration
12/28/2015						Site Restoration
12/29/2015						Site Restoration
12/30/2015						Site Restoration
12/31/2015						Site Restoration
1/1/2016						Site Restoration
1/2/2016						Site Restoration
1/3/2016						Site Restoration
1/4/2016						Site Restoration
1/5/2016						Site Restoration
1/6/2016				815.95	48515.55	T&D
1/7/2016				616.87	49132.42	T&D
1/8/2016				495.42	49627.84	T&D
1/9/2016						Site Restoration
1/10/2016						Site Restoration
1/11/2016				859.06	50486.9	T&D
1/12/2016						Site Restoration
1/13/2016						Site Restoration
1/14/2016						Site Restoration
1/15/2016				714.69	51201.59	T&D
1/16/2016						Site Restoration
1/17/2016						Site Restoration
1/18/2016						Site Restoration
1/19/2016						Site Restoration
1/20/2016						Site Restoration

Table A-1 Construction Activities Summary
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Date	ISS Columns Completed	ISS Volume (CY)	Total PTD ISS Volume (CY)	T&D at Wolf Creek Landfill (tons)	Total PTD T&D (tons)	Notes
1/21/2016						Site Restoration
1/22/2016				706.48	51908.07	T&D
1/23/2016						Site Restoration
1/24/2016						Site Restoration
1/25/2016						Site Restoration
1/26/2016						Site Restoration
1/27/2016				1086.06	52994.13	T&D
1/28/2016				708.32	53702.45	T&D
1/29/2016						Site Restoration
1/30/2016						Site Restoration
1/31/2016						Site Restoration
2/1/2016						Site Restoration
2/2/2016				1010.14	54712.59	T&D
2/3/2016				298.45	55011.04	T&D
2/4/2016				547.87	55558.91	T&D
2/5/2016				324.09	55883	T&D
2/6/2016						Site Restoration
2/7/2016						Site Restoration
2/8/2016						Site Restoration
2/9/2016						Site Restoration
2/10/2016						Site Restoration
2/11/2016				26.17	55909.17	T&D
2/12/2016				506.06	56415.23	T&D
2/13/2016						Site Restoration
2/14/2016						Site Restoration
2/15/2016				547.77	56963	T&D
2/16/2016						Site Restoration
2/17/2016				572.66	57535.66	T&D
2/18/2016				363.67	57899.33	T&D
2/19/2016						Site Restoration
2/20/2016						Site Restoration
2/21/2016						Site Restoration
2/22/2016				1046.02	58945.35	T&D
2/23/2016				1077.56	60022.91	T&D
2/24/2016				200.09	60223	T&D
2/25/2016						T&D, Demobilization
2/26/2016						T&D, Demobilization
2/27/2016						T&D, Demobilization
2/28/2016						T&D, Demobilization
2/29/2016						T&D, Demobilization
3/1/2016						T&D, Demobilization
3/2/2016						T&D, Demobilization
3/3/2016						T&D, Demobilization
3/4/2016				88.37	60311.37	T&D, Demobilization
3/22/2016				12.8	60324.17	T&D, Demobilization
3/23/2016				14.54	60338.71	T&D, Demobilization
3/24/2016				16.55	60355.26	T&D, Demobilization
4/14/2016				14.52	60369.78	T&D, Demobilization
4/18/2016				10.24	60380.02	T&D, Demobilization
4/18/2016				16.44	60396.46	T&D, Demobilization
4/18/2016				14.41	60410.87	Project Substantial Complete

Table A-2.1 Confirmation Soil Results
Area 2 - AGLC Property and City of Macon Property - Ground Surface to Two Feet Below Ground Surface
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Table A-2.1a Confirmation Soil Results

Parameter			Benzo(a)anthracene	Benzo(a)pyrene	Arsenic	
		Type 4 RRS	12	7.8	38	Compliance with Type 4 RRS
Sample ID	Date	Depth (ft bgs)	mg/kg	mg/kg	mg/kg	
Locations Met RRS - No Excavation Beyond Intended Limits Needed						
SCS-22-2W-(0'-2')-20150625-01	6/25/2015	0-2	< 0.33	< 0.33	< 4.87	Yes
SCS-25-2W-(0'-2')-20150625-01	6/25/2015	0-2	2.5	2.2	< 5.2	Yes
SCS-27-2F-(2)-20150625-01	6/25/2015	2	< 0.37	< 0.37	< 5.2	Yes
SCS-28-2F-(2)-20150625-01	6/25/2015	2	< 0.38	< 0.38	< 5.3	Yes
SCS-29-2F-(2)-20150625-01	6/25/2015	2	1.7	1.8	6.76	Yes
SCS-30-2F-(2)-20150625-01	6/25/2015	2	< 0.37	< 0.37	< 5.3	Yes
SCS-31-2F-(2)-20150625-01	6/25/2015	2	< 0.38	< 0.38	< 5.52	Yes
SCS-32-2F-(2)-20150625-01	6/25/2015	2	< 0.36	< 0.36	< 5.09	Yes
SCS-33-2W-(0'-2')-20150625-01	6/25/2015	0-2	3.0	3.2	6.61	Yes
SCS-34-2W-(0'-2')-20150625-01	6/25/2015	0-2	4.1	5.0	34.3	Yes
SCS-46-2W-(0'-2')-20150708-01	7/8/2015	0-2	0.3	0.2	< 6.45	Yes
SCS-47-2W-(0'-2')-20150708-01	7/8/2015	0-2	8.1	5.3	< 5.53	Yes
SCS-48-2W-(0'-2')-20150714-01	7/14/2015	0-2	2.3	1.6	< 4.96	Yes
SCS-49-2W-(0'-2')-20150714-01	7/14/2015	0-2	9.8	7.0	12.2	Yes
SCS-50-2W-(0'-2')-20150714-01	7/14/2015	0-2	0.14	0.1	< 5.08	Yes
SCS-51-2W-(0'-2')-20150714-01	7/14/2015	0-2	0.18	0.12	< 5.16	Yes
SCS-89-2W-(0'-2')-20160119-01	1/19/2016	0-2	0.36	0.29	< 5.2	Yes
SCS-91-2W-(0'-2')-20160119-01	1/19/2016	0-2	0.25	0.13	< 5.48	Yes
SCS-92-2W-(0'-2')-20160119-01	1/19/2016	0-2	0.37	0.25	< 4.23	Yes
SCS-93-2W-(0'-2')-20160119-01	1/19/2016	0-2	0.07	0.05	< 3.98	Yes
SCS-94-2W-(0'-2')-20160119-01	1/19/2016	0-2	1.20	0.59	< 6.18	Yes
Locations with Exceedances and Step Out Locations						
SCS-23-2W-(0'-2')-20150625-01	6/25/2015	0-2	15	9.0	< 5.05	No
SCS-23A-2W-(0'-2')-20150724-01	7/24/2015	0-2	< 0.36	< 0.36		Yes
SCS-24-2W-(0'-2')-20150625-01	6/25/2015	0-2	12	8.9	< 4.93	No
SCS-24A-2W-(0'-2')-20150724-01	7/24/2015	0-2		0.66		Yes
SCS-26-2W-(0'-2')-20150625-01	6/25/2015	0-2	24	23	7.28	No
SCS-26A-2W-(0'-2')-20150724-01	7/24/2015	0-2	8.3	8.1		No
SCS-90-2W-(0'-2')-20160119-01	1/19/2016	0-2	0.94	0.78	< 4.46	Yes
SCS-45-2W-(0'-2')-20150708-01	7/8/2015	0-2	7.9	6.5	60.2	No
SCS-45A-2W-(0'-2')-20160119-01	1/19/2016	0-2	0.32	0.31	< 5.72	Yes

Table A-2.1b Confirmation Soil Statistical Analysis

Parameter			Benzo(a)anthracene	Benzo(a)pyrene	Arsenic
		Type 4 RRS	12	7.8	38
Sample ID	Date	Depth (ft bgs)	mg/kg	mg/kg	mg/kg
SCS-22-2W-(0'-2')-20150625-01	6/25/2015	0-2	0.17	0.17	2.44
SCS-25-2W-(0'-2')-20150625-01	6/25/2015	0-2	2.5	2.2	2.60
SCS-27-2F-(2)-20150625-01	6/25/2015	2	0.19	0.19	2.60
SCS-28-2F-(2)-20150625-01	6/25/2015	2	0.19	0.19	2.65
SCS-29-2F-(2)-20150625-01	6/25/2015	2	1.7	1.8	6.76
SCS-30-2F-(2)-20150625-01	6/25/2015	2	0.19	0.19	2.65
SCS-31-2F-(2)-20150625-01	6/25/2015	2	0.19	0.19	2.76
SCS-32-2F-(2)-20150625-01	6/25/2015	2	0.18	0.18	2.55
SCS-33-2W-(0'-2')-20150625-01	6/25/2015	0-2	3.0	3.2	6.61
SCS-34-2W-(0'-2')-20150625-01	6/25/2015	0-2	4.1	5.0	34.3
SCS-46-2W-(0'-2')-20150708-01	7/8/2015	0-2	0.3	0.2	3.23
SCS-47-2W-(0'-2')-20150708-01	7/8/2015	0-2	8.1	5.3	2.77
SCS-48-2W-(0'-2')-20150714-01	7/14/2015	0-2	2.3	1.6	2.48
SCS-49-2W-(0'-2')-20150714-01	7/14/2015	0-2	9.8	7.0	12.2
SCS-50-2W-(0'-2')-20150714-01	7/14/2015	0-2	0.14	0.1	2.54
SCS-51-2W-(0'-2')-20150714-01	7/14/2015	0-2	0.18	0.12	2.58
SCS-89-2W-(0'-2')-20160119-01	1/19/2016	0-2	0.36	0.29	2.60
SCS-91-2W-(0'-2')-20160119-01	1/19/2016	0-2	0.25	0.13	2.74
SCS-92-2W-(0'-2')-20160119-01	1/19/2016	0-2	0.37	0.25	2.12
SCS-93-2W-(0'-2')-20160119-01	1/19/2016	0-2	0.07	0.05	1.99
SCS-94-2W-(0'-2')-20160119-01	1/19/2016	0-2	1.20	0.59	3.09
SCS-23-2W-(0'-2')-20150625-01	6/25/2015	0-2			2.53
SCS-23A-2W-(0'-2')-20150724-01	7/24/2015	0-2	0.18	0.18	
SCS-24-2W-(0'-2')-20150625-01	6/25/2015	0-2	12		2.47
SCS-24A-2W-(0'-2')-20150724-01	7/24/2015	0-2		0.66	
SCS-26-2W-(0'-2')-20150625-01	6/25/2015	0-2			7.28
SCS-26A-2W-(0'-2')-20150724-01	7/24/2015	0-2	8.3		
SCS-90-2W-(0'-2')-20160119-01	1/19/2016	0-2	0.94	0.78	2.23
SCS-45-2W-(0'-2')-20150708-01	7/8/2015	0-2	7.9		
SCS-45A-2W-(0'-2')-20160119-01	1/19/2016	0-2	0.32	0.31	2.86
		Average	2.41	1.23	4.68
		Count	27	25	26
		Standard Deviation	3.53	1.90	6.46
		Confidence	1.33	0.75	2.48
		95% Upper Confidence Limit	3.74	1.98	7.16
		95% Upper Confidence Limit < Type 4 RRS	**Yes**	**Yes**	**Yes**

"<" Gray font - analyte was not detected above laboratory detection limit

0.083 Black font - analyte was detected above laboratory detection limit

23 Black font & shading - analyte concentration exceeds the Type 4 RRS

Not detected; 1/2 of the laboratory detection limit used for statistical analysis

N/A; initial sample met Type 4 RRS and was therefore not analyzed in step out sample, or location was overexcavated to achieve RRS

Table A-2.2 Confirmation Soil Results
Area 5 - AGLC Property and Prodigy Holdings, LLC Property - Ground Surface to Two Feet Below Ground Surface
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Table A-2.2a Confirmation Soil Results

Parameter			Arsenic	
		Type 2 RRS	25	Compliance with Type 2 RRS
Sample ID	Date	Depth (ft bgs)	mg/kg	
Locations Met RRS - No Excavation Beyond Intended Limits Needed				
SCS-82-5W-(0'-2')-20151214-01	12/14/2015	0-2	11.70	**Yes**
SCS-83-5W-(0'-2')-20151214-01	12/14/2015	0-2	2.40	**Yes**
SCS-85-5W-(0'-2')-20151214-01	12/14/2015	0-2	2.46	**Yes**
SCS-86-5W-(0'-2')-20151214-01	12/14/2015	0-2	2.67	**Yes**
SCS-87-5F-(2')-20151214-01	12/14/2015	2	2.71	**Yes**
SCS-88-5F-(2')-20151214-01	12/14/2015	2	2.53	**Yes**
Locations with Exceedances and Step Out Locations				
SCS-84-5W-(0'-2')-20151214-01	12/14/2015	0-2	93.90	No
SCS-84A-5W-(0'-2')-20160125-01	1/25/2016	0-2	50.70	No
SCS-84B-5W-(0'-2')-20160128-01	1/28/2016	0-2	5.67	**Yes**

Table A-2.2b Confirmation Soil Statistical Analysis

Parameter			Arsenic
		Type 4 RRS	38
Sample ID	Date	Depth (ft bgs)	mg/kg
SCS-82-5W-(0'-2')-20151214-01	12/14/2015	0-2	11.70
SCS-83-5W-(0'-2')-20151214-01	12/14/2015	0-2	2.40
SCS-85-5W-(0'-2')-20151214-01	12/14/2015	0-2	2.46
SCS-86-5W-(0'-2')-20151214-01	12/14/2015	0-2	2.67
SCS-87-5F-(2')-20151214-01	12/14/2015	2	2.71
SCS-88-5F-(2')-20151214-01	12/14/2015	2	2.53
SCS-84B-5W-(0'-2')-20160128-01	1/28/2016	0-2	5.67
		Average	4.30
		Count	7
		Standard Deviation	3.46
		Confidence	2.57
		95% Upper Confidence Limit	6.87
		95% Upper Confidence Limit < Type 2 RRS	**Yes**

0.083 Black font - analyte was detected above laboratory detection limit

2.40 Black font & shading - analyte concentration exceeds the Type 2 RRS

Table A-2.3 Confirmation Soil Results
Area 6 - City of Macon Property - Ground Surface to Two Feet Below Ground Surface
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Table A-2.3a Confirmation Soil Results

Parameter			Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b) fluoranthene	Antimony	Arsenic	Beryllium	Copper	Lead	
		Type 4 RRS	12	7.8	78	31	38	160	3100	1100	Compliance with Type 4 RRS
Sample ID	Date	Depth (ft bgs)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
Locations Met RRS - No Excavation Beyond Intended Limits Needed											
SCS-04-6F-(2)-20150616-01	6/16/2015	2	1.0	1.0	1.9	2.505	13.3	< 2.50	88.4	168	Yes
SCS-05-6F-(2)-20150616-01	6/16/2015	2	2.0	1.2	2.0	2.635	12.1	< 2.64	90.3	280	Yes
SCS-06-6F-(2)-20150616-01	6/16/2015	2	0.18	0.18	0.18	2.48	2.48	< 2.48	20.4	29.8	Yes
SCS-07-6F-(2)-20150616-01	6/16/2015	2	2.1	1.9	3.2	2.535	21.3	< 2.54	74.2	115	Yes
SCS-08-6F-(2)-20150616-01	6/16/2015	2	0.175	0.175	0.175	2.425	2.425	< 2.43	23.8	32.7	Yes
SCS-10-6F-(2)-20150616-01	6/16/2015	2	0.185	0.185	0.185	2.7	19.4	< 2.70	162	500	Yes
SCS-11-6F-(2)-20150616-01	6/16/2015	2	0.185	0.185	0.185	2.635	19.5	< 2.64	174	410	Yes
SCS-14-6F-(2)-20150616-01	6/16/2015	2	0.175	0.175	0.44	2.54	13.8	< 2.54	51.1	83.1	Yes
SCS-15-6F-(2)-20150616-01	6/16/2015	2	0.75	0.69	1.1	2.52	2.52	< 2.52	7.77	33.5	Yes
SCS-16-6F-(2)-20150616-01	6/16/2015	2	0.51	0.54	0.78	2.665	2.665	< 2.66	8.96	9.99	Yes
Locations with Exceedances and Step Out Locations											
SCS-01-6F-(2)-20150616-01	6/16/2015	2	12	15	24	2.7	12.1	< 2.66	32.7	55.3	No
SCS-01A-6F-(2)-20160212-01	2/12/2016	2	0.0042	0.0039	0.0067						Yes
SCS-02-6F-(2)-20150616-01	6/16/2015	2	0.87	0.84	1.6	5.11	17.5	< 2.51	99.3	249	Yes
SCS-02A-6F-(2)-20160211-01	2/11/2016	2				2.57					Yes
SCS-03-6F-(2)-20150616-01	6/16/2015	2	5.1	4.8	9.1	2.65	19.4	< 2.65	62.8	97.7	Yes
SCS-03A-6F-(2)-20160212-01	2/12/2016	2	0.0092	0.0096	0.015						Yes
SCS-09-6F-(2)-20150616-01	6/16/2015	2	12	14	28	2.48	20.4	< 2.47	146	230	No
SCS-09A-6F-(2)-20160212-01	2/12/2016	2	0.11	0.094	0.25						Yes
SCS-12-6F-(2)-20150616-01	6/16/2015	2	3.0	3.0	5.4	5.24	32	< 2.45	147	283	Yes
SCS-12A-6F-(2)-20160212-01	2/12/2016	2		0.095	0.21	2.76	< 5.52			7.13	Yes
SCS-13-6F-(2)-20150616-01	6/16/2015	2	3.6	3.0	5.0	2.61	25.2	< 2.61	43.6	47.8	Yes
SCS-13A-6F-(2)-20160212-01	2/12/2016	2		0.00095			< 5.47				Yes
SCS-17-6W-(0-2)-20150616-01	6/16/2015	0-2	5.1	5.0	16	2.47	38.4	< 2.47	145	152	No
SCS-17A-6W-(2)-20160211-01	2/11/2016	2	0.015	0.013	0.029		< 5.25				Yes

Table A-2.3b Confirmation Soil Statistical Analysis

Parameter			Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b) fluoranthene	Antimony	Arsenic	Beryllium	Copper	Lead
		Type 4 RRS	12	7.8	78	31	38	160	3100	1100
Sample ID	Date	Depth (ft bgs)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
SCS-04-6F-(2)-20150616-01	6/16/2015	2	1.0	1.0	1.9	2.505	13.3	1.25	88.4	168
SCS-05-6F-(2)-20150616-01	6/16/2015	2	2.0	1.2	2.0	2.635	12.1	1.32	90.3	280
SCS-06-6F-(2)-20150616-01	6/16/2015	2	0.18	0.18	0.18	2.48	2.48	1.24	20.4	29.8
SCS-07-6F-(2)-20150616-01	6/16/2015	2	2.1	1.9	3.2	2.535	21.3	1.27	74.2	115
SCS-08-6F-(2)-20150616-01	6/16/2015	2	0.175	0.175	0.175	2.43	2.425	1.22	23.8	32.7
SCS-10-6F-(2)-20150616-01	6/16/2015	2	0.185	0.185	0.185	2.7	19.4	1.35	162	500
SCS-11-6F-(2)-20150616-01	6/16/2015	2	0.185	0.185	0.185	2.635	19.5	1.32	174	410
SCS-14-6F-(2)-20150616-01	6/16/2015	2	0.175	0.175	0.44	2.54	13.8	1.27	51.1	83.1
SCS-15-6F-(2)-20150616-01	6/16/2015	2	0.75	0.69	1.1	2.52	2.52	1.26	7.77	33.5
SCS-16-6F-(2)-20150616-01	6/16/2015	2	0.51	0.54	0.78	2.665	2.665	1.33	8.96	9.99
SCS-01A-6F-(2)-20160212-01	2/12/2016	2	0.0042	0.0039	0.0067					
SCS-02A-6F-(2)-20160211-01	2/11/2016	2				2.57				
SCS-03A-6F-(2)-20160212-01	2/12/2016	2	0.0092	0.0096	0.015					
SCS-09A-6F-(2)-20160212-01	2/12/2016	2	0.11	0.094	0.25					
SCS-12A-6F-(2)-20160212-01	2/12/2016	2		0.095	0.21	2.76	2.76			7.13
SCS-13A-6F-(2)-20160212-01	2/12/2016	2		0.00095			2.74			
SCS-17A-6W-(2)-20160211-01	2/11/2016	2	0.015	0.013	0.029		2.63			
		Average	0.53	0.40	0.71	2.58	9.05	1.28	70.09	151.75
		Count	14	16	15	12	13	10	10	11
		Standard Deviation	0.67	0.53	0.92	1.21	7.74	0.65	57.46	154.96
		Confidence	0.35	0.26	0.46	0.69	4.21	0.40	35.61	91.57
		95% Upper Confidence Limit	0.88	0.66	1.17	3.27	13.25	1.69	105.71	243.32
		95% Upper Confidence Limit < Type 4 RRS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

"<" Gray font - analyte was not detected above laboratory detection lim
0.083 Black font - analyte was detected above laboratory detection lim
23 Black font & shading - analyte concentration exceeds the Type 4 RRS
Not detected; 1/2 of the laboratory detection limit used for statistical analysis
N/A; initial sample met Type 4 RRS and was therefore not analyzed in step out sample, or location was overexcavated to achieve RRS

Table A-2.4 Confirmation Soil Results
Area 7 - AGLC Property - Ground Surface to Three Feet Below Ground Surface
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Table A-2.4 Confirmation Soil Results

Parameter			Benzene	Chloromethane	Compliance with Type 1 RRS	Compliance with Type 2 RRS
		Type 1 (surface) RRS	0.5	0.04		
		Type 2 (surface) RRS	5.0	NA		
Sample ID	Date	Depth (ft bgs)	mg/kg	mg/kg		
Surface Locations (0 - 2 Feet Below Ground Surface)						
SCS-18-7W-(0-2)-20150624-01	6/24/2015	0-2	< 0.0023	< 0.0046	Yes	Yes
SCS-20-7W-(0-2)-20150624-01	6/24/2015	0-2	< 0.0026	< 0.0051	Yes	Yes
SCS-21-7W-(0-2)-20150624-01	6/24/2015	0-2	< 0.0027	< 0.0055	Yes	Yes
SCS-35-7W-(0-2)-20150625-01	6/25/2015	0-2	< 0.0026	< 0.0052	Yes	Yes
SCS-36-7W-(0-2)-20150625-01	6/25/2015	0-2	< 0.0034	< 0.0068	Yes	Yes
SCS-37-7W-(0-2)-20150625-01	6/25/2015	0-2	< 0.180	< 0.350	Yes	Yes
SCS-41-7W-(0-2)-20150625-01	6/25/2015	0-2	< 0.0026	< 0.0052	Yes	Yes
SCS-42-7W-(0-2)-20150625-01	6/25/2015	0-2	< 0.0064	< 0.013	Yes	Yes
SCS-43-7W-(0-2)-20150625-01	6/25/2015	0-2	< 0.180	< 0.360	Yes	Yes
SCS-44-7W-(0-2)-20150630-01	6/30/2015	0-2	< 0.0084	< 0.0042	Yes	Yes
		Type 1 (subsurface) RRS	0.5	0.04	Compliance with Type 1 RRS	Compliance with Type 2 RRS
		Type 2 (subsurface) RRS	5.0	NA		
Subsurface Locations (> 2 Feet Below Groundwater Surface						
SCS-19-7F-(3)-20150624-01	6/24/2015	3	< 0.0028	< 0.0055	Yes	Yes
SCS-38-7F-(3)-20150625-01	6/25/2015	3	< 0.0026	< 0.0051	Yes	Yes
SCS-39-7F-(3)-20150625-01	6/25/2015	3	< 0.0027	< 0.0053	Yes	Yes
SCS-40-7F-(3)-20150625-01	6/25/2015	3	< 0.0029	< 0.0057	Yes	Yes

"<" Gray font - analyte was not detected above laboratory detection limit

Table A-2.5 Confirmation Soil Results
Area 9 - AGLC Property and City of Macon Property - Two Feet to Six Feet Below Ground Surface
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Table A-2.5a Confirmation Soil Results

Parameter			Benzo(a)anthracene	Compliance with Type 4 RRS
		Type 4 RRS	12	
Sample ID	Date	Depth (ft bgs)	mg/kg	
Locations Met RRS - No Excavation Beyond Intended Limits Needed				
SCS-52-9W-(2'-6')-20150729-01	7/29/2015	2-6'	< 0.38	**Yes**
SCS-53-9W-(2'-6')-20150729-01	7/29/2015	2-6'	< 0.40	**Yes**
SCS-54-9W-(2'-6')-20150729-01	7/29/2015	2-6'	0.46	**Yes**
SCS-55-9W-(2'-6')-20150729-01	7/29/2015	2-6'	0.93	**Yes**
SCS-56-9W-(2'-6')-20150729-01	7/29/2015	2-6'	< 0.35	**Yes**
SCS-57-9W-(2'-6')-20150729-01	7/29/2015	2-6'	< 0.34	**Yes**
SCS-60-9W-(2'-6')-20150918-01	9/18/2015	2-6'	0.0065	**Yes**
SCS-61-9W-(2'-6')-20150918-01	9/18/2015	2-6'	0.0023	**Yes**
SCS-62-9W-(2'-6')-20150918-01	9/18/2015	2-6'	< 0.0024	**Yes**
SCS-63-9W-(2'-6')-20150918-01	9/18/2015	2-6'	< 0.0019	**Yes**
SCS-64-9W-(2'-6')-20150918-01	9/18/2015	2-6'	< 0.0022	**Yes**
SCS-65-9W-(2'-6')-20150918-01	9/18/2015	2-6'	0.048	**Yes**
SCS-95-9W-(2'-6')-20150918-01	1/19/2016	2-6'	0.75	**Yes**

Table A-2.5b Confirmation Soil Statistical Analysis

Parameter			Benzo(a)anthracene
		Type 4 RRS	12
Sample ID	Date	Depth (ft bgs)	mg/kg
SCS-52-9W-(2'-6')-20150729-01	7/29/2015	2-6'	0.19
SCS-53-9W-(2'-6')-20150729-01	7/29/2015	2-6'	0.2
SCS-54-9W-(2'-6')-20150729-01	7/29/2015	2-6'	0.46
SCS-55-9W-(2'-6')-20150729-01	7/29/2015	2-6'	0.93
SCS-56-9W-(2'-6')-20150729-01	7/29/2015	2-6'	0.18
SCS-57-9W-(2'-6')-20150729-01	7/29/2015	2-6'	0.17
SCS-60-9W-(2'-6')-20150918-01	9/18/2015	2-6'	0.0065
SCS-61-9W-(2'-6')-20150918-01	9/18/2015	2-6'	0.0023
SCS-62-9W-(2'-6')-20150918-01	9/18/2015	2-6'	0.0012
SCS-63-9W-(2'-6')-20150918-01	9/18/2015	2-6'	0.0010
SCS-64-9W-(2'-6')-20150918-01	9/18/2015	2-6'	0.0011
SCS-65-9W-(2'-6')-20150918-01	9/18/2015	2-6'	0.048
SCS-95-9W-(2'-6')-20150918-01	1/19/2016	2-6'	0.75
		Average	0.23
		Count	13
		Standard Deviation	0.30
		Confidence	0.17
		95% Upper Confidence Limit	0.39
		95% Upper Confidence Limit < Type 4 RRS	**Yes**

"<" Gray font - analyte was not detected above laboratory detection limit

0.083 Black font - analyte was detected above laboratory detection limit

Not detected; 1/2 of the laboratory detection limit used for statistical analysis

Table A-2.6 Confirmation Soil Results
Area 10 - AGLC Property - Two Feet to Six Feet Below Ground Surface
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Table A-2.6a Confirmation Soil Results

		Parameter	Arsenic	Chromium	
		Type 4 RRS	38	1200	
Sample ID	Date	Depth (ft bgs)	mg/kg	mg/kg	Compliance with Type 4 RRS
Locations Met RRS - No Excavation Beyond Intended Limits Needed					
SCS-69-10W-(2'-6')-20151123-01	11/23/2015	2'-6'	37.20	6.82	Yes
SCS-70-10W-(2'-6')-20151123-01	11/23/2015	2'-6'	12.20	16.10	Yes
SCS-71-10W-(2'-6')-20151123-01	11/23/2015	2'-6'	15.80	19.20	Yes
SCS-72-10W-(2'-6')-20151123-01	11/23/2015	2'-6'	< 5.74	23.10	Yes
SCS-73-10W-(2'-6')-20151123-01	11/23/2015	2'-6'	8.64	12.30	Yes
SCS-74-10W-(2'-6')-20151123-01	11/23/2015	2'-6'	9.75	20.10	Yes
SCS-75-10W-(2'-6')-20151123-01	11/23/2015	2'-6'	< 5.21	7.87	Yes
SCS-76-10F-(6')-20151123-01	11/23/2015	2'-6'	< 5.66	35.50	Yes
SCS-77-10F-(6')-20151123-01	11/23/2015	2'-6'	< 5.65	2.82	Yes
SCS-78-10F-(6')-20151123-01	11/23/2015	2'-6'	< 5.38	26.10	Yes
SCS-79-10F-(6')-20151123-01	11/23/2015	2'-6'	< 5.49	25.50	Yes

Table A-2.6b Confirmation Soil Statistical Analysis

Parameter			Arsenic	Chromium
		Type 4 RRS	38	1200
Sample ID	Date	Depth (ft bgs)	mg/kg	mg/kg
SCS-69-10W-(2'-6')-20151123-01	11/23/2015	2'-6'	37.20	6.82
SCS-70-10W-(2'-6')-20151123-01	11/23/2015	2'-6'	12.20	16.10
SCS-71-10W-(2'-6')-20151123-01	11/23/2015	2'-6'	15.80	19.20
SCS-72-10W-(2'-6')-20151123-01	11/23/2015	2'-6'	2.87	23.10
SCS-73-10W-(2'-6')-20151123-01	11/23/2015	2'-6'	8.64	12.30
SCS-74-10W-(2'-6')-20151123-01	11/23/2015	2'-6'	9.75	20.10
SCS-75-10W-(2'-6')-20151123-01	11/23/2015	2'-6'	2.61	7.87
SCS-76-10F-(6')-20151123-01	11/23/2015	2'-6'	2.83	35.50
SCS-77-10F-(6')-20151123-01	11/23/2015	2'-6'	2.83	2.82
SCS-78-10F-(6')-20151123-01	11/23/2015	2'-6'	2.69	26.10
SCS-79-10F-(6')-20151123-01	11/23/2015	2'-6'	5.49	25.50
		Average	9.35	17.76
		Count	11	11
		Standard Deviation	10.29	9.76
		Confidence	6.08	5.77
		95% Upper Confidence Limit	15.43	23.54
		95% Upper Confidence Limit < Type 4 RRS	**Yes**	**Yes**

"<" Gray font - analyte was not detected above laboratory detection limit

0.083 Black font - analyte was detected above laboratory detection limit

Not detected; 1/2 of the laboratory detection limit used for statistical analysis

Table A-2 .7 Confirmation Soil Results
Area 12 - AGLC Property and City of Macon Property - Six Feet to Ten Feet Below Ground Surface
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Table A-2 .7 Confirmation Soil Results

Parameter			Benzene	Compliance with Type 4 RRS
		Type 4 RRS	5.0	
Sample ID	Date	Depth (ft bgs)	mg/kg	
Locations Met RRS - No Excavation Beyond Intended Limits Needed				
SCS-58-12W-(6-10)-20150805-01	8/5/2015	6-10'	< 0.0035	**Yes**
SCS-59-12W-(6-10)-20150805-01	8/5/2015	6-10'	< 0.0040	**Yes**
SCS-66-12W-(6-10)-20150923-01	9/23/2015	6-10'	< 0.0032	**Yes**
SCS-103-12W-(6-10)-20160129-01	1/29/2016	6-10'	< 0.0033	**Yes**

"<" Gray font - analyte was not detected above laboratory detection limit

Table A-2.8 Confirmation Soil Results
Area 13 - AGLC Property and City of Macon Property - Six Feet to Ten Feet Below Ground Surface
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Table A-2.8a Confirmation Soil Results

Parameter			Benzo(a)anthracene	
		Type 4 RRS	12	Compliance with Type 4 RRS
Sample ID	Date	Depth (ft bgs)	mg/kg	
Locations Met RRS - No Excavation Beyond Intended Limits Needed				
SCS-67-13W-(6'-10')-20150923-01	9/23/2015	6'-10'	0.01	**Yes**
SCS-68-13W-(6'-10')-20150923-01	9/23/2015	6'-10'	0.012	**Yes**

Table A-2.8b Confirmation Soil Statistical Analysis

Parameter			Benzo(a)anthracene
		Type 4 RRS	12
Sample ID	Date	Depth (ft bgs)	mg/kg
SCS-67-13W-(6'-10')-20150923-01	9/23/2015	6'-10'	0.01
SCS-68-13W-(6'-10')-20150923-01	9/23/2015	6'-10'	0.012
		Average	0.011
		Count	2
		Standard Deviation	0.0014
		Confidence	0.002
		95% Upper Confidence Limit	0.013
		95% Upper Confidence Limit < Type 4 RRS	**Yes**

0.083 Black font - analyte was detected above laboratory detection limit

Table A-2.9 Confirmation Soil Results
Area 14 - City of Macon Property - Six Feet to Ten Feet Below Ground Surface
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Table A-2.9a Confirmation Soil Results

Parameter			Benzo(a)anthracene	
		Type 4 RRS	12	Compliance with Type 4 RRS
Sample ID	Date	Depth (ft bgs)	mg/kg	
Locations Met RRS - No Excavation Beyond Intended Limits Needed				
SCS-80-14W-(6'-10')-20151212-01	12/12/15	6-10	0.0071	**Yes**
SCS-81-14W-(6'-10')-20151212-01	12/12/15	6-10	0.0054	**Yes**

Table A-2.9b Confirmation Soil Statistical Analysis

Parameter			Benzo(a)anthracene
		Type 4 RRS	12
Sample ID	Date	Depth (ft bgs)	mg/kg
SCS-80-14W-(6'-10')-20151212-01	12/12/15	6-10	0.0071
SCS-81-14W-(6'-10')-20151212-01	12/12/15	6-10	0.0054
		Average	0.0063
		Count	2
		Standard Deviation	0.0012
		Confidence	0.0017
		95% Upper Confidence Limit	0.0079
		95% Upper Confidence Limit < Type 4 RRS	**Yes**

0.083 Black font - analyte was detected above laboratory detection limit

Table A-2.10 Confirmation Soil Results
MGP Structure (Holder) - AGLC Property, City of Macon Property and Prodigy Holdings, LLC Property - Ground Surface to Eighteen Feet Below Ground Surface
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Table A-2.10 Confirmation Soil Results

Parameter			Benzene	Ethylbenzene	Toluene	Xylenes, Total	Carbon Disulfide	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a) anthracene				
		Type 1 RRS	0.5	70	100	1000	400	300	130	500	5.0				
		Type 2 RRS	5.0	1600	680	160000	400	4700	2300	23000	12				
		Type 4 RRS	5.0	1600	680	160000	400	4700	2300	23000	12	Compliance	Compliance	Compliance	Compliance
Sample ID	Date	Depth (ft bgs)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	with Type 1 RRS	with Type 2 RRS	with Type 3 RRS	with Type 4 RRS
Locations Met RRS - No Excavation Beyond Intended Limits Needed															
SCS-101-HolderW-West-20160126-01	1/26/16	5	< 0.0043	< 0.0043	0.0058	0.007	< 0.0086	< 0.022	< 0.042	0.0046	0.03	Yes	Yes	Yes	Yes
SCS-101-HolderW-East-2016012016-01	1/26/16	5	< 0.0032	< 0.0032	< 0.0032	< 0.0032	< 0.0065	< 0.021	< 0.040	< 0.0021	< 0.0021	Yes	Yes	Yes	Yes

Parameter			Benzo(a) pyrene	Benzo(b) flouranthene	Benzo(g,h,i) perylene	Benzo(k) flouranthene	Chrysene	Dibenz(a,h) anthracene	2,4,-Dimethylphenol	Fluoranthene	Flourene				
		Type 1 RRS	1.6	5	500	5.0	5.0	2.0	70	500	360				
		Type 2 RRS	1.6	12	2300	120	1200	12	1600	3100	3100				
		Type 4 RRS	7.8	78	2300	780	7840	78	1600	17000	17000	Compliance	Compliance	Compliance	Compliance
Sample ID	Date	Depth (ft bgs)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	with Type 1 RRS	with Type 2 RRS	with Type 3 RRS	with Type 4 RRS
Locations Met RRS - No Excavation Beyond Intended Limits Needed															
SCS-101-HolderW-West-20160126-01	1/26/16	5	0.024	0.035	0.015	0.01	0.026	< 0.0042	< 0.42	0.027	< 0.0042	Yes	Yes	Yes	Yes
SCS-101-HolderW-East-2016012016-01	1/26/16	5	< 0.0021	< 0.0040	< 0.0040	< 0.0021	< 0.0021	< 0.0040	< 0.40	< 0.0040	< 0.0040	Yes	Yes	Yes	Yes

Parameter			Indeno(1,2,3-cd) pyrene	2-Methyphenol	3&4 Methylphenol	Naphthalene	Phenanthrene	Phenol	Pyrene	Antimony	Arsenic				
		Type 1 RRS	5.0	3.8	3.8	100	110	400	500	4.0	20				
		Type 2 RRS	12	3900	390	100	2300	47000	2300	31	25				
		Type 4 RRS	78	3900	390	100	13000	47000	13000	31	38	Compliance	Compliance	Compliance	Compliance
Sample ID	Date	Depth (ft bgs)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	with Type 1 RRS	with Type 2 RRS	with Type 3 RRS	with Type 4 RRS
Locations Met RRS - No Excavation Beyond Intended Limits Needed															
SCS-101-HolderW-West-20160126-01	1/26/16	5	0.013	< 0.42	< 0.42	< 0.022	0.009	< 0.42	0.04	< 5.31	< 5.31	Yes	Yes	Yes	Yes
SCS-101-HolderW-East-2016012016-01	1/26/16	5	< 0.0021	< 0.40	< 0.40	< 0.021	< 0.0021	< 0.40	0.0028	< 5.74	< 5.74	Yes	Yes	Yes	Yes

Parameter			Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Zinc	Mercury	Cyanide				
		Type 1 RRS	1000	2.0	2.4	100	170	75	50	100	0.5	20				
		Type 2 RRS	5400	160	39	230	3100	400	1600	23000	24	1600				
		Type 4 RRS	5400	160	39	1200	3100	1100	1600	23000	24	1600	Compliance	Compliance	Compliance	Compliance
Sample ID	Date	Depth (ft bgs)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	with Type 1 RRS	with Type 2 RRS	with Type 3 RRS	with Type 4 RRS
Locations Met RRS - No Excavation Beyond Intended Limits Needed																
SCS-101-HolderW-West-20160126-01	1/26/16	5	15.9	< 2.65	< 2.65	9.65	6.07	7.07	< 5.31	5.88	< 0.124	< 1.28	Yes	Yes	Yes	Yes
SCS-101-HolderW-East-2016012016-01	1/26/16	5	29.5	< 2.87	< 2.87	17.1	18.5	13.9	< 5.74	33.5	< 0.109	< 1.21	Yes	Yes	Yes	Yes

Table A-2.10b Confirmation Soil Statistical Analysis*

Parameter			Antimony	Beryllium	Cadmium
		Type 1 RRS	4.0	2.0	2.4
		Type 2 RRS	31.0	160.0	39.0
		Type 4 RRS	31.0	160.0	39.0
Sample ID	Date	Depth (ft bgs)			
SCS-80-14W-(6'-10')-20151212-01	12/12/15	6-10	2.655	1.325	1.325
SCS-81-14W-(6'-10')-20151212-01	12/12/15	6-10	2.87	1.435	1.435
		Average	2.76	1.38	1.38
		Count	2.00	2.0	2.0
		Standard Deviation	0.15	0.08	0.08
		Confidence	0.21	0.11	0.11
		95% Upper Confidence Limit	2.97	1.49	1.49
		Upper Confidence Limit < Type 1 RRS	Yes	Yes	Yes
		Upper Confidence Limit < Type 2 RRS	Yes	Yes	Yes
		Upper Confidence Limit < Type 4 RRS	Yes	Yes	Yes

* Statistical analysis only performed on constituents that were non-detect with laboratory detection limits above the applicable RRS (i.e., antimony detection limit of 5.31 ug/L compared to Type 1 of 4

"<" Gray font - analyte was not detected above laboratory detection limit

0.083 Black font - analyte was detected above laboratory detection limit

23 Black font & shading - analyte concentration exceeds the Type 4 RRS

Not detected; 1/2 of the laboratory detection limit used for statistical analysis

Table A-2.11 Confirmation Soil Results
Utility Excavation - 6th Steet (City of Macon) - Ground Surface to Three Feet Below Ground Surface
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Table A-2.11 Confirmation Soil Results

Parameter			Benzene	Ethylbenzene	Toluene	Xylenes, Total	Carbon Disulfide	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a) anthracene	Compliance with Type 4 RRS
		Type 4 RRS	5.0	1600	680	160000	400	4700	2300	23000	12	
Sample ID	Date	Depth (ft bgs)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
Locations Met RRS - No Excavation Beyond Intended Limits Needed												
SCS-96-6THSW-(3')-20160119	1/19/16	3	< 0.0038	< 0.0038	< 0.0038	< 0.0038	< 0.0077	0.031	0.12	0.25	2	Yes
SCS-97-6THNE-(2')-20160119	1/19/16	2	< 0.0036	< 0.0036	< 0.0036	< 0.0036	< 0.0072	0.15	0.11	0.11	0.5	Yes
SCS-98-6THSE-(3')-20160119	1/19/16	3	< 0.0032	< 0.0032	< 0.0032	< 0.0032	< 0.0063	< 0.019	< 0.037	0.031	0.24	Yes
SCS-99-6THNW-(2')-20160119	1/19/16	2	< 0.0033	< 0.0033	< 0.0033	< 0.0033	< 0.0065	< 0.019	0.051	0.037	0.36	Yes
SCS-100-6THFL-(2')-20160119	1/19/16	2	< 0.0038	< 0.0038	< 0.0038	< 0.0038	< 0.0076	0.33	0.27	0.86	3.5	Yes

Parameter			Benzo(a) pyrene	Benzo(b) flouranthene	Benzo(g,h,i) perylene	Benzo(k) flouranthene	Chrysene	Dibenz(a,h) anthracene	2,4,-Dimethylphenol	Fluoranthene	Flourene	Compliance with Type 4 RRS
		Type 4 RRS	7.8	78	2300	780	7840	78	1600	17000	17000	
Sample ID	Date	Depth (ft bgs)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
Locations Met RRS - No Excavation Beyond Intended Limits Needed												
SCS-96-6THSW-(3')-20160119	1/19/16	3	1.7	2.6	1.3	0.68	1.5	0.22	< 0.43	3.5	0.12	Yes
SCS-97-6THNE-(2')-20160119	1/19/16	2	0.37	0.66	0.36	0.16	0.4	0.088	< 0.37	0.94	0.075	Yes
SCS-98-6THSE-(3')-20160119	1/19/16	3	0.18	0.36	0.17	0.086	0.19	0.043	< 0.37	0.37	0.0056	Yes
SCS-99-6THNW-(2')-20160119	1/19/16	2	0.37	0.62	0.4	0.16	0.31	0.09	< 0.37	0.38	0.018	Yes
SCS-100-6THFL-(2')-20160119	1/19/16	2	2.9	3.7	2	1	2.6	0.47	< 0.38	5.6	0.63	Yes

Parameter			Indeno(1,2,3-cd) pyrene	2-Methyphenol	3&4 Methylphenol	Naphthalene	Phenanthrene	Phenol	Pyrene	Antimony	Arsenic	Compliance with Type 4 RRS
		Type 4 RRS	78	3900	390	100	13000	47000	13000	31	38	
Sample ID	Date	Depth (ft bgs)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
Locations Met RRS - No Excavation Beyond Intended Limits Needed												
SCS-96-6THSW-(3')-20160119	1/19/16	3	1.2	< 0.43	< 0.43	0.39	1.1	< 0.43	3.1	< 6.07	20.2	Yes
SCS-97-6THNE-(2')-20160119	1/19/16	2	0.34	< 0.37	< 0.37	0.086	0.29	< 0.37	0.88	< 4.85	2.425	Yes
SCS-98-6THSE-(3')-20160119	1/19/16	3	0.17	< 0.37	< 0.37	0.08	0.12	< 0.37	0.32	< 5.58	2.79	Yes
SCS-99-6THNW-(2')-20160119	1/19/16	2	0.34	< 0.37	< 0.37	0.034	0.14	< 0.37	0.35	< 5.01	2.505	Yes
SCS-100-6THFL-(2')-20160119	1/19/16	2	1.8	< 0.38	< 0.38	2.2	3.3	< 0.38	4.5	< 5.32	2.66	Yes

Parameter			Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Zinc	Mercury	Cyanide	Compliance with Type 4 RRS
		Type 4 RRS	5400	160	39	1200	3100	1100	1600	23000	24	1600	
Sample ID	Date	Depth (ft bgs)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
Locations Met RRS - No Excavation Beyond Intended Limits Needed													
SCS-96-6THSW-(3')-20160119	1/19/16	3	91.8	< 3.03	< 3.03	32.2	33.4	62.7	9.85	42.2	0.645	< 1.29	Yes
SCS-97-6THNE-(2')-20160119	1/19/16	2	37.9	< 2.43	< 2.43	15.6	9.99	21.9	< 4.85	12.5	0.0995	< 1.12	Yes
SCS-98-6THSE-(3')-20160119	1/19/16	3	84.8	< 2.79	< 2.79	9.81	11.2	30.8	< 5.58	5.94	0.113	< 1.13	Yes
SCS-99-6THNW-(2')-20160119	1/19/16	2	28.9	< 2.5	< 2.5	11	12.4	18.4	< 5.01	10.4	< 0.0981	< 1.13	Yes
SCS-100-6THFL-(2')-20160119	1/19/16	2	56.3	< 2.66	< 2.66	11.4	19	49.9	< 5.32	12	0.118	< 1.88	Yes

"<" Gray font - analyte was not detected above laboratory detection limit

0.083 Black font - analyte was detected above laboratory detection limit

Table A-3 ISS Column Construction Summary
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Date	Column ID	Start Time	Stop Time	Actual Top Elev (ft)	Actual Bottom Elev (ft)	Total Reagent	QC Sample?	Material Treated (CY)
7/9/2015	CS27	1:30 PM	2:35 PM	307.04	282.94	8.3%	N	70.10
7/10/2015	CS25	9:35 AM	11:21 AM	307.09	282.29	9.0%	N	72.14
7/10/2015	CR26	1:57 PM	3:43 PM	307.12	282.72	10.4%	N	62.84
7/11/2015	CQ27	8:12 AM	9:21 AM	307.27	282.57	7.5%	Y	63.62
7/13/2015	CR24	11:12 PM	12:21 PM	306.98	282.32	7.7%	N	67.62
7/13/2015	CQ25	12:44 PM	1:42 PM	306.51	282.65	7.2%	N	57.48
7/13/2015	CQ23	1:49 PM	3:00 PM	307.89	282.79	7.4%	N	68.83
7/13/2015	CP26	3:40 PM	4:34 PM	306.94	283.24	6.1%	Y	66.19
7/13/2015	CO27	4:54 PM	5:50 PM	307.36	284.16	6.8%	N	59.75
7/14/2015	CP24	7:34 AM	8:37 AM	306.56	282.46	6.6%	N	58.05
7/14/2015	CO23	8:45 AM	9:57 AM	307.41	283.01	6.6%	N	62.84
7/14/2015	CO25	10:16 AM	11:18 AM	307.17	282.77	6.6%	N	58.78
7/14/2015	CN26	11:25 AM	12:30 PM	307.42	283.08	6.6%	N	58.63
7/14/2015	CM25	12:56 PM	2:01 PM	307.81	282.71	6.6%	Y	64.65
7/14/2015	CN24	2:15 PM	3:14 PM	307.44	282.81	6.7%	N	55.23
7/16/2015	CN22	2:24 PM	3:50 PM	308.31	283.91	6.6%	N	66.91
7/17/2015	CM23	7:05 AM	8:06 AM	307.73	283.33	6.5%	Y	58.78
7/17/2015	CL24	8:22 AM	9:21 AM	307.26	283.06	6.5%	N	58.29
7/17/2015	CL22	9:43 AM	10:53 AM	307.30	282.90	6.4%	N	62.84
7/17/2015	CK23	11:03 AM	12:17 PM	307.33	283.73	6.8%	N	56.85
7/17/2015	CJ24	1:40 PM	2:47 PM	306.93	284.43	6.7%	Y	57.95
7/17/2015	CJ22	3:21 PM	4:32 PM	307.40	282.60	6.4%	N	63.87
7/17/2015	CI23	4:40 PM	5:36 PM	306.91	284.21	6.6%	N	54.68
7/18/2015	CH24	7:05 AM	8:07 AM	307.11	284.61	7.8%	N	57.95
7/18/2015	CI21	8:30 AM	9:35 AM	307.40	282.80	7.4%	N	67.46
7/18/2015	CH22	9:45 AM	10:29 AM	307.17	283.97	6.8%	Y	55.89
7/18/2015	CG23	10:48 AM	11:26 AM	307.50	284.54	6.5%	N	55.31
7/18/2015	CG21	11:44 AM	12:23 PM	307.50	283.00	6.9%	N	63.10
7/18/2015	CF22	12:26 PM	1:00 PM	307.63	284.93	6.7%	N	54.68
7/18/2015	CE23	1:03 PM	1:38 PM	307.80	284.90	6.7%	N	58.98
7/18/2015	CF20	1:48 PM	2:54 PM	306.92	283.52	8.1%	Y	64.17
7/20/2015	CE21	7:32 AM	8:34 AM	306.85	283.85	7.0%	N	55.40
7/20/2015	CD22	8:54 AM	9:30 AM	307.00	285.00	6.7%	N	53.00
7/20/2015	CD20	9:44 AM	10:29 AM	307.27	284.07	7.0%	N	59.75
7/20/2015	CC21	10:39 AM	11:16 AM	307.70	284.90	6.7%	Y	54.92
7/20/2015	CB22	11:22 AM	11:58 AM	307.83	284.93	6.7%	N	58.98
7/20/2015	CC19	12:03 PM	2:32 PM	307.38	283.98	7.9%	N	64.17
7/20/2015	CB20	2:58 PM	3:47 PM	306.83	283.93	7.8%	N	55.16
7/20/2015	CA21	3:51 PM	4:42 PM	307.05	284.25	6.7%	Y	54.92
7/21/2015	CA19	7:25 AM	8:10 AM	307.20	284.30	6.6%	N	58.98
7/21/2015	BZ20	8:14 AM	9:01 AM	307.66	283.86	6.6%	N	57.33
7/21/2015	BY21	9:05 AM	9:51 AM	307.57	284.17	6.5%	N	60.27
7/21/2015	BZ18	10:14 AM	11:37 AM	307.49	284.93	7.7%	Y	61.86
7/21/2015	BY19	11:45 AM	12:34 PM	307.39	284.89	7.1%	N	54.20
7/21/2015	BX20	12:45 PM	2:01 PM	307.20	284.78	7.7%	N	54.01
7/21/2015	BX18	2:28 PM	3:33 PM	307.50	285.24	6.7%	N	57.33
7/21/2015	BW19	3:38 PM	4:36 PM	307.52	285.27	7.0%	Y	53.60
7/21/2015	BV20	4:49 PM	5:33 PM	307.70	285.53	6.5%	N	57.10
7/22/2015	BW17	7:37 AM	8:28 AM	307.63	285.26	6.6%	N	61.34
7/22/2015	BV18	8:33 AM	9:16 AM	307.77	285.77	6.5%	N	53.00
7/22/2015	BU19	9:21 AM	10:22 AM	307.50	286.20	6.8%	Y	51.31
7/22/2015	BT18	10:54 AM	12:02 PM	307.64	286.29	7.0%	N	54.99
7/22/2015	BU17	12:54 PM	1:56 PM	307.94	285.44	7.6%	N	54.20
7/22/2015	BV16	2:05 PM	3:07 PM	307.50	285.00	6.8%	N	57.95
7/22/2015	BS17	3:12 PM	4:11 PM	307.96	285.96	6.5%	Y	56.66
7/22/2015	BT16	4:44 PM	5:32 PM	308.60	285.10	6.5%	N	56.61
7/23/2015	BR16	7:47 AM	8:48 AM	307.71	285.37	6.5%	N	57.54
7/23/2015	BU15	8:53 AM	9:48 AM	307.50	284.70	6.5%	N	58.72
7/23/2015	BS15	10:06 AM	11:04 AM	308.40	285.00	6.5%	Y	56.37
7/23/2015	BQ15	11:27 AM	12:30 PM	308.36	285.06	6.6%	N	60.01
7/23/2015	BT14	12:43 PM	3:04 PM	307.90	285.00	7.5%	N	58.98
7/23/2015	BR14	3:27 PM	4:24 PM	308.41	285.21	7.0%	N	55.89
7/24/2015	BP14	7:44 AM	8:48 AM	308.33	285.73	7.0%	N	58.21
7/24/2015	BS13	9:09 AM	10:30 AM	308.49	285.09	7.2%	Y	60.27
7/24/2015	BT12	11:10 AM	12:00 PM	307.81	285.21	6.5%	N	61.97
7/24/2015	BQ13	12:07 PM	1:01 PM	308.28	285.48	6.7%	N	54.92
7/24/2015	BS11	1:33 PM	2:47 PM	308.63	285.67	7.4%	N	62.96
7/24/2015	BO13	2:55 PM	3:55 PM	308.11	284.91	6.8%	N	59.75
7/24/2015	BR12	4:10 PM	5:33 PM	308.72	285.67	7.4%	N	51.68

Table A-3 ISS Column Construction Summary
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Date	Column ID	Start Time	Stop Time	Actual Top Elev (ft)	Actual Bottom Elev (ft)	Total Reagent	QC Sample?	Material Treated (CY)
7/25/2015	BP12	7:56 AM	8:46 AM	308.66	285.13	6.5%	N	56.68
7/25/2015	BQ11	8:54 AM	9:42 AM	308.33	285.51	6.5%	N	54.97
7/25/2015	BR10	9:51 AM	11:57 AM	308.03	286.61	8.3%	N	55.17
7/25/2015	BO11	12:07 PM	12:55 PM	308.80	285.00	6.6%	Y	61.30
7/25/2015	BQ9	1:33 PM	3:19 PM	308.16	287.16	8.7%	N	57.59
7/27/2015	BP8	8:02 AM	8:59 AM	308.09	297.39	9.2%	N	29.34
7/27/2015	BO7	9:05 AM	10:12 AM	308.05	290.75	7.8%	N	47.44
7/27/2015	BP10	10:35 AM	11:13 AM	308.09	298.09	8.6%	N	22.42
7/27/2015	BO9	11:40 AM	1:20 PM	308.62	288.92	9.2%	N	47.45
7/27/2015	BN8	1:34 PM	2:10 PM	307.95	287.45	6.5%	N	49.38
7/27/2015	BM7	2:14 PM	3:08 PM	308.95	288.05	6.6%	N	53.83
7/27/2015	BN10	3:33 PM	4:24 PM	308.12	285.52	6.6%	N	54.44
7/27/2015	BM9	4:29 PM	5:11 PM	307.83	286.63	6.6%	Y	51.07
7/27/2015	BL8	5:19 PM	6:10 PM	308.46	287.36	6.8%	N	50.83
7/28/2015	BK7	9:58 AM	10:43 AM	309.0	287.6	6.5%	N	55.12
7/28/2015	BK9	10:54 AM	11:49 AM	308.6	286.6	6.7%	N	56.66
7/28/2015	BJ8	11:53 AM	12:33 PM	308.7	285.9	6.7%	Y	54.92
7/28/2015	BI7	1:05 PM	2:13 PM	308.4	287.3	6.8%	N	54.34
7/28/2015	BI9	2:33 PM	3:31 PM	308.7	285.2	6.5%	N	60.53
7/28/2015	BH8	3:36 PM	4:21 PM	308.3	285.8	6.5%	N	54.20
7/28/2015	BG7	4:44 PM	5:43 PM	309.5	288.0	6.7%	N	55.37
7/28/2015	BG9	5:55 PM	6:59 PM	309.2	285.4	6.5%	N	61.30
7/29/2015	BF8	8:11 AM	9:33 AM	309.14	288.84	7.7%	N	48.90
7/29/2015	BE7	10:18 AM	11:15 AM	309.54	289.54	6.5%	N	51.51
7/29/2015	BE9	11:21 AM	12:27 PM	309.56	286.86	6.5%	N	58.46
7/29/2015	BD8	12:47 PM	1:31 PM	309.18	289.08	6.5%	Y	48.42
7/29/2015	BC7	1:40 PM	3:31 PM	309.40	291.00	6.5%	N	47.39
7/29/2015	BC9	3:35 PM	4:26 PM	309.68	288.18	6.7%	N	55.37
7/29/2015	BB8	4:52 PM	5:36 PM	309.29	290.69	6.6%	N	44.81
7/29/2015	BA7	5:39 PM	6:35 PM	310.00	291.00	6.6%	N	48.94
7/30/2015	BA9	7:24 AM	8:20 AM	309.37	288.07	6.5%	N	54.86
7/30/2015	AZ8	8:24 AM	9:03 AM	309.72	290.12	6.6%	N	47.21
7/30/2015	AY7	9:09 AM	9:44 AM	309.20	291.00	6.5%	Y	46.87
7/30/2015	AY9	10:11 AM	11:21 AM	309.39	295.69	8.1%	N	35.29
7/30/2015	AX8	11:26 AM	12:16 PM	309.47	289.57	6.5%	N	47.94
7/30/2015	AW7	12:26 PM	1:16 PM	309.96	295.56	7.4%	N	37.09
7/30/2015	AW9	1:39 PM	2:22 PM	309.44	288.64	6.5%	N	53.57
7/30/2015	AV8	2:25 PM	3:12 PM	310.04	295.04	8.4%	N	36.13
7/30/2015	AU7	3:29 PM	4:19 PM	309.78	295.38	7.1%	N	37.09
7/30/2015	AU9	4:42 PM	5:27 PM	308.78	296.08	7.4%	N	32.71
7/30/2015	AT8	5:32 PM	6:10 PM	309.52	299.12	8.0%	N	25.05
7/31/2015	AT10	7:38 AM	8:38 AM	309.17	289.67	7.5%	N	53.47
7/31/2015	AS9	8:46 AM	10:08 AM	309.76	290.76	8.4%	N	45.77
7/31/2015	AR8	10:19 AM	11:12 AM	309.73	294.13	8.0%	N	40.18
7/31/2015	AS11	11:28 AM	12:16 PM	308.94	289.94	7.5%	N	52.10
7/31/2015	AR10	12:46 PM	1:32 PM	308.96	290.86	7.5%	Y	43.60
7/31/2015	AQ9	1:40 PM	2:28 PM	309.73	291.83	7.7%	N	43.12
7/31/2015	AP8	3:40 PM	4:19 PM	308.95	292.75	7.7%	N	41.72
8/1/2015	AQ11	7:44 AM	8:24 AM	308.27	291.27	7.5%	N	43.78
8/1/2015	AP10	8:46 AM	9:39 AM	309.99	291.99	7.9%	Y	43.36
8/1/2015	AO9	9:52 AM	10:38 AM	309.41	292.81	7.7%	N	39.99
8/1/2015	AN8	10:46 AM	11:26 AM	310.02	299.72	8.3%	N	26.53
8/1/2015	AO11	11:49 AM	12:25 PM	308.69	292.19	7.5%	N	42.50
8/1/2015	AN10	1:26 PM	1:26 PM	308.61	294.71	8.1%	N	33.48
8/1/2015	AM9	1:32 PM	2:06PM	309.17	293.37	7.5%	N	38.06
8/3/2015	AL8	7:41 AM	8:36 AM	309.49	297.09	9.5%	N	31.94
8/3/2015	AM11	8:39 AM	9:19 AM	308.67	293.17	7.7%	N	39.92
8/3/2015	AL10	9:42 AM	10:06 AM	308.62	296.52	7.5%	N	29.15
8/3/2015	AK9	10:09 AM	10:41 AM	308.80	296.80	7.5%	N	28.91
8/3/2015	AJ8	10:46 AM	11:13 AM	309.36	299.86	8.2%	N	24.47
8/3/2015	AK11	11:35 AM	12:01 PM	308.79	296.69	7.5%	N	31.16
8/3/2015	AJ10	12:25 PM	12:48 PM	308.97	296.77	7.4%	N	29.39
8/3/2015	AI9	12:51 PM	1:22 PM	309.87	297.07	7.8%	N	30.83
8/3/2015	AH8	1:30 PM	2:09 PM	309.53	296.93	7.8%	N	32.45
8/3/2015	AI11	2:14 PM	2:42 PM	309.16	297.16	7.5%	N	30.91
8/3/2015	AH10	3:14 PM	4:15 PM	309.83	297.33	9.5%	Y	30.11
8/3/2015	AG9	4:23 PM	4:54 PM	309.34	297.24	7.6%	N	29.15
8/3/2015	AF8	5:11 PM	5:37 PM	308.80	297.30	7.5%	N	29.62
8/3/2015	AG11	5:43 PM	6:24 PM	309.67	297.97	7.8%	N	30.13

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Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Date	Column ID	Start Time	Stop Time	Actual Top Elev (ft)	Actual Bottom Elev (ft)	Total Reagent	QC Sample?	Material Treated (CY)
8/10/2015	AF10	6:57 AM	7:18 AM	308.65	297.65	7.6%	N	26.50
8/10/2015	AE9	7:26 AM	7:48 AM	309.11	297.61	7.6%	N	27.70
8/10/2015	AD8	7:51 AM	8:15 AM	309.34	297.44	7.6%	N	30.65
8/10/2015	AE11	8:28 AM	8:53 AM	309.10	299.60	7.9%	N	24.47
8/10/2015	AD10	9:19 AM	9:44 AM	309.03	297.83	7.6%	N	26.98
8/10/2015	AC9	9:49 AM	10:17 AM	309.80	297.60	7.8%	N	29.39
8/10/2015	AB8	10:21 AM	10:53 AM	309.67	299.27	7.8%	N	26.79
8/10/2015	AC11	10:58 AM	11:31 AM	309.50	298.00	7.8%	N	29.62
8/10/2015	AB10	11:55 AM	12:19 PM	308.68	297.68	8.4%	Y	26.50
8/10/2015	AA9	12:36 PM	1:03 PM	308.85	297.55	7.5%	N	27.22
8/10/2015	Z8	1:11 PM	1:44 PM	308.90	297.10	7.5%	N	30.39
8/10/2015	AA11	2:00 PM	2:26 PM	309.30	297.80	7.6%	N	29.62
8/10/2015	Z10	2:58 PM	3:20 PM	309.07	297.37	7.5%	N	28.18
8/10/2015	Y9	3:22 PM	3:46 PM	309.22	297.12	7.5%	N	29.15
8/10/2015	X8	3:48 PM	4:15 PM	309.08	296.98	7.6%	N	31.16
8/10/2015	Y11	4:18 PM	4:55 PM	309.36	297.16	7.5%	N	31.42
8/11/2015	X10	7:22 AM	7:52 AM	309.75	296.95	7.5%	N	30.83
8/11/2015	W9	7:56 AM	8:29 AM	310.24	298.04	9.5%	N	29.39
8/11/2015	V8	8:35 AM	9:07 AM	309.99	296.79	7.6%	N	34.00
8/11/2015	W11	9:11 AM	9:39 AM	310.17	296.67	7.6%	N	34.77
8/11/2015	B8	10:10 AM	10:49 AM	310.01	296.11	6.6%	N	40.43
8/11/2015	A9	11:00 AM	11:56 AM	310.11	296.11	7.2%	N	38.39
8/11/2015	A11	12:16 PM	1:11 PM	310.19	296.19	6.7%	N	40.72
8/11/2015	B10	1:19 PM	1:50 PM	310.29	296.49	6.6%	N	35.54
8/11/2015	C11	2:26 PM	2:57 PM	309.66	296.86	6.7%	Y	32.97
8/11/2015	C9	3:05 PM	3:47 PM	309.59	297.19	8.5%	N	29.87
8/11/2015	D8	3:53 PM	4:34 PM	309.22	296.42	7.7%	N	32.97
8/11/2015	D10	4:39 PM	5:10 PM	309.30	297.00	6.5%	N	29.63
8/11/2015	F8	6:20 PM	7:05 PM	310.15	296.45	6.7%	N	37.57
8/12/2015	E9	7:39 AM	8:09 AM	310.00	296.90	7.3%	N	29.37
8/12/2015	E11	8:12 AM	9:18 AM	310.10	297.70	9.0%	N	31.94
8/12/2015	F10	9:37 AM	10:00 AM	310.00	297.00	6.6%	N	31.32
8/12/2015	H8	10:28 AM	10:56 AM	310.00	296.30	7.5%	N	37.57
8/12/2015	G9	10:59 AM	11:24 AM	310.11	296.91	7.5%	N	29.60
8/12/2015	G11	11:29 AM	11:51 AM	310.10	300.00	7.5%	N	26.01
8/12/2015	H10	11:53 AM	12:13 PM	310.10	299.90	7.5%	Y	24.57
8/12/2015	J8	12:45 PM	1:13 PM	309.98	298.98	7.5%	N	30.16
8/12/2015	I9	1:19 PM	1:39 PM	310.18	299.58	8.0%	N	23.77
8/12/2015	I11	1:44 PM	2:06 PM	310.10	300.00	7.6%	N	26.01
8/12/2015	J10	2:15 PM	2:39 PM	310.21	299.61	7.8%	N	25.53
8/12/2015	L8	3:10 PM	3:44 PM	310.09	298.59	8.0%	N	31.54
8/12/2015	K9	3:49 PM	4:09 PM	310.04	299.14	7.8%	N	24.44
8/12/2015	K11	4:20 PM	4:55 PM	310.06	299.36	7.5%	N	27.56
8/12/2015	L10	4:55 PM	5:19 PM	310.02	299.02	8.2%	N	26.50
8/12/2015	N8	5:40 PM	6:05 PM	309.85	298.05	7.5%	N	32.36
8/12/2015	M9	6:08 PM	6:34 PM	310.05	298.65	7.5%	N	25.56
8/13/2015	M11	8:13 AM	8:38 AM	310.32	298.92	7.6%	N	29.36
8/13/2015	N10	8:40 AM	9:01 AM	310.20	298.60	7.5%	N	27.94
8/13/2015	P8	9:24 AM	9:54 AM	310.14	297.84	7.5%	N	33.73
8/13/2015	O9	9:54 AM	10:12 AM	310.08	298.18	7.5%	N	26.68
8/13/2015	O11	10:16 AM	10:38 AM	309.98	298.38	7.6%	N	29.88
8/13/2015	P10	10:40 AM	11:03 AM	309.98	297.98	7.5%	N	28.91
8/13/2015	R8	11:21 AM	11:50 AM	310.25	297.55	7.5%	Y	34.83
8/13/2015	Q9	11:51 AM	12:11 PM	310.35	297.65	7.5%	N	28.48
8/13/2015	Q11	12:13 PM	12:37 PM	310.23	297.83	7.5%	N	31.94
8/13/2015	R10	12:39 PM	1:04 PM	310.26	297.86	7.7%	N	29.87
8/13/2015	T8	1:30 PM	1:57 PM	310.07	297.17	7.5%	N	33.22
8/13/2015	S9	1:59 PM	2:20 PM	309.96	297.36	7.5%	N	28.25
8/13/2015	S11	2:33 PM	2:59 PM	309.98	297.28	7.6%	N	32.71
8/13/2015	T10	3:12 PM	3:38 PM	309.68	297.08	8.1%	N	30.35
8/13/2015	U9	3:53 PM	4:14 PM	309.97	296.97	7.8%	N	26.98
8/13/2015	U11	4:17 PM	4:42 PM	310.02	296.72	7.8%	N	32.04
8/13/2015	V10	4:44 PM	5:11 PM	309.90	296.60	8.8%	N	25.39
8/13/2015	B12	5:58 PM	6:26 PM	309.04	296.54	6.6%	N	32.19
8/14/2015	A15	7:59 AM	8:31 AM	309.1	296.0	6.9%	N	38.11
8/14/2015	A13	8:35 AM	9:08 AM	309.2	296.2	7.4%	N	35.65
8/14/2015	B14	9:11 AM	9:37 AM	309.0	296.5	6.5%	N	32.19
8/14/2015	C15	10:04 AM	10:38 AM	309.1	296.6	7.5%	N	32.19
8/14/2015	C13	10:42 AM	11:03 AM	309.2	296.9	6.9%	N	29.63
8/14/2015	D12	11:07 AM	11:44 AM	309.3	297.0	8.1%	N	27.58
8/14/2015	D14	11:53 AM	12:23 PM	309.2	297.0	6.9%	N	29.39
8/14/2015	E15	12:53 PM	2:06 PM	309.1	297.0	9.2%	N	31.16
8/14/2015	E13	2:10 PM	2:35 PM	309.0	297.0	6.5%	Y	28.91
8/14/2015	F12	2:52 PM	3:23 PM	309.0	297.0	7.2%	N	26.91
8/14/2015	F14	3:26 PM	4:16 PM	309.0	297.0	7.7%	N	28.91

Table A-3 ISS Column Construction Summary
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Date	Column ID	Start Time	Stop Time	Actual Top Elev (ft)	Actual Bottom Elev (ft)	Total Reagent	QC Sample?	Material Treated (CY)
8/15/2015	A17	7:18 AM	7:54 AM	309.2	295.9	6.5%	N	38.69
8/15/2015	B16	7:56 AM	8:25 AM	309.2	296.2	6.5%	N	31.32
8/15/2015	B18	8:28 AM	9:05 AM	309.0	296.1	6.5%	N	35.37
8/15/2015	C17	9:32 AM	10:27 AM	308.9	296.4	7.9%	Y	30.11
8/15/2015	D16	10:50 AM	11:37 AM	309.0	296.7	7.8%	N	27.58
8/15/2015	D18	11:42 AM	12:57 PM	308.7	296.9	9.6%	N	30.39
8/15/2015	E19	1:24 PM	1:59 PM	309.0	296.7	6.8%	N	33.73
8/17/2015	F20	11:24 AM	11:51 AM	309.0	296.9	6.5%	N	33.18
8/17/2015	E17	11:53 AM	12:21 PM	309.1	296.8	6.6%	N	29.63
8/17/2015	F16	12:24 PM	12:47 PM	309.0	297.0	6.6%	N	28.91
8/17/2015	F18	12:50 PM	1:23 PM	308.96	296.76	6.7%	Y	29.39
8/17/2015	G19	1:27 PM	2:15 PM	308.96	297.16	7.6%	N	28.42
8/17/2015	G17	2:49 PM	3:19 PM	309.06	296.76	6.6%	N	29.63
8/17/2015	H18	3:23 PM	3:47 PM	309.11	296.21	6.5%	Y	31.07
8/17/2015	I19	3:54 PM	4:30 PM	309.00	296.00	6.6%	N	33.48
8/17/2015	G21	5:36 PM	6:07 PM	308.00	297.00	6.6%	N	30.16
8/17/2015	H20	6:10 PM	6:36 PM	308.07	296.47	6.6%	N	26.01
8/18/2015	I21	7:27 AM	7:59 AM	308.29	296.39	6.6%	N	30.65
8/18/2015	J22	8:00 AM	8:33 AM	308.20	295.80	6.5%	N	34.00
8/18/2015	J20	8:40 AM	9:47 AM	308.07	295.87	8.0%	N	29.39
8/18/2015	K19	9:50 AM	10:54 AM	308.05	295.05	7.4%	N	33.48
8/18/2015	K21	11:24 AM	12:02 PM	307.97	295.27	6.7%	Y	30.59
8/18/2015	L22	12:12 PM	1:11 PM	308.04	294.44	6.5%	N	35.03
8/18/2015	L20	1:15 PM	2:10 PM	308.00	296.10	7.3%	N	28.67
8/18/2015	M21	2:36 PM	3:07 PM	308.11	294.11	6.6%	N	33.72
8/18/2015	N22	3:10 PM	3:56 PM	308.03	292.93	6.5%	N	38.89
8/18/2015	N20	4:24 PM	5:02 PM	308.04	294.34	6.6%	N	35.29
8/19/2015	O21	9:10 AM	10:23 AM	308.04	292.24	6.8%	N	38.06
8/19/2015	P22	10:26 AM	11:32 AM	307.98	291.98	6.6%	N	41.21
8/19/2015	P20	11:34 AM	12:27 PM	308.01	291.51	6.6%	N	42.50
8/19/2015	Q21	1:03 PM	1:55 PM	308.08	291.08	6.8%	N	40.95
8/19/2015	R22	2:00 PM	2:40 PM	308.04	291.04	7.1%	N	43.78
8/19/2015	R20	2:45 PM	3:18 PM	308.10	290.80	6.7%	N	44.56
8/19/2015	S21	3:39 PM	4:39 PM	308.12	290.72	6.6%	Y	41.91
8/19/2015	T22	5:00 PM	5:50 PM	308.13	290.23	6.5%	N	46.10
8/20/2015	T20	7:00 AM	7:37 AM	308.07	290.27	6.6%	N	45.84
8/20/2015	V22	7:55 AM	8:34 AM	307.97	289.47	6.5%	N	50.73
8/20/2015	U21	8:36 AM	9:06 AM	308.03	290.03	6.5%	N	40.36
8/20/2015	V20	9:08 AM	9:43 AM	308.07	289.97	6.7%	N	46.62
8/20/2015	X20	9:59 AM	10:35 AM	308.04	289.24	6.5%	Y	51.55
8/20/2015	W21	10:40 AM	11:15 AM	308.04	289.24	7.2%	N	42.15
8/20/2015	Y21	11:18 AM	12:01 PM	308.00	289.00	6.5%	N	48.94
8/20/2015	Z20	12:37 PM	1:09 PM	308.00	288.90	6.5%	N	49.19
8/20/2015	AA21	1:14 PM	1:57 PM	308.00	288.90	6.5%	N	49.19
8/20/2015	X22	2:19 PM	2:59 PM	308.00	289.00	6.5%	N	45.77
8/20/2015	X24	3:03 PM	4:11 PM	307.97	289.27	6.9%	N	54.40
8/20/2015	Y25	4:16 PM	4:58 PM	308.03	289.23	6.5%	N	51.55
8/20/2015	Y23	5:02 PM	6:06 PM	308.30	288.90	7.9%	N	49.97
8/21/2015	Z22	7:44 AM	8:30 AM	308.00	289.00	7.0%	N	42.60
8/21/2015	Z24	8:33 AM	9:23 AM	308.00	289.00	6.5%	N	45.77
8/21/2015	AA25	9:27 AM	10:20 AM	308.00	289.00	6.5%	N	48.94
8/21/2015	AA23	10:46 AM	11:30 AM	308.00	288.80	6.5%	N	46.25
8/21/2015	AB22	11:50 AM	12:23 PM	308.00	289.00	6.5%	N	45.77
8/21/2015	AB24	12:26 PM	1:18 PM	308.00	289.00	7.0%	N	45.77
8/21/2015	AC25	1:35 PM	2:34 PM	308.00	289.00	6.7%	N	48.94
8/21/2015	AC23	2:39 PM	3:35 PM	308.00	289.00	6.9%	N	45.77
8/22/2015	AE23	7:10 AM	7:54 AM	308.00	288.90	6.5%	N	52.38
8/22/2015	AD24	7:57 AM	8:30 AM	308.00	289.00	6.5%	N	42.60
8/22/2015	AE25	8:36 AM	9:12 AM	308.00	288.70	6.5%	N	49.71
8/22/2015	AG23	9:30 AM	10:11 AM	308.00	289.00	6.6%	Y	52.10
8/22/2015	AF24	10:18 AM	10:47 AM	308.00	289.00	6.6%	N	42.60
8/22/2015	AG25	10:50 AM	11:39 AM	308.00	289.00	7.0%	N	48.94
8/22/2015	AH26	11:48 AM	12:30 PM	308.00	289.00	7.3%	N	52.10
8/22/2015	AI23	12:54 PM	1:35 PM	308.03	288.03	6.8%	N	54.84
8/22/2015	AH24	1:38 PM	2:09 PM	308.03	288.53	6.5%	N	43.72
8/22/2015	AI25	2:18 PM	2:53 PM	308.09	287.79	6.5%	N	48.90
8/22/2015	AJ24	3:14 PM	3:57 PM	308.08	287.18	6.5%	N	50.35
8/22/2015	AK23	4:00 PM	4:43 PM	308.05	289.55	7.5%	N	47.65
8/22/2015	AK25	4:46 PM	5:36 PM	308.04	286.74	7.0%	N	54.86

Table A-3 ISS Column Construction Summary
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Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Date	Column ID	Start Time	Stop Time	Actual Top Elev (ft)	Actual Bottom Elev (ft)	Total Reagent	QC Sample?	Material Treated (CY)
8/24/2015	AL24	7:34 AM	8:35 AM	307.95	285.55	6.5%	N	53.96
8/24/2015	AM25	8:38 AM	9:24 AM	307.94	285.04	6.6%	N	58.98
8/24/2015	AM23	9:37 AM	10:39 AM	308.02	288.32	7.8%	N	50.74
8/24/2015	AN22	10:44 AM	11:42 AM	308.02	288.22	7.5%	N	54.30
8/24/2015	AN24	12:04 PM	1:23 PM	307.10	286.20	8.7%	Y	53.83
8/24/2015	AO25	1:45 PM	2:25 PM	306.99	285.59	7.5%	N	55.12
8/24/2015	AO23	2:29 PM	3:26 PM	307.09	287.69	7.7%	N	46.73
8/24/2015	AP22	3:33 PM	4:19 PM	306.97	288.37	8.0%	N	47.91
8/24/2015	AQ23	5:00 PM	5:53 PM	306.33	288.63	7.5%	N	45.59
8/25/2015	AP24	8:26 AM	9:02 AM	306.07	285.57	7.5%	N	45.97
8/25/2015	AQ25	9:03 AM	9:41 AM	306.23	287.23	7.5%	N	48.94
8/25/2015	AR22	9:45 AM	10:20 AM	306.12	289.62	7.5%	N	42.50
8/25/2015	AS23	10:43 AM	11:16 AM	304.96	290.16	7.5%	N	38.12
8/25/2015	AR24	11:31 AM	11:59 AM	305.18	289.28	7.5%	N	35.65
8/25/2015	AS25	12:02 PM	12:32 PM	306.00	289.80	7.5%	N	41.72
8/25/2015	AT22	12:36 PM	1:04 PM	305.03	290.53	7.5%	N	37.35
8/25/2015	AU23	1:20 PM	1:54 PM	305.04	291.04	7.5%	N	36.06
8/25/2015	AT24	1:57 PM	2:23 PM	305.00	290.50	7.5%	N	32.51
8/25/2015	AU25	2:25 PM	2:55 PM	304.97	290.37	7.5%	N	37.60
8/25/2015	AV22	2:57 PM	3:26 PM	305.01	291.31	7.5%	N	35.29
8/25/2015	AV24	3:47 PM	4:13 PM	305.09	290.99	7.5%	Y	33.97
8/25/2015	AW25	4:30 PM	4:59 PM	304.98	290.38	7.5%	N	37.60
8/25/2015	AW23	5:03 PM	5:26 PM	305.10	291.40	7.5%	N	33.00
8/25/2015	AX22	5:56 PM	6:24 PM	304.99	291.89	7.5%	N	33.74
8/26/2015	AX24	7:25 AM	7:50 AM	305.03	291.33	7.5%	N	33.00
8/26/2015	AY25	7:51 AM	8:17 AM	305.00	290.30	7.5%	N	37.86
8/26/2015	AY23	8:18 AM	8:39 AM	305.00	291.90	7.5%	N	31.56
8/26/2015	AZ22	8:40 AM	9:05 AM	305.00	292.00	7.5%	N	33.48
8/26/2015	AZ24	9:29 AM	9:51 AM	305.15	291.55	7.5%	N	32.76
8/26/2015	BA25	9:52 AM	10:18 AM	305.10	290.50	7.5%	N	37.60
8/26/2015	BA23	10:20 AM	10:40 AM	305.00	292.00	7.5%	N	31.32
8/26/2015	BB22	10:41 AM	11:05 AM	305.00	291.90	7.5%	N	33.74
8/26/2015	BB24	11:17 AM	11:39 AM	305.00	291.90	7.5%	N	31.56
8/26/2015	BC25	11:40 AM	12:10 PM	305.05	291.35	7.5%	N	35.29
8/26/2015	BC23	12:12 PM	12:32 PM	305.00	292.00	7.5%	N	31.32
8/26/2015	BD22	12:36 PM	1:01 PM	305.00	292.00	7.5%	N	33.48
8/26/2015	BD24	1:20 PM	1:42 PM	305.00	291.70	7.5%	N	32.04
8/26/2015	BE25	1:45 PM	2:11 PM	305.04	291.64	7.5%	N	34.51
8/26/2015	BE23	2:15 PM	2:37 PM	305.00	292.00	7.5%	N	31.32
8/26/2015	BF22	2:38 PM	3:00 PM	305.07	291.77	7.5%	N	34.25
8/26/2015	BF24	3:28 PM	3:48 PM	305.09	291.39	7.5%	N	33.00
8/26/2015	BG25	3:52 PM	4:21 PM	305.00	289.90	7.6%	N	38.89
8/26/2015	BG23	4:26 PM	4:52 PM	305.06	290.36	7.9%	Y	35.41
8/26/2015	BH22	5:07 PM	5:36 PM	305.09	290.49	7.6%	N	37.60
8/26/2015	BH24	5:59 PM	6:29 PM	305.09	287.89	7.5%	N	41.43
8/27/2015	BI25	7:20 AM	7:48 AM	305.06	289.26	7.5%	N	40.69
8/27/2015	BI23	7:52 AM	8:19 AM	305.02	288.72	7.5%	N	39.26
8/27/2015	BJ22	8:25 AM	8:52 AM	305.05	290.45	7.5%	N	37.60
8/27/2015	BJ26	9:19 AM	9:49 AM	305.00	289.60	7.5%	N	42.23
8/27/2015	BJ24	9:53 AM	10:21 AM	305.02	288.02	7.5%	N	40.95
8/27/2015	BK25	10:33 AM	11:03 AM	305.07	286.87	7.6%	N	43.84
8/27/2015	BK23	11:09 AM	11:38 AM	305.04	290.24	7.9%	N	35.65
8/27/2015	BL22	11:45 AM	12:09 PM	305.00	292.00	7.5%	N	33.48
8/27/2015	BL26	12:38 PM	1:09 PM	305.04	287.84	7.5%	N	44.30
8/27/2015	BL24	1:16 PM	1:44 PM	305.09	289.79	7.5%	N	36.86
8/27/2015	BM25	1:52 PM	2:30 PM	305.02	285.22	7.6%	N	47.70
8/27/2015	BM23	2:37 PM	3:03 PM	305.14	291.24	7.5%	N	33.48
8/27/2015	BN22	3:10 PM	3:34 PM	305.01	291.61	7.5%	N	34.51
8/27/2015	BN26	3:59 PM	4:28 PM	305.08	288.58	7.5%	N	42.50
8/27/2015	BN24	4:34 PM	5:01 PM	305.08	288.98	7.5%	N	38.78
8/27/2015	BO25	5:08 PM	5:37 PM	305.06	287.36	7.5%	N	42.64
8/27/2015	BO23	5:43 PM	6:09 PM	305.07	290.17	7.5%	N	35.89
8/27/2015	BP22	6:14 PM	6:42 PM	305.04	290.64	7.5%	N	37.09
8/28/2015	CM27	7:37 AM	8:24 AM	305.83	287.43	8.0%	Y	47.39
8/28/2015	CL26	8:52 AM	9:29 AM	305.49	285.99	7.6%	N	46.97
8/28/2015	CK25	9:41 AM	10:12 AM	305.84	286.84	7.6%	N	42.60
8/28/2015	CI25	10:36 AM	11:06 AM	305.03	287.13	7.6%	N	43.12

Table A-3 ISS Column Construction Summary
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Date	Column ID	Start Time	Stop Time	Actual Top Elev (ft)	Actual Bottom Elev (ft)	Total Reagent	QC Sample?	Material Treated (CY)
8/29/2015	CJ26	7:05 AM	7:37 AM	305.13	287.13	7.5%	N	43.36
8/29/2015	CK27	7:42 AM	8:12 AM	304.99	287.69	7.5%	N	41.67
8/29/2015	CI27	8:25 AM	8:57 AM	305.00	288.00	7.5%	N	43.78
8/29/2015	CH26	9:16 AM	9:47 AM	305.00	288.00	7.5%	N	40.95
8/29/2015	CG27	9:53 AM	10:26 AM	305.10	288.00	7.5%	N	44.04
8/29/2015	CF24	10:35 AM	11:05 AM	305.00	287.90	7.5%	N	41.19
8/29/2015	CG25	11:10 AM	11:39 AM	305.08	287.78	7.5%	N	38.79
8/29/2015	CF26	11:56 AM	12:27 PM	305.00	288.00	7.5%	N	40.95
8/29/2015	CE27	12:34 PM	1:06 PM	305.10	288.00	7.5%	N	44.04
8/29/2015	CD24	1:13 PM	1:48 PM	304.90	288.00	7.5%	N	43.53
8/29/2015	CE25	1:55 PM	2:22 PM	305.00	287.90	7.5%	N	38.34
8/29/2015	CD26	2:45 PM	3:15 PM	305.00	288.00	7.5%	N	40.95
8/29/2015	CC25	3:36 PM	4:05 PM	305.00	288.00	7.7%	Y	40.95
8/29/2015	CC27	4:19 PM	4:51 PM	305.10	288.00	7.5%	N	44.04
8/29/2015	CC23	4:56 PM	5:24 PM	305.10	287.90	7.5%	N	38.57
8/29/2015	CB24	5:29 PM	5:59 PM	305.18	287.98	7.3%	N	41.43
8/31/2015	CA27	8:16 AM	8:53 AM	305.00	287.90	7.5%	N	46.89
8/31/2015	CB26	9:02 AM	9:27 AM	305.00	287.90	7.5%	N	38.34
8/31/2015	BZ22	9:31 AM	10:00 AM	305.21	287.31	7.5%	N	43.12
8/31/2015	CA23	10:06 AM	10:36 AM	305.08	287.78	7.5%	N	38.79
8/31/2015	CA25	10:39 AM	11:09 AM	305.05	287.95	7.5%	N	41.19
8/31/2015	BZ24	11:12 AM	11:43 AM	305.07	287.67	7.5%	N	41.91
8/31/2015	BY27	12:01 PM	12:36 PM	305.10	288.00	7.5%	N	46.89
8/31/2015	BZ26	12:37 PM	1:06 PM	305.10	288.00	7.5%	N	38.34
8/31/2015	BX22	1:08 PM	1:42 PM	305.15	287.15	7.5%	N	46.36
8/31/2015	BY23	1:43 PM	2:14 PM	305.00	287.50	7.5%	N	39.24
8/31/2015	BY25	2:15 PM	2:44 PM	305.09	287.89	7.5%	N	41.43
8/31/2015	BX24	2:53 PM	3:23 PM	305.04	287.64	7.5%	N	41.91
8/31/2015	BW27	3:43 PM	4:17 PM	305.25	289.05	7.5%	N	44.42
8/31/2015	BX26	4:20 PM	4:47 PM	305.03	288.73	7.5%	N	36.55
8/31/2015	BW23	4:50 PM	5:20 PM	305.06	287.56	7.5%	N	42.16
8/31/2015	BV22	5:22 PM	5:54 PM	305.07	287.67	7.5%	N	44.81
8/31/2015	BW25	5:55 PM	6:25 PM	305.08	288.28	7.5%	N	40.47
9/1/2015	BV24	7:07 AM	7:37 AM	305.14	287.94	7.5%	N	41.43
9/1/2015	BV26	8:01 AM	8:29 AM	305.00	290.00	7.5%	Y	36.13
9/1/2015	BU27	8:35 AM	9:05 AM	305.06	289.56	8.0%	N	39.92
9/1/2015	BU23	9:10 AM	9:42 AM	305.00	287.70	7.5%	N	41.67
9/1/2015	BT22	9:44 AM	10:17 AM	305.03	288.53	7.6%	N	42.50
9/1/2015	BU25	10:19 AM	10:49 AM	305.08	289.18	7.5%	N	38.30
9/1/2015	BT24	10:50 AM	11:21 AM	304.99	288.39	7.6%	N	39.99
9/1/2015	BT26	11:40 AM	12:10 PM	305.00	289.90	7.5%	N	36.37
9/1/2015	BS27	12:12 PM	12:43 PM	305.06	290.36	7.6%	N	37.86
9/1/2015	BS23	12:51 PM	1:26 PM	305.04	287.84	7.5%	N	41.43
9/1/2015	BR22	1:31 PM	2:03 PM	305.08	289.38	7.5%	N	37.82
9/1/2015	BS25	2:06 PM	2:39 PM	305.08	289.18	7.5%	N	38.30
9/1/2015	BR24	2:50 PM	3:20 PM	305.00	288.00	7.5%	N	40.95
9/1/2015	BR26	3:52 PM	4:23 PM	305.03	289.43	7.5%	N	37.58
9/1/2015	BQ27	4:26 PM	4:59 PM	305.01	290.21	7.5%	N	38.12
9/1/2015	BQ23	5:11 PM	5:37 PM	305.03	288.93	7.5%	N	33.42
9/1/2015	BQ25	5:39 PM	6:10 PM	305.00	288.10	7.5%	N	37.89
9/2/2015	BP26	7:14 AM	7:40 AM	305.02	289.42	7.5%	N	32.38
9/2/2015	BP24	7:44 AM	8:11 AM	305.04	287.94	7.5%	N	32.64
9/2/2015	BW21	8:53 AM	9:35 AM	305.02	287.62	7.6%	N	36.11
9/2/2015	BU21	9:39 AM	10:11 AM	305.00	288.80	7.5%	Y	36.32
9/2/2015	BT20	10:34 AM	11:07 AM	305.14	289.74	7.5%	N	37.10
9/2/2015	BS19	11:12 AM	11:43 AM	305.10	290.00	7.6%	N	36.37
9/2/2015	BS21	11:49 AM	12:27 PM	305.00	290.00	7.8%	N	33.63
9/2/2015	BR20	12:51 PM	1:26 PM	305.00	290.00	7.6%	N	36.13
9/2/2015	BR18	1:34 PM	2:11 PM	305.10	289.80	7.6%	N	36.86
9/2/2015	BQ17	2:18 PM	2:57 PM	306.08	289.08	7.7%	N	40.95
9/2/2015	BQ19	3:01 PM	3:34 PM	305.00	289.90	7.6%	N	36.37
9/2/2015	BQ21	3:38 PM	4:12 PM	305.00	290.00	8.0%	N	33.63
9/2/2015	BP20	4:30 PM	5:12 PM	305.00	289.90	7.5%	N	36.37
9/2/2015	BP18	5:14 PM	5:49 PM	305.00	289.90	7.6%	N	36.37
9/2/2015	BO17	5:53 PM	6:30 PM	306.01	289.31	7.6%	N	43.01

Table A-3 ISS Column Construction Summary
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Date	Column ID	Start Time	Stop Time	Actual Top Elev (ft)	Actual Bottom Elev (ft)	Total Reagent	QC Sample?	Material Treated (CY)
9/3/2015	BO21	7:14 AM	7:40 AM	305.10	290.00	7.5%	N	33.86
9/3/2015	BO19	7:44 AM	8:16 AM	304.90	290.00	7.5%	N	35.89
9/3/2015	BN18	8:41 AM	9:14 AM	305.00	290.00	7.5%	N	36.13
9/3/2015	BM17	9:16 AM	9:49 AM	306.05	290.35	7.6%	N	40.44
9/3/2015	BN20	9:51 AM	10:22 AM	305.00	290.00	7.6%	N	36.13
9/3/2015	BM21	10:24 AM	10:52 AM	305.14	290.44	7.6%	N	32.96
9/3/2015	BM19	10:55 AM	11:26 AM	304.94	290.04	7.5%	N	35.89
9/3/2015	BL18	11:51 AM	12:18 PM	305.07	291.87	7.5%	N	31.80
9/3/2015	BK17	12:20 PM	12:54 PM	306.83	292.13	7.5%	N	37.86
9/3/2015	BL20	12:56 PM	1:28 PM	305.10	290.00	7.5%	N	36.37
9/3/2015	BK21	1:32 PM	2:11 PM	305.09	290.19	7.5%	Y	33.41
9/3/2015	BK19	2:14 PM	2:42 PM	305.07	291.17	7.5%	N	33.48
9/3/2015	BJ18	3:07 PM	3:33 PM	305.09	292.89	7.5%	N	29.39
9/3/2015	BI17	3:35 PM	4:01 PM	306.00	294.00	7.5%	N	30.91
9/3/2015	BJ20	4:03 PM	4:31 PM	304.99	290.69	7.5%	N	34.45
9/3/2015	BI21	4:35 PM	5:02 PM	305.04	290.64	7.6%	N	32.29
9/3/2015	BI19	5:04 PM	5:30 PM	305.17	292.27	7.5%	N	31.07
9/3/2015	BH18	5:56 PM	6:21 PM	305.05	292.85	7.6%	N	29.39
9/4/2015	BG17	7:23 AM	7:54 AM	306.06	292.66	7.6%	N	34.51
9/4/2015	BH20	7:57 AM	8:27 AM	305.09	291.79	7.5%	N	32.04
9/4/2015	BG21	8:30 AM	8:54 AM	305.19	291.79	7.5%	N	30.05
9/4/2015	BG19	8:57 AM	9:22 AM	305.10	291.90	7.5%	N	31.80
9/4/2015	BF18	9:48 AM	10:14 AM	305.10	292.00	7.7%	N	31.56
9/4/2015	BE17	10:17 AM	10:48 AM	306.10	292.00	7.5%	N	36.32
9/4/2015	BF20	10:51 AM	11:19 AM	305.10	291.90	7.5%	N	31.80
9/4/2015	BE21	11:25 AM	11:51 AM	305.10	292.00	7.5%	N	29.37
9/4/2015	BE19	11:57 AM	12:25 PM	305.10	292.00	7.5%	N	31.56
9/9/2015	BD18	7:17 AM	7:44 AM	305.00	291.90	7.5%	N	31.56
9/9/2015	BC17	7:47 AM	8:17 AM	306.00	292.00	7.5%	N	36.06
9/9/2015	BD20	8:19 AM	8:47 AM	305.00	292.00	7.5%	N	31.32
9/9/2015	BC21	8:52 AM	9:16 AM	305.00	292.00	7.5%	N	29.15
9/9/2015	BC19	9:20 AM	9:49 AM	305.20	292.00	7.5%	N	31.80
9/9/2015	BB18	10:17 AM	10:46 AM	305.00	292.00	7.5%	N	31.32
9/9/2015	BA17	10:48 AM	11:22 AM	305.85	290.55	7.5%	N	39.41
9/9/2015	BB20	11:24 AM	11:51 AM	304.98	291.98	7.5%	N	31.32
9/9/2015	BA21	11:52 AM	12:17 PM	305.06	291.96	7.5%	N	29.37
9/9/2015	BA19	12:19 PM	12:44 PM	305.00	292.00	7.5%	N	31.32
9/9/2015	AZ18	1:09 PM	1:38 PM	305.59	290.99	7.5%	Y	35.17
9/9/2015	AY17	1:47 PM	2:25 PM	306.01	288.21	7.5%	N	45.84
9/9/2015	AZ20	2:27 PM	2:54 PM	305.47	291.87	7.5%	N	32.76
9/9/2015	AY21	2:58 PM	3:29 PM	305.88	291.88	7.6%	N	31.39
9/9/2015	AY19	3:34 PM	4:00 PM	305.69	291.69	7.5%	N	33.72
9/9/2015	AX18	4:29 PM	5:01 PM	306.03	290.23	7.5%	N	38.06
9/9/2015	AW17	5:03 PM	5:39 PM	306.29	289.29	7.5%	N	43.78
9/9/2015	AX20	5:40 PM	6:09 PM	306.00	291.70	7.5%	N	34.45
9/9/2015	AW21	6:11 PM	6:36 PM	305.61	291.71	7.5%	N	31.17
9/10/2015	AW19	7:24 AM	7:54 AM	305.91	291.01	7.5%	N	35.89
9/10/2015	AV18	8:22 AM	8:52 AM	305.91	290.51	7.5%	N	37.10
9/10/2015	AU17	8:55 AM	9:28 AM	306.79	290.79	7.5%	N	41.21
9/10/2015	AV20	9:30 AM	10:02 AM	305.61	291.21	7.5%	N	34.69
9/10/2015	AU21	10:04 AM	10:35 AM	306.19	290.79	7.5%	N	34.53
9/10/2015	AU19	10:37 AM	11:08 AM	306.09	291.29	7.5%	N	35.65
9/10/2015	AT18	11:32 AM	11:57 AM	306.57	291.77	7.5%	N	35.65
9/10/2015	AS17	12:00 PM	12:22 PM	306.31	294.71	7.5%	N	29.88
9/10/2015	AT20	12:24 PM	12:55 PM	306.55	290.55	7.5%	N	38.54
9/10/2015	AS21	1:00 PM	1:30 PM	306.67	290.07	7.5%	N	37.22
9/10/2015	AS19	1:32 PM	2:03 PM	306.35	290.55	7.5%	N	38.06
9/10/2015	AR18	3:44 PM	4:10 PM	306.19	291.89	7.5%	Y	34.45
9/10/2015	AQ17	4:20 PM	4:42 PM	306.76	295.86	7.5%	N	28.07
9/10/2015	AR20	4:43 PM	5:18 PM	306.40	289.20	7.5%	N	41.43
9/10/2015	AQ21	5:20 PM	5:50 PM	306.75	288.95	7.5%	N	39.91
9/10/2015	AQ19	5:53 PM	6:27 PM	306.38	288.18	7.5%	N	43.84
9/11/2015	AP18	7:35 AM	8:05 AM	307.09	290.59	7.5%	N	39.75
9/11/2015	AO17	8:07 AM	8:37 AM	307.35	293.95	7.5%	N	34.51
9/11/2015	AP20	8:39 AM	9:15 AM	307.10	288.10	7.5%	N	45.77
9/11/2015	AO21	9:18 AM	9:51 AM	307.20	288.00	7.5%	N	43.05
9/11/2015	AO19	9:53 AM	10:29 AM	307.10	288.00	7.5%	N	46.01
9/11/2015	AN18	11:01 AM	11:30 AM	307.11	290.71	7.5%	N	39.51
9/11/2015	AM17	11:35 AM	12:08 PM	307.17	293.17	7.6%	N	36.06
9/11/2015	AN20	12:09 PM	12:43 PM	306.65	288.55	7.6%	N	43.60
9/11/2015	AM21	12:46 PM	1:20 PM	306.84	288.94	7.5%	N	43.12
9/11/2015	AM19	1:24 PM	1:54 PM	306.71	289.31	7.5%	N	41.91
9/11/2015	H16	2:40 PM	2:58 PM	308.04	299.54	7.6%	N	21.89
9/11/2015	I17	3:00 PM	3:20 PM	307.97	298.97	7.5%	N	21.68
9/11/2015	J18	3:24 PM	3:41 PM	307.94	298.44	8.0%	N	21.30
9/11/2015	J16	3:50 PM	4:10 PM	309.28	298.88	7.6%	N	26.79
9/11/2015	K17	4:14 PM	4:33 PM	309.16	298.16	7.5%	N	26.50
9/11/2015	L16	4:53 PM	5:15 PM	309.63	298.03	7.5%	Y	29.88
9/11/2015	L18	5:21 PM	5:42 PM	309.66	297.26	7.6%	N	29.87
9/11/2015	M17	5:44 PM	6:07 PM	309.59	296.79	7.5%	N	30.83
9/11/2015	M19	6:08 PM	6:29 PM	309.47	297.27	7.5%	N	27.36

Table A-3 ISS Column Construction Summary
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Date	Column ID	Start Time	Stop Time	Actual Top Elev (ft)	Actual Bottom Elev (ft)	Total Reagent	QC Sample?	Material Treated (CY)
9/12/2015	N16	7:40 AM	8:09 AM	309.48	296.98	7.6%	N	32.19
9/12/2015	N18	8:10 AM	8:36 AM	309.27	295.07	7.5%	N	34.21
9/12/2015	O17	8:38 AM	9:04 AM	309.29	295.79	7.5%	N	32.52
9/12/2015	O19	9:05 AM	9:34 AM	309.01	294.01	7.5%	N	33.63
9/12/2015	P18	10:14 AM	10:39 AM	308.59	294.39	7.5%	N	34.21
9/12/2015	Q17	10:41 AM	11:08 AM	308.44	295.14	7.7%	N	34.25
9/12/2015	R16	11:10 AM	11:38 AM	308.51	296.01	7.5%	N	34.28
9/12/2015	Q19	11:40 AM	12:10 PM	308.53	293.73	7.7%	N	33.18
9/12/2015	R18	12:11 PM	12:40 PM	308.48	293.98	7.6%	N	34.93
9/12/2015	S17	1:06 PM	1:33 PM	308.94	294.94	7.5%	N	33.72
9/12/2015	T16	1:35 PM	2:30 PM	308.95	296.05	7.5%	N	33.22
9/12/2015	S19	2:32 PM	3:02 PM	309.15	293.55	7.6%	N	34.98
9/12/2015	T18	3:05 PM	3:37 PM	308.96	293.86	7.5%	N	36.37
9/12/2015	U17	3:53 PM	4:30 PM	309.22	295.42	7.5%	N	33.24
9/14/2015	V16	7:32 AM	8:31 AM	308.99	296.99	8.2%	N	30.91
9/14/2015	U19	8:33 AM	9:05 AM	309.04	293.54	7.5%	N	34.75
9/14/2015	V18	9:07 AM	9:38 AM	309.04	294.64	7.5%	N	34.69
9/14/2015	W17	9:53 AM	10:17 AM	309.01	297.31	7.5%	Y	28.18
9/14/2015	W19	10:24 AM	10:54 AM	309.07	293.77	7.5%	N	34.31
9/14/2015	X16	11:03 AM	11:28 AM	309.00	298.10	7.5%	N	28.07
9/14/2015	X18	11:30 AM	11:59 AM	309.03	296.73	7.5%	N	29.63
9/14/2015	Y17	12:14 PM	12:32 PM	308.79	299.79	7.5%	N	21.68
9/14/2015	Z16	12:35 PM	1:00 PM	308.92	298.62	7.5%	N	26.53
9/14/2015	Y19	1:03 PM	1:37 PM	308.71	293.81	7.5%	N	33.41
9/14/2015	Z18	1:40 PM	2:08 PM	308.73	297.23	7.5%	N	27.70
9/14/2015	AA17	2:33 PM	2:57 PM	308.64	297.74	7.5%	N	26.26
9/14/2015	AA19	3:01 PM	3:30 PM	308.18	293.58	7.5%	N	35.17
9/14/2015	AB20	3:34 PM	4:08 PM	308.14	292.34	7.5%	N	38.06
9/14/2015	AD22	4:11 PM	4:44 PM	308.10	292.00	7.5%	N	38.78
9/14/2015	AB18	4:47 PM	5:13 PM	308.36	295.06	7.5%	N	32.04
9/14/2015	AC17	5:15 PM	5:41 PM	308.12	296.22	7.5%	N	30.65
9/14/2015	AC21	5:45 PM	6:15 PM	308.00	291.90	7.5%	N	36.10
9/14/2015	AC19	6:17 PM	6:46 PM	308.17	293.27	7.5%	N	35.89
9/15/2015	AD18	7:32 AM	8:02 AM	308.34	294.14	7.8%	N	34.21
9/15/2015	AE17	8:05 AM	8:33 AM	308.25	295.15	7.5%	N	33.74
9/15/2015	AD20	8:36 AM	9:12 AM	308.50	292.30	7.7%	N	39.02
9/15/2015	AE21	9:16 AM	9:52 AM	308.20	292.00	7.6%	N	39.02
9/15/2015	AF22	9:55 AM	10:40 AM	308.10	292.00	7.7%	N	38.78
9/15/2015	AE19	10:42 AM	11:25 AM	308.32	293.02	7.7%	N	36.86
9/15/2015	AF18	11:55 AM	12:52 PM	308.00	293.70	8.6%	Y	34.45
9/15/2015	AF20	12:59 PM	1:38 PM	307.67	292.07	7.5%	N	37.58
9/15/2015	AG17	1:38 PM	2:13 PM	308.00	294.50	7.7%	N	34.77
9/15/2015	AG21	2:14 PM	2:53 PM	307.90	292.00	7.8%	N	38.30
9/15/2015	AH22	2:56 PM	3:36 PM	308.08	291.88	7.7%	N	36.32
9/15/2015	AG19	3:40 PM	4:15 PM	307.89	292.79	7.6%	N	36.37
9/15/2015	AH18	4:45 PM	5:22 PM	307.28	293.08	8.1%	N	34.21
9/15/2015	AI17	5:24 PM	6:02 PM	307.33	293.83	7.5%	N	34.77
9/15/2015	AH20	6:03 PM	6:41 PM	307.31	291.91	7.7%	N	37.10
9/15/2015	AI19	6:45 PM	7:15 PM	307.30	291.80	7.5%	N	37.34
9/16/2015	AI21	8:50 AM	9:22 AM	307.19	291.29	7.5%	N	38.30
9/16/2015	AJ22	9:25 AM	9:56 AM	307.31	290.41	7.5%	N	37.89
9/16/2015	AJ18	12:33 AM	11:04 AM	307.00	292.30	7.6%	N	35.41
9/16/2015	AK17	11:05 AM	11:34 AM	307.55	293.15	7.5%	N	34.69
9/16/2015	AJ20	11:38 AM	12:13 PM	307.32	290.82	7.5%	N	39.75
9/16/2015	AK21	12:14 PM	12:46 PM	307.26	290.06	7.5%	N	38.57
9/16/2015	AL22	12:50 PM	1:19 PM	307.20	289.20	7.5%	N	34.36
9/16/2015	AK19	1:22 PM	1:54 PM	307.28	290.48	7.5%	N	37.67
9/16/2015	AL20	1:57 PM	2:26 PM	307.26	289.66	7.6%	N	33.60
9/16/2015	AL18	2:27 PM	2:54 PM	307.26	291.36	7.6%	Y	30.35
9/16/2015	BL10	3:38 PM	4:16 PM	307.09	288.59	7.5%	N	44.56
9/16/2015	BM11	4:18 PM	4:57 PM	307.00	288.00	7.5%	N	45.77
9/16/2015	BN12	4:58 PM	5:34 PM	307.00	288.00	7.4%	N	42.60
9/16/2015	BJ10	5:52 PM	6:28 PM	307.68	289.68	7.5%	N	43.36
9/17/2015	BK11	7:26 AM	8:03 AM	307.38	288.88	7.5%	N	44.56
9/17/2015	BL12	8:04 AM	8:44 AM	307.10	288.00	7.5%	N	46.01
9/17/2015	BJ12	9:06 AM	9:43 AM	307.20	289.20	7.5%	N	46.36
9/17/2015	BI11	9:45 AM	10:26 AM	306.90	289.90	7.5%	N	40.95
9/17/2015	BH10	10:28 AM	11:00 AM	306.55	289.65	7.6%	N	37.89
9/17/2015	BH12	11:16 AM	11:52 AM	307.00	290.00	7.5%	N	43.78
9/17/2015	BG11	11:53 AM	12:27 PM	307.00	290.00	7.5%	N	40.95
9/17/2015	BF10	12:31 PM	1:06 PM	307.13	289.83	7.5%	N	38.79
9/17/2015	BF12	1:28 PM	2:09 PM	307.10	289.90	7.5%	N	44.30
9/17/2015	BE11	2:11 PM	2:47 PM	307.10	290.00	7.7%	N	41.19
9/17/2015	BD10	2:51 PM	3:25 PM	306.97	289.27	7.7%	N	39.69
9/17/2015	BD12	3:28 PM	4:20 PM	307.07	289.27	7.5%	N	45.84
9/17/2015	BC11	4:52 PM	5:26 PM	307.17	289.17	7.5%	Y	43.36
9/17/2015	BB10	5:42 PM	6:14 PM	307.36	289.76	7.6%	N	39.46
9/17/2015	BB12	6:16 PM	6:58 PM	307.11	288.61	7.5%	N	47.65

Table A-3 ISS Column Construction Summary
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Date	Column ID	Start Time	Stop Time	Actual Top Elev (ft)	Actual Bottom Elev (ft)	Total Reagent	QC Sample?	Material Treated (CY)
9/18/2015	BA11	9:40 AM	10:16 AM	307.16	288.96	7.5%	N	43.84
9/18/2015	AZ10	10:24 AM	10:54 AM	306.99	289.59	7.5%	N	39.01
9/18/2015	AZ12	10:58 AM	11:33 AM	307.08	288.78	7.5%	N	47.13
9/18/2015	AY11	11:58 AM	12:33 PM	306.92	289.42	7.5%	N	42.16
9/18/2015	AX10	12:34 PM	1:04 PM	306.86	290.36	7.6%	N	37.00
9/18/2015	AV10	1:08 PM	1:38 PM	307.00	291.60	7.5%	N	34.53
9/18/2015	AX12	1:42 PM	2:20 PM	306.99	289.59	7.5%	N	44.81
9/18/2015	AW11	2:46 PM	3:16 PM	307.07	290.47	7.5%	N	37.22
9/18/2015	AV12	3:19 PM	3:54 PM	307.17	290.77	7.5%	N	42.24
9/18/2015	AU11	4:00 PM	4:30 PM	307.25	291.65	7.5%	N	32.38
9/18/2015	AT12	4:43 PM	5:15 PM	307.33	292.23	7.5%	N	36.37
9/19/2015	G15	8:20 AM	8:39 AM	310.60	299.90	7.5%	N	23.99
9/19/2015	G13	8:43 AM	9:03 AM	310.30	300.00	7.6%	N	24.81
9/19/2015	H12	9:07 AM	9:26 AM	310.10	300.00	7.6%	N	22.65
9/19/2015	H14	9:29 AM	9:48 AM	310.00	300.00	7.5%	N	24.09
9/19/2015	I15	10:07 AM	10:25 AM	309.86	299.66	7.5%	N	22.87
9/19/2015	I13	10:27 AM	10:46 AM	309.80	300.00	7.5%	N	23.61
9/19/2015	J12	10:47 AM	11:07 AM	309.69	299.09	7.5%	N	23.77
9/19/2015	J14	11:08 AM	11:29 AM	309.99	299.49	7.5%	N	25.29
9/19/2015	K15	11:51 AM	12:11 PM	310.23	298.83	7.5%	N	25.56
9/19/2015	K13	12:13 PM	12:34 PM	310.07	299.37	7.5%	Y	25.78
9/19/2015	L12	12:38 PM	12:57 PM	309.75	299.05	7.5%	N	23.99
9/19/2015	L14	12:58 PM	1:19 PM	309.98	298.78	7.5%	N	26.98
9/19/2015	M15	1:41 PM	2:03 PM	310.33	298.03	7.6%	N	27.58
9/19/2015	M13	2:04 PM	2:26 PM	309.73	298.73	7.5%	N	26.50
9/19/2015	N12	2:27 PM	2:48 PM	309.64	298.54	7.5%	N	24.89
9/19/2015	N14	2:50 PM	3:13 PM	309.88	298.08	7.5%	N	28.42
9/19/2015	O15	3:34 PM	3:59 PM	310.01	297.21	7.5%	N	30.83
9/19/2015	O13	4:00 PM	4:23 PM	309.59	298.09	7.5%	N	27.70
9/21/2015	P16	8:22 AM	8:44 AM	309.83	296.33	7.5%	N	28.02
9/21/2015	P12	8:47 AM	9:10 AM	309.72	298.02	7.6%	N	26.23
9/21/2015	P14	9:12 AM	9:36 AM	309.77	297.37	7.5%	N	29.87
9/21/2015	Q15	9:51 AM	10:16 AM	309.89	296.69	7.6%	N	29.60
9/21/2015	Q13	10:17 AM	10:44 AM	310.06	297.46	7.6%	N	30.35
9/21/2015	R12	10:45 AM	11:10 AM	310.16	297.36	7.6%	N	28.70
9/21/2015	R14	11:13 AM	11:39 AM	309.78	296.78	7.6%	N	31.32
9/21/2015	S15	11:54 AM	12:22 PM	309.80	296.10	7.5%	N	30.72
9/21/2015	S13	12:23 PM	12:51 PM	310.01	296.81	7.5%	N	31.80
9/21/2015	T12	12:54 PM	1:20 PM	310.14	296.74	7.6%	N	30.05
9/21/2015	T14	1:24 PM	1:51 PM	309.87	296.17	7.5%	N	33.00
9/21/2015	U15	2:10 PM	2:39 PM	309.71	296.51	7.6%	N	29.60
9/21/2015	U13	2:43 PM	3:13 PM	309.71	296.31	7.5%	N	32.28
9/21/2015	V12	3:16 PM	3:42 PM	309.82	296.52	7.5%	N	29.82
9/21/2015	V14	3:45 PM	4:12 PM	309.77	296.87	7.5%	N	31.07
9/21/2015	W15	4:29 PM	4:53 PM	309.84	297.44	7.6%	N	27.80
9/21/2015	W13	4:53 PM	5:20 PM	309.81	297.01	7.5%	N	30.83
9/21/2015	X12	5:21 PM	5:46 PM	309.90	297.20	7.5%	N	28.48
9/21/2015	X14	5:47 PM	6:10 PM	309.56	297.56	7.5%	N	28.91
9/21/2015	Y15	6:12 PM	6:33 PM	309.40	298.00	7.5%	N	25.56
9/21/2015	Y13	6:34 PM	6:57 PM	309.49	297.69	7.5%	N	28.42
9/22/2015	Z12	7:26 AM	7:50 AM	309.48	297.78	7.5%	N	26.23
9/22/2015	Z14	7:59 AM	8:20 AM	309.40	298.00	7.5%	Y	27.46
9/22/2015	AA15	8:53 AM	9:14 AM	309.40	298.00	7.5%	N	27.46
9/22/2015	AA13	9:15 AM	9:37 AM	309.60	298.00	7.5%	N	27.94
9/22/2015	AB12	9:38 AM	9:59 AM	309.70	298.00	7.5%	N	26.23
9/22/2015	AB16	10:00 AM	10:21 AM	309.00	297.50	7.4%	N	25.79
9/22/2015	AB14	10:22 AM	10:44 AM	309.30	298.00	7.5%	N	27.22
9/22/2015	AC15	11:01 AM	11:25 AM	309.47	297.57	7.5%	N	28.67
9/22/2015	AC13	11:25 AM	11:47 AM	309.10	298.00	7.5%	N	26.74
9/22/2015	AD12	11:47 AM	12:07 PM	309.30	298.00	7.5%	N	25.34
9/22/2015	AD16	12:09 PM	12:32 PM	309.34	296.44	7.5%	N	28.92
9/22/2015	AD14	12:33 PM	12:55 PM	309.10	298.00	7.5%	N	26.74
9/22/2015	AE15	1:20 PM	1:44 PM	309.27	297.07	7.5%	N	29.39
9/22/2015	AE13	1:45 PM	2:07 PM	309.00	298.00	7.5%	N	26.50
9/22/2015	AF12	2:08 PM	2:28 PM	308.90	298.00	7.5%	N	24.44
9/22/2015	AF16	2:29 PM	2:53 PM	309.37	295.87	7.5%	N	30.27
9/22/2015	AF14	2:55 PM	3:16 PM	308.96	297.56	7.5%	N	27.46
9/22/2015	AG15	3:40 PM	4:03 PM	308.33	296.43	7.5%	N	28.67
9/22/2015	AG13	4:04 PM	4:25 PM	308.52	297.62	7.5%	N	26.26
9/22/2015	AH12	4:27 PM	4:46 PM	308.21	297.51	7.5%	N	23.99
9/22/2015	AH16	4:48 PM	5:12 PM	308.55	295.15	7.5%	N	30.05
9/22/2015	AH14	5:14 PM	5:36 PM	308.34	296.94	7.5%	N	27.46
9/22/2015	AI15	6:01 PM	6:25 PM	308.03	295.83	7.6%	N	29.39

Table A-3 ISS Column Construction Summary
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Date	Column ID	Start Time	Stop Time	Actual Top Elev (ft)	Actual Bottom Elev (ft)	Total Reagent	QC Sample?	Material Treated (CY)
9/23/2015	AI13	7:36 AM	7:59 AM	308.12	297.12	7.5%	N	26.50
9/23/2015	AJ12	8:02 AM	8:24 AM	308.04	296.94	7.5%	N	24.89
9/23/2015	AJ16	8:26 AM	8:53 AM	308.12	294.62	7.5%	N	30.27
9/23/2015	AJ14	8:54 AM	9:22 AM	309.02	296.32	7.5%	N	30.59
9/23/2015	AK15	9:50 AM	10:16 AM	308.07	295.47	7.5%	Y	30.35
9/23/2015	AK13	10:23 AM	10:46 AM	308.08	296.58	7.5%	N	27.70
9/23/2015	AL12	10:49 AM	11:12 AM	308.17	296.37	7.5%	N	26.46
9/23/2015	AL16	11:15 AM	11:45 AM	308.29	294.49	7.6%	N	30.94
9/23/2015	AL14	11:49 AM	12:16 PM	307.96	295.96	7.5%	N	28.91
9/23/2015	AM15	12:43 PM	1:07 PM	307.49	295.49	7.6%	N	28.91
9/23/2015	AM13	1:10 PM	1:40 PM	307.89	295.99	7.5%	N	28.67
9/23/2015	AN12	1:38 PM	2:00 PM	307.70	295.60	7.5%	N	27.13
9/23/2015	AN16	2:08 PM	2:31 PM	307.65	295.35	7.5%	N	27.58
9/23/2015	AN14	2:32 PM	2:56 PM	307.73	295.63	7.5%	N	29.15
9/23/2015	AO15	3:47 PM	4:10 PM	307.80	296.00	7.6%	N	28.42
9/23/2015	AO13	4:12 PM	4:36 PM	307.52	295.12	7.6%	N	29.87
9/23/2015	AP12	4:38 PM	5:02 PM	307.54	294.74	7.6%	N	28.70
9/23/2015	AP16	5:07 PM	5:27 PM	307.63	297.03	7.6%	N	23.77
9/23/2015	AP14	5:29 PM	5:53 PM	307.65	295.65	7.5%	N	28.91
9/24/2015	BP16	7:33 AM	8:08 AM	307.05	288.55	7.5%	N	41.48
9/24/2015	BO15	8:10 AM	8:48 AM	306.61	288.41	7.5%	N	43.84
9/24/2015	BN14	8:48 AM	9:25 AM	307.07	288.17	7.5%	N	45.53
9/24/2015	BM13	9:31 AM	10:04 AM	306.80	288.00	7.5%	N	42.15
9/24/2015	BN16	10:06 AM	10:38 AM	306.96	289.36	7.5%	N	39.46
9/24/2015	BK13	10:40 AM	11:19 AM	307.20	287.90	7.5%	N	46.49
9/24/2015	BL14	11:20 AM	11:56 AM	306.94	288.14	7.5%	N	45.29
9/24/2015	BM15	11:58 AM	12:29 PM	306.90	289.90	7.5%	N	38.12
9/24/2015	BL16	12:30 PM	1:00 PM	306.83	290.43	7.5%	N	36.77
9/24/2015	BI13	1:03 PM	1:38 PM	307.15	289.45	7.5%	Y	42.64
9/24/2015	BK15	1:41 PM	2:14 PM	306.73	289.73	7.5%	N	40.95
9/24/2015	BJ14	2:15 PM	2:49 PM	306.80	288.00	7.5%	N	42.15
9/24/2015	BJ16	2:52 PM	3:20 PM	306.90	291.40	7.5%	N	34.75
9/24/2015	BG13	3:23 PM	3:58 PM	307.29	289.49	7.5%	N	42.88
9/24/2015	BH14	3:59 PM	4:36 PM	307.12	288.42	7.5%	N	45.05
9/24/2015	BI15	4:36 PM	5:12 PM	307.00	288.00	7.5%	N	42.60
9/24/2015	BH16	5:14 PM	5:45 PM	307.19	291.19	7.5%	N	35.88
9/24/2015	BE13	5:46 PM	6:21 PM	307.28	288.88	7.5%	N	44.32
9/24/2015	BF14	6:22 PM	6:59 PM	307.25	288.25	7.5%	N	45.77
9/25/2015	BG15	7:32 AM	8:13 AM	307.03	289.03	7.4%	N	40.36
9/25/2015	BF16	8:17 AM	8:47 AM	307.41	290.91	7.5%	N	37.00
9/25/2015	BE15	9:03 AM	9:36 AM	306.92	290.42	7.5%	N	39.75
9/25/2015	BD16	9:36 AM	10:07 AM	307.28	291.48	7.5%	N	35.43
9/25/2015	BD14	10:08 AM	10:44 AM	306.88	289.38	7.5%	N	42.16
9/25/2015	BC13	11:11 AM	11:44 AM	306.12	288.82	7.7%	N	38.79
9/25/2015	BC15	11:47 AM	12:17 PM	306.03	290.53	7.5%	N	37.34
9/25/2015	BB16	12:19 PM	12:50 PM	307.00	291.20	7.5%	N	35.43
9/25/2015	BA13	12:53 PM	1:34 PM	307.34	288.84	7.5%	N	44.56
9/25/2015	BB14	1:37 PM	2:07 PM	306.03	289.53	7.5%	Y	37.00
9/25/2015	BA15	2:17 PM	2:49 PM	307.00	289.70	7.5%	N	41.67
9/25/2015	AZ14	3:07 PM	3:42 PM	307.18	288.88	7.5%	N	44.08
9/25/2015	AY13	3:43 PM	4:16 PM	306.86	288.66	7.5%	N	40.81
9/25/2015	AZ16	4:17 PM	4:50 PM	306.91	288.51	7.5%	N	41.26
9/25/2015	AY15	4:53 PM	5:28 PM	307.18	288.58	7.5%	N	44.81
9/25/2015	AX14	5:42 PM	6:19 PM	306.81	288.91	7.5%	N	43.12
9/26/2015	AX16	7:28 AM	8:06 AM	307.44	288.44	7.5%	N	42.60
9/26/2015	AW13	8:09 AM	8:42 AM	308.14	289.74	7.5%	N	41.26
9/26/2015	AW15	8:46 AM	9:22 AM	307.35	289.05	7.5%	N	44.08
9/26/2015	AV14	9:43 AM	10:16 AM	307.23	290.23	7.5%	N	40.95
9/26/2015	AU13	10:18 AM	10:46 AM	306.99	291.39	7.5%	N	34.98
9/26/2015	AV16	10:48 AM	11:19 AM	307.18	289.58	7.6%	N	39.46
9/26/2015	AU15	11:23 AM	11:55 AM	307.17	290.57	7.5%	N	39.99
9/26/2015	AR12	12:33 PM	12:58 PM	307.13	293.63	7.5%	N	30.27
9/26/2015	AS13	1:00 PM	1:25 PM	307.05	292.95	7.5%	N	33.97
9/26/2015	AT14	1:27 PM	1:54 PM	307.00	292.00	7.5%	N	33.63
9/28/2015	AT16	7:37 AM	8:08 AM	306.98	292.78	7.6%	N	31.84
9/28/2015	AS15	8:10 AM	8:36 AM	307.12	293.92	7.5%	N	31.80
9/28/2015	AR14	9:03 AM	9:29 AM	307.57	294.57	7.6%	N	29.15
9/28/2015	AQ13	9:30 AM	9:51 AM	307.66	294.46	7.7%	N	25.20
9/28/2015	AR16	9:54 AM	10:11 AM	308.00	298.00	7.5%	N	20.76
9/28/2015	AQ15	10:14 AM	10:33 AM	307.98	296.38	7.6%	Y	22.14

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Date	Column ID	Start Time	Stop Time	Actual Top Elev (ft)	Actual Bottom Elev (ft)	Total Reagent	QC Sample?	Material Treated (CY)
10/5/2015	AJ26	9:00 AM	9:35 AM	303.09	288.09	7.5%	N	36.13
10/5/2015	AK27	9:43 AM	10:18 AM	303.13	288.33	7.5%	N	40.58
10/5/2015	AL26	10:21 AM	10:51 AM	303.03	287.03	7.5%	N	35.88
10/5/2015	AL28	11:28 AM	12:01 PM	303.09	288.59	7.5%	N	39.76
10/5/2015	AN26	12:05 PM	12:40 PM	303.43	286.03	7.5%	N	41.91
10/5/2015	AM29	12:45 PM	1:18 PM	303.12	288.42	7.5%	N	40.31
10/5/2015	AM27	1:20 PM	1:47 PM	303.02	287.92	7.5%	N	33.86
10/5/2015	AN30	2:17 PM	2:58 PM	304.00	286.80	7.5%	N	47.17
10/5/2015	AN28	2:59 PM	3:27 PM	303.00	289.00	7.5%	N	33.72
10/5/2015	AO27	3:29 PM	3:59 PM	303.07	287.97	7.5%	N	36.37
10/5/2015	AO31	4:03 PM	4:43 PM	303.08	285.78	7.5%	N	47.44
10/5/2015	AO29	4:45 PM	5:13 PM	303.10	289.00	7.5%	N	33.97
10/5/2015	AP30	5:34 PM	6:09 PM	303.05	286.35	7.5%	N	40.23
10/5/2015	AP28	6:12 PM	6:41 PM	303.20	288.90	7.5%	N	34.45
10/6/2015	AQ31	8:04 AM	8:49 AM	303.40	285.00	7.5%	N	47.39
10/6/2015	AQ29	8:51 AM	9:22 AM	303.00	288.30	7.5%	N	35.41
10/6/2015	AR30	9:43 AM	10:18 AM	303.13	286.33	7.5%	Y	40.47
10/6/2015	AS31	10:28 AM	11:05 AM	303.34	286.34	7.5%	N	43.78
10/6/2015	AS29	11:06 AM	11:37 AM	302.95	288.25	7.5%	N	37.86
10/6/2015	AT30	12:02 PM	12:33 PM	303.07	287.47	7.5%	N	37.58
10/6/2015	AU31	12:36 PM	1:09 PM	303.32	287.12	7.5%	N	41.72
10/6/2015	AU29	1:14 PM	1:39 PM	300.07	287.97	7.6%	N	31.16
10/6/2015	AV30	1:57 PM	2:22 PM	300.11	287.11	7.5%	N	31.32
10/6/2015	AW31	2:25 PM	3:01 PM	303.06	285.86	7.5%	N	44.30
10/6/2015	AW29	3:03 PM	3:30 PM	299.90	287.00	7.5%	N	33.22
10/6/2015	AX30	3:49 PM	4:17 PM	300.07	285.77	7.5%	N	34.45
10/6/2015	AY31	4:19 PM	4:58 PM	303.20	284.90	7.5%	N	47.13
10/6/2015	AY29	5:01 PM	5:29 PM	299.74	286.54	7.5%	N	34.00
10/6/2015	AZ30	5:45 PM	6:15 PM	300.08	285.78	7.5%	N	34.45
10/7/2015	BA31	7:47 AM	8:37 AM	303.09	284.89	7.5%	N	46.87
10/7/2015	BA29	8:49 AM	9:19 AM	303.05	290.65	7.5%	N	31.94
10/7/2015	BB30	9:49 AM	10:10 AM	303.09	289.09	7.6%	N	33.72
10/7/2015	BC29	10:20 AM	10:47 AM	303.00	291.20	7.5%	N	30.39
10/7/2015	BC31	10:49 AM	11:21 AM	303.01	285.51	7.5%	N	45.07
10/7/2015	BD32	11:28 AM	12:06 PM	303.42	286.62	7.5%	N	46.07
10/7/2015	BD30	12:11 PM	12:34 PM	303.04	290.64	7.5%	N	29.87
10/7/2015	BE31	1:00 PM	1:28 PM	303.45	290.15	7.5%	Y	32.04
10/7/2015	BF32	1:34 PM	2:03 PM	303.40	290.00	7.5%	N	34.51
10/7/2015	BG33	2:07 PM	2:48 PM	303.45	288.95	7.5%	N	39.76
10/7/2015	BE29	2:42 PM	3:09 PM	303.40	291.90	7.6%	N	29.62
10/7/2015	BF30	9:09 AM	3:36 PM	303.42	291.52	7.5%	N	28.67
10/7/2015	BG31	3:09 PM	4:28 PM	303.38	290.48	7.5%	N	31.07
10/7/2015	BH32	4:30 PM	5:01 PM	303.34	288.54	7.5%	N	35.65
10/7/2015	BI33	5:02 PM	5:37 PM	303.31	287.41	7.5%	N	40.95
10/7/2015	BH30	5:38 PM	6:04 PM	303.50	289.90	7.5%	N	35.03
10/7/2015	BI31	6:10 PM	6:38 PM	303.10	289.90	7.5%	N	31.80
10/8/2015	BJ32	8:25 AM	9:00 AM	303.26	288.76	7.5%	N	34.93
10/8/2015	BK33	9:02 AM	9:45 AM	303.23	285.13	7.5%	N	46.62
10/8/2015	BJ30	9:46 AM	10:18 AM	303.20	289.70	7.5%	N	34.77
10/8/2015	BK31	10:19 AM	10:48 AM	303.14	289.74	7.6%	N	32.28
10/8/2015	BL32	10:49 AM	11:24 AM	303.15	286.05	7.5%	N	41.19
10/9/2015	BL30	9:40 AM	10:15 AM	303.40	290.00	7.7%	N	34.51
10/9/2015	BM33	10:19 AM	11:00 AM	303.21	286.21	7.5%	N	43.78
10/9/2015	BM31	11:04 AM	11:31 AM	302.83	285.83	7.5%	N	40.95
10/9/2015	BN32	11:41 AM	12:18 PM	303.24	285.54	7.5%	N	42.64
10/9/2015	BO33	12:45 PM	1:26 PM	303.31	286.11	7.5%	N	44.30
10/9/2015	BO31	1:27 PM	2:09 PM	303.10	285.00	7.5%	Y	46.62
10/9/2015	BP32	2:12 PM	2:50 PM	303.16	285.46	7.5%	N	42.64
10/9/2015	BQ33	2:54 PM	3:30 PM	303.31	286.11	7.5%	N	44.30
10/9/2015	BQ31	3:35 PM	4:13 PM	302.79	285.29	7.5%	N	45.07
10/9/2015	BR32	4:40 PM	5:18 PM	302.97	285.47	7.5%	N	42.16
10/9/2015	BS33	5:19 PM	5:59 PM	303.54	286.04	7.5%	N	45.07
10/9/2015	BS31	6:00 PM	6:42 PM	302.76	285.46	7.5%	N	44.56
10/10/2015	CR28	8:58 AM	9:51 AM	303.35	283.95	7.5%	N	49.97
10/10/2015	CS29	9:55 AM	10:40 AM	302.89	282.89	7.5%	N	54.84
10/10/2015	CQ29	11:01 AM	11:43 AM	303.39	284.69	7.5%	N	48.16
10/10/2015	CP28	11:45 AM	12:22 PM	303.30	285.00	7.5%	N	41.03
10/10/2015	CP30	12:25 PM	1:11 PM	303.02	284.02	7.5%	N	52.10
10/10/2015	CO29	1:37 PM	2:16 PM	303.00	285.00	7.5%	N	43.36
10/10/2015	CN28	2:21 PM	2:56 PM	303.10	285.00	7.5%	N	40.58
10/10/2015	CN30	2:57 PM	3:43 PM	303.14	284.54	7.5%	N	47.91

Table A-3 ISS Column Construction Summary
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Date	Column ID	Start Time	Stop Time	Actual Top Elev (ft)	Actual Bottom Elev (ft)	Total Reagent	QC Sample?	Material Treated (CY)
10/12/2015	CM29	8:45 AM	9:28 AM	303.00	285.00	7.5%	N	43.36
10/12/2015	CL28	9:30 AM	10:10 AM	303.40	285.00	7.5%	N	41.26
10/12/2015	CL30	10:12 AM	10:56 AM	303.08	284.38	7.5%	N	48.16
10/12/2015	CK31	10:59 AM	11:48 AM	303.10	283.00	7.5%	N	55.12
10/12/2015	CK29	11:51 AM	12:33 PM	303.26	284.56	7.5%	N	45.05
10/12/2015	CJ28	1:00 PM	1:39 PM	303.35	284.75	7.5%	N	41.71
10/12/2015	CJ30	1:42 PM	2:24 PM	303.01	283.41	7.5%	N	47.21
10/12/2015	CI31	2:27 PM	3:15 PM	302.85	283.05	7.5%	N	51.00
10/12/2015	CH28	4:10 PM	5:05 PM	303.00	285.00	7.5%	N	43.36
10/12/2015	CI29	5:06 PM	5:45 PM	302.92	284.42	7.5%	N	41.48
10/12/2015	CH30	5:49 PM	6:30 PM	303.39	284.29	7.5%	N	46.01
10/13/2015	CF28	9:11 AM	9:40 AM	303.40	288.00	7.5%	N	37.10
10/13/2015	CG29	9:41 AM	10:13 AM	303.30	285.00	7.5%	N	41.03
10/13/2015	CG31	10:16 AM	10:54 AM	302.82	283.92	7.5%	N	48.68
10/13/2015	CF32	10:58 AM	11:41 AM	303.18	283.78	7.5%	N	53.20
10/13/2015	CF30	11:44 AM	12:21 PM	303.30	285.00	7.5%	Y	44.08
10/13/2015	CD28	12:34 PM	1:04 PM	303.30	287.90	7.5%	N	37.10
10/13/2015	CE29	1:07 PM	1:40 PM	303.30	285.00	7.5%	N	41.03
10/13/2015	CE31	1:42 PM	2:18 PM	303.11	284.61	7.5%	N	44.56
10/13/2015	CB28	2:49 PM	3:19 PM	303.40	288.00	7.6%	N	37.10
10/13/2015	CD30	3:20 PM	3:56 PM	303.50	284.90	7.5%	N	44.81
10/13/2015	CD32	3:57 PM	4:36 PM	303.22	284.12	7.5%	N	49.19
10/13/2015	CC31	4:40 PM	5:15 PM	303.21	284.51	7.5%	N	45.05
10/13/2015	CC29	5:19 PM	5:47 PM	303.20	288.00	7.6%	N	34.08
10/13/2015	BZ28	6:21 PM	6:49 PM	303.09	287.99	7.5%	N	36.37
10/14/2015	CA33	7:49 AM	8:33 AM	303.33	284.23	7.5%	N	55.56
10/14/2015	CB32	8:35 AM	9:12 AM	303.29	283.89	7.5%	N	46.73
10/14/2015	CB30	9:14 AM	9:49 AM	303.23	284.73	7.5%	N	44.56
10/14/2015	CA29	9:52 AM	10:19 AM	303.30	287.80	7.5%	N	34.75
10/14/2015	CA31	10:21 AM	10:58 AM	302.99	284.29	7.5%	N	45.05
10/14/2015	BY33	11:36 AM	12:16 PM	303.16	284.76	7.5%	N	50.46
10/14/2015	BZ32	12:19 PM	12:54 PM	303.20	284.40	7.5%	N	42.15
10/14/2015	BX28	12:59 PM	1:29 PM	303.36	287.96	7.5%	N	37.10
10/14/2015	BY29	1:31 PM	2:01 PM	302.95	287.65	7.5%	N	36.86
10/14/2015	BZ30	2:02 PM	2:36 PM	303.27	284.47	7.5%	N	42.15
10/14/2015	BY31	2:40 PM	3:16 PM	303.13	284.53	7.5%	N	44.81
10/14/2015	BW33	3:53 PM	4:32 PM	303.30	285.40	7.5%	N	49.09
10/14/2015	BX32	4:36 PM	5:09 PM	303.22	285.02	7.5%	N	40.81
10/14/2015	BV28	5:13 PM	5:41 PM	302.96	288.06	7.5%	N	35.89
10/14/2015	BX30	5:43 PM	6:13 PM	303.27	287.67	7.5%	N	37.58
10/14/2015	BW29	6:15 PM	6:42 PM	302.87	287.77	7.6%	N	33.86
10/15/2015	BW31	7:42 AM	8:16 AM	302.99	284.99	7.5%	N	43.36
10/15/2015	BT28	8:54 AM	9:20 AM	303.60	290.50	7.5%	N	31.56
10/15/2015	BU29	9:21 AM	9:50 AM	303.20	288.40	7.5%	N	35.65
10/15/2015	BV30	9:51 AM	10:20 AM	303.37	287.97	7.5%	Y	34.53
10/15/2015	BU33	10:28 AM	11:04 AM	303.36	285.86	7.5%	N	45.07
10/15/2015	BV32	11:06 AM	11:38 AM	303.33	285.23	7.5%	N	40.58
10/15/2015	BU31	11:39 AM	12:11 PM	303.34	285.54	7.5%	N	39.91
10/15/2015	BT32	12:45 PM	1:12 PM	303.40	285.40	7.5%	N	34.36
10/15/2015	BT30	1:27 PM	1:51 PM	302.98	289.58	7.5%	N	30.05
10/15/2015	BS29	1:53 PM	2:15 PM	303.10	291.80	7.5%	N	27.22
10/15/2015	BR28	2:18 PM	2:39 PM	303.00	291.50	7.5%	N	25.79
10/15/2015	BR30	3:11 PM	3:33 PM	301.88	289.88	7.5%	N	26.91
10/15/2015	BQ29	3:36 PM	4:01 PM	303.26	290.86	7.5%	N	29.87
10/15/2015	BP28	4:05 PM	4:30 PM	303.00	290.00	7.5%	N	31.32
10/15/2015	BP30	5:04 PM	5:31 PM	303.07	288.77	7.5%	N	32.06
10/15/2015	BO27	5:37 PM	6:03 PM	303.30	290.00	7.5%	N	29.82
10/15/2015	BO29	6:03 PM	6:30 PM	303.14	290.04	7.5%	N	31.56
10/15/2015	BN30	6:31 PM	6:54 PM	303.12	289.02	7.5%	N	29.27
10/16/2015	BN28	7:45 AM	8:15 AM	303.27	290.97	7.5%	N	29.63
10/16/2015	BM29	8:40 AM	9:03 AM	303.26	290.56	7.5%	N	28.48
10/16/2015	BM27	9:05 AM	9:26 AM	303.35	291.55	7.5%	N	26.46
10/16/2015	BL28	9:37 AM	10:02 AM	303.31	291.11	7.5%	N	29.39
10/16/2015	BK29	10:06 AM	10:28 AM	302.90	290.00	7.5%	N	28.92
10/16/2015	BK27	10:30 AM	10:53 AM	303.36	291.36	7.5%	N	26.91
10/16/2015	BJ28	10:56 AM	11:24 AM	303.13	289.13	7.5%	N	33.72
10/16/2015	BI29	12:03 PM	12:30 PM	303.00	287.90	7.5%	N	33.86
10/16/2015	BI27	12:32 PM	1:00 PM	303.33	289.53	7.5%	Y	33.24
10/16/2015	BH28	1:06 PM	1:35 PM	302.84	288.74	7.5%	N	33.97
10/16/2015	BH26	1:38 PM	2:00 PM	303.40	292.00	7.6%	N	25.56
10/16/2015	BG29	2:03 PM	2:25 PM	303.05	290.65	7.6%	N	25.74
10/16/2015	AP26	2:36 PM	3:04 PM	303.35	288.55	7.5%	N	33.18
10/16/2015	AQ27	3:07 PM	3:35 PM	303.42	290.22	7.5%	N	31.80
10/16/2015	AR26	4:08 PM	4:36 PM	303.35	288.55	7.5%	N	33.18
10/16/2015	AR28	4:39 PM	5:01 PM	303.35	291.25	7.5%	N	27.13
10/16/2015	AS27	5:03 PM	5:29 PM	303.38	289.88	7.5%	N	32.52
10/16/2015	AT26	5:31 PM	5:55 PM	303.65	289.75	7.5%	N	31.17
10/16/2015	AT28	5:59 PM	6:21 PM	303.21	291.11	7.5%	N	27.13

Table A-3 ISS Column Construction Summary
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Date	Column ID	Start Time	Stop Time	Actual Top Elev (ft)	Actual Bottom Elev (ft)	Total Reagent	QC Sample?	Material Treated (CY)
10/17/2015	AU27	7:54 AM	8:19 AM	303.26	290.36	7.5%	N	31.07
10/17/2015	AV26	8:21 AM	8:46 AM	303.25	290.05	7.5%	N	29.60
10/17/2015	AV28	10:30 AM	10:52 AM	303.01	290.91	7.5%	N	27.13
10/17/2015	AW27	10:54 AM	11:19 AM	302.89	290.49	7.5%	N	29.87
10/17/2015	AX26	11:59 AM	12:18 PM	302.98	290.08	7.5%	N	28.92
10/17/2015	AX28	12:21 PM	12:44 PM	302.79	290.09	7.6%	N	28.48
10/17/2015	AY27	12:46 PM	1:10 PM	302.55	290.35	7.5%	N	29.39
10/17/2015	AZ26	1:47 PM	2:12 PM	303.00	290.00	7.7%	N	29.15
10/17/2015	AZ28	2:13 PM	2:35 PM	303.08	290.88	7.5%	N	27.36
10/19/2015	BA27	9:06 AM	9:30 AM	302.90	290.00	7.6%	N	31.07
10/19/2015	BB26	9:50 AM	10:15 AM	303.20	290.00	7.5%	N	29.60
10/19/2015	BB28	10:17 AM	10:41 AM	303.12	291.12	7.5%	N	26.91
10/19/2015	BC27	10:43 AM	11:10 AM	303.00	289.90	7.5%	N	31.56
10/19/2015	BD26	11:32 AM	11:55 AM	303.00	289.90	7.5%	Y	29.37
10/19/2015	BD28	12:04 PM	12:25 PM	302.89	291.29	7.5%	N	26.01
10/19/2015	BE27	12:29 PM	12:55 PM	302.60	290.00	7.5%	N	30.35
10/19/2015	BF26	1:15 PM	1:38 PM	303.32	290.22	7.5%	N	27.19
10/19/2015	BF28	1:41 PM	1:59 PM	302.75	291.65	7.5%	N	23.04
10/19/2015	BG27	2:00 PM	2:21 PM	303.50	290.00	7.5%	N	25.77
10/19/2015	BF48	4:06 PM	4:58 PM	303.45	281.45	9.1%	N	64.00
10/19/2015	BN48	5:04 PM	5:48 PM	303.16	284.06	9.1%	N	55.56
10/19/2015	BL48	5:51 PM	6:34 PM	303.63	283.63	8.6%	N	54.84
10/20/2015	BH48	7:43 AM	8:30 AM	303.53	281.43	8.6%	N	60.60
10/20/2015	BJ48	8:33 AM	9:16 AM	303.22	282.22	8.2%	N	54.09
10/20/2015	BO47	9:56 AM	10:36 AM	303.04	283.94	7.5%	N	52.38
10/20/2015	BG47	10:41 AM	11:25 AM	303.00	281.00	7.5%	N	56.66
10/20/2015	BM47	11:43 AM	12:18 PM	303.37	282.37	7.5%	N	50.59
10/20/2015	BK47	12:22 PM	12:57 PM	303.29	282.29	7.5%	N	50.59
10/20/2015	BI47	1:02 PM	1:37 PM	303.20	280.90	7.6%	N	50.00
10/20/2015	BF46	2:14 PM	2:57 PM	303.35	281.05	7.5%	N	61.15
10/20/2015	BN46	3:00 PM	3:38 PM	303.22	283.32	7.5%	Y	51.25
10/20/2015	BL46	3:51 PM	4:26 PM	303.16	282.96	7.5%	N	48.66
10/20/2015	BJ46	4:27 PM	5:05 PM	303.05	281.75	7.5%	N	51.31
10/20/2015	BH46	5:06 PM	5:41 PM	302.90	281.00	7.5%	N	49.10
10/21/2015	BO45	7:59 AM	8:36 AM	303.28	283.28	7.7%	N	54.84
10/21/2015	BM45	8:38 AM	9:11 AM	303.31	282.91	7.5%	N	49.14
10/21/2015	BG45	9:13 AM	9:50 AM	303.56	281.26	7.5%	N	57.43
10/21/2015	BI45	9:52 AM	10:26 AM	303.16	281.86	7.5%	N	51.31
10/21/2015	BK45	10:29 AM	11:00 AM	303.16	282.66	7.5%	N	45.97
10/21/2015	BF44	11:48 AM	12:28 PM	303.37	281.57	7.5%	N	59.78
10/21/2015	BN44	12:31 PM	1:09 PM	303.13	283.23	7.5%	N	51.25
10/21/2015	BO43	1:09 PM	1:45 PM	303.48	283.38	7.5%	N	55.12
10/21/2015	BL44	1:46 PM	2:17 PM	303.27	282.97	7.5%	N	48.90
10/21/2015	BH44	2:18 PM	2:52 PM	303.02	282.12	7.5%	N	50.35
10/21/2015	BJ44	2:53 PM	3:22 PM	302.98	282.58	7.5%	N	45.74
10/21/2015	BG43	3:42 PM	4:17 PM	303.09	282.09	7.5%	Y	54.09
10/21/2015	BM43	4:18 PM	4:51 PM	303.57	283.17	7.5%	N	49.14
10/21/2015	BK43	4:52 PM	5:24 PM	303.41	283.01	7.5%	N	49.14
10/21/2015	BI43	5:25 PM	5:56 PM	303.39	282.49	7.6%	N	46.86
10/21/2015	BF42	5:57 PM	6:36 PM	303.43	282.13	7.5%	N	58.41
10/22/2015	BN42	8:14 AM	8:46 AM	302.82	283.52	7.5%	N	49.71
10/22/2015	BL42	8:49 AM	9:21 AM	303.25	283.15	7.7%	N	48.42
10/22/2015	BO41	9:25 AM	10:01 AM	303.32	284.02	7.5%	N	52.92
10/22/2015	BE41	10:22 AM	11:01 AM	303.42	282.42	7.6%	N	57.59
10/22/2015	BH42	11:23 AM	11:56 AM	302.94	282.34	7.5%	N	49.62
10/22/2015	BJ42	11:58 AM	12:27 PM	302.86	282.86	7.5%	N	44.84
10/22/2015	BM41	1:14 PM	1:44 PM	303.36	283.66	7.5%	N	47.45
10/22/2015	BN40	1:47 PM	2:19 PM	303.52	284.12	7.5%	N	49.97
10/22/2015	BG41	2:21 PM	2:52 PM	303.17	282.37	7.5%	N	50.10
10/22/2015	BK41	2:54 PM	3:26 PM	302.86	283.06	7.5%	N	47.70
10/22/2015	BI41	3:27 PM	3:57 PM	303.00	282.60	7.5%	N	45.74
10/22/2015	BL40	4:36 PM	5:08 PM	303.03	283.53	7.5%	Y	46.97
10/22/2015	BJ40	5:13 PM	5:44 PM	302.96	282.86	7.5%	N	48.42
10/22/2015	BO39	5:49 PM	6:24 PM	303.96	284.56	7.6%	N	53.20
10/23/2015	BK39	8:08 AM	8:42 AM	302.91	283.61	8.0%	N	49.71
10/23/2015	BM39	8:43 AM	9:18 AM	303.22	284.22	8.0%	N	42.60
10/23/2015	BN38	9:36 AM	10:05 AM	302.96	285.26	8.1%	N	45.59
10/23/2015	BL38	10:09 AM	10:43 AM	303.17	284.47	8.0%	N	45.05
10/23/2015	BJ38	10:45 AM	11:24 AM	303.25	283.55	8.0%	N	50.74
10/23/2015	BO37	11:40 AM	12:14 PM	303.33	286.83	8.0%	N	45.25
10/23/2015	BM37	12:15 PM	12:43 PM	302.80	286.40	8.0%	N	39.51
10/23/2015	BK37	12:45 PM	1:18 PM	303.19	284.69	8.0%	N	44.56
10/23/2015	BN36	1:29 PM	1:57 PM	303.27	288.77	8.1%	N	37.35
10/23/2015	BL36	1:58 PM	2:22 PM	303.25	287.05	8.0%	N	39.02
10/23/2015	BJ36	2:28 PM	3:03 PM	303.24	284.74	8.0%	N	47.65
10/23/2015	BO35	3:22 PM	3:53 PM	303.08	287.98	8.0%	N	41.41
10/23/2015	BM35	3:54 PM	4:22 PM	303.09	287.79	8.0%	Y	36.86
10/23/2015	BK35	4:32 PM	5:02 PM	303.20	285.50	8.0%	N	42.64
10/23/2015	BJ34	5:14 PM	5:44 PM	302.92	284.62	8.0%	N	44.08
10/23/2015	BL34	5:48 PM	6:15 PM	303.25	285.75	8.0%	N	36.32

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Corrective Action Completion Report
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Western Portion Former MGP Site
Macon, GA

Date	Column ID	Start Time	Stop Time	Actual Top Elev (ft)	Actual Bottom Elev (ft)	Total Reagent	QC Sample?	Material Treated (CY)
10/24/2015	BN34	8:02 AM	8:26 AM	303.06	286.76	8.2%	N	33.83
10/24/2015	BB40	9:53 AM	10:44 AM	307.26	282.66	10.0%	N	71.56
10/24/2015	BD40	10:59 AM	11:45 AM	307.31	282.71	8.5%	N	63.36
10/24/2015	BF40	11:48 AM	12:24 PM	303.29	282.69	8.4%	N	49.62
10/24/2015	BH40	12:27 PM	12:55 PM	300.22	282.62	8.0%	N	39.46
10/28/2015	BA39	8:03 AM	8:49 AM	307.01	282.91	9.1%	N	66.09
10/28/2015	BC39	8:57 AM	9:38 AM	307.12	282.92	8.0%	N	58.29
10/28/2015	BE39	9:41 AM	10:22 AM	307.40	283.00	8.0%	N	58.78
10/28/2015	BG39	10:44 AM	11:18 AM	303.36	282.96	8.0%	N	49.14
10/28/2015	BI39	11:20 AM	11:48 AM	303.20	285.80	8.0%	N	36.11
10/28/2015	BB38	11:51 AM	12:33 PM	306.98	283.68	8.6%	N	60.01
10/28/2015	BD38	12:35 PM	1:14 PM	307.23	284.43	8.0%	N	54.92
10/28/2015	BF38	1:16 PM	1:50 PM	303.24	283.74	8.0%	N	46.97
10/28/2015	BH38	1:53 PM	2:19 PM	302.96	286.26	8.0%	Y	37.44
10/28/2015	BA37	2:32 PM	3:11 PM	307.22	287.02	9.2%	N	55.39
10/28/2015	BC37	3:14 PM	3:47PM	307.21	287.31	8.0%	N	47.94
10/28/2015	BE37	3:48 PM	4:27 PM	307.26	284.96	8.0%	N	53.72
10/28/2015	BG37	4:28 PM	5:03 PM	303.21	284.21	8.1%	N	45.77
10/28/2015	BI37	5:04 PM	5:27 PM	303.27	286.67	8.0%	N	34.45
10/28/2015	BB36	5:32 PM	6:05 PM	307.04	288.04	8.6%	N	48.94
10/28/2015	BD36	6:06 PM	6:42 PM	307.27	286.77	8.0%	N	49.38
10/29/2015	BF36	8:07 AM	8:35 AM	303.15	285.05	8.0%	N	43.60
10/29/2015	BH36	8:40 AM	9:04 AM	302.77	287.17	8.0%	N	34.98
10/29/2015	BA35	9:07 AM	9:45 AM	307.19	285.79	8.6%	N	55.12
10/29/2015	BC35	9:54 AM	10:28 AM	307.15	286.65	8.0%	N	49.38
10/29/2015	BE35	10:30 AM	11:06 AM	307.23	286.23	8.1%	N	50.59
10/29/2015	BG35	11:08 AM	11:38 AM	303.21	285.41	8.0%	N	42.88
10/29/2015	BI35	11:42 AM	12:05 PM	303.20	287.30	8.0%	N	33.00
10/29/2015	BB34	12:11 PM	12:49 PM	307.19	285.29	8.6%	N	56.40
10/29/2015	BD34	12:59 PM	1:33 PM	307.42	286.62	8.0%	N	50.10
10/29/2015	BF34	1:35 PM	2:01 PM	303.44	286.34	8.0%	Y	38.34
10/29/2015	BH34	2:09 PM	2:29 PM	303.46	288.06	8.0%	N	29.40
10/29/2015	AR32	3:16 PM	3:52 PM	307.37	286.07	8.1%	N	54.86
10/29/2015	AS33	3:57 PM	4:37 PM	307.26	286.06	8.0%	N	58.13
10/29/2015	AT32	4:46 PM	5:18 PM	307.10	286.60	8.0%	N	45.97
10/29/2015	AU33	5:22 PM	6:03 PM	307.71	285.71	8.0%	N	56.66
10/30/2015	AV32	7:55 AM	8:31 AM	307.50	286.00	8.6%	N	48.21
10/30/2015	AW33	8:32 AM	9:16 AM	307.20	285.10	8.1%	N	56.92
10/30/2015	AX32	9:30 AM	10:05 AM	307.05	284.95	8.2%	N	49.55
10/30/2015	AY33	10:09 AM	10:49 AM	307.12	284.52	8.0%	N	58.21
10/30/2015	AZ32	11:02 AM	11:37 AM	306.98	284.68	8.1%	N	50.00
10/30/2015	BA33	11:40 AM	12:17 PM	307.19	284.69	8.0%	N	54.20
10/30/2015	BB32	12:30 PM	1:01 PM	307.15	284.95	8.0%	N	46.08
10/30/2015	BC33	1:04 PM	1:34 PM	307.08	285.78	8.0%	N	44.21
10/30/2015	BE33	1:52 PM	2:14 PM	303.10	287.00	8.1%	N	30.73
11/2/2015	AV6	11:44 AM	12:40 PM	321.36	291.66	8.0%	N	76.49
11/2/2015	AT6	12:44 PM	1:39 PM	321.85	292.05	8.0%	Y	76.75
11/2/2015	AS5	2:07 PM	3:07 PM	321.47	292.77	8.0%	N	78.70
11/2/2015	AR4	3:10 PM	4:05 PM	321.20	293.00	8.0%	N	77.33
11/2/2015	AQ3	4:11 PM	5:35 PM	321.30	296.90	9.4%	N	66.91
11/2/2015	AP2	5:37 PM	6:36 PM	321.40	298.40	8.5%	N	63.07
11/3/2015	AN2	8:23 AM	9:32 AM	321.30	293.00	8.1%	N	77.60
11/3/2015	AM3	9:34 AM	10:44 AM	321.40	293.00	8.0%	N	77.88
11/3/2015	AN4	10:51 AM	11:46 AM	321.10	293.00	8.1%	N	77.06
11/3/2015	AJ2	12:01 PM	1:49 PM	321.50	292.90	8.0%	N	83.19
11/3/2015	AI3	1:53 PM	2:54 PM	321.60	292.90	8.0%	Y	78.70
11/3/2015	AJ4	3:04 PM	4:30 PM	321.54	293.04	8.0%	N	78.15
11/3/2015	AF4	4:50 PM	5:47 PM	320.58	293.58	8.0%	N	78.54
11/3/2015	AE3	5:47 PM	6:42 PM	320.40	293.50	8.0%	N	73.77
11/4/2015	AF2	8:24 AM	9:28 AM	320.22	293.22	9.1%	N	74.04
11/4/2015	A3	10:37 AM	11:44 AM	321.60	297.20	8.3%	N	70.98
11/4/2015	A5	11:58 AM	1:36 PM	321.40	295.00	8.0%	N	76.79
11/4/2015	A7	1:53 PM	2:58 PM	317.63	295.63	8.0%	N	60.33
11/4/2015	B6	3:02 PM	3:41 PM	316.16	295.46	8.1%	N	53.31
11/4/2015	B4	3:45 PM	4:36 PM	321.34	294.94	8.0%	N	67.99
11/4/2015	B2	4:37 PM	5:27 PM	321.44	294.24	8.6%	N	70.05
11/4/2015	C7	5:35 PM	6:11 PM	317.04	295.94	8.0%	N	47.31
11/5/2015	C3	7:49 AM	8:36 AM	321.36	294.46	8.0%	Y	64.80
11/5/2015	C5	8:40 AM	9:58 AM	321.48	295.28	8.1%	N	63.11
11/5/2015	D2	10:16 AM	11:00 AM	321.39	293.99	8.6%	N	70.57
11/5/2015	D4	11:08 AM	11:53 AM	321.47	294.77	8.0%	N	59.87
11/5/2015	G3	12:05 PM	1:02 PM	321.53	294.13	8.0%	N	79.70
11/5/2015	G5	1:06 PM	2:01 PM	321.26	294.86	8.0%	N	76.79
11/5/2015	G7	2:14 PM	2:50 PM	316.53	298.93	8.0%	N	45.33
11/5/2015	H6	2:51 PM	3:27 PM	316.93	298.33	8.0%	N	47.91
11/5/2015	H4	3:28 PM	4:19 PM	321.34	294.34	8.0%	N	69.54
11/5/2015	H2	4:21 PM	5:15 PM	321.39	293.59	8.6%	N	71.60
11/5/2015	I7	5:29 PM	6:01 PM	316.79	298.69	8.1%	N	40.58
11/5/2015	J6	6:02 PM	6:40 PM	316.78	298.08	8.0%	N	48.16

Table A-3 ISS Column Construction Summary
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Date	Column ID	Start Time	Stop Time	Actual Top Elev (ft)	Actual Bottom Elev (ft)	Total Reagent	QC Sample?	Material Treated (CY)
11/6/2015	I3	11:43 AM	12:28 PM	320.22	293.92	8.0%	N	63.35
11/6/2015	I5	12:31 PM	1:28 PM	321.37	294.77	8.0%	Y	59.64
11/6/2015	J2	1:29 PM	2:25 PM	321.10	293.40	8.6%	N	71.34
11/6/2015	J4	2:26 PM	3:09 PM	320.96	294.26	8.0%	N	59.87
11/6/2015	M3	3:25 PM	4:22 PM	321.29	293.59	8.0%	N	80.58
11/6/2015	M5	4:23 PM	5:29 PM	321.18	294.38	8.0%	N	77.96
11/6/2015	M7	5:49 PM	6:26 PM	316.21	298.01	8.1%	N	46.87
11/6/2015	N6	6:26 PM	7:00 PM	315.90	297.60	8.0%	N	47.13
11/7/2015	N2	9:16 AM	10:11 AM	321.10	293.10	9.1%	N	76.78
11/7/2015	N4	10:12 AM	11:00 AM	321.42	293.92	8.0%	N	66.24
11/7/2015	Q3	11:19 AM	12:15 PM	321.27	293.27	8.0%	N	81.45
11/7/2015	Q5	12:17 PM	1:20 PM	321.17	293.97	8.0%	N	79.12
11/7/2015	Q7	1:40 PM	2:54 PM	315.17	297.37	8.3%	N	45.84
11/7/2015	R6	2:56 PM	3:34 PM	314.19	297.19	8.0%	N	43.78
11/9/2015	R2	10:06 AM	11:02 AM	321.67	292.97	9.1%	N	78.70
11/9/2015	R4	11:04 AM	11:57 AM	321.07	293.57	8.0%	Y	70.83
11/9/2015	U3	12:20 PM	1:21 PM	321.08	293.18	8.0%	N	81.16
11/9/2015	U5	1:23 PM	2:19 PM	320.71	293.51	8.0%	N	79.12
11/9/2015	U7	2:38 PM	3:14 PM	316.03	297.03	8.0%	N	48.94
11/9/2015	V6	3:15 PM	3:55 PM	315.72	296.82	8.1%	N	48.68
11/9/2015	V4	3:57 PM	4:48 PM	320.89	293.39	8.0%	N	70.83
11/9/2015	V2	4:50 PM	5:54 PM	320.90	293.00	9.1%	N	76.51
11/9/2015	W7	5:57 PM	6:34 PM	314.83	296.83	8.0%	N	40.36
11/10/2015	W3	9:13 AM	10:05 AM	320.92	293.22	8.0%	N	66.73
11/10/2015	W5	10:13 AM	11:08 AM	321.21	293.61	8.0%	N	66.49
11/10/2015	X6	11:35 AM	12:07 PM	315.44	296.84	8.1%	N	44.81
11/10/2015	X4	12:08 PM	1:08 PM	320.85	293.45	8.0%	Y	66.00
11/10/2015	X2	1:18 PM	2:17 PM	320.85	293.05	8.6%	N	71.60
11/10/2015	AA3	2:38 PM	3:58 PM	320.76	293.36	8.0%	N	79.70
11/10/2015	AA5	4:18 PM	5:14 PM	320.65	293.75	8.0%	N	78.25
11/11/2015	AS7	7:50 AM	8:47 AM	315.32	291.92	8.7%	N	52.47
11/11/2015	AR6	8:50 AM	9:50 AM	315.50	292.80	8.1%	N	54.68
11/11/2015	AQ7	10:06 AM	10:47 AM	315.86	292.66	8.1%	N	52.02
11/11/2015	AO3	10:58 AM	12:30 PM	319.30	292.90	8.3%	N	54.79
11/11/2015	AP4	12:34 PM	1:28 PM	319.20	293.00	8.0%	N	58.75
11/11/2015	AQ5	1:30 PM	2:08 PM	315.60	293.00	8.0%	N	50.67
11/11/2015	AP6	2:30 PM	3:13 PM	315.30	293.00	8.0%	N	53.72
11/11/2015	AO7	3:15 PM	3:49 PM	315.90	296.00	8.4%	N	44.62
11/11/2015	AO5	3:50 PM	4:44 PM	315.10	293.00	8.1%	N	49.55
11/11/2015	AL2	5:12 PM	5:58 PM	319.50	293.00	8.0%	N	63.84
11/12/2015	AN6	8:00 AM	8:40 AM	315.20	295.90	8.5%	Y	46.49
11/12/2015	AM7	8:50 AM	9:44 AM	318.17	296.17	8.1%	N	49.33
11/12/2015	AM5	9:45 AM	10:26 AM	315.10	296.00	8.0%	N	46.01
11/12/2015	AL4	10:40 AM	11:41 AM	319.80	292.90	8.0%	N	60.32
11/12/2015	AK3	11:45 AM	12:41 PM	320.10	292.90	8.1%	N	51.92
11/12/2015	AL6	12:45 PM	1:20 PM	314.93	296.13	8.1%	N	45.29
11/12/2015	AK7	1:27 PM	1:58 PM	315.24	296.44	8.1%	N	42.15
11/12/2015	AK5	2:05 PM	2:37 PM	315.18	296.08	8.0%	N	42.83
11/12/2015	AH2	3:17 PM	4:14 PM	320.20	293.00	8.0%	N	65.52
11/12/2015	AH4	4:18 PM	5:48 PM	320.11	293.21	8.0%	N	64.80
11/12/2015	AI7	5:50 PM	6:38 PM	315.61	296.71	8.1%	N	45.53
11/13/2015	AJ6	8:13 AM	8:40 AM	315.10	296.40	8.0%	N	41.93
11/13/2015	AI5	8:45 AM	9:44 AM	315.15	296.35	8.0%	N	42.15
11/13/2015	AG7	9:20 AM	9:53 AM	315.68	296.98	8.0%	N	45.05
11/13/2015	AG3	9:55 AM	10:55 AM	320.16	293.26	8.0%	N	51.35
11/13/2015	AH6	11:25 AM	11:56 AM	315.17	296.67	8.0%	Y	41.48
11/13/2015	AG5	12:03 PM	12:50 PM	315.32	296.62	8.0%	N	41.93
11/13/2015	AE7	12:53 PM	1:34 PM	315.85	297.25	8.1%	N	44.81
11/13/2015	AF6	1:36 PM	2:14 PM	315.44	296.94	8.0%	N	41.48
11/13/2015	AD2	2:41 PM	4:09 PM	320.27	293.27	8.7%	N	61.81
11/13/2015	AE5	4:10 PM	4:51 PM	315.99	296.89	8.0%	N	46.01
11/13/2015	AD4	4:54 PM	5:42 PM	320.16	293.66	8.0%	N	63.84
11/13/2015	AC7	5:55 PM	6:26 PM	315.31	297.11	8.0%	N	43.84
11/13/2015	AD6	6:30 PM	6:57 PM	315.15	297.05	8.0%	N	40.58
11/14/2015	AC3	8:40 AM	9:21 AM	320.43	293.43	8.0%	N	60.54
11/14/2015	AC5	9:24 AM	9:55 AM	315.82	296.82	8.0%	N	42.60
11/14/2015	AB2	9:58 AM	10:45 AM	320.20	293.20	8.0%	N	65.04
11/14/2015	AB4	10:48 AM	11:32 AM	320.39	293.59	8.0%	N	55.62
11/14/2015	AB6	11:35 AM	12:06 PM	316.08	296.98	8.0%	N	42.83
11/14/2015	AA7	12:08 PM	12:44 PM	315.94	297.14	8.1%	N	42.15
11/14/2015	Z4	1:34 PM	2:30 PM	319.92	293.42	8.0%	Y	59.42
11/16/2015	Z2	7:50 AM	8:47 AM	320.12	293.12	8.0%	N	65.04
11/16/2015	Z6	8:54 AM	9:26 AM	315.01	296.91	8.0%	N	40.58
11/16/2015	Y7	9:28 AM	9:58 AM	315.47	297.07	8.1%	N	35.12
11/16/2015	Y3	10:04 AM	10:56 AM	320.08	293.28	8.0%	N	51.16
11/16/2015	Y5	10:58 AM	12:06 PM	315.98	296.68	8.1%	N	36.84
11/16/2015	T2	12:22 PM	1:21 PM	320.46	292.96	8.0%	N	66.24
11/16/2015	T6	1:23 PM	2:15 PM	316.01	296.91	8.0%	N	42.83
11/16/2015	T4	2:18 PM	3:10 PM	320.59	293.39	8.1%	N	60.99
11/16/2015	S7	3:24 PM	4:00 PM	315.54	297.34	8.1%	N	34.74
11/16/2015	S5	3:24 PM	4:36 PM	315.79	296.79	8.0%	N	36.27
11/16/2015	S3	4:40 PM	6:00 PM	320.68	293.18	8.1%	N	52.49

Table A-3 ISS Column Construction Summary
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Date	Column ID	Start Time	Stop Time	Actual Top Elev (ft)	Actual Bottom Elev (ft)	Total Reagent	QC Sample?	Material Treated (CY)
11/17/2015	E7	7:50 AM	8:22 AM	316.02	296.02	8.0%	N	44.84
11/17/2015	D6	8:54 AM	9:07 AM	315.65	295.65	8.0%	N	44.84
11/17/2015	E3	9:28 AM	10:06 AM	320.98	294.28	8.0%	N	59.87
11/17/2015	E5	10:04 AM	11:07 AM	320.52	294.92	8.1%	N	57.40
11/17/2015	F6	10:58 AM	11:41 AM	315.49	295.49	8.1%	Y	38.18
11/17/2015	F2	12:22 PM	12:35 PM	320.89	293.79	7.5%	N	60.76
11/17/2015	F4	1:23 PM	1:13 PM	320.32	294.62	8.0%	N	49.06
11/17/2015	K3	2:18 PM	2:17 PM	320.74	293.74	8.0%	N	60.54
11/17/2015	K5	2:20 PM	3:05 PM	320.57	294.57	8.0%	N	58.30
11/17/2015	K7	3:08 PM	3:45 PM	316.38	298.38	8.1%	N	37.36
11/17/2015	L2	3:50 PM	4:37 PM	320.73	293.13	7.4%	N	61.89
11/17/2015	L4	4:38 PM	5:16 PM	320.48	294.08	8.0%	N	50.39
11/17/2015	L6	5:18 PM	5:47 PM	316.63	297.83	8.1%	N	35.89
11/18/2015	O3	9:53 AM	10:49 AM	320.67	293.47	8.0%	N	60.99
11/18/2015	O7	10:50 AM	11:22 AM	315.66	297.76	8.1%	N	37.15
11/18/2015	O5	11:25 AM	12:32 PM	320.29	294.19	8.8%	N	58.52
11/18/2015	P2	12:25 PM	1:13 PM	320.81	293.01	7.5%	N	62.33
11/18/2015	P6	1:16 PM	1:45 PM	315.57	297.37	8.1%	N	34.74
11/18/2015	P4	1:50 PM	2:32 PM	320.48	293.78	8.7%	N	50.97

Total # Columns	1125
Average Depth (ft)	17.14
Treatment Volume (CY)	47074.89

Table A-4 ISS Quality Control Results
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Sample ID	Field Sampling Date	Cure Day	Unconfined Compressive Strength ASTM D1633				Hydraulic Conductivity ASTM D5084				Wet Dry Durability		
											ASTM D4843		
			Moisture Content %	Bulk Density (lb/ft^3)	Dry Density (lb/ft^3)	UCS (lb/in^2)	Moisture Content (%)	Bulk Density (lb/ft^3)	Dry Density (lb/ft^3)	K (cm/sec)	PASS/FAIL	Mass Loss	Notes/Comments
CQ27-(M)-20150711-01	7/11/2015	3	41.84	109.4	77.1	110.5							
		7	40.85	107.9	76.6	205.7	< 1.0E -9 *						
		28	40.85	108.9	77.3	567.4	41.0	104	74.0	1.4E-09	PASS		
CP26-B-20150713-02	7/13/2015	3	53.27	104.4	68.1	125.8							
		7	51.31	104.4	69.0	131.3	52.0	103.4	68.0	1.85E-09			
		28	50.59	104.1	69.1	490.8	58.1	99	62.7	2.7E-09	PASS		
CM25-10-20150714-03	7/14/2015	3	48.77	105.8	71.1	189.8							
		7	47.72	104.7	70.9	434.7	43.0	107.0	74.8	2.53E-09			
		28	45.34	106.7	73.4	594.7	44.2	105	73.1	1.9E-09	PASS		
CM23-5-20150717-04	7/17/2015	3	47.47	107.8	73.1	139.5							
		7	47.17	106.9	72.6	307.8	44.7	107.0	73.9	2.50E-09			
		28	47.10	106.4	72.3	608.4	43.9	106	73.6	4.5E-09			
		61									PASS		
CJ24-5-20150717-05	7/17/2015	3	47.77	106.4	72.1	141.5							
		7	45.55	106.3	73.0	286.4	46.51	104.9	76.1	1.12E-07			
		28	45.24	105.7	72.8	582.8	45.3	105	71.9	4.0E-08			
		61									PASS		
CH22-(20)-20150718-06	7/18/2015	3	46.55	107.2	73.2	218.4							
		7	45.86	106.1	72.8	467.4	42.31	106.6	74.9	2.73E-09			
		30	43.39	107.2	74.7	679.6	46.1	105	71.6	1.6E-09	PASS		
CF20-(10)-20150718-07	7/18/2015	3	42.39	108.9	76.5	141.7							
		7	39.03	107.8	77.5	235.9							
		30	41.30	109.2	77.3	526.0					PASS		
		90					41.07	106.8	75.7	5.9E-09			
CC21-20-20150720-08	7/20/2015	3	45.33	107.0	73.6	242.1							
		7	46.12	107.5	73.5	383.9							
		28	45.50	105.8	72.7	619.5					PASS		
		88					45.03	107.3	74.0	1.8E-08			
CA21-5-20150720-09	7/20/2015	3	46.98	104.5	71.1	225.9							
		7	47.24	106.8	72.5	358.7							
		28	45.45	105.5	72.5	506.0					PASS		
		88					48.46	106.0	71.4	4.7E-08			
BZ18-10-20150721-10	7/21/2015	3	72.28	97.8	56.8	252.2							
		7	71.72	95.9	55.9	412.2	69.74	96.6	56.9	2.39E-08			
		28	71.98	97.4	56.6	527.9	70.0	95	55.7	4.7E-10	PASS		
BW19-15-20150721-11	7/21/2015	3	71.98	97.7	56.8	203.7							
		7	69.46	97.1	57.3	344.6	71.70	94.8	55.2	4.15E-08			
		28	70.61	97.4	57.1	438.1	71.6	95	55.5	2.0E-08	PASS		
BU19-5-20150722-12	7/22/2015	5	57.54	100.7	63.9	217.1							
		7					57.41	101.2	64.3	8.12E-09			
		28	55.69	102.1	65.6	527.0	56.7	100	63.8	1.2E-09	PASS		
BS17-10-20150722-13	7/22/2015	5	60.50	101.0	62.9	181.3							
		7					62.16	98.2	60.6	2.07E-09			
		28	60.52	100.0	62.3	462.5	62.8	99	60.9	3.2E-08			
		34									PASS		
BS15-5-20150723-14	7/23/2015	4	64.04	99.0	60.3	140.0							
		7					62.4	98	60.4	5.0E-07			
		28	61.80	98.7	61.0	500.9	63.6	98	60.0	2.4E-08			
		33									PASS		
BS13-20-20150724-15	7/24/2015	3	111.55	88.8	42.0	58.6							
		7					58.3	99	62.8	4.1E-07			
		28	109.59	87.8	41.9	289.5	97.9	87	44.1	3.4E-08	Fail @ Cycle 3	>15%	
		66									Fail @ Cycle 5	>30%	
		94									Fail @ Cycle 11	>30%	Exterior columns remixed for Wet/Dry testing, see Sample ID Remix-1 below
BO11-15-20150725-16	7/25/2015	3	53.04	103.9	67.9	124.4							
		7					54.9	106	68.3	3.6E-08			
		28	53.65	102.7	66.8	390.1	53.0	102	67	3.9E-08	PASS		

Table A-4 ISS Quality Control Results
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Sample ID	Field Sampling Date	Cure Day	Unconfined Compressive Strength ASTM D1633				Hydraulic Conductivity ASTM D5084				Wet Dry Durability ASTM D4843		
			Moisture Content %	Bulk Density (lb/ft^3)	Dry Density (lb/ft^3)	UCS (lb/in^2)	Moisture Content (%)	Bulk Density (lb/ft^3)	Dry Density (lb/ft^3)	K (cm/sec)	PASS/FAIL	Mass Loss	Notes/Comments
BM9-10-20150727-17	7/27/2015	3	58.07	99.2	62.8	143.1							
		7					58.3	99.0	62.8	3.4E-08			
		28	58.68	100.6	63.4	505.3	56.2	102.0	65.5	3.0E-09	PASS		
BJ8-5-20150728-18	7/28/2015	3	71.56	95.4	55.6	138.1							
		7					68.6	96.0	56.8	4.3E-08			
		28	68.13	97.0	57.7	435.7	68.3	97	57.5	1.1E-08			
		50									PASS		
BD8-10-20150729-19	7/29/2015	3	58.87	100.1	63.0	64.2							
		7					48.2	101.0	68.5	2.3E-08			
		28	56.96	101.0	64.4	395.7	59.9	98.0	61.6	4.5E-09	PASS		
AY7-15-20150730-20	7/30/2015	3	62.13	100.7	62.1	190.6							
		7					58.8	101	63.8	3.1E-08			
		28	57.82	100.1	63.4	472.2	59.2	101	63.6	2.4E-08	PASS		
AR10-5-20150731-21	7/31/2015	3	55.34	100.5	64.7	95.6							
		7	54.74	101.6	65.7	350.0	54.22	101.1	65.6	1.40E-08			
		28	54.26	100.4	65.1	512.4	53.0	100	65.5	7.7E-09	PASS		
AP10-10-20150801-22	8/1/2015	3	59.31	101.1	63.5	85.3							
		7					55.7	101	65.1	3.0E-08			
		28	53.74	103.0	67.0	424.7	54.7	102	66.1	2.6E-08	PASS		
AH10-12-20150803-23	8/3/2015	3	52.17	103.1	67.8	111.0							
		7					52.1	102	67.1	2.4E-08			
		28	51.69	102.8	67.8	401.8	50.7	103	68.5	1.9E-08	PASS		
AB10-5-20150810-24	8/10/2015	7					55.09	102.2	66.8	1.66E-08			
		29	54.43	100.6	65.2	555.1	55.6	99	63.8	7.0E-08	PASS		
C11-25-20150811-25	8/11/2015	7					58.8	100	62.7	2.0E-08			
		28	59.07	99.7	62.7	417.0	58.2	98	62.0	9.3E-08	PASS		
H10-5-20150812-26	8/12/2015	7					64.7	96	58.1	1.8E-08			
		28	64.53	98.4	59.8	511.4	63.9	97	58.9	5.0E-08	PASS		
S9-10-20150813-27	8/13/2015	7					57.2	98	62.2	9.7E-09			
		27	55.69	101.4	65.1	521.5							
		28					57.1	100	63.9	7.0E-09	PASS		
E13-5-20150814-28	8/14/2015	7					66.9	95	56.9	1.1E-08			
		26	66.23	97.0	58.4	450.6							
		28					66.1	96	57.8	2.2E-09	PASS		
C17-10-20150815-29	8/15/2015	7					58.0	101	64.1	2.7E-07			
		25	57.39	101.0	64.2	443.5							
		28					57.5	99	62.9	9.7E-09	PASS		
H18-5-20150817-30	8/17/2015	7					53.6	101	65.9	2.7E-08			
		23	50.79	102.8	68.2	342.0							
		28					56.77	102.8	65.6	2.6E-08	PASS		
K21-10-20150818-31	8/18/2015	7	53.32	103.1	67.2	278.9	53.0	102	66.4	1.4E-10			
		28					53.53	101.7	66.3	1.5E-08	PASS		
S21-15-20150819-32	8/19/2015	7					67.4	96	57.4	2.1E-09			
		21	65.85	98.0	59.1	426.7							
		28					65.7	97	58.5	2.5E-08	Fail @ Cycle 12	>15%	Retesting at 68 days yielded passing results. Additionally-Remix-2 sample below passed protocol.
		68									PASS		
X20-5-20150820-33	8/20/2015	7					67.7	95	56.4	2.3E-10			
		20	67.00	97.3	58.2	372.7							
		28					66.8	95	56.9	3.9E-09	FAIL @ Cycle 12	>30%	Retesting at 74 days yielded passing results. Additionally-Remix-3 Sample below passed protocol.
		74									PASS		
AG23-10-20150822-34	8/22/2015	7					59.6	97	60.9	1.1E-09			
		18	61.05	99.5	61.8	361.7							
		28					57.5	97.7	62.0	1.3E-08	PASS		
AN24-15-20150824-35	8/24/2015	7					59.7	98	61.2	5.6E-09			
		16	60.74	99.2	61.7	400.6							
		28					59.8	95.6	59.8	1.9E-08	PASS		
AV24-5-20150825-36	8/25/2015	7					36.83	106.3	77.7	3.4E-09			
		14	41.25	107.4	76.0	409.8							
		28					42.59	106.7	74.8	2.6E-08	PASS		

Table A-4 ISS Quality Control Results
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Sample ID	Field Sampling Date	Cure Day	Unconfined Compressive Strength ASTM D1633				Hydraulic Conductivity ASTM D5084				Wet Dry Durability		
											ASTM D4843		
			Moisture Content %	Bulk Density (lb/ft^3)	Dry Density (lb/ft^3)	UCS (lb/in^2)	Moisture Content (%)	Bulk Density (lb/ft^3)	Dry Density (lb/ft^3)	K (cm/sec)	PASS/FAIL	Mass Loss	Notes/Comments
BG23-10-20150826-37	8/26/2015	7					49.15	102.5	68.7	3.5E-09			
		13	49.35	103.0	68.9	297.4							
		28					49.68	101.6	67.9	2.2E-09	PASS		
CM27-15-20150828-38	8/28/2015	7					39.66	109.6	78.5	5.2E-08			
		11	39.35	109.2	78.4	74.7							
		28					40.57	107.0	76.1	2.4E-08	PASS		
CC25-10-20150829-39	8/29/2015	7					64.82	97.3	59.0	3.9E-09			
		10	64.00	95.6	58.3	289.5							
		28					66.18	96.2	57.9	6.9E-09	FAIL @ Cycle 8	>30%	
		58									FAIL @ Cycle 9	>30%	Exterior columns remixed for Wet/Dry testing, see Sample IDs Remix-4 and -6 below
BV26-5-20150901-40	9/1/2015	7	77.26	95.2	53.7	287.0	72.85	94.7	54.8	3.4E-09			
		28					73.7	93	53.8	4.3E-09			
		38									FAIL @ Cycle 6	>30%	
		65									FAIL @ Cycle 5	>30%	Exterior columns remixed for Wet/Dry testing, see Sample IDs Remix-4 and -6 below
BU21-15-20150902-41	9/2/2015	7	54.70	101.0	65.3	248.1	55.86	100.7	64.6	3.0E-09			
		28					63.0	97	59.7	2.9E-08	PASS		
BK21-10-20150903-42	9/3/2015	7	63.77	98.4	60.1	220.5	65.19	96.8	58.6	4.1E-09			
		28					64.8	95	57.9	6.1E-09	FAIL @ Cycle 2	>30%	
		60									FAIL @ Cycle 3	>30%	Interior columns, no remix required. Surrounded by numerous passing wet/dry tests
AZ18-5-20150909-43	9/9/2015	7	54.14	101.1	65.6	225.2	57.1	103	65.6	3.2E-08			
		28					57.97	100.1	63.4	2.4E-09	FAIL @ Cycle 8	>30%	
		64									FAIL @ Cycle 8	>30%	Interior columns, no remix required. Surrounded by numerous passing wet/dry tests
AR18-15-20150910-44	9/10/2015	7	48.37	103.9	70.0	200.3	44.9	103	71.1	9.6E-08			
		28					45.02	105.1	72.5	6.2E-08	PASS		
L16-10-20150911-45	9/11/2015	7	54.00	102.7	66.7	284.2	53.3	101.7	66.3	5.2E-09			
		28					46.87	101.6	69.1	6.1E-08	PASS		
W17-10-20150914-46	9/14/2015	7	45.00	107.3	74.0	204.9	44.8	105.8	73.0	1.4E-08			
		28					44.70	106.0	73.3	1.2E-08	PASS		
AF18-5-20150915-47	9/15/2015	7	52.26	102.5	67.3	255.7	55.78	99.9	64.1	4.0E-09			
		28					54.00	100.3	65.1	1.9E-08	PASS		
AL18-10-20150916-48	9/16/2015	7	56.22	102.1	65.4	177.7	55.37	98.7	63.5	7.1E-08			
		28					54.53	99.6	64.4	1.4E-07	PASS		
BC11-15-20150917-49	9/17/2015	7	47.69	104.8	70.9	254.1	47.66	104.0	70.4	5.3E-09			
		28					48.04	103.9	70.2	1.8E-08	PASS		
K13-5-20150919-50	9/19/2015	7	54.06	103.2	67.0	193.9	54.04	101.0	65.5	6.2E-08			
		28					57.31	101.6	64.6	2.1E-08	PASS		
Z14-10-20150922-51	9/22/2015	7	55.27	101.8	65.6	175.1	48.4	101	68.1	7.3E-09			
		28					52.04	100.9	66.4	1.9E-08	PASS		
AK15-5-20150923-52	9/23/2015	7	49.70	103.4	69.1	181.0	56.9	99	63.1	7.2E-09			
		28					47.96	102	68.9	2.5E-08	PASS		
BI13-10-20150924-53	9/24/2015	7	53.51	103.3	67.3	238.6	57.0	100	63.7	9.1E-08			
		28					45.85	101.5	69.6	1.1E-08	PASS		
BB14-15-20150925-54	9/25/2015	7	48.74	104.7	70.4	348.2	47.3	101	68.4	1.7E-08			
		28					43.74	100.1	69.7	3.8E-08	PASS		
AQ15-5-20150928-55	9/28/2015	7	47.00	105.7	71.9	237.1	46.96	104.4	71.2	3.4E-09			
		28					43.46	104.1	72.6	1.8E-08	PASS		
AR30-5-20151006-56	10/6/2015	7	52.88	102.7	67.2	383.8	63.11	97.9	60.0	2.2E-08			
		28					61.7	98.1	60.7	2.6E-09			
BE31-10-20151007-57	10/7/2015	8	56.76	101.9	65.0	209.4	56.68	99.5	63.5	5.8E-09			
		28					54.57	101.6	65.7	2.7E-08			
BO31-5-20151009-58	10/9/2015	7	45.89	105.7	72.4	207.1	48.84	103.7	69.7	8.1E-09			
		28					48.27	103.4	69.7	1.7E-07	PASS		
CF30-15-20151013-59	10/13/2015	7	56.49	101.3	64.7	245.3	57.13	99.6	63.4	5.0E-09			
		28					56.28	101.1	64.7	6.5E-08	FAIL @ Cycle 9	>30%	Exterior columns remixed for Wet/Dry testing, see Sample IDs Remix-4 and -6 below
BV30-10-20151015-60	10/15/2015	7	66.43	97.9	58.8	271.0	70.98	95.0	55.6	1.7E-08			
		28					67.66	95.6	57.0	5.7E-09	FAIL @ Cycle 4	>30%	Exterior columns remixed for Wet/Dry testing, see Sample IDs Remix-4 and -6 below
BI27-5-20151016-61	10/16/2015	7	77.10	94.3	53.2	226.4	77.8	92.8	52.2	2.7E-08			
		28					72.62	92.8	53.8	5.3E-08			

Table A-4 ISS Quality Control Results
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Sample ID	Field Sampling Date	Cure Day	Unconfined Compressive Strength ASTM D1633				Hydraulic Conductivity ASTM D5084				Wet Dry Durability		
											ASTM D4843		
			Moisture Content %	Bulk Density (lb/ft^3)	Dry Density (lb/ft^3)	UCS (lb/in^2)	Moisture Content (%)	Bulk Density (lb/ft^3)	Dry Density (lb/ft^3)	K (cm/sec)	PASS/FAIL	Mass Loss	Notes/Comments
BD26-10-20151019-62	10/19/2015	7	59.13	99.8	62.7	183.9	60.86	97.5	60.6	6.7E-08			Exterior columns remixed for Wet/Dry testing, see Sample IDs Remix-4 and -6 below
		28					61.56	98.3	60.9	2.8E-08	FAIL @ Cycle 7	>30%	
BN46-15-20151020-63	10/20/2015	7	47.54	107.8	73.1	157.5	42.16	106.4	74.8	1.8E-07			
		28					46.58	106.5	72.7	5.3E-08	PASS		
BG43-5-20151021-64	10/21/2015	7	41.79	108.8	76.7	161.2	45.65	106.8	73.3	2.3E-07			
		28					44.15	108.3	75.1	9.1E-08	PASS		
BL40-10-20151022-65	10/22/2015	7	50.95	104.2	69.0	167.2	53.02	103.1	67.4	2.7E-07			
		28					52.83	101.9	66.7	2.4E-08	PASS		
BM35-15-20151023-66	10/23/2015	7	52.01	103.0	67.8	304.8	49.81	101.6	67.8	2.6E-08			
		28					50.1	101.8	67.8	2.5E-08	PASS		
BH38-5-20151028-67	10/28/2015	7	49.21	105.0	70.4	137.6	46.48	102.8	70.2	2.6E-07			
		28					49.34	103.6	69.4	1.1E-07	PASS		
BF34-10-20151029-68	10/29/2015	7	79.16	93.5	52.2	193.5	84.21	92.2	50.05	1.5E-07			
		28					86.45	90.9	48.7	3.5E-08			
AT6-15-201581102-69	11/2/2015	7	54.85	102.0	65.9	141.5	54.82	99.8	64.4	4.9E-08			
		28					52.78	101.4	66.4	3.9E-08	PASS		
AI3-20-20151103-70	11/3/2015	7	44.33	105.3	72.9	134.5	47.45	104.3	70.7	1.6E-07			
		28					47.60	102.9	69.7	1.1E-07	PASS		
C3-25-20151105-71	11/5/2015	7	59.21	101.7	63.9	77.7	59.78	99.6	62.3	2.0E-07			
		28					59.99	98.4	61.5	1.9E-07	PASS		
I5-20-20151106-72	11/6/2015	7	51.79	103.6	68.3	127.8	51.67	100.7	66.4	1.7E-07			
		28					49.79	99.9	66.6	3.8E-08	PASS		
R4-5-20151109-73	11/9/2015	7	52.89	99.9	65.3	108.7	59.86	98.6	61.6	6.4E-07			
		28					61.1	98	60.8	1.0E-07	PASS		
X4-15-20151110-74	11/10/2015	7	43.19	107.8	75.3	87.0	46.43	105.2	71.8	2.2E-07			
		28					45.0	107	73.7	1.5E-08	PASS		
AN6-10-20151112-75	11/12/2015	7	46.83	105.7	72.0	99.8	46.78	103.6	70.6	1.6E-07			
		28					46.4	105	71.9	9.5E-09	PASS		
AH6-5-20151113-76	11/13/2015	7	45.33	104.6	72.0	121.8	46.29	102.8	70.3	7.3E-08			
		28					44.3	103	71.5	2.8E-08	PASS		
Z4-10-20151114-77	11/14/2015	6	43.67	107.1	74.5	108.5	42.57	107.3	75.3	2.9E-08			
		31					40.4	108	76.6	3.7E-09	PASS		
F6-10-20151117-78	11/17/2015	7	42.39	107.9	75.8	116.1	42.64	106.1	74.4	7.6E-08			
		28					42.2	104	72.8	1.4E-08	PASS		
Remix-1-20151119-79	11/19/2015	28									PASS		Remix testing due to failed columns and remixing. Remix samples at perimeter wall in lieu of samples dated 7/24, 8/19, and 8/20 above.
Remix-2-20151120-80	11/20/2015	28									PASS		
Remix-3-20151121-81	11/21/2015	28									PASS		
Remix-4-20160217-82	2/17/2016	28									PASS		Remix testing due to failed columns and remixing. Remix samples at perimeter wall in lieu of samples dated 8/29, 9/1, 10/31, 10/15, and 10/19 above.
Remix-6-20150218-83	2/18/2016	28									PASS		

Notes:
% = percent
lb/ft^3= Pounds Per Cubic Foot
lb/in^2= Pounds Per Square Inch
TIP = Testing in progress
Testing Not Requested (gray shading)
* Sample impermeable. No movement of permeate > 0.5 ml could be obtained within 2 weeks.

Table A-5 Leaching Test Statistical Summary
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

				ANS 16.1 Summary Statistics							EPA Method 1315 LEAF Summary Statistics						
Parameters	**Units**	**GW RRS Type 1/2**	**GW RRS Type 3/4**	**Total Counts**	**Total Non-Detects**	**Frequency of Detection**	**GW RRS Type 1/2**	**GW RRS Type 3/4**	**Count >Type 1/2 RRS**	**Count >Type 3/4 RRS**	**Total Counts**	**Total Non-Detects**	**Frequency of Detection**	**GW RRS Type 1/2**	**GW RRS Type 3/4**	**Count >Type 1/2 RRS**	**Count >Type 3/4 RRS**
Volatile Organic Compounds 8260B																	
Benzene	µg/L	-	-	73	73	0.0%					90	90	0%				
Carbon disulfide	µg/L	-	-	73	73	0.0%					90	90	0%				
Ethylbenzene	µg/L	700	2,300	73	68	6.8%	700	2,300	0	0	90	76	16%	700	2300	0	0
Toluene	µg/L	1,000	1,100	73	68	6.8%	1,000	1,100	0	0	90	82	9%	1000	1100	0	0
Xylenes, Total	µg/L	31,000	200,000	73	64	12.3%	31,000	200,000	0	0	90	68	24%	31000	200000	0	0
Semi Volatile Organic Compounds 8270D																	
2,4-Dimethylphenol	µg/L	-	-	73	73	0.0%					89	89	0%				
2-Methylphenol	µg/L	-	-	73	73	0.0%					89	89	0%				
3,4-Methylphenol	µg/L	-	-	73	73	0.0%					89	89	0%				
Phenol	µg/L	-	-	73	73	0.0%					89	89	0%				
Semi Volatile Organic Compounds 8270D SIM																	
Acenaphthene	µg/L	2,000	6,100	73	62	15.1%	2,000	6,100	0	0	89	67	25%	2000	6100	0	0
Acenaphthylene	µg/L	470	3,100	73	65	11.0%	470	3,100	0	0	89	69	22%	470	3100	0	0
Anthracene	µg/L	4,700	31,000	73	41	43.8%	4,700	31,000	0	0	89	38	57%	4700	31000	0	0
Benz(a)anthracene	µg/L	1	4	73	60	17.8%	1.17	3.92	0	0	89	78	12%	1.17	3.92	0	0
Benzo(a)pyrene	µg/L	0.20	0.39	73	70	4.1%	0.2	0.39	2	0	89	83	7%	0.2	0.39	1	0
Benzo(b)fluoranthene	µg/L	1	4	73	71	2.7%	1.17	3.92	0	0	89	85	4%	1.17	3.92	0	0
Benzo(g,h,i)perylene	µg/L	10	10	73	71	2.7%	10	10	0	0	89	85	4%	10	10	0	0
Benzo(k)fluoranthene	µg/L	12	39	73	70	4.1%	11.7	39.2	0	0	89	81	9%	11.7	39.2	0	0
Chrysene	µg/L	117	392	73	59	19.2%	117	392	0	0	89	80	10%	117	392	0	0
Dibenz(a,h)anthracene	µg/L	0.30	0.39	73	72	1.4%	0.3	0.39	1	0	89	86	3%	0.3	0.39	1	1
Fluoranthene	µg/L	1,000	4,100	73	39	46.6%	1,000	4,100	0	0	89	53	40%	1000	4100	0	0
Fluorene	µg/L	1,000	4,100	73	44	39.7%	1,000	4,100	0	0	89	50	44%	1000	4100	0	0
Indeno(1,2,3-cd)pyrene	µg/L	1	4	73	69	5.5%	1.17	3.92	0	0	89	81	9%	1.17	3.92	0	0
Naphthalene	µg/L	20	20	73	49	32.9%	20	20	4	4	89	46	48%	20	20	12	12
Phenanthrene	µg/L	470	3,100	73	19	74.0%	470	3,100	0	0	89	5	94%	470	3100	0	0
Pyrene	µg/L	1,000	3,100	73	16	78.1%	1,000	3,100	0	0	89	22	75%	1000	3100	0	0
Metals 6010C																	
Antimony	mg/L	-	-	73	73	0.0%					90	90	0%				
Arsenic	mg/L	-	-	73	73	0.0%					90	90	0%				
Barium	mg/L	2	7	73	54	26.0%	2	7.2	0	0	90	40	56%	2	7.2	0	0
Beryllium	mg/L	-	-	73	73	0.0%					90	90	0%				
Cadmium	mg/L	0	0	73	73	0.0%	0.0078	0.051	0	0	90	89	1%	0.0078	0.051	1	0
Chromium	mg/L	0	0	73	72	1.4%	0.10	0.31	0	0	90	90	0%	0.1	0.31	0	0
Copper	mg/L	1	4	73	72	1.4%	0.63	4.10	0	0	90	89	1%	0.63	4.1	0	0
Lead	mg/L	-	-	73	73	0.0%					90	90	0%				
Nickel	mg/L	0	2	73	65	11.0%	0.1	2	0	0	90	87	3%	0.1	2	0	0
Zinc	mg/L	5	31	73	70	4.1%	4.7	31	0	0	90	88	2%	4.7	31	0	0
Mercury 7470A																	
Mercury	mg/L	-	-	73	73	0.0%					90	90	0%				
Total Cyanide 9014																	
Cyanide, Total	mg/L	-	-	73	73	0.0%					90	90	0%				

Total # of sample analytes	2701	3310
Total Non-Detects	2359	2794
Frequency of Non-Detects	87.3%	84.4%
Detections Below Residential RRS	2694	3295
Frequency of Data <RRS Residential	99.74%	99.55%

Table A-6 Soil Stockpile Sample Results
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Table A-6a Soil Stockpile Sample Results

Parameter		Benzene	Ethylbenzene	Toluene	Xylenes, Total	Carbon Disulfide	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a) anthracene	Benzo(a) pyrene	Benzo(b) flouranthene	Benzo(g,h,i) perylene	Benzo(k) flouranthene	Chrysene	Dibenz(a,h) anthracene
Type 1 RRS		0.5	70	100	1,000	400	300	130	500	5	1.64	5	500	5	5	2
Type 2 RRS		5	1,600	680	160,000	400	4,700	2,300	23,000	12	1.64	12	2,300	120	1,200	12
Type 4 RRS		5	1,600	680	160,000	400	4,700	2,300	23,000	12	8	78	2,300	780	7,840	78
Sample ID	Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
SSS-01-20150630-01	6/30/2015	< 0.0038	< 0.0038	< 0.0038	< 0.0038	< 0.0076	< 0.90	< 1.8	0.90	2.9	2.7	3.8	1.7	1.3	3.2	0.61
SSS-02-20150630-01	6/30/2015	< 0.0036	< 0.0036	< 0.0036	< 0.0036	< 0.0073	< 0.96	< 1.9	0.72	2.0	1.2	1.3	0.59	0.64	2.1	0.34
SSS-03-20150630-01	6/30/2015	< 0.0033	< 0.0033	< 0.0033	< 0.0033	< 0.0067	< 0.96	< 1.9	0.99	4.3	3.1	4.3	1.7	1.5	5.0	0.72
SSS-04-20150630-01	6/30/2015	< 0.0038	< 0.0038	< 0.0038	< 0.0038	< 0.0076	< 0.19	< 0.37	0.15	0.41	0.42	0.64	0.29	0.28	0.51	0.099
SSS-05-20150708-01	7/8/2015	< 0.0042	< 0.0042	< 0.0042	< 0.0042	< 0.0084	< 0.018	0.061	0.025	0.084	0.064	0.14	0.041	0.035	0.068	0.012
SSS-06-20150708-01	7/8/2015	< 0.0043	< 0.0043	< 0.0043	< 0.0043	< 0.0086	< 0.023	0.062	0.038	0.18	0.13	0.31	0.13	0.082	0.15	0.036
SSS-07-20150708-01	7/8/2015	< 0.0039	< 0.0039	< 0.0039	< 0.0039	< 0.0078	< 0.019	< 0.036	0.011	0.050	0.041	0.089	0.031	0.022	0.042	0.0083
SSS-08-20150714-01	7/14/2015	< 0.0064	< 0.0064	< 0.0064	< 0.0064	< 0.013	0.045	0.058	0.14	0.41	0.33	0.51	0.27	0.17	0.43	0.065
SSS-09-20150714-01	7/14/2015	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.011	< 0.020	0.080	0.10	0.41	0.34	0.49	0.29	0.17	0.36	0.084
SSS-10-20150714-01	7/14/2015	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.010	0.020	0.057	0.067	0.38	0.26	0.32	0.23	0.11	0.30	0.061
SSS-11-20150714-01	7/14/2015	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.010	0.057	0.073	0.16	0.59	0.38	0.28	0.30	0.20	0.55	0.088
SSS-12-20150716-01	7/16/2015	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.011	< 0.019	0.038	0.048	0.17	0.10	0.19	0.077	0.063	0.16	0.014
SSS-13-20150716-01	7/16/2015	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.012	< 0.022	0.10	0.098	0.35	0.27	0.42	0.19	0.12	0.38	0.038
SSS-14-20150716-01	7/16/2015	< 0.0037	< 0.0037	< 0.0037	< 0.0037	< 0.0075	0.029	0.12	0.10	0.30	0.18	0.32	0.11	0.078	0.32	0.030
SSS-15-20150716-01	7/16/2015	< 0.0031	< 0.0031	< 0.0031	< 0.0031	< 0.0062	< 0.019	0.051	0.044	0.28	0.17	0.25	0.10	0.066	0.22	0.030
SSS-16-20150718-01	7/18/2015	< 0.0037	< 0.0037	< 0.0037	< 0.0037	< 0.0075	0.16	0.093	0.35	1.1	0.65	1.5	0.34	0.33	0.85	0.16
SSS-17-20150718-01	7/18/2015	< 0.0077	< 0.0077	< 0.0077	< 0.0077	< 0.015	0.11	0.27	0.25	0.52	0.25	0.41	0.13	0.10	0.45	0.043
SSS-18-20150729-01	7/29/2015	< 0.0041	< 0.0041	< 0.0041	< 0.0041	< 0.0083	< 0.018	0.078	0.070	0.32	0.22	0.36	0.12	0.11	0.28	0.031
SSS-19-20150729-01	7/29/2015	< 0.0038	< 0.0038	< 0.0038	< 0.0038	< 0.0076	< 0.019	0.054	0.064	0.34	0.25	0.41	0.19	0.13	0.30	0.051
SSS-20-20150729-01	7/29/2015	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.011	< 0.018	0.068	0.062	0.28	0.34	0.47	0.29	0.15	0.36	0.056
SSS-21-20150729-01	7/29/2015	< 0.0037	< 0.0037	< 0.0037	< 0.0037	< 0.0074	0.074	0.12	0.22	0.51	0.54	0.78	0.32	0.21	0.64	0.088
SSS-22-20150729-01	7/29/2015	< 0.0047	< 0.0047	< 0.0047	0.0080	< 0.0095	< 0.021	< 0.040	0.0082	0.046	0.034	0.061	0.031	0.018	0.040	0.0056
SSS-23-20150731-01	7/31/2015	< 0.0043	< 0.0043	< 0.0043	< 0.0043	< 0.0087	0.032	0.077	0.11	0.32	0.35	0.42	0.24	0.15	0.53	0.058
SSS-24-20150729-01	7/31/2015	< 0.0042	< 0.0042	< 0.0042	< 0.0042	< 0.0084	< 0.019	< 0.036	0.04	0.19	0.13	0.23	0.10	0.058	0.16	0.022
SSS-25-20150729-01	7/31/2015	< 0.0039	< 0.0039	< 0.0039	< 0.0039	< 0.0079	0.019	0.083	0.099	0.30	0.31	0.45	0.24	0.14	0.55	0.058
SSS-26-20150729-01	7/31/2015	< 0.0041	< 0.0041	0.0044	< 0.0041	< 0.0083	0.046	0.075	0.15	0.40	0.45	0.68	0.31	0.19	0.65	0.082
SSS-27-20150729-01	7/31/2015	< 0.0045	< 0.0045	< 0.0045	< 0.0045	< 0.0091	< 0.019	0.084	0.11	0.22	0.28	0.38	0.20	0.11	0.36	0.060
SSS-28-20150729-01	7/31/2015	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0099	0.022	0.14	0.14	0.48	0.75	0.99	0.68	0.28	0.93	0.15
SSS-29-20150729-01	7/31/2015	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	0.071	0.21	0.20	0.44	0.24	0.47	0.16	0.15	0.84	0.078
SSS-30-20150729-01	7/31/2015	< 0.0047	< 0.0047	< 0.0047	< 0.0047	0.017	0.63	1.1	1.2	2.2	0.58	1.8	0.32	0.34	2.6	0.22
SSS-31-20150729-01	7/31/2015	< 0.0038	< 0.0038	< 0.0038	< 0.0038	< 0.0077	< 0.019	0.077	0.061	0.20	0.12	0.19	0.050	0.046	0.17	0.019
SSS-32-20150729-01	7/31/2015	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0079	0.17	0.59	0.56	1.50	0.49	1.3	0.29	0.27	1.8	0.16
SSS-33-20150818-01	8/18/2015	< 0.0034	< 0.0034	< 0.0034	< 0.0034	< 0.0068	< 0.020	< 0.038	0.033	0.088	0.040	0.049	0.015	0.012	0.070	0.0050
SSS-34-20150818-01	8/18/2015	< 0.0058	< 0.0058	< 0.0058	< 0.0058	< 0.012	< 0.022	< 0.043	0.0072	0.025	0.019	0.026	0.0082	0.0070	0.022	< 0.0043
SSS-35-20150818-01	8/18/2015	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.010	< 0.021	< 0.041	0.011	0.043	0.030	0.045	0.015	0.013	0.037	0.0046
SSS-36-20150818-01	8/18/2015	< 0.0045	< 0.0045	< 0.0045	< 0.0045	< 0.0091	< 0.019	< 0.037	0.017	0.062	0.037	0.066	0.020	0.018	0.061	0.0081
SSS-37-20150818-01	8/18/2015	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.010	< 0.022	< 0.042	0.017	0.069	0.049	0.089	0.031	0.024	0.066	0.0089
PRE-ISS-20150909-01	9/9/2015	< 0.004	< 0.004	< 0.004	0.01	< 0.0079	< 0.02	< 0.038	0.0038	0.01	0.01	0.01	0.01	0.0027	0.01	< 0.0038
PRE-ISS-20150911-01	9/11/2015	0.04	0.25	0.19	1.50	< 0.009	0.42	0.29	0.63	0.97	0.40	0.59	0.15	0.17	1.10	0.075
PRE-ISS-20150911-02	9/11/2015	< 0.0033	< 0.0033	< 0.0033	0.01	< 0.0066	< 2.10	< 4.0	1.00	1.10	0.680	0.720	0.280	0.200	0.960	0.071
PRE-ISS-20150911-03	9/11/2015	0.093	1.70	3.0	11.0	0.014	4.50	6.10	3.90	4.10	2.20	2.50	1.00	0.390	4.00	0.22
PISS-1-20150922-01	9/22/2015	< 0.0044	< 0.0044	< 0.0044	< 0.0044	< 0.0088	< 0.02	0.075	0.08	0.38	0.36	0.47	0.28	0.17	0.34	0.047
PISS-2-20150922-01	9/22/2015	< 0.0036	< 0.0036	< 0.0036	< 0.0036	< 0.0073	0.021	0.095	0.10	0.46	0.35	0.56	0.29	0.16	0.45	0.058
PISS-3-20150922-01	9/22/2015	< 0.0047	< 0.0047	< 0.0047	< 0.0047	< 0.0095	0.032	0.15	0.14	0.46	0.32	0.47	0.29	0.18	0.40	0.067
PISS-4-20150922-01	9/22/2015	< 0.0045	< 0.0045	< 0.0045	0.0097	< 0.0090	0.033	0.17	0.14	0.80	0.54	0.86	0.40	0.26	0.65	0.099
PISS-5-20150922-01	9/22/2015	0.350	2.50	6.20	22.0	< 0.0065	4.40	4.50	2.40	2.10	0.86	0.85	0.19	0.210	1.60	0.10
PISS-6-20150923-01	9/23/2015	< 0.0039	< 0.0039	< 0.0039	0.013	0.0078	0.11	0.25	0.14	0.61	0.39	0.44	0.14	0.140	0.46	0.07
SSS-38-20150923-01	9/23/2015	< 0.0042	0.14	< 0.0042	0.13	< 0.0085	0.086	0.12	0.16	0.43	0.25	0.33	0.11	0.100	0.41	0.038
SSS-39-20150923-01	9/23/2015	< 0.0031	< 0.0031	< 0.0031	< 0.0031	< 0.0062	< 0.0021	0.058	0.06	0.26	0.14	0.23	0.075	0.059	0.21	0.023
PISS-6-20150929-01	9/29/2015	< 0.0041	< 0.0041	< 0.0041	0.0042	< 0.0083	0.030	< 0.042	0.056	0.070	0.028	0.034	0.0097	0.010	0.055	< 0.0042
PreISS-7-20151007-01	10/7/2015	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0081	< 0.0022	< 0.043	0.0096	0.033	0.015	0.017	< 0.0043	0.0049	0.024	< 0.0043
SSS-40-20151007-01	10/7/2015	< 0.0044	< 0.0044	0.0066	0.024	< 0.0087	0.097	0.10	0.12	0.30	0.19	0.30	0.093	0.073	0.23	0.024
SSS-41-20151007-01	10/7/2015	< 0.0045	< 0.0045	< 0.0045	< 0.0045	< 0.0090	0.076	0.26	0.18	0.66	0.55	0.76	0.40	0.24	0.64	0.096
SSS-42-20151008-01	10/8/2015	< 0.0038	< 0.0038	< 0.0038	< 0.0038	< 0.0075	< 0.0021	< 0.0040	0.0085	0.035	0.026	0.041	0.014	0.011	0.027	< 0.0040
SSS-43-20151028-01	10/28/2015	< 0.0036	< 0.0036	< 0.0036	< 0.0036	< 0.0071	< 0.020	< 0.039	< 0.0020	0.002	0.002	0.0039	0.0039	0.002	0.002	< 0.0039
SSS-44-20151028-01	10/28/2015	< 0.0038	< 0.0038	< 0.0038	< 0.0038	< 0.0075	< 0.020	< 0.039	< 0.0020	0.02	0.02	0.039	0.0039	0.002	0.002	< 0.0039
SSS-45-20151028-01	10/28/2015	< 0.0035	< 0.0035	< 0.0035	< 0.0035	< 0.0069	< 0.021	<0.041	< 0.0021	0.021	0.021	0.041	0.041	0.0021	0.0021	< 0.0041
SSS-46-20151028-01	10/28/2015	< 0.0039	< 0.0039	< 0.0039	< 0.0039	< 0.0079	< 0.020	< 0.039	< 0.0020	0.02	0.02	0.039	0.0039	0.002	0.002	< 0.0039
SSS-47-20151107-01	11/1/2015	< 0.0039	< 0.0039	< 0.0039	< 0.0039	< 0.0077	0.36	0.53	0.76	2.9	2	3.4	1.4	1.1	2.9	0.47
SSS-47A-20151210-01	12/10/2015	< 0.0048	< 0.0048	0.0073	0.021	< 0.0096	0.08	0.15	0.12	0.28	0.16	0.18	0.069	0.064	0.25	0.017
HolderSand1-20160126-01	1/26/2016	< 0.0042	< 0.0042	< 0.0042	< 0.0042	< 0.0083	< 0.021	< 0.041	0.0046	0.28	0.20	0.35	0.16	0.091	0.25	0.050
HolderSand2-20160126-01	1/26/2016	0.028	0.049	0.029	0.11	< 0.0073	< 0.021	< 0.041	0.014	0.092	0.07	0.12	0.048	0.03	0.097	0.021

< Type 1
< Type 2, but >Type 1
< Type 4, but >Type 2
> Type 4

"<" Gray font - analyte was not detected above laboratory detection limit
0.083 Black font - analyte was detected above laboratory detection limit
*Most conservative # used between surface and subsurface values for each respective RRS

Table A-6 Soil Stockpile Sample Results
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Table A-6a Soil Stockpile Sample Results

Parameter		2,4,-Dimethylphenol	Fluoranthene	Flourene	Indeno(1,2,3-cd) pyrene	2-Methyphenol	3&4 Methylphenol	Naphthalene	Phenanthrene	Phenol	Pyrene	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Zinc	Mercury	Cyanide
Type 1 RRS		70	500	360	5	4	4	100	110	400	500	4	20	1,000	2	2	100	170	75	50	100	0.5	20
Type 2 RRS		1,600	3,100	3,100	12	3,900	390	100	2,300	47,000	2,300	31	25	5,400	160	39	230	3,100	400	1,600	23,000	24	1,600
Type 4 RRS		1,600	17,000	17,000	78	3,900	390	100	13,000	47,000	13,000	31	38	5,400	160	39	1,200	3,100	1,100	1,600	23,000	24	1,600
Sample ID	Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
SSS-01-20150630-01	6/30/2015	< 0.35	5.2	0.35	1.5	< 0.35	< 0.35	< 0.90	3.8	< 0.35	4.8	< 4.94	< 4.94	68.9	< 2.47	< 2.47	17.9	10.3	43.3	< 4.94	122	0.128	< 1.06
SSS-02-20150630-01	6/30/2015	< 0.37	2.2	0.36	0.57	< 0.37	< 0.37	< 0.96	1.8	< 0.37	3.8	< 5.27	< 5.27	45.3	< 2.64	< 2.64	13.5	6.79	14.2	< 5.27	17	0.135	< 1.12
SSS-03-20150630-01	6/30/2015	< 0.37	5.9	0.34	1.6	< 0.37	< 0.37	< 0.96	3.7	< 0.37	7.1	< 5.38	6.19	89.8	< 2.69	< 2.69	12.3	20.3	160	< 5.38	40.9	0.157	< 1.13
SSS-04-20150630-01	6/30/2015	< 0.37	0.78	0.070	0.26	< 0.37	< 0.37	< 0.19	0.52	< 0.37	0.68	< 5.36	< 5.36	39.4	< 2.68	< 2.68	16.7	8.1	13.1	< 5.39	14.4	< 0.102	< 1.11
SSS-05-20150708-01	7/8/2015	< 0.35	0.094	0.0080	0.039	< 0.35	< 0.35	< 0.018	0.028	< 0.35	0.12	< 4.93	< 4.93	31.6	< 2.46	< 2.46	10.3	14.3	27.5	< 4.93	15.7	< 0.103	< 1.06
SSS-06-20150708-01	7/8/2015	< 0.44	0.19	0.0074	0.12	< 0.44	< 0.44	< 0.023	0.063	< 0.44	0.23	< 6.4	< 6.40	26.3	< 3.2	< 3.2	16.1	9.97	12	< 6.40	11.3	< 0.118	< 1.34
SSS-07-20150708-01	7/8/2015	< 0.36	0.062	< 0.036	0.028	< 0.36	< 0.36	< 0.019	0.018	< 0.36	0.069	< 5.25	< 5.25	16.4	< 2.63	< 2.63	9.99	5.74	7.36	< 5.25	7.57	< 0.102	< 1.10
SSS-08-20150714-01	7/14/2015	< 0.46	0.69	0.053	0.22	< 0.46	< 0.46	0.068	0.51	< 0.46	0.65	< 6.74	< 6.74	45.9	< 3.37	< 3.37	17.0	28.1	121	< 6.74	32.4	< 0.134	< 1.40
SSS-09-20150714-01	7/14/2015	< 0.40	0.66	0.022	0.26	< 0.40	< 0.40	0.026	0.33	< 0.40	0.68	< 5.62	< 5.62	34.3	< 2.81	< 2.81	13.4	13.6	40.7	< 5.62	27.2	< 0.396	< 1.20
SSS-10-20150714-01	7/14/2015	< 0.38	0.43	0.022	0.19	< 0.38	< 0.38	0.027	0.29	< 0.38	0.46	< 5.56	< 5.56	39.7	< 2.78	< 2.78	12.0	19.4	38.7	< 5.56	24.2	0.134	< 1.14
SSS-11-20150714-01	7/14/2015	< 0.44	0.92	0.076	0.28	< 0.44	< 0.44	0.13	0.60	< 0.44	0.83	< 6.57	< 6.57	49.8	< 3.28	< 3.28	14.3	27.1	65.6	< 6.57	45.9	< 0.128	< 1.34
SSS-12-20150716-01	7/16/2015	< 0.37	0.19	0.0097	0.070	< 0.37	< 0.37	0.022	0.26	< 0.37	0.21	< 5.6	< 5.60	21.9	< 2.8	< 2.8	13.2	9.17	18.8	< 5.60	11.0	< 0.102	< 1.13
SSS-13-20150716-01	7/16/2015	< 0.42	0.43	0.023	0.16	< 0.42	< 0.42	0.030	0.41	< 0.42	0.47	< 6.29	< 6.29	35.9	< 3.14	< 3.14	16.0	15.5	30.3	< 6.29	24.2	< 0.126	< 1.29
SSS-14-20150716-01	7/16/2015	< 0.36	0.35	0.038	0.10	< 0.36	< 0.36	0.024	0.53	< 0.36	0.45	< 5.4	< 5.40	41.0	< 2.7	< 2.7	13.9	9.01	23.7	< 5.40	17.3	< 0.104	< 1.09
SSS-15-20150716-01	7/16/2015	< 0.37	0.23	0.014	0.093	< 0.37	< 0.37	< 0.019	0.26	< 0.37	0.30	< 5.38	< 5.38	23.7	< 2.69	< 2.69	10.6	5.84	13.9	< 5.38	10.6	< 0.108	< 1.11
SSS-16-20150718-01	7/18/2015	< 0.35	1.8	0.23	0.33	< 0.35	< 0.35	0.33	1.6	< 0.35	1.4	< 5.19	< 5.19	39.4	< 2.6	< 2.6	10.9	15.8	46.9	< 5.19	25.2	< 0.100	< 1.07
SSS-17-20150718-01	7/18/2015	< 0.41	0.61	0.16	0.13	< 0.41	< 0.41	0.033	1.5	< 0.41	0.79	< 5.92	< 5.92	50.8	< 2.96	< 2.96	16.8	6.90	18.9	< 5.92	21.7	< 0.122	< 1.24
SSS-18-20150729-01	7/29/2015	< 0.36	0.41	0.019	0.10	< 0.36	< 0.36	0.024	0.33	< 0.36	0.44	< 5.1	< 5.10	48.3	< 2.55	< 2.55	16.0	8.70	30.1	< 5.10	29.7	< 0.108	< 1.08
SSS-19-20150729-01	7/29/2015	< 0.36	0.54	0.021	0.16	< 0.36	< 0.36	0.028	0.24	< 0.36	0.51	< 5.39	< 5.39	54.6	< 2.7	< 2.7	18.3	20.8	60.0	< 5.39	75.0	0.205	< 1.10
SSS-20-20150729-01	7/29/2015	< 0.36	0.57	0.015	0.24	< 0.36	< 0.36	0.051	0.23	< 0.36	0.58	< 5.03	< 5.03	40.3	< 2.52	< 2.52	10.3	20.4	54.6	< 5.03	41.9	0.107	< 1.08
SSS-21-20150729-01	7/29/2015	< 0.36	1.0	0.094	0.31	< 0.36	< 0.36	0.27	0.71	< 0.36	0.99	< 5.29	< 5.29	38.1	< 2.64	< 2.64	14.3	13.7	42.9	< 5.29	59.5	< 0.103	< 1.10
SSS-22-20150729-01	7/29/2015	< 0.40	0.074	< 0.0040	0.025	< 0.40	< 0.40	< 0.021	0.036	< 0.40	0.080	< 5.82	< 5.82	36.2	< 2.91	< 2.91	20.8	12.5	14.1	< 5.82	17.8	< 0.115	< 1.21
SSS-23-20150731-01	7/31/2015	< 0.35	0.59	0.034	0.22	< 0.35	< 0.35	0.051	0.48	< 0.35	0.66	< 5.12	5.86	40.9	< 2.56	< 2.56	13.2	28.7	65.4	< 5.12	33.1	0.134	< 1.06
SSS-24-20150729-01	7/31/2015	< 0.36	0.25	0.013	0.085	< 0.36	< 0.36	0.027	0.20	< 0.36	0.26	< 5.06	< 5.06	29.5	< 2.53	< 2.53	14.9	11.2	25.3	< 5.06	28.8	0.367	< 1.10
SSS-25-20150729-01	7/31/2015	< 0.36	0.51	0.025	0.22	< 0.36	< 0.36	0.064	0.56	< 0.36	0.63	< 5.21	< 5.21	34.5	< 2.61	< 2.61	14.3	18.9	48.1	< 5.21	27.5	0.156	< 1.08
SSS-26-20150729-01	7/31/2015	< 0.35	0.84	0.065	0.29	< 0.35	< 0.35	0.12	0.62	< 0.35	0.78	< 4.86	< 4.86	33.5	< 2.43	< 2.43	13.6	21.2	41.9	< 4.86	24.9	< 0.102	1.21
SSS-27-20150729-01	7/31/2015	< 0.36	0.39	0.024	0.19	< 0.36	< 0.36	0.054	0.54	< 0.36	0.49	< 5.28	< 5.28	28.0	< 2.64	< 2.64	9.46	10.7	28.8	< 5.28	12.6	< 0.109	< 1.10
SSS-28-20150729-01	7/31/2015	< 0.36	1.2	0.031	0.51	< 0.36	< 0.36	0.17	0.42	< 0.36	1.3	< 5.27	< 5.27	66.9	< 2.63	< 2.63	11.4	41.0	89.8	< 5.27	63.9	0.170	< 1.08
SSS-29-20150729-01	7/31/2015	< 0.37	0.89	0.12	0.18	< 0.37	< 0.37	0.14	2.0	< 0.37	1.3	< 5.18	< 5.18	23.8	< 2.59	< 2.59	17.1	13.9	20.1	< 5.18	15.5	< 0.103	< 1.13
SSS-30-20150729-01	7/31/2015	< 0.37	4.0	0.79	0.36	< 0.37	< 0.37	0.68	15	< 0.37	4.7	< 5.39	< 5.39	29.3	< 2.7	< 2.7	25.5	13.1	22.1	< 5.39	19.6	< 0.106	< 1.13
SSS-31-20150729-01	7/31/2015	< 0.38	0.21	0.020	0.053	< 0.38	< 0.38	< 0.019	0.34	< 0.38	0.28	< 5.63	< 5.63	41.7	< 2.82	< 2.82	14.2	5.97	13.5	< 5.63	13.6	< 0.105	< 1.15
SSS-32-20150729-01	7/31/2015	< 0.38	2.3	0.24	0.30	< 0.38	< 0.38	0.22	5.0	< 0.38	3.0	< 5.45	< 5.45	26.3	< 2.73	< 2.73	31.5	13.2	13.2	< 5.45	13.8	< 0.109	< 1.15
SSS-33-20150818-01	8/18/2015	< 0.38	0.12	0.014	0.013	< 0.38	< 0.38	< 0.020	0.20	< 0.38	0.15	< 5.8	< 5.80	14.1	< 2.9	< 2.9	15.3	4.78	5.82	< 5.80	6.05	< 0.109	< 1.16
SSS-34-20150818-01	8/18/2015	< 0.43	0.025	< 0.0043	0.0077	< 0.43	< 0.43	< 0.022	0.037	< 0.43	0.030	< 6.48	< 6.48	15.8	< 3.24	< 3.24	16.8	6.57	< 6.48	< 6.48	6.51	< 0.127	< 1.31
SSS-35-20150818-01	8/18/2015	< 0.41	0.041	< 0.0041	0.013	< 0.41	< 0.41	< 0.021	0.059	< 0.41	0.052	< 6.23	< 6.23	16.2	< 3.11	< 3.11	20.8	6.83	8.71	< 6.23	8.17	< 0.110	< 1.25
SSS-36-20150818-01	8/18/2015	< 0.37	0.072	0.0053	0.019	< 0.37	< 0.37	< 0.019	0.090	< 0.37	0.091	< 5.63	< 5.63	13.5	< 2.81	< 2.81	16.3	5.72	7.32	< 5.63	6.58	< 0.112	< 1.13
SSS-37-20150818-01	8/18/2015	< 0.42	0.081	0.0048	0.029	< 0.42	< 0.42	< 0.022	0.082	< 0.42	0.095	< 6.35	< 6.35	11.3	< 3.18	< 3.18	9.8	4.68	< 6.35	< 6.35	< 6.35	< 0.125	< 1.27
PRE-ISS-20150909-01	9/9/2015	<0.38	0.02	< 0.0038	0.0048	< 0.38	< 0.38	< 0.020	0.01	< 0.38	0.015	< 4.59	< 4.59	25.0	< 2.3	< 2.3	10.2	5.18	5.50	< 4.59	6.33	<0.107	< 1.17
PRE-ISS-20150911-01	9/11/2015	< 0.42	1.60	0.47	0.18	< 0.42	< 0.42	0.25	4.3	< 0.42	1.9	< 4.73	< 4.73	25.8	< 2.37	< 2.37	14.3	7.02	6.30	< 4.73	6.58	0.13	< 1.27
PRE-ISS-20150911-02	9/11/2015	< 0.40	2.20	1.00	0.29	< 0.40	< 0.40	0.150	5.4	< 0.40	2.0	< 5.35	< 5.35	12.3	< 2.67	< 2.67	6.4	4.24	7.32	< 5.35	< 5.35	< 0.111	< 1.21
PRE-ISS-20150911-03	9/11/2015	< 0.40	7.50	5.00	0.99	< 0.40	< 0.40	15.00	28	< 0.40	7.8	< 5.79	< 5.79	32.8	< 2.9	< 2.9	9.7	5.59	< 5.79	< 5.79	6.88	< 0.120	< 1.21
PISS-1-20150922-01	9/22/2015	< 0.38	0.66	0.023	0.22	< 0.38	< 0.38	0.041	0.34	< 0.38	0.67	< 5.58	< 5.58	38.7	< 2.79	< 2.79	14.6	13.8	26.0	< 5.58	19.5	< 0.110	< 1.15
PISS-2-20150922-01	9/22/2015	< 0.37	0.77	0.027	0.24	< 0.37	< 0.37	0.04	0.42	< 0.37	0.83	< 5.16	< 5.16	30.5	< 2.58	< 2.58	16.4	11.4	23.8	< 5.16	19.0	< 0.113	< 1.14
PISS-3-20150922-01	9/22/2015	< 0.39	0.81	0.043	0.26	< 0.39	< 0.39	0.05	0.56	< 0.39	0.83	< 5.68	< 5.68	31.9	< 2.84	< 2.84	26.3	9.6	20.1	< 5.68	16.4	< 0.110	< 1.18
PISS-4-20150922-01	9/22/2015	< 0.38	1.30	0.042	0.30	< 0.38	< 0.38	0.067	0.590	< 0.38	1.40	< 5.26	< 5.26	28.0	< 2.63	< 2.63	17.6	9.43	18.2	< 5.26	13.5	< 0.112	< 1.15
PISS-5-20150922-01	9/22/2015	< 0.41	3.10	3.60	0.21	< 0.41	< 0.41	11.0	18.0	< 0.41	3.80	< 5.61	< 5.61	41.8	< 2.8	< 2.8	27.0	17.6	13.1	< 5.61	9.25	< 0.125	< 1.26
PISS-6-20150923-01	9/23/2015	< 0.41	0.51	0.12	0.17	< 0.41	< 0.41	0.07	0.44	< 0.41	0.86	< 5.97	< 5.97	41.5	< 2.98	< 2.98	23.2	12.1	11.5	< 5.97	11.3	< 0.114	< 1.23
SSS-38-20150923-01	9/23/2015	< 0.36	0.76	0.093	0.12	< 0.36	< 0.36	0.12	0.61	< 0.36	0.87	< 5.04	< 5.04	33.2	< 2.52	< 2.52	16.0	7.95	11.2	< 5.04	8.24	< 0.107	< 1.10
SSS-39-20150923-01	9/23/2015	< 0.40	0.31	0.023	0.075	< 0.40	< 0.40	< 0.021	0.25	< 0.40	0.39	< 5.8	< 5.80	33.0	< 2.9	< 2.9	16.9	9.64	13.5	< 5.80	11.1	< 0.104	< 1.22
PISS-6-20150929-01	9/29/2015	< 0.42	0.095	0.045	0.0081	< 0.42	< 0.42	< 0.021	0.35	< 0.42	0.12	< 5.88	< 5.88	29.4	< 2.94	< 2.94	16.9	9.69	7.73	< 5.88	10.9	< 0.121	<1.26
PreISS-7-20151007-01	10/7/2015	< 0.43	0.038	0.0068	0.0031	< 0.43	< 0.43	< 0.022	0.017	< 0.43	0.048	< 6.15	< 6.15	38.8	< 3.07	< 3.07	18.5	8.13	7.60	< 6.15	7.72	< 0.125	< 1.31
SSS-40-20151007-01	10/7/2015	< 0.39	0.34	0.084	0.091	< 0.39	< 0.39	0.038	0.45	< 0.39	0.44	< 5.61	< 5.61	31.8	< 2.8	< 2.8	16.1	10.9	13.5	< 5.61	11.9	< 0.110	1.86
SSS-41-20151007-01	10/7/2015	< 0.40	1.1	0.097	0.37	< 0.40	< 0.40	0.060	0.47	< 0.40	1.4	< 5.21	< 5.21	27.5	< 2.6	< 2.6	9.17	7.87	18.9	< 5.21	13.0	< 0.114	6.24
SSS-42-20151008-01	10/8/2015	< 0.40	0.049	< 0.0040	0.0012	< 0.40	< 0.40	0.0021	0.0026	< 0.40	0.056	< 5.73	< 5.73	18.1	< 2.86	< 2.86	21.3	7.11	7.42	< 5.73	10.2	< 0.108	< 1.21
SSS-43-20151028-01	10/28/2015	0.39	0.039	< 0.0039	0.002	< 0.39	< 0.39	0.02	0.002	< 0.39	0.02	< 5.18	< 5.18	< 5.18	< 2.59	< 2.59	< 2.59	< 2.59	5.18	5.18	5.18	< 0.116	< 1.19
SSS-44-20151028-01	10/28/2015	0.39	0.039	< 0.0039	0.002	< 0.39	< 0.39	0.02	0.02	< 0.39	0.02	< 5.95	< 5.95	< 5.95	< 2.97	< 2.97	< 2.97	< 2.97	5.95	5.95	5.95	< 0.118	< 1.19
SSS-45-20151028-01	10/28/2015	0.41	0.041	< 0.0041	0.0021	< 0.41	< 0.41	0.021	0.0021	< 0.41	0.021	< 6.08	< 6.08	< 6.08	< 3.04	< 3.04	< 3.04	< 3.04	6.08	6.08	6.08	< 0.123	< 1.23
SSS-46-20151028-01	10/28/2015	0.39	0.039	< 0.0039	0.002	< 0.39	< 0.39	0.02	0.002	< 0.39	0.02	< 5.65	< 5.65	< 5.65	< 2.82	< 2.82	< 2.82	< 2.82	< 5.65	< 5.65	< 5.65	< 0.115	< 1.18
SSS-47-20151107-01	11/1/2015	< 0.390	5	0.27	1.3	< 0.390	< 0.390	0.36	4	< 0.390	5	< 4.75	< 4.75	78.7	< 2.38	< 2.38	13.8	21.6	127	< 4.75	48.6	0.329	< 1.19
SSS-47A-20151210-01	12/10/2015	< 0.420	0.44	0.1	0.064	< 0.420	< 0.420	0.057	0.69	< 0.420	0.53	< 5.92	< 5.92	39.3	< 2.96	< 2.96	18.7	11.5	11.7	< 5.92	8.87	< 0.111	< 1.28
HolderSand1-20160126-01	1/26/2016	< 0.41	0.36	0.014	0.14	< 0.41	< 0.41	< 0.021	0.32	< 0.41	0.40	< 5.15	< 5.15	27.0	< 2.58	< 2.58	5.47	21.0	40.1	< 5.15	17.2	0.169	< 1.25
HolderSand2-20160126-01	1/26/2016	< 0.41	0.10	0.0065	0.047	< 0.41	< 0.41	0.029	0.11	< 0.41	0.12	< 5.54	14.8	26.6	< 2.77	< 2.77	10.6	13.6	23.8	< 5.54	13.1	< 0.116	< 1.24

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0.083 Black font - analyte was detected above laboratory detectio
*Most conservative # used between surface and subsurface values f

Table A-6 Soil Stockpile Sample Results
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Table A-6b Soil Stockpile Statistical Results

Parameter		Benzene	Ethylbenzene	Toluene	Xylenes, Total	Carbon Disulfide	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a) anthracene	Benzo(a) pyrene	Benzo(b) flouranthene	Benzo(g,h,i) perylene	Benzo(k) flouranthene	Chrysene	Dibenz(a,h) anthracene
Type 1 RRS		**0.5**	**70**	**100**	**1,000**	**400**	**300**	**130**	**500**	**5**	**1.64**	**5**	**500**	**5**	**5**	**2**
Type 2 RRS		**5**	**1,600**	**680**	**160,000**	**400**	**4,700**	**2,300**	**23,000**	**12**	**1.64**	**12**	**2,300**	**120**	**1,200**	**12**
Type 4 RRS		**5**	**1,600**	**680**	**160,000**	**400**	**4,700**	**2,300**	**23,000**	**12**	**8**	**78**	**2,300**	**780**	**7,840**	**78**
Sample ID	**Date**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**
SSS-01-20150630-01	6/30/2015	< 0.0038	< 0.0038	< 0.0038	< 0.0038	< 0.0076	< 0.90	< 1.8	0.90	2.9	2.7	3.8	1.7	1.3	3.2	0.61
SSS-02-20150630-01	6/30/2015	< 0.0036	< 0.0036	< 0.0036	< 0.0036	< 0.0073	< 0.96	< 1.9	0.72	2.0	1.2	1.3	0.59	0.64	2.1	0.34
SSS-03-20150630-01	6/30/2015	< 0.0033	< 0.0033	< 0.0033	< 0.0033	< 0.0067	< 0.96	< 1.9	0.99	4.3	3.1	4.3	1.7	1.5	5.0	0.72
SSS-04-20150630-01	6/30/2015	< 0.0038	< 0.0038	< 0.0038	< 0.0038	< 0.0076	< 0.19	< 0.37	0.15	0.41	0.42	0.64	0.29	0.28	0.51	0.099
SSS-05-20150708-01	7/8/2015	< 0.0042	< 0.0042	< 0.0042	< 0.0042	< 0.0084	< 0.018	0.061	0.025	0.084	0.064	0.14	0.041	0.035	0.068	0.012
SSS-06-20150708-01	7/8/2015	< 0.0043	< 0.0043	< 0.0043	< 0.0043	< 0.0086	< 0.023	0.062	0.038	0.18	0.13	0.31	0.13	0.082	0.15	0.036
SSS-07-20150708-01	7/8/2015	< 0.0039	< 0.0039	< 0.0039	< 0.0039	< 0.0078	< 0.019	< 0.036	0.011	0.050	0.041	0.089	0.031	0.022	0.042	0.0083
SSS-08-20150714-01	7/14/2015	< 0.0064	< 0.0064	< 0.0064	< 0.0064	< 0.013	0.045	0.058	0.14	0.41	0.33	0.51	0.27	0.17	0.43	0.065
SSS-09-20150714-01	7/14/2015	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.011	< 0.020	0.080	0.10	0.41	0.34	0.49	0.29	0.17	0.36	0.084
SSS-10-20150714-01	7/14/2015	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.010	0.020	0.057	0.067	0.38	0.26	0.32	0.23	0.11	0.30	0.061
SSS-11-20150714-01	7/14/2015	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.010	0.057	0.073	0.16	0.59	0.38	0.28	0.30	0.20	0.55	0.088
SSS-12-20150716-01	7/16/2015	< 0.0053	< 0.0053	< 0.0053	< 0.0053	< 0.011	< 0.019	0.038	0.048	0.17	0.10	0.19	0.077	0.063	0.16	0.014
SSS-13-20150716-01	7/16/2015	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.012	< 0.022	0.10	0.098	0.35	0.27	0.42	0.19	0.12	0.38	0.038
SSS-14-20150716-01	7/16/2015	< 0.0037	< 0.0037	< 0.0037	< 0.0037	< 0.0075	0.029	0.12	0.10	0.30	0.18	0.32	0.11	0.078	0.32	0.030
SSS-15-20150716-01	7/16/2015	< 0.0031	< 0.0031	< 0.0031	< 0.0031	< 0.0062	< 0.019	0.051	0.044	0.28	0.17	0.25	0.10	0.066	0.22	0.030
SSS-16-20150718-01	7/18/2015	< 0.0037	< 0.0037	< 0.0037	< 0.0037	< 0.0075	0.16	0.093	0.35	1.1	0.65	1.5	0.34	0.33	0.85	0.16
SSS-17-20150718-01	7/18/2015	< 0.0077	< 0.0077	< 0.0077	< 0.0077	< 0.015	0.11	0.27	0.25	0.52	0.25	0.41	0.13	0.10	0.45	0.043
SSS-18-20150729-01	7/29/2015	< 0.0041	< 0.0041	< 0.0041	< 0.0041	< 0.0083	< 0.018	0.078	0.070	0.32	0.22	0.36	0.12	0.11	0.28	0.031
SSS-19-20150729-01	7/29/2015	< 0.0038	< 0.0038	< 0.0038	< 0.0038	< 0.0076	< 0.019	0.054	0.064	0.34	0.25	0.41	0.19	0.13	0.30	0.051
SSS-20-20150729-01	7/29/2015	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.011	< 0.018	0.068	0.062	0.28	0.34	0.47	0.29	0.15	0.36	0.056
SSS-21-20150729-01	7/29/2015	< 0.0037	< 0.0037	< 0.0037	< 0.0037	< 0.0074	0.074	0.12	0.22	0.51	0.54	0.78	0.32	0.21	0.64	0.088
SSS-22-20150729-01	7/29/2015	< 0.0047	< 0.0047	< 0.0047	0.0080	< 0.0095	< 0.021	< 0.040	0.0082	0.046	0.034	0.061	0.031	0.018	0.040	0.0056
SSS-23-20150731-01	7/31/2015	< 0.0043	< 0.0043	< 0.0043	< 0.0043	< 0.0087	0.032	0.077	0.11	0.32	0.35	0.42	0.24	0.15	0.53	0.058
SSS-24-20150729-01	7/31/2015	< 0.0042	< 0.0042	< 0.0042	< 0.0042	< 0.0084	< 0.019	< 0.036	0.04	0.19	0.13	0.23	0.10	0.058	0.16	0.022
SSS-25-20150729-01	7/31/2015	< 0.0039	< 0.0039	< 0.0039	< 0.0039	< 0.0079	0.019	0.083	0.099	0.30	0.31	0.45	0.24	0.14	0.55	0.058
SSS-26-20150729-01	7/31/2015	< 0.0041	< 0.0041	0.0044	< 0.0041	< 0.0083	0.046	0.075	0.15	0.40	0.45	0.68	0.31	0.19	0.65	0.082
SSS-27-20150729-01	7/31/2015	< 0.0045	< 0.0045	< 0.0045	< 0.0045	< 0.0091	< 0.019	0.084	0.11	0.22	0.28	0.38	0.20	0.11	0.36	0.060
SSS-28-20150729-01	7/31/2015	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0099	0.022	0.14	0.14	0.48	0.75	0.99	0.68	0.28	0.93	0.15
SSS-29-20150729-01	7/31/2015	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	0.071	0.21	0.20	0.44	0.24	0.47	0.16	0.15	0.84	0.078
SSS-30-20150729-01	7/31/2015	< 0.0047	< 0.0047	< 0.0047	< 0.0047	0.017	0.63	1.1	1.2	2.2	0.58	1.8	0.32	0.34	2.6	0.22
SSS-31-20150729-01	7/31/2015	< 0.0038	< 0.0038	< 0.0038	< 0.0038	< 0.0077	< 0.019	0.077	0.061	0.20	0.12	0.19	0.050	0.046	0.17	0.019
SSS-32-20150729-01	7/31/2015	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0079	0.17	0.59	0.56	1.50	0.49	1.3	0.29	0.27	1.8	0.16
SSS-33-20150818-01	8/18/2015	< 0.0034	< 0.0034	< 0.0034	< 0.0034	< 0.0068	< 0.020	< 0.038	0.033	0.088	0.040	0.049	0.015	0.012	0.070	0.0050
SSS-34-20150818-01	8/18/2015	< 0.0058	< 0.0058	< 0.0058	< 0.0058	< 0.012	< 0.022	< 0.043	0.0072	0.025	0.019	0.026	0.0082	0.0070	0.022	< 0.0043
SSS-35-20150818-01	8/18/2015	< 0.0052	< 0.0052	< 0.0052	< 0.0052	< 0.010	< 0.021	< 0.041	0.011	0.043	0.030	0.045	0.015	0.013	0.037	0.0046
SSS-36-20150818-01	8/18/2015	< 0.0045	< 0.0045	< 0.0045	< 0.0045	< 0.0091	< 0.019	< 0.037	0.017	0.062	0.037	0.066	0.020	0.018	0.061	0.0081
SSS-37-20150818-01	8/18/2015	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.010	< 0.022	< 0.042	0.017	0.069	0.049	0.089	0.031	0.024	0.066	0.0089
PRE-ISS-20150909-01	9/9/2015	< 0.004	< 0.004	< 0.004	0.01	< 0.0079	< 0.02	< 0.038	0.0038	0.01	0.01	0.01	0.01	0.0027	0.01	< 0.0038
PRE-ISS-20150911-01	9/11/2015	0.04	0.25	0.19	1.50	< 0.009	0.42	0.29	0.63	0.97	0.40	0.59	0.15	0.17	1.10	0.075
PRE-ISS-20150911-02	9/11/2015	< 0.0033	< 0.0033	< 0.0033	0.01	< 0.0066	< 2.10	< 4.0	1.00	1.10	0.680	0.720	0.280	0.200	0.960	0.071
PRE-ISS-20150911-03	9/11/2015	0.093	1.70	3.0	11.0	0.014	4.50	6.10	3.90	4.10	2.20	2.50	1.00	0.390	4.00	0.22
PISS-1-20150922-01	9/22/2015	< 0.0044	< 0.0044	< 0.0044	< 0.0044	< 0.0088	< 0.02	0.075	0.08	0.38	0.36	0.47	0.28	0.17	0.34	0.047
PISS-2-20150922-01	9/22/2015	< 0.0036	< 0.0036	< 0.0036	< 0.0036	< 0.0073	0.021	0.095	0.10	0.46	0.35	0.56	0.29	0.16	0.45	0.058
PISS-3-20150922-01	9/22/2015	< 0.0047	< 0.0047	< 0.0047	< 0.0047	< 0.0095	0.032	0.15	0.14	0.46	0.32	0.47	0.29	0.18	0.40	0.067
PISS-4-20150922-01	9/22/2015	< 0.0045	< 0.0045	< 0.0045	0.0097	< 0.0090	0.033	0.17	0.14	0.80	0.54	0.86	0.40	0.26	0.65	0.099
PISS-5-20150922-01	9/22/2015	0.350	2.50	6.20	22.0	< 0.0065	4.40	4.50	2.40	2.10	0.86	0.85	0.19	0.210	1.60	0.10
PISS-6-20150923-01	9/23/2015	< 0.0039	< 0.0039	< 0.0039	0.013	0.0078	0.11	0.25	0.14	0.61	0.39	0.44	0.14	0.140	0.46	0.07
SSS-38-20150923-01	9/23/2015	< 0.0042	0.14	< 0.0042	0.13	< 0.0085	0.086	0.12	0.16	0.43	0.25	0.33	0.11	0.100	0.41	0.038
SSS-39-20150923-01	9/23/2015	< 0.0031	< 0.0031	< 0.0031	< 0.0031	< 0.0062	< 0.0021	0.058	0.06	0.26	0.14	0.23	0.075	0.059	0.21	0.023
PISS-6-20150929-01	9/29/2015	< 0.0041	< 0.0041	< 0.0041	0.0042	< 0.0083	0.030	< 0.042	0.056	0.070	0.028	0.034	0.0097	0.010	0.055	< 0.0042
PreISS-7-20151007-01	10/7/2015	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0081	< 0.0022	< 0.043	0.0096	0.033	0.015	0.017	< 0.0043	0.0049	0.024	< 0.0043
SSS-40-20151007-01	10/7/2015	< 0.0044	< 0.0044	0.0066	0.024	< 0.0087	0.097	0.10	0.12	0.30	0.19	0.30	0.093	0.073	0.23	0.024
SSS-41-20151007-01	10/7/2015	< 0.0045	< 0.0045	< 0.0045	< 0.0045	< 0.0090	0.076	0.26	0.18	0.66	0.55	0.76	0.40	0.24	0.64	0.096
SSS-42-20151008-01	10/8/2015	< 0.0038	< 0.0038	< 0.0038	< 0.0038	< 0.0075	< 0.0021	< 0.0040	0.0085	0.035	0.026	0.041	0.014	0.011	0.027	< 0.0040
SSS-43-20151028-01	10/28/2015	< 0.0036	< 0.0036	< 0.0036	< 0.0036	< 0.0071	< 0.020	< 0.039	< 0.0020	0.002	0.002	0.0039	0.0039	0.002	0.002	< 0.0039
SSS-44-20151028-01	10/28/2015	< 0.0038	< 0.0038	< 0.0038	< 0.0038	< 0.0075	< 0.020	< 0.039	< 0.0020	0.02	0.02	0.039	0.0039	0.002	0.002	< 0.0039
SSS-45-20151028-01	10/28/2015	< 0.0035	< 0.0035	< 0.0035	< 0.0035	< 0.0069	< 0.021	<0.041	< 0.0021	0.021	0.021	0.041	0.041	0.0021	0.0021	< 0.0041
SSS-46-20151028-01	10/28/2015	< 0.0039	< 0.0039	< 0.0039	< 0.0039	< 0.0079	< 0.020	< 0.039	< 0.0020	0.02	0.02	0.039	0.0039	0.002	0.002	< 0.0039
SSS-47-20151107-01	11/1/2015	< 0.0039	< 0.0039	< 0.0039	< 0.0039	< 0.0077	0.36	0.53	0.76	2.9	2	3.4	1.4	1.1	2.9	0.47
SSS-47A-20151210-01	12/10/2015	< 0.0048	< 0.0048	0.0073	0.021	< 0.0096	0.08	0.15	0.12	0.28	0.16	0.18	0.069	0.064	0.25	0.017
HolderSand1-20160126-01	1/26/2016	< 0.0042	< 0.0042	< 0.0042	< 0.0042	< 0.0083	< 0.021	< 0.041	0.0046	0.28	0.2	0.35	0.16	0.091	0.25	0.05
HolderSand2-20160126-01	1/26/2016	0.028	0.049	0.029	0.11	< 0.0073	< 0.021	< 0.041	0.014	0.092	0.07	0.12	0.048	0.03	0.097	0.021
Average		0.008	0.075	0.152	0.562	0.001	0.189	0.269	0.281	0.627	0.414	0.611	0.252	0.183	0.655	0.083
Count		62	62	62	62	62	62	62	62	62	62	62	62	62	62	62
Standard Deviation		0.046	0.381	0.869	3.104	0.003	0.792	0.953	0.611	0.926	0.611	0.868	0.356	0.281	0.990	0.135
Confidence		0.0115	0.0950	0.2163	0.7726	0.0007	0.1970	0.2372	0.1521	0.2304	0.1520	0.2160	0.0886	0.0701	0.2464	0.0335
95% Upper Confidence Limit		0.020	0.170	0.368	1.334	0.001	0.386	0.506	0.433	0.857	0.566	0.827	0.340	0.253	0.902	0.117
Maximum		0.35	2.5	6.2	22	0.017	4.5	6.1	3.9	4.3	3.1	4.3	1.7	1.5	5	0.72
Minimum		0.028	0.049	0.0044	0.0042	0.0078	0.019	0.038	0.0038	0.002	0.002	0.0039	0.0039	0.002	0.002	0.0046
# > Type 1 RRS		0	0	0	0	0	0	0	0	0	4	0	0	0	0	0
% > Type 1 RRS		0%	0%	0%	0%	0%	0%	0%	0%	0%	6%	0%	0%	0%	0%	0%
# > Type 2 RRS		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% > Type 2 RRS		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
# > Type 4 RRS		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% > Type 4 RRS		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Not detected; 1/2 of the laboratory detection limit used for statistical analysis

*Most conservative # used between surface and subsurface values for each respective RRS

Table A-6 Soil Stockpile Sample Results
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Table A-6b Soil Stockpile Statistical Results

Parameter		2,4,-Dimethylphenol	Fluoranthene	Flourene	Indeno(1,2,3-cd) pyrene	2-Methyphenol	3&4 Methylphenol	Naphthalene	Phenanthrene	Phenol	Pyrene	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Nickel	Zinc	Mercury	Cyanide
Type 1 RRS		70	500	360	5	4	4	100	110	400	500	4	20	1,000	2	2	100	170	75	50	100	0.5	20
Type 2 RRS		1,600	3,100	3,100	12	3,900	390	100	2,300	47,000	2,300	31	25	5,400	160	39	230	3,100	400	1,600	23,000	24	1,600
Type 4 RRS		1,600	17,000	17,000	78	3,900	390	100	13,000	47,000	13,000	31	38	5,400	160	39	1,200	3,100	1,100	1,600	23,000	24	1,600
Sample ID	Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
SSS-01-20150630-01	6/30/2015	< 0.35	5.2	0.35	1.5	< 0.35	< 0.35	< 0.90	3.8	< 0.35	4.8	2.47	< 4.94	68.9	1.235	1.235	17.9	10.3	43.3	< 4.94	122	0.128	< 1.06
SSS-02-20150630-01	6/30/2015	< 0.37	2.2	0.36	0.57	< 0.37	< 0.37	< 0.96	1.8	< 0.37	3.8	2.635	< 5.27	45.3	1.32	1.32	13.5	6.79	14.2	< 5.27	17	0.135	< 1.12
SSS-03-20150630-01	6/30/2015	< 0.37	5.9	0.34	1.6	< 0.37	< 0.37	< 0.96	3.7	< 0.37	7.1	2.69	6.19	89.8	1.345	1.345	12.3	20.3	160	< 5.38	40.9	0.157	< 1.13
SSS-04-20150630-01	6/30/2015	< 0.37	0.78	0.070	0.26	< 0.37	< 0.37	< 0.19	0.52	< 0.37	0.68	2.68	< 5.36	39.4	1.34	1.34	16.7	8.1	13.1	< 5.39	14.4	< 0.102	< 1.11
SSS-05-20150708-01	7/8/2015	< 0.35	0.094	0.0080	0.039	< 0.35	< 0.35	< 0.018	0.028	< 0.35	0.12	2.465	< 4.93	31.6	1.23	1.23	10.3	14.3	27.5	< 4.93	15.7	< 0.103	< 1.06
SSS-06-20150708-01	7/8/2015	< 0.44	0.19	0.0074	0.12	< 0.44	< 0.44	< 0.023	0.063	< 0.44	0.23	3.2	< 6.40	26.3	1.6	1.6	16.1	9.97	12	< 6.40	11.3	< 0.118	< 1.34
SSS-07-20150708-01	7/8/2015	< 0.36	0.062	< 0.036	0.028	< 0.36	< 0.36	< 0.019	0.018	< 0.36	0.069	2.625	< 5.25	16.4	1.315	1.315	9.99	5.74	7.36	< 5.25	7.57	< 0.102	< 1.10
SSS-08-20150714-01	7/14/2015	< 0.46	0.69	0.053	0.22	< 0.46	< 0.46	0.068	0.51	< 0.46	0.65	3.37	< 6.74	45.9	1.685	1.685	17.0	28.1	121	< 6.74	32.4	< 0.134	< 1.40
SSS-09-20150714-01	7/14/2015	< 0.40	0.66	0.022	0.26	< 0.40	< 0.40	0.026	0.33	< 0.40	0.68	2.81	< 5.62	34.3	1.405	1.405	13.4	13.6	40.7	< 5.62	27.2	< 0.396	< 1.20
SSS-10-20150714-01	7/14/2015	< 0.38	0.43	0.022	0.19	< 0.38	< 0.38	0.027	0.29	< 0.38	0.46	2.78	< 5.56	39.7	1.39	1.39	12.0	19.4	38.7	< 5.56	24.2	0.134	< 1.14
SSS-11-20150714-01	7/14/2015	< 0.44	0.92	0.076	0.28	< 0.44	< 0.44	0.13	0.60	< 0.44	0.83	3.285	< 6.57	49.8	1.64	1.64	14.3	27.1	65.6	< 6.57	45.9	< 0.128	< 1.34
SSS-12-20150716-01	7/16/2015	< 0.37	0.19	0.0097	0.070	< 0.37	< 0.37	0.022	0.26	< 0.37	0.21	2.8	< 5.60	21.9	1.4	1.4	13.2	9.17	18.8	< 5.60	11.0	< 0.102	< 1.13
SSS-13-20150716-01	7/16/2015	< 0.42	0.43	0.023	0.16	< 0.42	< 0.42	0.030	0.41	< 0.42	0.47	3.145	< 6.29	35.9	1.57	1.57	16.0	15.5	30.3	< 6.29	24.2	< 0.126	< 1.29
SSS-14-20150716-01	7/16/2015	< 0.36	0.35	0.038	0.10	< 0.36	< 0.36	0.024	0.53	< 0.36	0.45	2.7	< 5.40	41.0	1.35	1.35	13.9	9.01	23.7	< 5.40	17.3	< 0.104	< 1.09
SSS-15-20150716-01	7/16/2015	< 0.37	0.23	0.014	0.093	< 0.37	< 0.37	< 0.019	0.26	< 0.37	0.30	2.69	< 5.38	23.7	1.345	1.345	10.6	5.84	13.9	< 5.38	10.6	< 0.108	< 1.11
SSS-16-20150718-01	7/18/2015	< 0.35	1.8	0.23	0.33	< 0.35	< 0.35	0.33	1.6	< 0.35	1.4	2.595	< 5.19	39.4	1.3	1.3	10.9	15.8	46.9	< 5.19	25.2	< 0.100	< 1.07
SSS-17-20150718-01	7/18/2015	< 0.41	0.61	0.16	0.13	< 0.41	< 0.41	0.033	1.5	< 0.41	0.79	2.96	< 5.92	50.8	1.48	1.48	16.8	6.90	18.9	< 5.92	21.7	< 0.122	< 1.24
SSS-18-20150729-01	7/29/2015	< 0.36	0.41	0.019	0.10	< 0.36	< 0.36	0.024	0.33	< 0.36	0.44	2.55	< 5.10	48.3	1.275	1.275	16.0	8.70	30.1	< 5.10	29.7	< 0.108	< 1.08
SSS-19-20150729-01	7/29/2015	< 0.36	0.54	0.021	0.16	< 0.36	< 0.36	0.028	0.24	< 0.36	0.51	2.695	< 5.39	54.6	1.35	1.35	18.3	20.8	60.0	< 5.39	75.0	0.205	< 1.10
SSS-20-20150729-01	7/29/2015	< 0.36	0.57	0.015	0.24	< 0.36	< 0.36	0.051	0.23	< 0.36	0.58	2.515	< 5.03	40.3	1.26	1.26	10.3	20.4	54.6	< 5.03	41.9	0.107	< 1.08
SSS-21-20150729-01	7/29/2015	< 0.36	1.0	0.094	0.31	< 0.36	< 0.36	0.27	0.71	< 0.36	0.99	2.645	< 5.29	38.1	1.32	1.32	14.3	13.7	42.9	< 5.29	59.5	< 0.103	< 1.10
SSS-22-20150729-01	7/29/2015	< 0.40	0.074	< 0.0040	0.025	< 0.40	< 0.40	< 0.021	0.036	< 0.40	0.080	2.91	< 5.82	36.2	1.455	1.455	20.8	12.5	14.1	< 5.82	17.8	< 0.115	< 1.21
SSS-23-20150731-01	7/31/2015	< 0.35	0.59	0.034	0.22	< 0.35	< 0.35	0.051	0.48	< 0.35	0.66	2.56	5.86	40.9	1.28	1.28	13.2	28.7	65.4	< 5.12	33.1	0.134	< 1.06
SSS-24-20150729-01	7/31/2015	< 0.36	0.25	0.013	0.085	< 0.36	< 0.36	0.027	0.20	< 0.36	0.26	2.53	< 5.06	29.5	1.265	1.265	14.9	11.2	25.3	< 5.06	28.8	0.367	< 1.10
SSS-25-20150729-01	7/31/2015	< 0.36	0.51	0.025	0.22	< 0.36	< 0.36	0.064	0.56	< 0.36	0.63	2.605	< 5.21	34.5	1.305	1.305	14.3	18.9	48.1	< 5.21	27.5	0.156	< 1.08
SSS-26-20150729-01	7/31/2015	< 0.35	0.84	0.065	0.29	< 0.35	< 0.35	0.12	0.62	< 0.35	0.78	2.43	< 4.86	33.5	1.215	1.215	13.6	21.2	41.9	< 4.86	24.9	< 0.102	1.21
SSS-27-20150729-01	7/31/2015	< 0.36	0.39	0.024	0.19	< 0.36	< 0.36	0.054	0.54	< 0.36	0.49	2.64	< 5.28	28.0	1.32	1.32	9.46	10.7	28.8	< 5.28	12.6	< 0.109	< 1.10
SSS-28-20150729-01	7/31/2015	< 0.36	1.2	0.031	0.51	< 0.36	< 0.36	0.17	0.42	< 0.36	1.3	2.635	< 5.27	66.9	1.315	1.315	11.4	41.0	89.8	< 5.27	63.9	0.170	< 1.08
SSS-29-20150729-01	7/31/2015	< 0.37	0.89	0.12	0.18	< 0.37	< 0.37	0.14	2.0	< 0.37	1.3	2.59	< 5.18	23.8	1.295	1.295	17.1	13.9	20.1	< 5.18	15.5	< 0.103	< 1.13
SSS-30-20150729-01	7/31/2015	< 0.37	4.0	0.79	0.36	< 0.37	< 0.37	0.68	15	< 0.37	4.7	2.695	< 5.39	29.3	1.35	1.35	25.5	13.1	22.1	< 5.39	19.6	< 0.106	< 1.13
SSS-31-20150729-01	7/31/2015	< 0.38	0.21	0.020	0.053	< 0.38	< 0.38	< 0.019	0.34	< 0.38	0.28	2.815	< 5.63	41.7	1.41	1.41	14.2	5.97	13.5	< 5.63	13.6	< 0.105	< 1.15
SSS-32-20150729-01	7/31/2015	< 0.38	2.3	0.24	0.30	< 0.38	< 0.38	0.22	5.0	< 0.38	3.0	2.725	< 5.45	26.3	1.365	1.365	31.5	13.2	13.2	< 5.45	13.8	< 0.109	< 1.15
SSS-33-20150818-01	8/18/2015	< 0.38	0.12	0.014	0.013	< 0.38	< 0.38	< 0.020	0.20	< 0.38	0.15	2.9	< 5.80	14.1	1.45	1.45	15.3	4.78	5.82	< 5.80	6.05	< 0.109	< 1.16
SSS-34-20150818-01	8/18/2015	< 0.43	0.025	< 0.0043	0.0077	< 0.43	< 0.43	< 0.022	0.037	< 0.43	0.030	3.24	< 6.48	15.8	1.62	1.62	16.8	6.57	< 6.48	< 6.48	6.51	< 0.127	< 1.31
SSS-35-20150818-01	8/18/2015	< 0.41	0.041	< 0.0041	0.013	< 0.41	< 0.41	< 0.021	0.059	< 0.41	0.052	3.115	< 6.23	16.2	1.555	1.555	20.8	6.83	8.71	< 6.23	8.17	< 0.110	< 1.25
SSS-36-20150818-01	8/18/2015	< 0.37	0.072	0.0053	0.019	< 0.37	< 0.37	< 0.019	0.090	< 0.37	0.091	2.815	< 5.63	13.5	1.405	1.405	16.3	5.72	7.32	< 5.63	6.58	< 0.112	< 1.13
SSS-37-20150818-01	8/18/2015	< 0.42	0.081	0.0048	0.029	< 0.42	< 0.42	< 0.022	0.082	< 0.42	0.095	3.175	< 6.35	11.3	1.59	1.59	9.8	4.68	< 6.35	< 6.35	< 6.35	< 0.125	< 1.27
PRE-ISS-20150909-01	9/9/2015	<0.38	0.02	< 0.0038	0.0048	< 0.38	< 0.38	< 0.020	0.01	< 0.38	0.015	2.295	< 4.59	25.0	1.15	1.15	10.2	5.18	5.50	< 4.59	6.33	<0.107	< 1.17
PRE-ISS-20150911-01	9/11/2015	< 0.42	1.60	0.47	0.18	< 0.42	< 0.42	0.25	4.3	< 0.42	1.9	2.365	< 4.73	25.8	1.185	1.185	14.3	7.02	6.30	< 4.73	6.58	0.13	< 1.27
PRE-ISS-20150911-02	9/11/2015	< 0.40	2.20	1.00	0.29	< 0.40	< 0.40	0.150	5.4	< 0.40	2.0	2.675	< 5.35	12.3	1.335	1.335	6.4	4.24	7.32	< 5.35	< 5.35	< 0.111	< 1.21
PRE-ISS-20150911-03	9/11/2015	< 0.40	7.50	5.00	0.99	< 0.40	< 0.40	15.00	28	< 0.40	7.8	2.895	< 5.79	32.8	1.45	1.45	9.7	5.59	< 5.79	< 5.79	6.88	< 0.120	< 1.21
PISS-1-20150922-01	9/22/2015	< 0.38	0.66	0.023	0.22	< 0.38	< 0.38	0.041	0.34	< 0.38	0.67	2.79	< 5.58	38.7	1.395	1.395	14.6	13.8	26.0	< 5.58	19.5	< 0.110	< 1.15
PISS-2-20150922-01	9/22/2015	< 0.37	0.77	0.027	0.24	< 0.37	< 0.37	0.04	0.42	< 0.37	0.83	2.58	< 5.16	30.5	1.29	1.29	16.4	11.4	23.8	< 5.16	19.0	< 0.113	< 1.14
PISS-3-20150922-01	9/22/2015	< 0.39	0.81	0.043	0.26	< 0.39	< 0.39	0.05	0.56	< 0.39	0.83	2.84	< 5.68	31.9	1.42	1.42	26.3	9.6	20.1	< 5.68	16.4	< 0.110	< 1.18
PISS-4-20150922-01	9/22/2015	< 0.38	1.30	0.042	0.30	< 0.38	< 0.38	0.067	0.590	< 0.38	1.40	2.63	< 5.26	28.0	1.315	1.315	17.6	9.43	18.2	< 5.26	13.5	< 0.112	< 1.15
PISS-5-20150922-01	9/22/2015	< 0.41	3.10	3.60	0.21	< 0.41	< 0.41	11.0	18.0	< 0.41	3.80	2.805	< 5.61	41.8	1.4	1.4	27.0	17.6	13.1	< 5.61	9.25	< 0.125	< 1.26
PISS-6-20150923-01	9/23/2015	< 0.41	0.51	0.12	0.17	< 0.41	< 0.41	0.07	0.44	< 0.41	0.86	2.985	< 5.97	41.5	1.49	1.49	23.2	12.1	11.5	< 5.97	11.3	< 0.114	< 1.23
SSS-38-20150923-01	9/23/2015	< 0.36	0.76	0.093	0.12	< 0.36	< 0.36	0.12	0.61	< 0.36	0.87	2.52	< 5.04	33.2	1.26	1.26	16.0	7.95	11.2	< 5.04	8.24	< 0.107	< 1.10
SSS-39-20150923-01	9/23/2015	< 0.40	0.31	0.023	0.075	< 0.40	< 0.40	< 0.021	0.25	< 0.40	0.39	2.9	< 5.80	33.0	1.45	1.45	16.9	9.64	13.5	< 5.80	11.1	< 0.104	< 1.22
PISS-6-20150929-01	9/29/2015	< 0.42	0.095	0.045	0.0081	< 0.42	< 0.42	< 0.021	0.35	< 0.42	0.12	2.94	< 5.88	29.4	1.47	1.47	16.9	9.69	7.73	< 5.88	10.9	< 0.121	<1.26
PreISS-7-20151007-01	10/7/2015	< 0.43	0.038	0.0068	0.0031	< 0.43	< 0.43	< 0.022	0.017	< 0.43	0.048	3.075	< 6.15	38.8	1.535	1.535	18.5	8.13	7.60	< 6.15	7.72	< 0.125	< 1.31
SSS-40-20151007-01	10/7/2015	< 0.39	0.34	0.084	0.091	< 0.39	< 0.39	0.038	0.45	< 0.39	0.44	2.805	< 5.61	31.8	1.4	1.4	16.1	10.9	13.5	< 5.61	11.9	< 0.110	1.86
SSS-41-20151007-01	10/7/2015	< 0.40	1.1	0.097	0.37	< 0.40	< 0.40	0.060	0.47	< 0.40	1.4	2.605	< 5.21	27.5	1.3	1.3	9.17	7.87	18.9	< 5.21	13.0	< 0.114	6.24
SSS-42-20151008-01	10/8/2015	< 0.40	0.049	< 0.0040	0.0012	< 0.40	< 0.40	0.0021	0.0026	< 0.40	0.056	2.865	< 5.73	18.1	1.43	1.43	21.3	7.11	7.42	< 5.73	10.2	< 0.108	< 1.21
SSS-43-20151028-01	10/28/2015	0.39	0.039	< 0.0039	0.002	< 0.39	< 0.39	0.02	0.002	< 0.39	0.02	2.59	< 5.18	< 5.18	1.295	1.295	< 2.59	< 2.59	5.18	5.18	5.18	< 0.116	< 1.19
SSS-44-20151028-01	10/28/2015	0.39	0.039	< 0.0039	0.002	< 0.39	< 0.39	0.02	0.02	< 0.39	0.02	2.975	< 5.95	< 5.95	1.485	1.485	< 2.97	< 2.97	5.95	5.95	5.95	< 0.118	< 1.19
SSS-45-20151028-01	10/28/2015	0.41	0.041	< 0.0041	0.0021	< 0.41	< 0.41	0.021	0.0021	< 0.41	0.021	3.04	< 6.08	< 6.08	1.52	1.52	< 3.04	< 3.04	6.08	6.08	6.08	< 0.123	< 1.23
SSS-46-20151028-01	10/28/2015	0.39	0.039	< 0.0039	0.002	< 0.39	< 0.39	0.02	0.002	< 0.39	0.02	2.825	< 5.65	< 5.65	1.41	1.41	< 2.82	< 2.82	< 5.65	< 5.65	< 5.65	< 0.115	< 1.18
SSS-47-20151107-01	11/1/2015	< 0.390	5	0.27	1.3	< 0.390	< 0.390	0.36	4	< 0.390	5	2.375	< 4.75	78.7	1.19	1.19	13.8	21.6	127	< 4.75	48.6	0.329	< 1.19
SSS-47A-20151210-01	12/10/2015	< 0.420	0.44	0.1	0.064	< 0.420	< 0.420	0.057	0.69	< 0.420	0.53	2.96	< 5.92	39.3	2.96	1.48	18.7	11.5	11.7	< 5.92	8.87	< 0.111	< 1.28
HolderSand1-20160126-01	1/26/2016	< 0.41	0.36	0.014	0.14	< 0.41	< 0.41	< 0.021	0.32	< 0.41	0.4	2.575	< 5.15	27	1.29	1..29	5.47	21	40.1	< 5.15	17.2	0.169	< 1.25
HolderSand2-20160126-01	1/26/2016	< 0.41	0.1	0.0065	0.047	< 0.41	< 0.41	0.029	0.11	< 0.41	0.12	2.77	14.8	26.6	1.385	1.385	10.6	13.6	23.8	< 5.54	13.1	< 0.116	< 1.24
Average		0.025	1.001	0.232	0.232	0.000	0.000	0.484	1.754	0.000	1.113	2.764	0.433	32.816	1.406	1.361	14.319	11.829	27.729	0.278	20.320	0.037	0.150
Count		62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62
Standard Deviation		0.098	1.528	0.780	0.327	0.000	0.000	2.335	4.577	0.000	1.672	0.236	2.143	17.097	0.232	0.211	6.097	7.607	30.993	1.244	20.151	0.081	0.834
Confidence		0.0244	0.3802	0.1943	0.0815	NA	NA	0.5812	1.1393	NA	0.4163	0.0588	0.5334	4.2556	0.0578	0.0525	1.5175	1.8935	7.7147	0.3097	5.0159	0.0202	0.2077
95% Upper Confidence Limit		0.050	1.381	0.426	0.313	NA	NA	1.065	2.893	NA	1.529	2.823	0.966	37.072	1.464	1.414	15.84	13.72	35.44	0.59	25.34	0.06	0.36
Maximum		0.41	7.5	5	1.6	0	0	15	28	0	7.8	3.37	14.8	89.8	2.96	1.685	31.5	41	160	6.08	122	0.367	6.24
Minimum		0.39	0.015	0.0048	0.0012	0	0	0.0021	0.002	0	0.015	2.295	5.86	11.3	1.15	1.15	5.47	4.24	5.18	5.18	5.18	0.107	1.21
# > Type 1 RRS		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
% > Type 1 RRS		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%
# > Type 2 RRS		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% > Type 2 RRS		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
# > Type 4 RRS		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% > Type 4 RRS		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Not detected; 1/2 of the labo

*Most conservative # used between surface and subsurface values f

Table A-7 Compaction Testing Results
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Test No.	Date	Depth or Elevation	Location	Wet Density (PCF)	Moisture Content (%)	Dry Density (PCF)	Proctor Curve No.	Degree Comp. (%)	Req'd Comp. (%)
1	11/12/2015	Lift 1	Mulberry	129.0	14.2	113.0	1	96.7	95
2	11/12/2015	Lift 2	Mulberry	130.1	13.9	114.2	1	97.8	95
3	11/12/2015	Lift 3	Mulberry	131.7	12.8	116.8	1	100.0	95
4	11/12/2015	Lift 4	Mulberry	126.9	12.3	113	1	96.7	95
5	11/13/2015	Lift 5	Mulberry	128.7	15.2	111.7	1	95.6	95
6	11/13/2015		Mulberry	128.4	15.5	111.2	1	95.2	95
7	11/13/2015		Mulberry	128.8	15.7	111.3	1	95.3	95
8	11/13/2015		Mulberry	129.3	15.2	112.2	1	96.1	95
9	11/16/2015	Lift 9	Mulberry	130.1	13.6	114.5	1	98	95
10	11/16/2015	Lift 8	Mulberry	130.5	15.6	112.9	1	96.7	95
11	11/16/2015	Lift 10	Mulberry	137.9	16.6	109.7	4	95.5	95
12	11/17/2015		Mulberry	132	15.2	114.6	1	98.1	95
13	12/9/2015	Lift 12	Mulberry	129.9	15.6	112.4	2	96.7	95
14	12/9/2015	Lift 12	Mulberry	127.4	14.5	111.3	2	95.8	95
15	12/9/2015	Lift 13	Mulberry	128.9	14.9	112.2	2	96.6	95
16	12/9/2015	Lift 13	Mulberry	127.9	15.2	111	2	95.5	95
17	12/9/2015	Lift 14	Mulberry	129.5	15.4	112.2	2	96.6	95
18	12/9/2015	Lift 14	Mulberry	128.7	15	111.9	2	96.3	95
19	12/10/2015	Lift 19	Mulberry	118.3	19.3	99.2	5	82.1	95
20	12/11/2015	Lift 15	Mulberry	127.2	13.5	112.1	2	96.5	95
21	12/11/2015	Lift 15	Mulberry	129.2	14.1	113.2	2	97.4	95
22	12/11/2015	Lift 16	Mulberry	128.4	13.7	112.9	2	97.2	95
23	12/11/2015	Lift 16	Mulberry	126.8	14	111.2	2	95.7	95
24	12/11/2015	Lift 17	Mulberry	127.3	13.9	111.8	2	96.2	95
25	12/11/2015	Lift 17	Mulberry	128.5	14.2	112.5	2	97.2	95
26	12/11/2015	Lift 18	Mulberry	127.7	13.3	112.7	2	97	95
27	12/11/2015	Lift 18	Mulberry	128.3	13.6	112.9	2	97.2	95
28	12/12/2015	Lift 19	Mulberry	127.5	13.6	112.2	2	96.6	95
29	12/12/2015	Lift 19	Mulberry	128.6	13.9	112.9	2	97.2	95
30	12/12/2015	Lift 20	Mulberry	126.8	13.5	111.7	2	96.1	95
31	12/12/2015	Lift 20	Mulberry	127.7	13.7	112.3	2	96.6	95
32	12/12/2015	Lift 21	Mulberry	129.9	13.3	114.7	2	98.7	98
33	12/12/2015	Lift 21	Mulberry	130.5	13.8	114.7	2	98.7	98
34	12/12/2015	Lift 22	Mulberry	131.2	13.6	115.5	2	99.4	98
35	12/12/2015	Lift 22	Mulberry	130.1	13.5	114.6	2	98.6	98
36	12/18/2015	Lift 1	Center of rd 30' W of Mulberry St	124.5	15.1	108.2	6	96.9	95
37	12/18/2015	Lift 2	Right lane 25' W of Mulberry St	123.2	15.4	106.8	6	95.6	95
38	12/18/2015	Lift 3	Left lane 35' W of Mulberry St	124.7	15.9	107.6	6	96.3	95
39	12/19/2015	Lift 4	Right lane 35' W of Mulberry St	122.9	15	106.9	6	95.7	95
40	12/19/2015	Lift 5	Left lane 25' W of Mulberry St	124	15.2	107.6	6	96.3	95
41	12/19/2015	Lift 6	Right lane 30' W of Mulberry St	123.5	15.5	106.9	6	95.7	95
42	12/19/2015	Lift 1	Left lane 10' W of Mulberry St	123.1	14.9	107.1	6	95.9	95
43	12/19/2015	Lift 2	Right lane 15' W of Mulberry St	122.5	15	106.5	6	95.3	95
44	12/19/2015	Lift 3	Left lane 15' W of Mulberry St	124.3	15.3	107.8	6	96.5	95
45	12/19/2015	Lift 4	Right lane 10' W of Mulberry St	123.4	15.5	106.8	6	95.6	95
46	12/19/2015	Lift 7	Left lane 35' W of Mulberry St	122.7	14.8	106.9	6	95.7	95
47	12/19/2015	Lift 8	Right lane 40' West of Mulberry St	123.3	15.1	107.1	6	95.9	95
48	12/19/2015	Lift 5	Left lane 20' W of Mulberry St	124.2	15.3	107.7	6	96.4	95
49	12/19/2015	Lift 9	Left lane 30' W of Mulberry St	124.9	15.9	107.8	6	96.5	95
50	12/19/2015	Lift 6	Right lane 10' W of Mulberry St	122.7	14.8	106.9	6	95.7	95
51	12/20/2015	Lift 9	Right lane 35' W of Mulberry St	124.1	15	107.9	6	96.6	95
52	12/20/2015	Lift 6	Left lane 15' W of Mulberry St	123.6	15.4	107.1	6	95.9	95
53	12/20/2015	Lift 10	Left lane 40' W of Mulberry St	122.9	15	106.9	6	95.7	95

Table A-7 Compaction Testing Results
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Test No.	Date	Depth or Elevation	Location	Wet Density (PCF)	Moisture Content (%)	Dry Density (PCF)	Proctor Curve No.	Degree Comp. (%)	Req'd Comp. (%)
54	12/20/2015	Lift 7	Right lane 10' W of Mulberry St	123.3	15.1	107.1	6	95.9	95
55	12/20/2015	Lift 11	Right lane 30' W of Mulberry St	122.8	15.1	106.7	6	95.5	95
56	12/20/2015	Lift 12	Left lane 40' W of Mulberry St	124.2	15.3	107.7	6	96.4	95
57	12/20/2015	Lift 13	Left lane 35' W of Mulberry St	123.4	15.5	106.8	6	95.6	95
58	12/20/2015	Lift 14	Right lane 30' W of Mulberry St	123	15.3	106.7	6	95.5	95
59	12/20/2015	Lift 22	Left side of Mulberry St outside of	122.5	15	106.5	6	95.3	90
60	1/7/2016	---	Right lane 25'N of Mulberry St	128.7	15.8	111.1	8	96.1	95
61	1/7/2016	---	Left lane 70'N of Mulberry St	127.1	15.1	110.4	8	95.5	95
62	1/7/2016	---	Right lane 65'N of Mulberry St	129.4	15.5	112	8	96.9	95
63	1/7/2016	---	Left lane 20'N of Mulberry St	129.1	15.7	111.6	8	96.5	95
64	1/7/2016	---	Right lane 15'N of Mulberry St	127.7	16.2	109.9	8	95.1	95
65	1/7/2016	---	Left lane 80'N of Mulberry St	130	15.1	112.9	8	97.7	95
66	1/7/2016	---	Right lane 75'N of Mulberry St	128.6	15.5	111.3	8	96.3	95
67	1/7/2016	---	Left lane 25'N of Mulberry St	129.9	16.5	111.5	8	96.5	95
68	1/7/2016	---	Right lane 40'N of Mulberry St	126.8	14.9	110.4	8	95.5	95
69	1/7/2016	---	Left lane 90'N of Mulberry St	127.5	15.2	110.7	8	95.8	95
70	1/7/2016	---	Right lane 80'N of Mulberry St	126.6	14.8	110.3	8	95.4	95
71	1/7/2016	---	Left lane 20'N of Mulberry St	129.2	16.3	111.1	8	96.1	95
72	1/7/2016	---	Right lane 30'N of Mulberry St	128.7	15	111.9	8	96.8	95
73	1/7/2016	---	Left lane 70'N of Mulberry St	127.9	14.8	111.4	8	96.4	95
74	1/7/2016	---	Right lane 85'N of Mulberry St	126.9	15.5	109.9	8	95.1	95
75	1/7/2016	---	Left lane 30'N of Mulberry St	128.1	15.7	110.7	8	95.8	95
76	1/7/2016	---	Right lane 20'N of Mulberry St	129.4	16.6	111	8	96	95
77	1/7/2016	---	Left lane 75'N of Mulberry St	128.8	14.9	112.1	8	97	95
78	1/12/2016	---	Right lane 30'N of Mulberry St	127.2	15.7	109.9	8	95.1	95
79	1/12/2016	---	Left lane 80'N of Mulberry St	128.5	16.1	110.7	8	95.8	95
80	1/12/2016	---	Right lane 70'N of Mulberry St	127.7	15	111	8	96	95
81	1/12/2016	---	Left lane 25'N of Mulberry St	128.2	16.6	109.9	8	95.1	95
82	1/12/2016	---	Right lane 20'N of Mulberry St	129.1	15.7	111.6	8	96.5	95
83	1/12/2016	---	Left lane 75'N of Mulberry St	128.2	16	110.5	8	95.6	95
84	1/12/2016	---	Right lane 85'N of Mulberry St	127.3	15.1	110.6	8	95.7	95
85	1/12/2016	---	Left lane 30'N of Mulberry St	129.4	15.6	111.9	8	96.8	95
86	1/12/2016	---	Right lane 25'N of Mulberry St	127.9	15.5	110.7	8	95.8	95
87	1/12/2016	---	Left lane 80'N of Mulberry St	128.8	14.9	112.1	8	97	95
88	1/12/2016	---	Right lane 70'N of Mulberry St	127.5	15.9	110	8	95.2	95
89	1/12/2016	---	Left lane 15'N of Mulberry St	128.1	15.7	110.7	8	95.8	95
90	1/12/2016	---	Right lane 25'N of Mulberry St	128.6	15.3	111.5	8	96.5	95
91	1/12/2016	---	Left lane 75'N of Mulberry St	129	16.2	111	8	96	95
92	1/13/2016	---	Right lane 10'N of Mulberry St	128.8	14.9	112.1	8	97	95
93	1/13/2016	---	Left lane 80'N of Mulberry St	127.9	14.8	111.4	8	96.4	95
94	1/13/2016	---	Right lane 40'S of Mulberry St	128.4	15.5	111.2	8	96.2	95
95	1/13/2016	---	Left lane 20'N of Mulberry St	130	15.1	112.9	8	97.7	95
96	1/13/2016	---	Right lane 75'N of Mulberry St	129.4	15.6	111.9	8	96.8	95
97	1/13/2016	---	Left lane 30'S of Mulberry St	129.1	15.7	111.6	8	96.5	95
98	1/13/2016	---	Right lane 15'N of Mulberry St	128.8	14.9	112.1	8	97	95
99	1/13/2016	---	Left lane 80'N of Mulberry St	127.2	15.7	109.9	8	95.1	95
100	1/13/2016	---	Right lane 40'S of Mulberry St	128.2	16	110.5	8	95.6	95
101	1/13/2016	---	Left lane 25'N of Mulberry St	127.7	15	111	8	96	95
102	1/13/2016	---	Right lane 70'N of Mulberry St	129.4	15.6	111.9	8	96.8	95
103	1/13/2016	---	Left lane 35'S of Mulberry St	126.9	15.5	109.9	8	95.1	95
104	1/13/2016	---	Right lane 20'N of Mulberry St	128.8	14.9	112.1	8	97	95
105	1/13/2016	---	Left lane 75'N of Mulberry St	127.7	16.2	109.9	8	95.1	95
106	1/14/2016	---	Right lane 15'N of Mulberry St	128.8	14.9	112.1	8	97	95

Table A-7 Compaction Testing Results
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Test No.	Date	Depth or Elevation	Location	Wet Density (PCF)	Moisture Content (%)	Dry Density (PCF)	Proctor Curve No.	Degree Comp. (%)	Req'd Comp. (%)
107	1/14/2016	---	Left lane 80'N of Mulberry St	129.5	14.7	112.9	8	97.7	95
108	1/14/2016	---	Right lane 40'S of Mulberry St	128.9	15	112.1	8	97	98
109	1/14/2016	---	Left lane 25'N of Mulberry St	131.4	14.9	114.4	8	99	98
110	1/14/2016	---	Right lane 70'N of Mulberry St	130.5	15	113.5	8	98.2	98
111	1/14/2016	---	Left lane 30'S of Mulberry St	130.2	14.7	113.5	8	98.2	98
112	1/14/2016	---	Right lane 30'N of Mulberry St	131.1	15	114	8	98.6	98
113	1/14/2016	---	Left lane 75'N of Mulberry St	132	14.6	115.2	8	99.7	98
114	1/14/2016	---	Right lane 20'S of Mulberry St	131.2	14.8	114.3	8	98.9	98
115	1/14/2016	---	Left lane 15'N of Mulberry St	131	15.2	113.7	8	98.4	98
116	1/14/2016	---	Right lane 80'N of Mulberry St	131.6	14.5	114.9	8	99.4	98
117	1/14/2016	---	Left lane 35'S of Mulberry St	129.9	14.9	1131	8	98	98
118	1/14/2016	---	Right lane 35'N of Mulberry St	132.4	14.5	115.6	8	100	98
119	1/14/2016	---	Left lane 85'N of Mulberry St	130.5	14.4	114.1	8	98.7	98
120	1/18/2016	Lift 1	Left side on south side	128.7	16.2	110.8	8	95.8	90
121	1/18/2016	Lift 1	Center on south side	125.4	15.7	108.4	8	93.8	90
122	1/18/2016	Lift 1	Right side on south side	126.6	15.9	109.2	8	94.5	90
123	1/18/2016	Lift 1	Left side on north side	125.9	16.2	108.3	8	93.7	90
124	1/18/2016	Lift 1	Center on north side	122.6	15.7	106	8	91.7	90
125	1/18/2016	Lift 1	Right side on north side	124.4	15.9	107.3	8	92.8	90
126	1/19/2016	Lift 2	Left side on South side	127.6	15.7	110.3	8	95.4	90
127	1/19/2016	Lift 2	Center on South side	126.3	15.2	109.6	8	94.8	90
128	1/19/2016	Lift 2	Right side on South side	124.7	15.8	107.7	8	93.2	90
129	1/19/2016	Lift 2	Left side on North side	125.1	16	107.8	8	93.3	90
130	1/19/2016	Lift 2	Center on North side	123.9	15.5	107.3	8	92.8	90
131	1/19/2016	Lift 2	Right side on North side	122.6	16.3	105.4	8	91.2	90
132	1/19/2016	Lift 3	Left side on North side	124.4	15.8	107.4	8	92.9	90
133	1/19/2016	Lift 3	Center on North side	125.5	16.1	108.1	8	93.5	90
134	1/19/2016	Lift 3	Right side on North side	126.3	15.2	109.6	8	94.8	90
135	1/19/2016	Lift 3	Left side on South side	122.9	15.6	106.3	8	92	90
136	1/19/2016	Lift 3	Center on South side	123.7	16.1	106.5	8	92.1	90
137	1/19/2016	Lift 3	Right side on South side	125.3	15.3	108.7	8	94	90
138	1/20/2016	Lift 4	Left side on South side	123.2	15.5	106.7	8	92.3	90
139	1/20/2016	Lift 4	Center on South side	124.5	15.9	107.4	8	92.9	90
140	1/20/2016	Lift 4	Right side on South side	123.8	15.3	107.4	8	92.9	90
141	1/20/2016	Lift 4	Left side on North side	125	16.1	107.7	8	93.2	90
142	1/20/2016	Lift 4	Center on North side	122.7	15.8	106	8	91.7	90
143	1/20/2016	Lift 4	Right side on North side	123.1	15.7	106.4	8	92	90
144	1/21/2016	Lift 1	80' West	122.2	15.8	105.5	8	91.3	90
145	1/21/2016	Lift 1	110' West	123.6	16.1	106.5	8	92.1	90
146	1/21/2016	Lift 1	140' West	122.7	15.6	106.1	8	91.8	90
147	1/21/2016	Lift 2	75' West	123.4	16	106.4	8	92	90
148	1/21/2016	Lift 2	105' West	122.9	15.9	106	8	91.7	90
149	1/21/2016	Lift 2	145' West	123.5	15.5	106.9	8	92.5	90
150	1/29/2016	Lift 1	From SW end 150'NE	136.7	6.3	128.6	11	95.9	95
151	1/29/2016	Lift 2	From SW end 70'NE	138.6	8.2	128.1	11	95.5	95
152	1/29/2016	Lift 2	From SW end 140'NE	135.5	5.8	128.1	11	95.5	95
153	1/29/2016	Lift 3	From SW end 170'NE	140.5	5.6	133	11	99.2	95
154	1/29/2016	Lift 4	From SW end 60'NE	139.6	5.8	131.9	11	98.4	95
155	1/30/2016	Lift 5	From SW end 100' NE	139.6	6.1	131.6	11	98.1	95
156	1/30/2016	Lift 6	From SW end 70' NE	140	5.7	132.5	11	98.8	95
157	1/30/2016	Lift 7	From SW end 140' NE	137.8	7.1	128.7	11	96	95
158	1/30/2016	Lift 8	From SW end 95' NE	139.1	8.9	127.7	11	95.2	95
159	1/31/2016	Lift 9	From SW end 50'NE	127.7	15	111	8	96	95

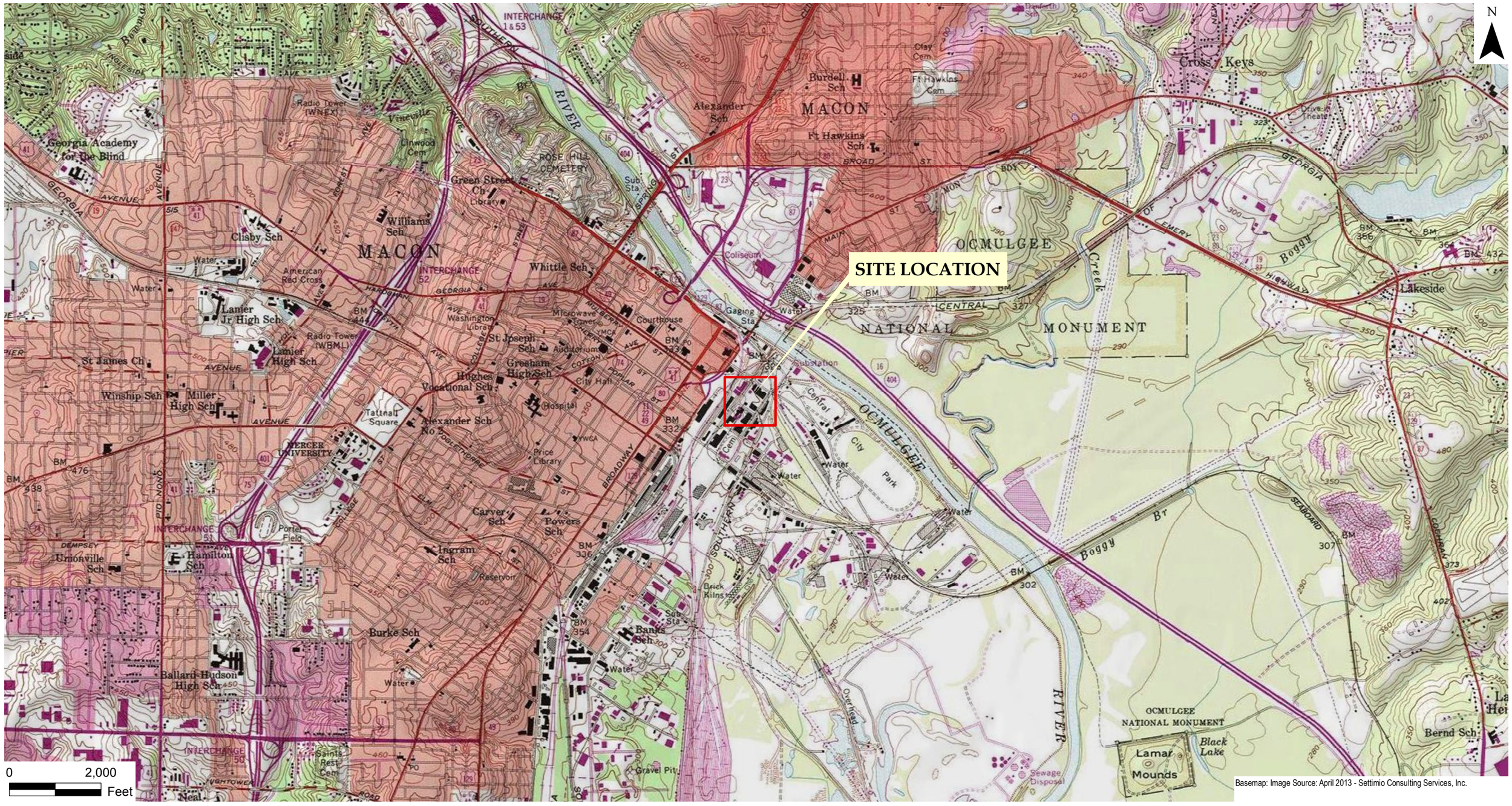
Table A-7 Compaction Testing Results
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Test No.	Date	Depth or Elevation	Location	Wet Density (PCF)	Moisture Content (%)	Dry Density (PCF)	Proctor Curve No.	Degree Comp. (%)	Req'd Comp. (%)
160	1/31/2016	Lift 10	From SW end 160'NE	128.2	16	110.5	8	95.6	95
161	1/31/2016	Lift 11	From SW end 90'NE	127.2	16.1	109.6	8	95	95
162	1/31/2016	Lift 12	From SW end 40'NE	129.4	15.6	111.9	8	96.8	95
163	1/31/2016	Lift 13	From SW end 175'NE	127.5	15.9	110	8	95.2	95
164	1/31/2016	Lift 14	From SW end 70'NE	127.5	15.2	110.7	8	95.8	95
165	1/31/2016	Lift 15	From SW end 130'NE	128.7	15.8	111.1	8	96.1	95
166	2/1/2016	Lift 16	From SW end 70'NE	128.6	15.5	111.3	8	96.3	95
167	2/1/2016	Lift 16	From SW end 170'NE	127.5	15.9	110	8	95.2	95
168	2/5/2016	Lift 17	From SW end 100'NE	131.4	14.9	114.4	8	99	95
169	2/5/2016	Lift 18	From SW end 150'NE	131	15.2	113.7	8	98.4	95
170	2/5/2016	Lift 19	From SW end 65'NE	132	14.6	115.2	8	99.7	95
171	2/5/2016	Lift 20	From SW end 120'NE	130.5	15	113.5	8	98.2	95
172	2/5/2016	Lift 21	From SW end 80'NE	131.6	14.5	114.9	8	99.4	95
173	1/26/2016	Lift 1	50'W-30'N of Terminal Ave north end	128.7	16.2	110.8	8	95.8	90
174	1/26/2016	Lift 2	25'W-60'N of Terminal Ave north end	125.4	15.7	108.4	8	93.8	90
175	1/26/2016	Lift 3	40'W-25'N of Terminal Ave north end	126.6	15.9	109.2	8	94.5	90
176	1/26/2016	Lift 4	20'W-40'N of Terminal Ave north end	125.9	16.2	108.3	8	93.7	90
177	1/26/2016	Lift 5	30'W-50'N of terminal ave north end	122.6	15.7	106	8	91.7	90
183	2/20/2016	Lift 1	32*50'17.182"N, 083*37'02.577"W	125.1	15.5	108.3	8	93.7	90
184	2/20/2016	Lift 2	32*50'03.785"N, 083*37'18.049"W	124.7	15.2	108.2	8	93.6	90
185	2/20/2016	Lift 3	32*50'04.313"N, 083*37'18.012"W	124.5	16.1	107.2	8	92.7	90
186	2/20/2016	Lift 4	32*50'17.182"N, 083*37'02.577"W	126.2	15.8	109.0	8	94.3	90
187	2/20/2016	Lift 5	32*50'04.326"N, 083*37'17.784"W	124.9	16.0	107.7	8	93.2	90
188	2/20/2016	Lift 6	32*50'17.156"N, 083*37'02.527"W	125.3	15.6	108.4	8	93.8	90
189	2/20/2016	Lift 7	32*50'17.182"N, 083*37'02.577"W	124.6	15.9	107.5	8	93.0	90
190	2/21/2016	Lift 8	32*50'01.364"N, 083*37'17.694"W	124.9	16.1	107.6	8	93.1	90
191	2/21/2016	Lift 9	32*50'25.723"N, 083*36'56.589"W	123.9	15.4	107.4	8	92.9	90
192	2/21/2016	Lift 10	32*50'04.260"N, 083*37'18.030"W	125.4	15.8	108.3	8	93.7	90
193	2/21/2016	Lift 11	32*50'17.147"N, 083*02.542"W	125.0	15.1	108.6	8	93.9	90
194	2/21/2016	Lift 12	32*50'17.182"N, 083*37'02.577"W	124.2	15.9	107.2	8	92.7	90
195	2/21/2016	Lift 13	32*50'17.182"N, 083*37'02.500"W	124.7	15.2	108.2	8	93.6	90
196	2/21/2016	Lift 14	32*50'04.159"N, 083*37'18.048"W	125.3	15.6	108.4	8	93.8	90
197	2/21/2016	Lift 15	32*50'04.158"N, 083*37'18.036"W	124.8	16.1	107.5	8	93.0	90
198	2/21/2016	Lift 16	32*50'04.241"N, 083*37'17.816"W	124.0	15.7	107.2	8	92.7	90
199	2/26/2016	grade	32*50'25.662"N, 083*36'55.392"W	124.2	15.5	107.5	8	93.0	90
200	2/26/2016	grade	32*50'03.335"N, 083*37'18.266"W	123.5	15.9	106.6	8	92.2	90
201	2/8/2016	grade	32*50'20.341"N, 083*36'42.275"W	122.5	16.0	105.6	8	91.3	90
202	2/8/2016	grade	32*50'10.763"N, 083*37'20.231"W	123.2	15.5	106.7	8	92.3	90

Figures

May 21, 2016
Project No. 0176740
Corrective Action Completion Report

Environmental Resources Management
3200 Windy Hill Rd. Suite 1500W
Atlanta, GA 30339
(678) 486-2700



Basemap: Image Source: April 2013 - Settimio Consulting Services, Inc.

ERM

Environmental Resources Management

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DATE:	5/2/2016	SCALE:	AS SHOWN	REVISION:	0
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CONTOUR INTERVAL 10 FEET
DOTTED LINES REPRESENT 5-FOOT CONTOURS
NATIONAL GEODETIC VERTICAL DATUM OF 1929

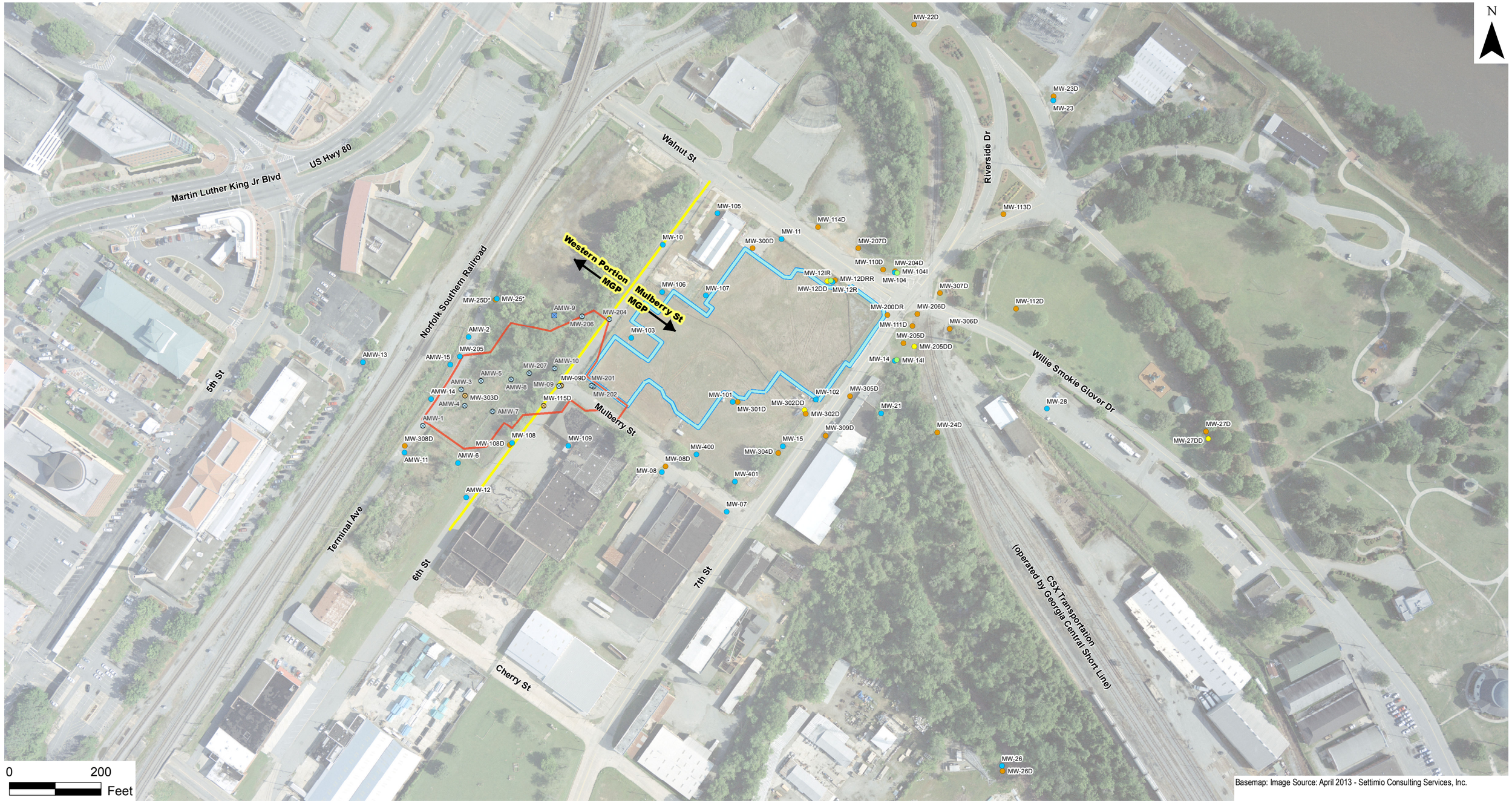


FIGURE A-1 - TOPOGRAPHIC SITE LOCATION MAP

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



ERM

Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
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- Shallow Well
- Abandoned Shallow Well
- Destroyed Shallow Well
- Intermediate Well
- Shallow Bedrock Well
- Abandoned Shallow Bedrock Well
- Deep Bedrock Well

- New ISS Area
- Existing ISS Area

NOTE: * MW-25 & MW-25D were within the shallow excavation footprint & were covered by debris.

FIGURE A-2 - MGP SITES & SURROUNDING FEATURES

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia

LEGEND

- AMW-4 — SHALLOW MONITORING WELL
- MW-303D — BEDROCK MONITORING WELL
- DROP INLET
- MANHOLE
- FIRE HYDRANT
- UTILITY POLE
- WATER VALVE
- SS — SANITARY SEWER
- G — GAS LINE
- OHP — OVERHEAD POWER LINE
- W — WATER LINE
- WATER LINE (UNCONFIRMED)
- EXISTING FENCE
- 320 — EXISTING SURFACE 10 FOOT INDEX CONTOUR
- 328 — EXISTING SURFACE 2 FOOT INTERMEDIATE CONTOUR
- TREE LINE
- ABANDONED RAIL SPUR
- ABANDONED RAIL SPUR (UNCONFIRMED)
- ACTIVE RAIL LINE
- APPROXIMATE LOCATION OF FORMER BUILDINGS

NOTES

1). EXISTING MONITORING WELLS WITHIN REMEDIATION AREA WILL BE ABANDONED BY OTHERS PRIOR TO MOBILIZATION

2). THE INFORMATION AND DATA SHOWN OR INDICATED ON THIS DRAWING WITH RESPECT TO EXISTING UTILITIES AND FACILITIES AT OR CONTIGUOUS TO THE PROJECT SITE ARE BASED ON INFORMATION AND DATA FURNISHED TO THE OWNER OR THE ENGINEER BY THE OWNERS OF SUCH UTILITIES OR FACILITIES OR BY OTHERS. THE OWNER AND THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ANY SUCH INFORMATION OR DATA RELATING TO UTILITIES OR FACILITIES. CONTRACTOR IS REQUIRED TO VERIFY ALL LOCATIONS PRIOR TO SUBSURFACE WORK IN ACCORDANCE WITH ENGINEER'S SUBSURFACE CLEARANCE (SSC) PROGRAM.

3). DATA SOURCES:
PHOENIX SOLUTIONS, INC. – LOGANVILLE, GA (SURVEY)
MACON-BIBB COUNTY ENGINEERING DEPARTMENT (TOPOGRAPHIC)

4). IN AREAS WHERE FORMER BUILDINGS WERE LOCATED, DEBRIS AND/OR FOUNDATION MAY BE ENCOUNTERED DURING EXCAVATION.

NORFOLK SOUTHERN RAILROAD
TERMINAL AVENUE
SIXTH STREET
MULBERRY STREET
WALNUT STREET
SIDEWALK
CURBING
RETAINING WALL
GRASS
GRAVEL
WOODED
CULVERT
TW 308.80
TW 309.20
ELEV: 311.55
ELEV: 323.70
CONCRETE (~6,900 SQ. FT.)
PAVED AREA
EXISTING GC AREA
BUILDING
PRODIGY HOLDINGS LLC BUILDINGS – MULTIPLE CONNECTING STRUCTURES
MARRLAC PROPERTIES, LLC SINGLE STORY BRICK BUILDING
AMW-1 AMW-2 AMW-3 AMW-4 AMW-5 AMW-6 AMW-7 AMW-8 AMW-9 AMW-10 AMW-11 AMW-12
MW-08D MW-09D MW-101 MW-102 MW-103 MW-104 MW-105 MW-106 MW-107 MW-108D MW-109 MW-201 MW-202 MW-203 MW-204 MW-205 MW-206 MW-207 MW-208D MW-209D MW-210D MW-211D MW-300D MW-301D MW-303D
SCALE IN FEET
40 20 0 40

Environmental Resources Management

DESIGN:	M Fleri	DRAWN:	A Freeman	CHKD.:	H Sartain
DATE:	5/4/2016	SCALE:	AS SHOWN	REVISION:	0

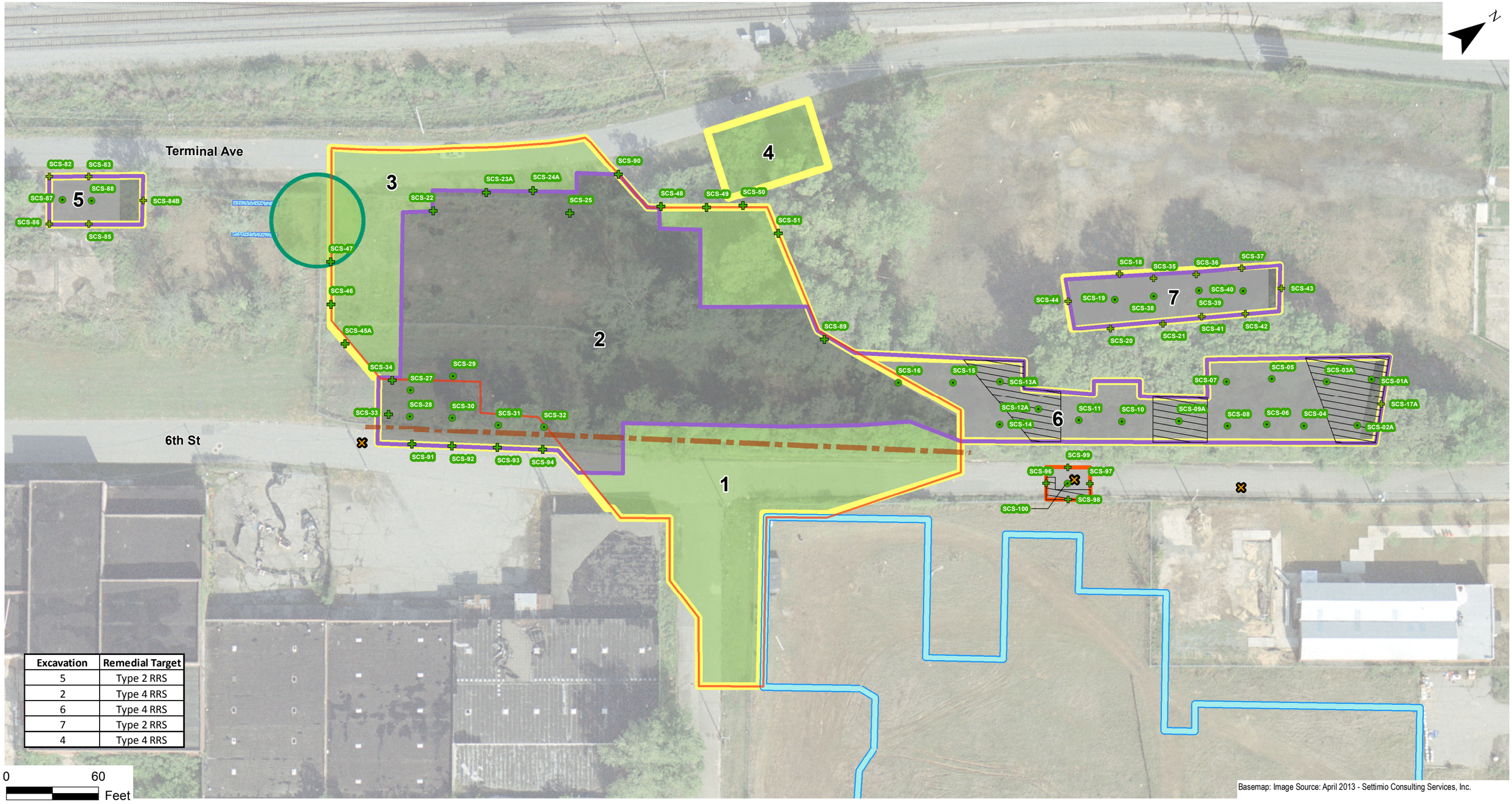
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FIGURE A-3
PRE-CONSTRUCTION
EXISTING CONDITIONS

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



Excavation	Remedial Target
5	Type 2 RRS
2	Type 4 RRS
6	Type 4 RRS
7	Type 2 RRS
4	Type 4 RRS

Basemap: Image Source: April 2013 - Settimio Consulting Services, Inc.

ERM

Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	5/23/2016	SCALE:	AS SHOWN	REVISION:	0
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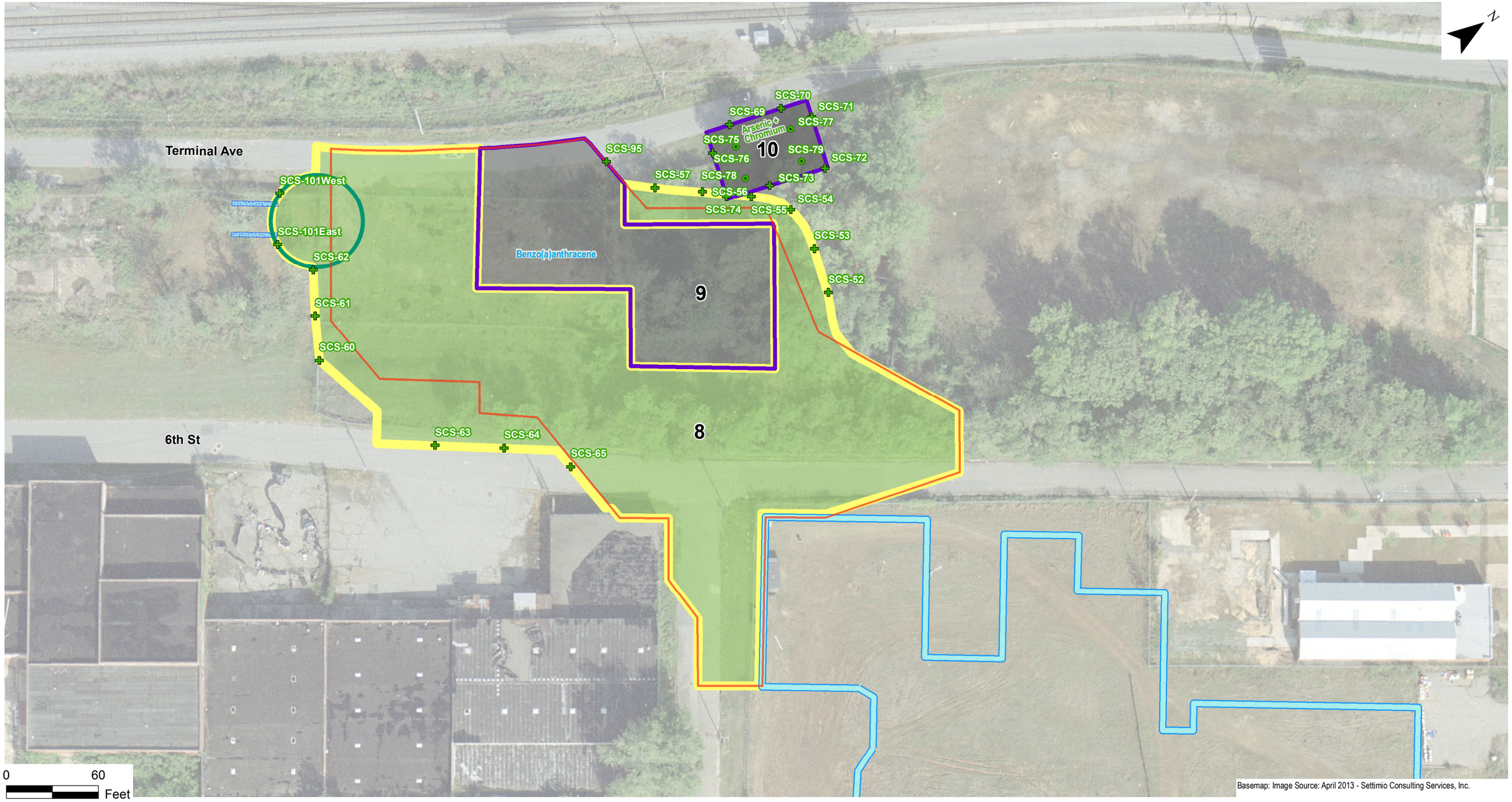
- <Type 4 RRS (Floor Sample)
- <Type 4 RRS (Wall Sample)
- Gas Line Cut Coordinates
- Holder Wall
- Holder Excavation
- Excavated & Disposed
- Overexcavated Floor Sample Area (3')
- Excavated & Stockpiled
- Cut & Cap Excavation Area (Disposed)
- Overexcavated Cut & Cap Area (3')
- Approx. Location 18-Inch Cast Iron Pipe - (~1' to 2' Depth at North End and ~0.5' to 1' Depth at South End
- New ISS Area
- Existing ISS Area
- Exploratory Trench South of Holder (15')
- Excavation Limits

FIGURE A-4
REMEDIAL SOIL EXCAVATION LIMITS 0' - 2' FEET BGS

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



ERM

Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	A Freeman	CHKD.:	N Vrey
DATE:	5/23/2016	SCALE:	AS SHOWN	REVISION:	0
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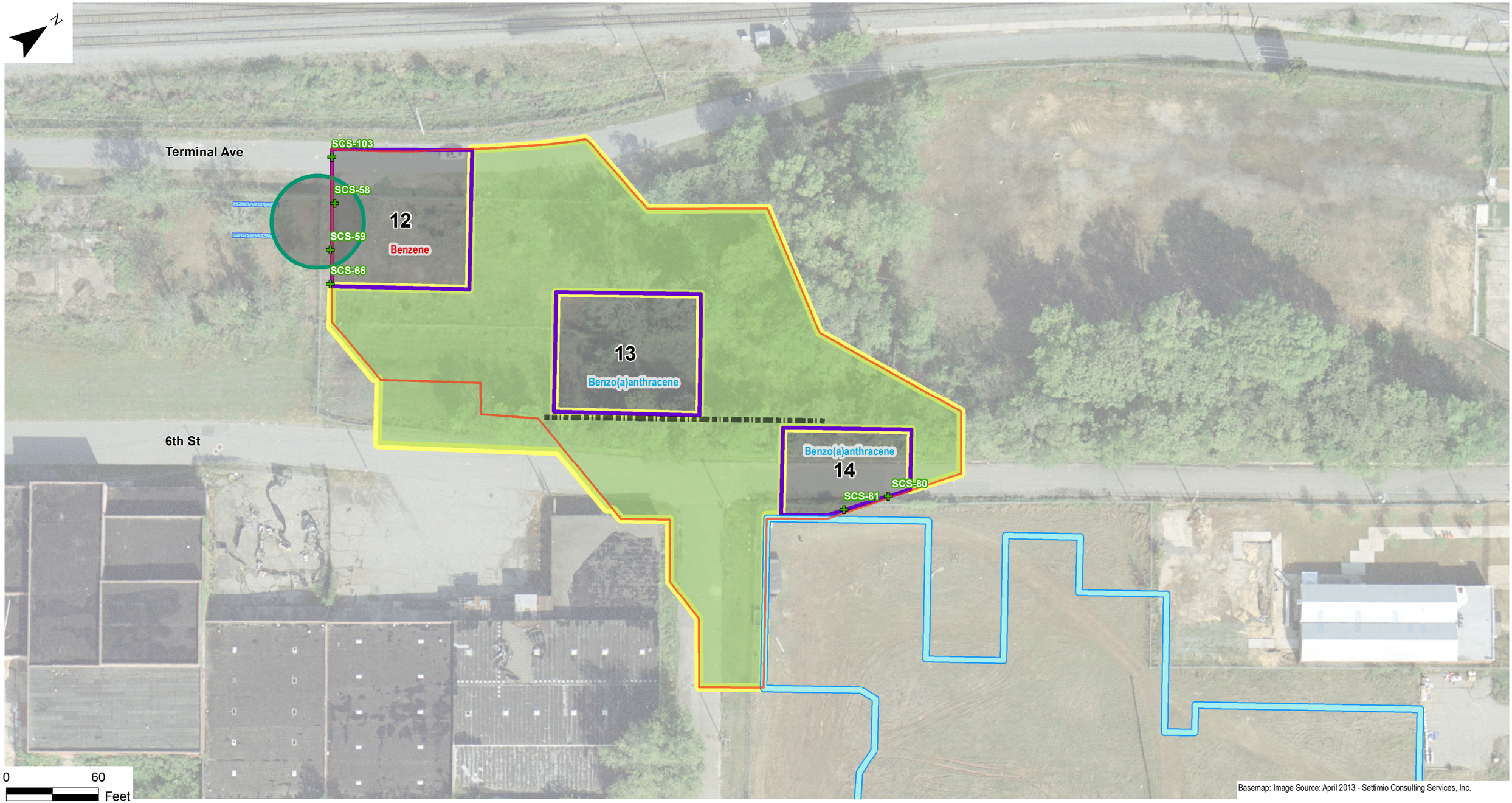
- <Type 4 RRS (Floor Sample)
- <Type 4 RRS (Wall Sample)
- Holder Wall
- Holder Excavation
- Excavated & Disposed
- Excavated & Stockpiled
- Excavation Limits
- New ISS Area
- Existing ISS Area
- Exploratory Trench South of Holder (15')

FIGURE A-5
REMEDIAL SOIL EXCAVATION LIMITS 2' - 6' FEET BGS

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



Environmental Resources Management

ERM

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	5/23/2016	SCALE:	AS SHOWN	REVISION:	0
FILE:	D:\AGL_Macon\MXD\2016.04.2ndSAPrgRpt\AppxA CACR\AGLMcnApxA_FA-6_Soil6-10Ft.mxd				

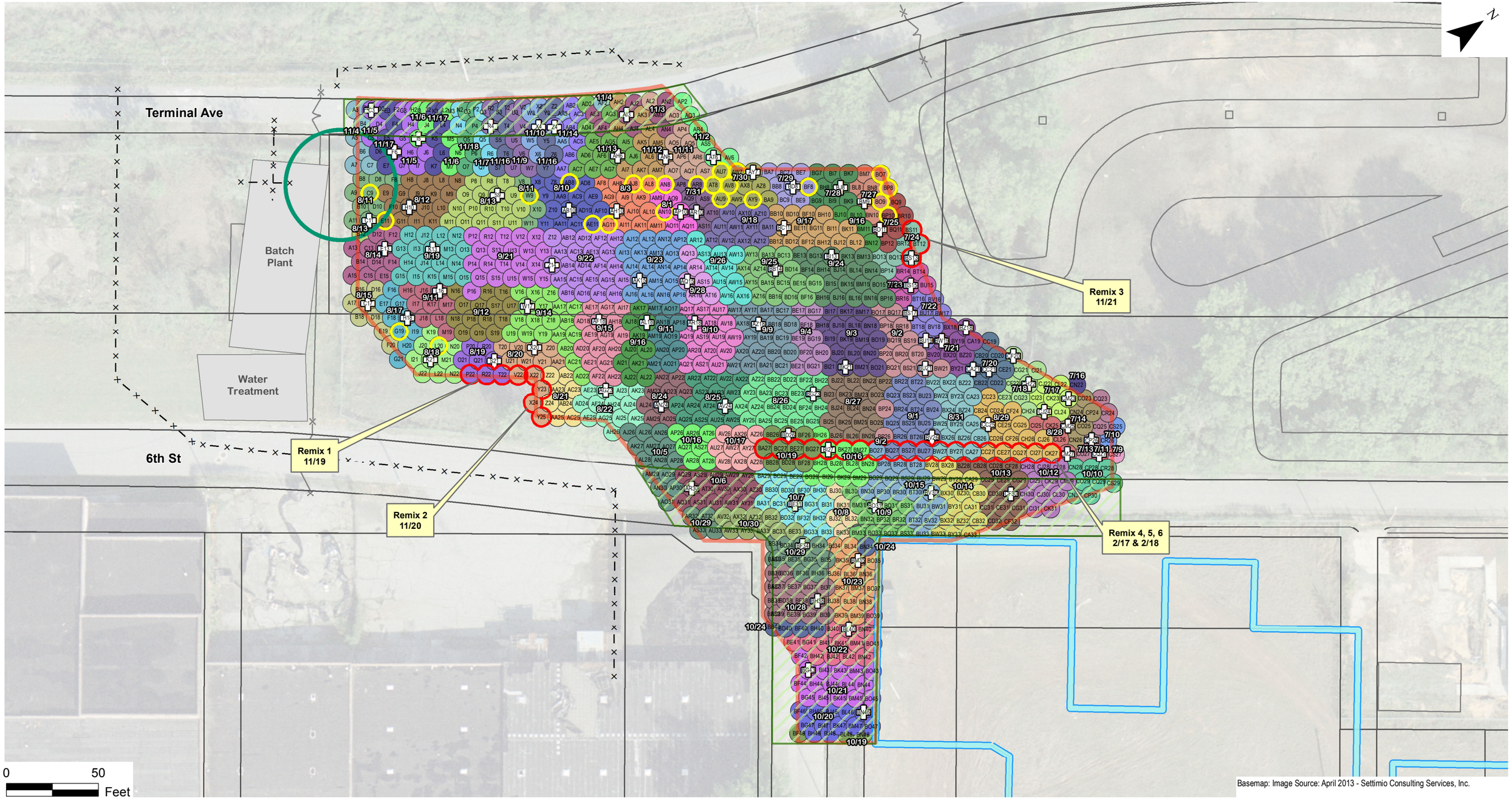
- <Type 4 RRS (Wall Sample)
- Holder Wall
- Holder Excavation
- Excavated & Disposed
- Excavated & Stockpiled
- Excavation Limits
- Approx. Location Brick Culvert - 2Ft. Wide (~10' - 14')
- New ISS Area
- Existing ISS Area
- Exploratory Trench South of Holder (15')

FIGURE A-6
REMEDIAL SOIL EXCAVATION LIMITS 6' - 10' FEET BGS

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



Environmental Resources Management

ERM

DESIGN:	M Fleri	DRAWN:	A Freeman	CHKD.:	H Sartain
DATE:	5/19/2016	SCALE:	AS SHOWN	REVISION:	0

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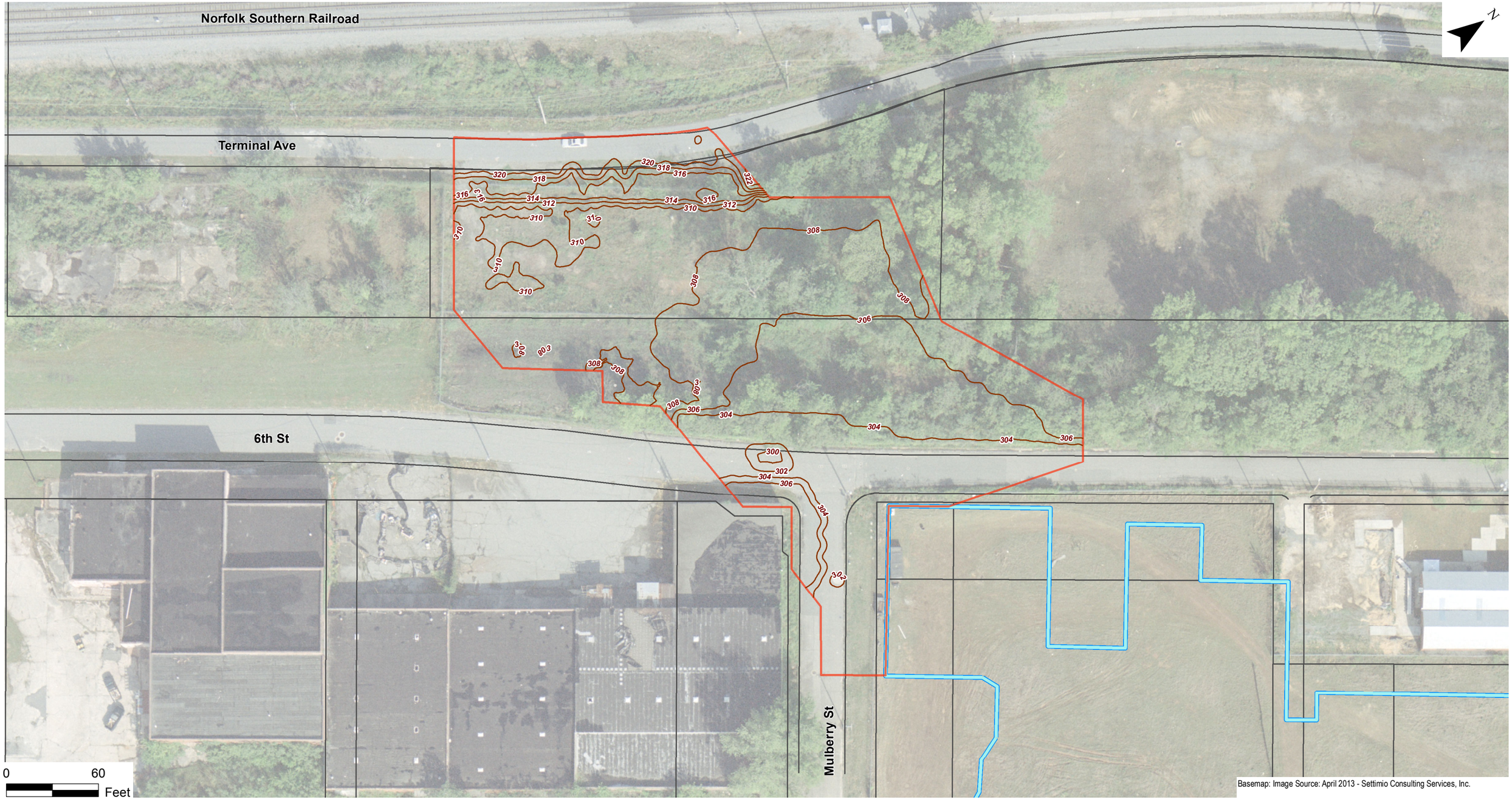
- ISS Quality Control Sample
- Holder Wall
- Refusal
- 10/20 Date of Column Construction
- New Fence Line
- Property Line
- New ISS Area
- Existing ISS Area
- Remix Columns
- Utility Corridor

FIGURE A-7
ISS COLUMN LOCATIONS AND QC SAMPLE LOCATIONS

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



ERM

Environmental Resources Management

DESIGN:	M Fleri	DRAWN:	A Freeman	CHKD.:	H Sartain
DATE:	5/4/2016	SCALE:	AS SHOWN	REVISION:	0

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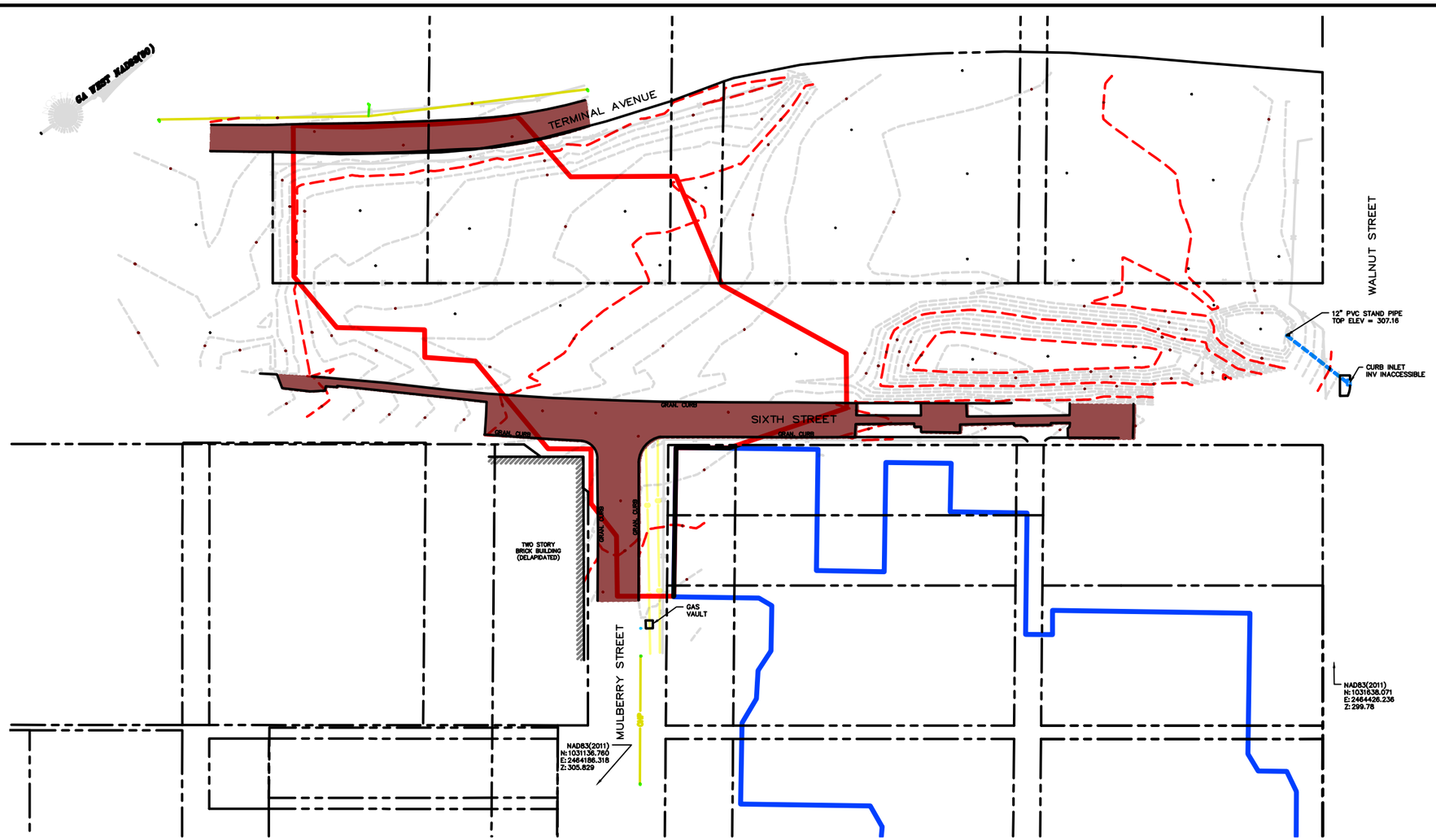
- ISS Column Topographic Contour
- New ISS Area
- Existing ISS Area
- Property Line

FIGURE A-8
FINAL GRADE OF
TOP OF NEW ISS AREA

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



LEGEND

NEW ISS AREA
EXISTING ISS AREA
PROPERTY LINE
CONTOUR LINE
WATER LINE
RETAINING WALL (RETW)
UNDERGROUND TELEPHONE
OVERHEAD UTILITIES
FENCE
GAS LINE
STORM DRAIN PIPE
CONCRETE
ASPHALT (NEW)
BUILDING
SPOT ELEVATION

GAS VALVE
GAS METER
SIGN
UTILITY POLE & GUY
MANHOLE
DROP INLET
CURB INLET
FIRE HYDRANT
WATER VALVE
WATER METER
MONITORING WELL
GRANITE CURB — GRAN. CURB
RETAINING WALL — RETW
SURVEY CONTROL POINT

1. DONALDSON, GARRETT AND ASSOCIATES, INC. AND THE LAND SURVEYOR WHOSE SEAL IS AFFIXED HEREON DO NOT GUARANTEE THAT ALL EASEMENTS THAT MAY AFFECT THIS PROPERTY ARE SHOWN.
2. THIS DRAWING HAS BEEN GENERATED ELECTRONICALLY. THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT UNLESS IT HAS BEEN PROPERLY SEALED AND ORIGINALLY SIGNED BY A REGISTERED LAND SURVEYOR OF DONALDSON, GARRETT AND ASSOCIATES, INC. AUTHORITY OF O.C.G.A. 43-15-22.
3. THIS SURVEY HAS BEEN PREPARED IN CONFORMITY WITH THE TECHNICAL STANDARDS FOR PROPERTY SURVEYS IN GEORGIA AS SET FORTH IN CHAPTER 180-7 OF THE RULES OF THE GEORGIA BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS AND AS SET FORTH IN THE GEORGIA PLAT ACT O.C.G.A. 15-6-67,43-15-4,43-15-6,43-15-19, & 43-15-22.
4. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. UNDERGROUND UTILITIES NOT OBSERVED OR LOCATED MAY EXIST BUT MAY NOT BE SHOWN, AND MAY BE FOUND UPON EXCAVATION. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. INFORMATION REGARDING UNDERGROUND UTILITIES WERE COMPILED FROM FIELD OBSERVATIONS AND/OR MARKINGS BY THE UTILITY OWNERS. THIS INFORMATION MAY BE INACCURATE OR INCOMPLETE AND IS SUBJECT TO THE LIMITATIONS OF SUBSURFACE DETECTION EQUIPMENT, AVAILABLE RECORDS AND OTHER FACTORS. VERIFICATION OF UTILITIES SHOULD BE MADE PRIOR TO ANY CONSTRUCTION.
5. ONE FOOT CONTOUR INTERVAL SHOWN.
6. THIS SURVEY IS REFERENCED TO THE GA STATE PLANE GRID, WEST ZONE, NAD83(1990) HORIZONTAL & NAVD88 VERTICAL DATUMS AND IS BASED UPON GEORGIA POWER COMPANY CONTROL MONUMENTS GPC-011-3 AND GPC-011-4 PROVIDED BY GEORGIA POWER COMPANY.
7. CONTROL POINT COORDINATES SHOWN AS NAD83(2011)DATUM AND ARE BASED ON STATIC GPS OBSERVATIONS ON 6/8/2015 AND WERE PROCESSED USING NGS OPUS. THE ELEVATIONS SHOWN WITH THESE COORDINATES ARE BASED ON THE SAME STATIC GPS OBSERVATIONS AND PROCESSING AND ARE NAVD88(GEOID12B) DATUM.
8. THE PROPERTY LINES SHOWN WERE TAKEN FROM A BOUNDARY SURVEY PERFORMED BY DG&A FOR HARMONY GROUP PROPERTIES, LLC, DATED FEBRUARY 12, 2010, DRAWING NO. 4785-10-C. NO BOUNDARY SURVEY WAS PERFORMED BY DG&A OR THIS SURVEYOR AT THIS TIME.

ERM

Environmental Resources Management

DESIGN:	M Fleri	DRAWN:	A Freeman	CHKD.:	H Sartain
DATE:	5/4/2016	SCALE:	AS SHOWN	REVISION:	0
FILE:	D:\AGL_Macon\MXD\2016 04 2ndSAPrgRpt\AppxA CACR\AGLMcnApxA_FA-9_PostConstTopoSrvey.mxd				

AS-BUILT TOPOGRAPHIC SURVEY FOR ENVIRONMENTAL RESOURCES MANAGEMENT OF IN SITU STABILIZATION PROJECT FORMER AGL MGP SITE DONALDSON, GARRETT AND ASSOCIATES, INC.

-40 0 40 80 120
GRAPHIC SCALE IN FEET

FIGURE A-9
POST-CONSTRUCTION SITE CONDITIONS TOPOGRAPHIC SURVE

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia

Photographic Log

Appendix A-1

May 21, 2016
Project No. 0176740
Corrective Action Completion Report

Environmental Resources Management
3200 Windy Hill Rd. Suite 1500W
Atlanta, GA 30339
(678) 486-2700

APPENDIX A-1

FORMER MACON MGP SITE
MACON, GEORGIA



PHOTO:	*SUBJECT:*
1	**Project Signage on Walnut and 6th Street looking to the south.**



PHOTO:	*SUBJECT:*
2	**Construction Entrance on Walnut Street**



PHOTO:	*SUBJECT:*
3	**Construction of West Stockpile**



PHOTO:	*SUBJECT:*
4	**Contruction of East Stockpile**



PHOTO:	*SUBJECT:*
5	**Vegetation Removal**



PHOTO:	*SUBJECT:*
6	**Storm water Detention Basin looking toward the North. Walnut Street and Norfolk Southern Bldg. in the Background**



PHOTO:	*SUBJECT:*
7	**Batch Plant looking toward the South**



PHOTO:	*SUBJECT:*
8	**ISS Drill Platform in Area 3 looking south. Batch Plant in background and Eastern Stockpile in foreground.**



PHOTO:	*SUBJECT:*
9	**Excavation of Area 6, looking to the East. Temporary Load out area in foreground.**



PHOTO:	*SUBJECT:*
10	**Area 7 Excavated, looking to the South.**



PHOTO:	*SUBJECT:*
11	**Column center stakes**



PHOTO:	*SUBJECT:*
12	**First column being drilled on July 10, 2015**

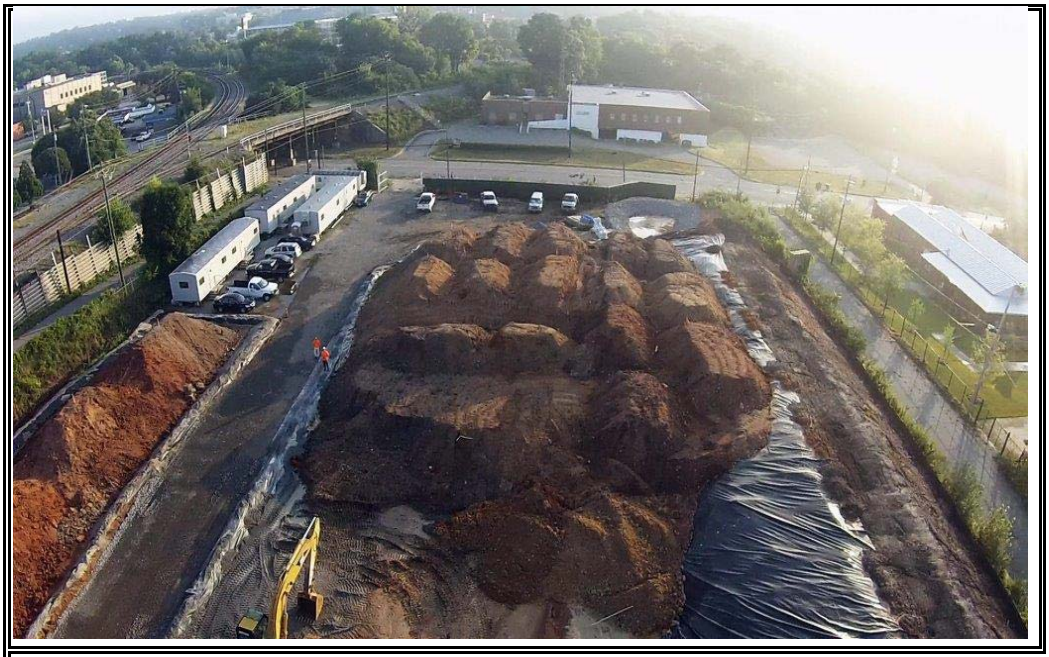


PHOTO:	*SUBJECT:*
13	**East and West Soil Stockpiles. Looking North. Retention basin and temporary facilities in background.**



PHOTO:	*SUBJECT:*
14	**Site Load Out Area**



PHOTO:	*SUBJECT:*
15	**Brick culvert encountered running approximately parallel to 6th Street**



PHOTO:	*SUBJECT:*
16	**Cast Iron pipe encountered parallel to 6th Street**



PHOTO:	*SUBJECT:*
17	**Southern portion of Holder wall excavation. Looking to the southeast.**



PHOTO:	*SUBJECT:*
18	**South wall of Holder**



PHOTO:	*SUBJECT:*
19	**Exploratory trench running parallel to Terminal Avenue**



PHOTO:	*SUBJECT:*
20	**12-inch cut and cap in 6th Street**



PHOTO:	*SUBJECT:*
21	**Vibration Monitory set just west of Terminal Avenue on Norfolk Southern Property**



PHOTO:	*SUBJECT:*
22	**Installation of Final Site Drains to Retention Basin**



PHOTO:	*SUBJECT:*
23	**Hydroseeding of Site**

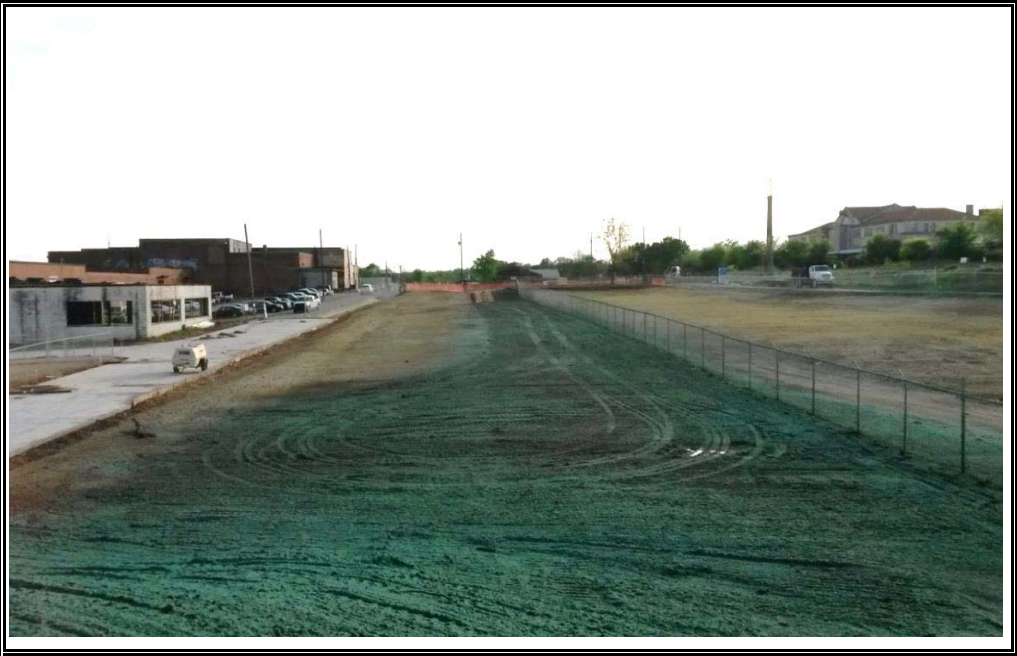


PHOTO:	*SUBJECT:*
24	**City of Macon Right of Way and AGLC property site restoration. Fenced and hydroseeded**



PHOTO:	*SUBJECT:*
25	**Concrete subbase poured for Mulberry and 6th Street**



PHOTO:	*SUBJECT:*
26	**Granite curbing at Mulberry and 6th Street looking south toward the Prodigy Property**



PHOTO:	*SUBJECT:*
27	**Paving of Terminal Avenue looking toward the South**

PHOTO:	*SUBJECT:*

Groundwater Monitoring Well Abandonment Records
Soil Excavation Confirmatory Samples - Laboratory Analytical Reports

Appendix A-2

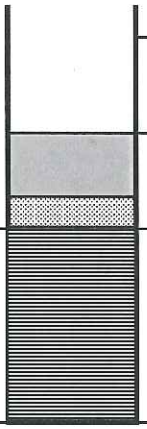
May 21, 2016
Project No. 0176740
Corrective Action Completion Report

Environmental Resources Management
3200 Windy Hill Rd. Suite 1500W
Atlanta, GA 30339
(678) 486-2700

WELL ABANDONMENT LOG

PROJECT: AGLC Macon	**WELL NO.:** AMW-1
SITE: Macon Former MGP Site HSI No. 10511	**COORDINATES:** N: 1031219.90 E: 2463660.53
ABANDONMENT BY: Geo Solutions, Inc. (GSI)	**DATE ABANDONED:** 1/26/2016
METHOD OF ABANDONMENT: Excavation and removal of all well materials to 20 ft bgs.	**ERM OVERSIGHT:** K. Spevacek / H. Sartain
DEPTH SOUNDED PRIOR TO ABANDONMENT: 19.7 ft bgs	
DEPTH TO WATER PRIOR TO ABANDONMENT: 6.15 ft bgs	

WELL MATERIALS:
2 in Sch 40 PVC
0.010-in slot screen



	DEPTH: ft bgs	ELEV.: ft AMSL
GROUND SURFACE	0.0'	324.39
TOP OF BENTONITE SEAL	7.0	317.4
TOP OF FILTER PACK	8.7	315.7
TOP OF SCREEN	9.7	314.7
BOTTOM OF WELL	19.7	304.7

REMARKS: Well was abandoned during excavation of former MGP structure (holder) in January 2016. All well materials were excavated and removed from subsurface.

ft bgs = ft below ground surface
ft AMSL = ft above mean sea level

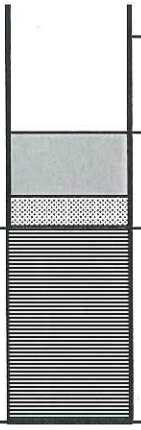
Certified By: Adria L. Reimer **Date: 5/18/2016**

Georgia P.G. No. PG002004

WELL ABANDONMENT LOG

PROJECT: AGLC Macon	**WELL NO.:** AMW-3
SITE: Macon Former MGP Site HSI No. 10511	**COORDINATES:** N: 1031299.03 E: 2463744.39
ABANDONMENT BY: Geo Solutions, Inc. (GSI)	**DATE ABANDONED:** November 2015
METHOD OF ABANDONMENT: Overdrilled by ISS auger (10 ft O.D.)	**ERM OVERSIGHT:** K. Spevacek
TOTAL DEPTH PRIOR TO ABANDONMENT: 15.7 ft bgs (measured 8/2014)	
DEPTH TO WATER PRIOR TO ABANDONMENT: 6.50 ft bgs (measured 8/2014)	

WELL MATERIALS:
2 in Sch 40 PVC
0.010-in slot screen



	DEPTH: ft bgs	ELEV.: ft AMSL
GROUND SURFACE	**0.0'**	**323.04**
TOP OF BENTONITE SEAL	**2.0**	**321.0**
TOP OF FILTER PACK	**4.0**	**319.0**
TOP OF SCREEN	**5.7**	**317.3**
BOTTOM OF WELL	**15.7**	**307.3**

REMARKS: Well was abandoned during excavation and ISS. Shallow well materials were removed during excavation to ISS platform elevation. The well and surrounding area were solidified (mixture composed of cement-slag-bentonite grout, mixed using ISS auger) to a depth of approximately 24 ft bgs.

ISS = In Situ Solidification
ft bgs = ft below ground surface
ft AMSL = ft above mean sea level

Certified By: Adria L. Reimer **Date: 5/18/2016**

Georgia P.G. No. PG002004



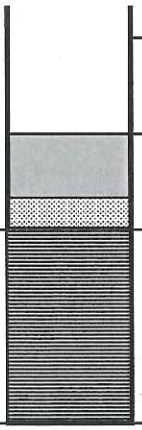
WELL ABANDONMENT LOG

PROJECT: AGLC Macon	**WELL NO.:** AMW-4
SITE: Macon Former MGP Site HSI No. 10511	**COORDINATES:** N: 1031264.26 E: 2463751.78
ABANDONMENT BY: Geo Solutions, Inc. (GSI)	**DATE ABANDONED:** August 2015
METHOD OF ABANDONMENT: Overdrilled by ISS auger (10 ft O.D.)	**ERM OVERSIGHT:** K. Spevacek

TOTAL DEPTH PRIOR TO ABANDONMENT: 18.8 ft bgs (measured 8/2014)

DEPTH TO WATER PRIOR TO ABANDONMENT: 7.45 ft bgs (measured 8/2014)

WELL MATERIALS:
2 in Sch 40 PVC
0.010-in slot screen



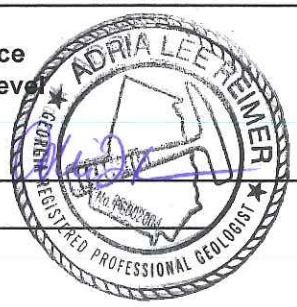
	DEPTH: ft bgs	ELEV.: ft AMSL
GROUND SURFACE	**0.0'**	**323.06**
TOP OF BENTONITE SEAL	**5.0**	**318.1**
TOP OF FILTER PACK	**7.0**	**316.1**
TOP OF SCREEN	**8.8**	**314.3**
BOTTOM OF WELL	**18.8**	**304.3**

REMARKS: Well was abandoned during excavation and ISS. Shallow well materials were removed during excavation to ISS platform elevation. The well and surrounding area were solidified (mixture composed of cement-slag-bentonite grout, mixed using ISS auger) to a depth of approximately 27 ft bgs.

ISS = In Situ Solidification
ft bgs = ft below ground surface
ft AMSL = ft above mean sea level

Certified By: Adria L. Reimer **Date: 5/18/2016**

Georgia P.G. No. PG002004



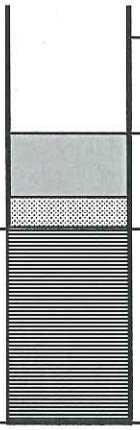
WELL ABANDONMENT LOG

PROJECT: AGLC Macon	**WELL NO.:** AMW-5
SITE: Macon Former MGP Site HSI No. 10511	**COORDINATES:** N: 1031317.72 E: 2463786.94
ABANDONMENT BY: Geo Solutions, Inc. (GSI)	**DATE ABANDONED:** August 2015
METHOD OF ABANDONMENT: Overdrilled by ISS auger (10 ft O.D.)	**ERM OVERSIGHT:** K. Spevacek

TOTAL DEPTH PRIOR TO ABANDONMENT: 20.2 ft bgs (measured 8/2014)

DEPTH TO WATER PRIOR TO ABANDONMENT: 6.98 ft bgs (measured 8/2014)

WELL MATERIALS:
2 in Sch 40 PVC
0.010-in slot screen



	DEPTH: ft bgs	ELEV.: ft AMSL
GROUND SURFACE	**0.0'**	**321.73**
TOP OF BENTONITE SEAL	**7.0**	**314.7**
TOP OF FILTER PACK	**9.0**	**312.7**
TOP OF SCREEN	**10.2**	**311.5**
BOTTOM OF WELL	**20.2**	**301.5**

REMARKS: Well was abandoned during excavation and ISS. Shallow well materials were removed during excavation to ISS platform elevation. The well and surrounding area were solidified (mixture composed of cement-slag-bentonite grout, mixed using ISS auger) to a depth of approximately 25 ft bgs.

ISS = In Situ Solidification
ft bgs = ft below ground surface
ft AMSL = ft above mean sea level

Certified By: Adria L. Reimer **Date: 5/18/2016**

Georgia P.G. No. PG002004

ADRIA L. REIMER
GEORGIA REGISTERED PROFESSIONAL GEOLOGIST
No. PG002004

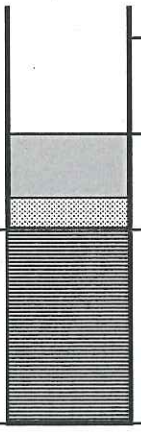
WELL ABANDONMENT LOG

PROJECT: AGLC Macon	**WELL NO.:** AMW-7
SITE: Macon Former MGP Site HSI No. 10511	**COORDINATES:** N: 1031251.63 E: 2463812.05
ABANDONMENT BY: Geo Solutions, Inc. (GSI)	**DATE ABANDONED:** September 2015
METHOD OF ABANDONMENT: Overdrilled by ISS auger (10 ft O.D.)	**ERM OVERSIGHT:** K. Spevacek

TOTAL DEPTH PRIOR TO ABANDONMENT: 18.1 ft bgs (measured 8/2014)

DEPTH TO WATER PRIOR TO ABANDONMENT: 7.85 ft bgs (measured 8/2014)

WELL MATERIALS:
2 in Sch 40 PVC
0.010-in slot screen



	DEPTH: ft bgs	ELEV.: ft AMSL
GROUND SURFACE	**0.0'**	**322.19**
TOP OF BENTONITE SEAL	**2.0**	**320.2**
TOP OF FILTER PACK	**4.0**	**318.2**
TOP OF SCREEN	**8.1**	**314.1**
BOTTOM OF WELL	**18.1**	**304.1**

REMARKS: Well was abandoned during excavation and ISS. Shallow well materials were removed during excavation to ISS platform elevation. The well and surrounding area were solidified (mixture composed of cement-slag-bentonite grout, mixed using ISS auger) to a depth of approximately 27 ft bgs.

ISS = In Situ Solidification
ft bgs = ft below ground surface
ft AMSL = ft above mean sea level

Certified By: Adria L. Reimer **Date: 5/18/2016**

Georgia P.G. No. PG002004

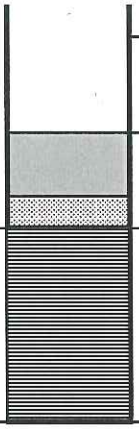
WELL ABANDONMENT LOG

PROJECT: AGLC Macon	**WELL NO.:** AMW-8
SITE: Macon Former MGP Site HSI No. 10511	**COORDINATES:** N: 1031321.10 E: 2463852.67
ABANDONMENT BY: Geo Solutions, Inc. (GSI)	**DATE ABANDONED:** September 2015
METHOD OF ABANDONMENT: Overdrilled by ISS auger (10 ft O.D.)	**ERM OVERSIGHT:** K. Spevacek

TOTAL DEPTH PRIOR TO ABANDONMENT: 18.2 ft bgs (measured 8/2014)

DEPTH TO WATER PRIOR TO ABANDONMENT: 6.1 ft bgs (measured 8/2014)

WELL MATERIALS:
2 in Sch 40 PVC
0.010-in slot screen



	DEPTH: ft bgs	ELEV.: ft AMSL
GROUND SURFACE	**0.0'**	**318.09**
TOP OF BENTONITE SEAL	**2.0**	**316.1**
TOP OF FILTER PACK	**4.0**	**314.1**
TOP OF SCREEN	**8.2**	**309.9**
BOTTOM OF WELL	**18.2**	**299.9**

REMARKS: Well was abandoned during excavation and ISS. Shallow well materials were removed during excavation to ISS platform elevation. The well and surrounding area were solidified (mixture composed of cement-slag-bentonite grout, mixed using ISS auger) to a depth of approximately 28 ft bgs.

ISS = In Situ Solidification
ft bgs = ft below ground surface
ft AMSL = ft above mean sea level

Certified By: Adria L. Reimer **Date: 5/18/2016**

Georgia P.G. No. PG002004



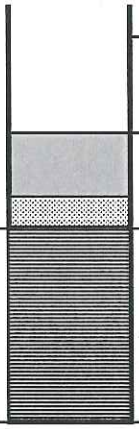
WELL ABANDONMENT LOG

PROJECT: AGLC Macon	**WELL NO.:** AMW-10
SITE: Macon Former MGP Site HSI No. 10511	**COORDINATES:** N: 1031344.89 E: 2463947.66
ABANDONMENT BY: Geo Solutions, Inc. (GSI)	**DATE ABANDONED:** August 2015
METHOD OF ABANDONMENT: Overdrilled by ISS auger (10 ft O.D.)	**ERM OVERSIGHT:** K. Spevacek

TOTAL DEPTH PRIOR TO ABANDONMENT: 25.4 ft bgs (measured 8/2014)

DEPTH TO WATER PRIOR TO ABANDONMENT: 12.75 ft bgs (measured 8/2014)

WELL MATERIALS:
2 in Sch 40 PVC
0.010-in slot screen



	DEPTH: ft bgs	ELEV.: ft AMSL
GROUND SURFACE	**0.0'**	**323.62**
TOP OF BENTONITE SEAL	**12.0**	**311.6**
TOP OF FILTER PACK	**14.0**	**309.6**
TOP OF SCREEN	**15.4**	**308.2**
BOTTOM OF WELL	**25.4**	**298.2**

REMARKS: Well was abandoned during excavation and ISS. Shallow well materials were removed during excavation to ISS platform elevation. The well and surrounding area were solidified (mixture composed of cement-slag-bentonite grout, mixed using ISS auger) to a depth of approximately 30 ft bgs.

ISS = In Situ Solidification
ft bgs = ft below ground surface
ft AMSL = ft above mean sea level

Certified By: Adria L. Reimer **Date: 5/18/2016**

Georgia P.G. No. PG002004

ADRIA LEE REIMER
GEORGIA REGISTERED PROFESSIONAL GEOLOGIST
NO. PG002004

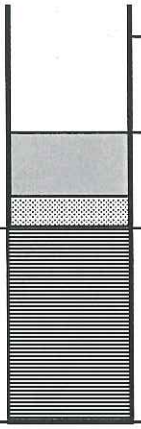
WELL ABANDONMENT LOG

PROJECT: AGLC Macon	**WELL NO.:** MW-9
SITE: Macon Former MGP Site HSI No. 10511	**COORDINATES:** N: 1031306.80 E: 2463956.79
ABANDONMENT BY: Geo Solutions, Inc. (GSI)	**DATE ABANDONED:** October 2015
METHOD OF ABANDONMENT: Overdrilled by ISS auger (10 ft O.D.)	**ERM OVERSIGHT:** K. Spevacek

TOTAL DEPTH PRIOR TO ABANDONMENT: 13 ft bgs (measured 8/2014)

DEPTH TO WATER PRIOR TO ABANDONMENT: 6.75 ft bgs (measured 8/2014)

WELL MATERIALS:
2 in Sch 40 PVC
0.010-in slot screen



	DEPTH: ft bgs	ELEV.: ft AMSL
GROUND SURFACE	**0.0'**	**314.14**
TOP OF BENTONITE SEAL	**1.0**	**313.1**
TOP OF FILTER PACK	**2.2**	**311.9**
TOP OF SCREEN	**3.0**	**311.1**
BOTTOM OF WELL	**13.0**	**301.1**

REMARKS: Well was abandoned during excavation and ISS. Shallow well materials were removed during excavation to ISS platform elevation. The well and surrounding area were solidified (mixture composed of cement-slag-bentonite grout, mixed using ISS auger) to a depth of approximately 24 ft bgs.

ISS = In Situ Solidification
ft bgs = ft below ground surface
ft AMSL = ft above mean sea level

Certified By: Adria L. Reimer **Date: 5/18/2016**

Georgia P.G. No. PG002004

ADRIA LEE REIMER GEORGIA CERTIFIED PROFESSIONAL GEOLOGIST No. PG002004

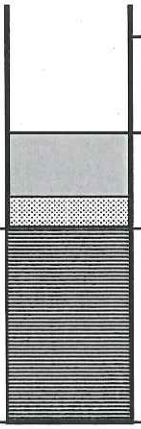
WELL ABANDONMENT LOG

PROJECT: AGLC Macon	**WELL NO.:** MW-201
SITE: Macon Former MGP Site HSI No. 10511	**COORDINATES:** N: 1031307.77 E: 2464028.51
ABANDONMENT BY: Geo Solutions, Inc. (GSI)	**DATE ABANDONED:** October 2015
METHOD OF ABANDONMENT: Overdrilled by ISS auger (10 ft O.D.)	**ERM OVERSIGHT:** K. Spevacek

TOTAL DEPTH PRIOR TO ABANDONMENT: 30 ft bgs (measured 8/2014)

DEPTH TO WATER PRIOR TO ABANDONMENT: 14.75 ft bgs (measured 8/2014)

WELL MATERIALS:
2 in Sch 40 PVC
0.010-in slot screen



	DEPTH: ft bgs	ELEV.: ft AMSL
GROUND SURFACE	**0.0'**	**311.82**
TOP OF BENTONITE SEAL	**6.0**	**305.8**
TOP OF FILTER PACK	**8.0**	**303.8**
TOP OF SCREEN	**10.0**	**301.8**
BOTTOM OF WELL	**20.0**	**291.8**

REMARKS: Well was abandoned during excavation and ISS. Shallow well materials were removed during excavation to ISS platform elevation. The well and surrounding area were solidified (mixture composed of cement-slag-bentonite grout, mixed using ISS auger) to a depth of approximately 27 ft bgs.

ISS = In Situ Solidification
ft bgs = ft below ground surface
ft AMSL = ft above mean sea level

Certified By: Adria L. Reimer **Date: 5/18/2016**

Georgia P.G. No. PG002004

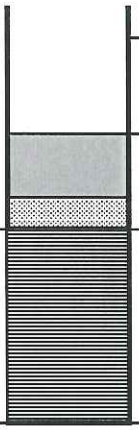
WELL ABANDONMENT LOG

PROJECT: AGLC Macon	**WELL NO.:** MW-202
SITE: Macon Former MGP Site HSI No. 10511	**COORDINATES:** N: 1031305.24 E: 2464032.13
ABANDONMENT BY: Geo Solutions, Inc. (GSI)	**DATE ABANDONED:** October 2015
METHOD OF ABANDONMENT: Overdrilled by ISS auger (10 ft O.D.)	**ERM OVERSIGHT:** K. Spevacek

TOTAL DEPTH PRIOR TO ABANDONMENT: 30 ft bgs (measured 8/2014)

DEPTH TO WATER PRIOR TO ABANDONMENT: 14.81 ft bgs (measured 8/2014)

WELL MATERIALS:
2 in Sch 40 PVC
0.010-in slot screen



	DEPTH: ft bgs	ELEV.: ft AMSL
GROUND SURFACE	0.0'	311.83
TOP OF BENTONITE SEAL	6.0	305.8
TOP OF FILTER PACK	8.0	303.8
TOP OF SCREEN	10.0	301.8
BOTTOM OF WELL	20.0	291.8

REMARKS: Well was abandoned during excavation and ISS. Shallow well materials were removed during excavation to ISS platform elevation. The well and surrounding area were solidified (mixture composed of cement-slag-bentonite grout, mixed using ISS auger) to a depth of approximately 27 ft bgs.

ISS = In Situ Solidification
ft bgs = ft below ground surface
ft AMSL = ft above mean sea level

Certified By: Adria L. Reimer **Date: 5/18/2016**

Georgia P.G. No. PG002004

ADRIA LEE REIMER
GEORGIA REGISTERED PROFESSIONAL GEOLOGIST
PG002004

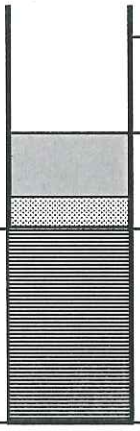
WELL ABANDONMENT LOG

PROJECT: AGLC Macon	**WELL NO.:** MW-204
SITE: Macon Former MGP Site HSI No. 10511	**COORDINATES:** N: 1031451.69 E: 2464066.55
ABANDONMENT BY: Geo Solutions, Inc. (GSI)	**DATE ABANDONED:** October 2015
METHOD OF ABANDONMENT: Overdrilled by ISS auger (10 ft O.D.)	**ERM OVERSIGHT:** K. Spevacek

TOTAL DEPTH PRIOR TO ABANDONMENT: 23 ft bgs (measured 8/2014)

DEPTH TO WATER PRIOR TO ABANDONMENT: 11.42 ft bgs (measured 8/2014)

WELL MATERIALS:
2 in Sch 40 PVC
0.010-in slot screen



	DEPTH: ft bgs	ELEV.: ft AMSL
GROUND SURFACE	**0.0'**	**309.93**
TOP OF BENTONITE SEAL	**8.0**	**301.9**
TOP OF FILTER PACK	**9.0**	**300.9**
TOP OF SCREEN	**13.0**	**296.9**
BOTTOM OF WELL	**23.0**	**286.9**

REMARKS: Well was abandoned during excavation and ISS. Shallow well materials were removed during excavation to ISS platform elevation. The well and surrounding area were solidified (mixture composed of cement-slag-bentonite grout, mixed using ISS auger) to a depth of approximately 25 ft bgs.

ISS = In Situ Solidification
ft bgs = ft below ground surface
ft AMSL = ft above mean sea level

Certified By: Adria L. Reimer **Date: 5/18/2016**

Georgia P.G. No. PG002004

WELL ABANDONMENT LOG

PROJECT: AGLC Macon	**WELL NO.:** MW-206
SITE: Macon Former MGP Site HSI No. 10511	**COORDINATES:** N: 1031458.49 E: 2464077.44
ABANDONMENT BY: Geo Solutions, Inc. (GSI)	**DATE ABANDONED:** July 2015
METHOD OF ABANDONMENT: Overdrilled by ISS auger (10 ft O.D.)	**ERM OVERSIGHT:** K. Spevacek

TOTAL DEPTH PRIOR TO ABANDONMENT: 30 ft bgs (measured 8/2014)

DEPTH TO WATER PRIOR TO ABANDONMENT: 14.92 ft bgs (measured 8/2014)

WELL MATERIALS:
2 in Sch 40 PVC
0.010-in slot screen



	DEPTH: ft bgs	ELEV.: ft AMSL
GROUND SURFACE	0.0'	321.2
TOP OF BENTONITE SEAL	11.0	310.2
TOP OF FILTER PACK	13.0	308.2
TOP OF SCREEN	15.0	306.2
BOTTOM OF WELL	30.0	291.2

REMARKS: Well was abandoned during excavation and ISS. Shallow well materials were removed during excavation to ISS platform elevation. The well and surrounding area were solidified (mixture composed of cement-slag-bentonite grout, mixed using ISS auger) to a depth of approximately 35 ft bgs.

ISS = In Situ Solidification
ft bgs = ft below ground surface
ft AMSL = ft above mean sea level

Certified By: Adria L. Reimer **Date: 5/18/2016**

Georgia P.G. No. PG002004

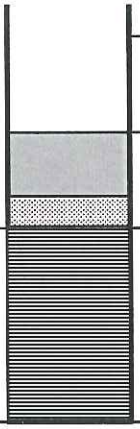
WELL ABANDONMENT LOG

PROJECT: AGLC Macon	**WELL NO.:** MW-207
SITE: Macon Former MGP Site HSI No. 10511	**COORDINATES:** N: 1031334.82 E: 2463892.36
ABANDONMENT BY: Geo Solutions, Inc. (GSI)	**DATE ABANDONED:** September 2015
METHOD OF ABANDONMENT: Overdrilled by ISS auger (10 ft O.D.)	**ERM OVERSIGHT:** K. Spevacek

TOTAL DEPTH PRIOR TO ABANDONMENT: 30 ft bgs (measured 8/2014)

DEPTH TO WATER PRIOR TO ABANDONMENT: 12.60 ft bgs (measured 8/2014)

WELL MATERIALS:
2 in Sch 40 PVC
0.010-in slot screen



	DEPTH: ft bgs	ELEV.: ft AMSL
GROUND SURFACE	0.0'	322.9
TOP OF BENTONITE SEAL	11.0	311.9
TOP OF FILTER PACK	13.0	309.9
TOP OF SCREEN	15.0	307.9
BOTTOM OF WELL	30.0	292.9

REMARKS: Well was abandoned during excavation and ISS. Shallow well materials were removed during excavation to ISS platform elevation. The well and surrounding area were solidified (mixture composed of cement-slag-bentonite grout, mixed using ISS auger) to a depth of approximately 31 ft bgs.

ISS = In Situ Solidification
ft bgs = ft below ground surface
ft AMSL = ft above mean sea level

Certified By: Adria L. Reimer **Date: 5/18/2016**

Georgia P.G. No. PG002004

Soil Excavation Confirmatory Samples - Laboratory Analytical Reports

Appendix A-3

May 21, 2016
Project No. 0176740
Corrective Action Completion Report

Environmental Resources Management
3200 Windy Hill Rd. Suite 1500W
Atlanta, GA 30339
(678) 486-2700

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

AES

June 25, 2015

Nic Vrey
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: Macon Remediation

Dear Nic Vrey: Order No: 1506H53

Analytical Environmental Services, Inc. received 19 samples on 6/17/2015 10:06:00 AM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/15.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

Revision 6/25/2015

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1506H53

Date: 6/16/15 Page 1 of 2

COMPANY:	ADDRESS:
ERM	3200 Windy Hill Rd SE Ste 1500W Atlanta, GA 30339
PHONE: 678 486 2700	FAX:
SAMPLED BY: WV / SM	SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	8270C	6010B											REMARKS	No # of Containers
							PRESERVATION (See codes)													
							NA	NA												
1	SCS-01-CF-(0-2')-20150616-01	6/16/15	1020	X		SO	1	1												2
2	SCS-02-CF-(0-2')-20150616-01		1630																	
3	SCS-03-CF-(0-2')-20150616-01		1035																	
4	SCS-04-CF-(0-2')-20150616-01		1040																	
5	SCS-05-CF-(0-2')-20150616-01		1046																	
6	SCS-06-CF-(0-2')-20150616-01		1051																	
7	SCS-07-CF-(0-2')-20150616-01		1055																	
8	SCS-08-CF-(0-2')-20150616-01		1100																	
9	SCS-09-CF-(0-2')-20150616-01		1105																	
10	SCS-10-CF-(0-2')-20150616-01		1110																	
11	SCS-11-CF-(0-2')-20150616-01		1115																	
12	SCS-12-CF-(0-2')-20150616-01		1120																	2
13	ER-01-20150616-01		1130			W	2	1												3
14	SCS-13-CF-(0-2')-20150616-01		13:55			SO	1	1												

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:	6/17/15 07:50	1: 6-17-15	7:50
2:	6-17-15 10:06	2: Latoya Reeves	6/17/15 10:06a
3:		3:	

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
CLIENT FedEx UPS MAIL COURIER
GREYHOUND OTHER

PROJECT INFORMATION
PROJECT NAME: Macon Remediation
PROJECT #: 0176740
SITE ADDRESS:
SEND REPORT TO: Vic Vrey, Adric Reimer
INVOICE TO: Mark Fleri
(IF DIFFERENT FROM ABOVE)
QUOTE #: PO#:

RECEIPT
Total # of Containers: 29

Turnaround Time Request
- Standard 5 Business Days
- 2 Business Day Rush
- Next Business Day Rush
- Same Day Rush (auth req.)
- Other 3 Day TAT

STATE PROGRAM (if any):
E-mail? Y / N; Fax? Y / N
DATA PACKAGE: I II III IV

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water
PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1506H53

Date: 6/16/15 Page 2 of 2

COMPANY: ERM
ADDRESS: 3200 Windy Hill Rd SE Suite 1500W Atlanta, GA 30339
PHONE: (678) 486-2700
FAX:
SAMPLED BY: J. Mullooly / W. Virgo
SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	8270C SVOC	6010B (metals)	REMARKS	No # of Containers
	PRESERVATION (See codes)						NA	NA		
1	SCS-14-CF-(0-2')-20150616-01	6/16/15	1357	X		SO	1	1		2
2	SCS-15-CF-(0-2')-20150616-01	"	14:05	X		"	1	1		2
3	SCS-16-CF-(0-2')-20150616-01	"	14:07	X		"	1	1		2
4	Dup-01-20150616-01	"		X		"	1	1		2
5	SCS-17-CW-(0-2')-20150616-01	"	14:15	X		"	1	1		2
6										
7										
8										
9										
10										
11										
12										
13										
14										

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:	6/17/15 07:50	1:	6-17-15 7:50
2:	6-17-15 10:06	2: Cataya Reeves	6/17/15 10:06
3:		3:	

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
CLIENT FedEx UPS MAIL COURIER
GREYHOUND OTHER

PROJECT INFORMATION
PROJECT NAME: Macon Remediation
PROJECT #: 0176740
SITE ADDRESS: Walnut Street Macon, GA
SEND REPORT TO: Nic Vreg, Adria Reimer, Mark Fleri
INVOICE TO: (IF DIFFERENT FROM ABOVE)
QUOTE #: PO#:

RECEIPT
Total # of Containers: 10

Turnaround Time Request
- O Standard 5 Business Days
- O 2 Business Day Rush
- O Next Business Day Rush
- O Same Day Rush (auth req.)
- ⊗ Other 3 Day TAT

STATE PROGRAM (if any):
E-mail? Y / N; Fax? Y / N
DATA PACKAGE: I II III IV

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water
PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc **Date:** 25-Jun-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-01-6F-(2)-20150616-01
Project Name:	Macon Remediation	**Collection Date:**	6/16/2015 10:20:00 AM
Lab ID:	1506H53-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Benz(a)anthracene	12000	3600		ug/Kg-dry	208989	10	06/22/2015 13:16	YH
Benzo(a)pyrene	15000	3600		ug/Kg-dry	208989	10	06/22/2015 13:16	YH
Benzo(b)fluoranthene	24000	3600		ug/Kg-dry	208989	10	06/22/2015 13:16	YH
Surr: 2,4,6-Tribromophenol	79.6	41-128		%REC	208989	1	06/19/2015 17:32	YH
Surr: 2-Fluorobiphenyl	77.3	47-120		%REC	208989	1	06/19/2015 17:32	YH
Surr: 2-Fluorophenol	66.7	38.3-120		%REC	208989	1	06/19/2015 17:32	YH
Surr: 4-Terphenyl-d14	75.5	51.4-125		%REC	208989	1	06/19/2015 17:32	YH
Surr: Nitrobenzene-d5	70.1	40.1-120		%REC	208989	1	06/19/2015 17:32	YH
Surr: Phenol-d5	80.1	40.3-120		%REC	208989	1	06/19/2015 17:32	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.32		mg/Kg-dry	208957	1	06/19/2015 19:37	IO
Arsenic	12.1	5.32		mg/Kg-dry	208957	1	06/19/2015 19:37	IO
Beryllium	BRL	2.66		mg/Kg-dry	208957	1	06/19/2015 19:37	IO
Copper	32.7	2.66		mg/Kg-dry	208957	1	06/19/2015 19:37	IO
Lead	55.3	5.32		mg/Kg-dry	208957	1	06/19/2015 19:37	IO
PERCENT MOISTURE D2216								
Percent Moisture	8.03	0		wt%	R294418	1	06/22/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Jun-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-02-6F-(2)-20150616-01
Project Name:	Macon Remediation	**Collection Date:**	6/16/2015 10:30:00 AM
Lab ID:	1506H53-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Benz(a)anthracene	870	360		ug/Kg-dry	208989	1	06/19/2015 17:58	YH
Benzo(a)pyrene	840	360		ug/Kg-dry	208989	1	06/19/2015 17:58	YH
Benzo(b)fluoranthene	1600	360		ug/Kg-dry	208989	1	06/19/2015 17:58	YH
Surr: 2,4,6-Tribromophenol	83	41-128		%REC	208989	1	06/19/2015 17:58	YH
Surr: 2-Fluorobiphenyl	76.9	47-120		%REC	208989	1	06/19/2015 17:58	YH
Surr: 2-Fluorophenol	64.2	38.3-120		%REC	208989	1	06/19/2015 17:58	YH
Surr: 4-Terphenyl-d14	78.8	51.4-125		%REC	208989	1	06/19/2015 17:58	YH
Surr: Nitrobenzene-d5	63.8	40.1-120		%REC	208989	1	06/19/2015 17:58	YH
Surr: Phenol-d5	79.4	40.3-120		%REC	208989	1	06/19/2015 17:58	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	5.11	5.02		mg/Kg-dry	208957	1	06/19/2015 20:10	IO
Arsenic	17.5	5.02		mg/Kg-dry	208957	1	06/19/2015 20:10	IO
Beryllium	BRL	2.51		mg/Kg-dry	208957	1	06/19/2015 20:10	IO
Copper	99.3	2.51		mg/Kg-dry	208957	1	06/19/2015 20:10	IO
Lead	249	5.02		mg/Kg-dry	208957	1	06/19/2015 20:10	IO
PERCENT MOISTURE D2216								
Percent Moisture	7.87	0		wt%	R294418	1	06/22/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Jun-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-03-6F-(2)-20150616-01
Project Name:	Macon Remediation	**Collection Date:**	6/16/2015 10:35:00 AM
Lab ID:	1506H53-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Benz(a)anthracene	5100	360		ug/Kg-dry	208989	1	06/19/2015 18:24	YH
Benzo(a)pyrene	4800	360		ug/Kg-dry	208989	1	06/19/2015 18:24	YH
Benzo(b)fluoranthene	9100	3600		ug/Kg-dry	208989	10	06/22/2015 13:42	YH
Surr: 2,4,6-Tribromophenol	81.1	41-128		%REC	208989	1	06/19/2015 18:24	YH
Surr: 2-Fluorobiphenyl	77	47-120		%REC	208989	1	06/19/2015 18:24	YH
Surr: 2-Fluorophenol	67	38.3-120		%REC	208989	1	06/19/2015 18:24	YH
Surr: 4-Terphenyl-d14	79.3	51.4-125		%REC	208989	1	06/19/2015 18:24	YH
Surr: Nitrobenzene-d5	66.6	40.1-120		%REC	208989	1	06/19/2015 18:24	YH
Surr: Phenol-d5	81.2	40.3-120		%REC	208989	1	06/19/2015 18:24	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.30		mg/Kg-dry	208957	1	06/19/2015 20:14	IO
Arsenic	19.4	5.30		mg/Kg-dry	208957	1	06/19/2015 20:14	IO
Beryllium	BRL	2.65		mg/Kg-dry	208957	1	06/19/2015 20:14	IO
Copper	62.8	2.65		mg/Kg-dry	208957	1	06/19/2015 20:14	IO
Lead	97.7	5.30		mg/Kg-dry	208957	1	06/19/2015 20:14	IO
PERCENT MOISTURE D2216								
Percent Moisture	8.93	0		wt%	R294418	1	06/22/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Jun-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-04-6F-(2)-20150616-01
Project Name:	Macon Remediation	**Collection Date:**	6/16/2015 10:40:00 AM
Lab ID:	1506H53-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Benz(a)anthracene	1000	350		ug/Kg-dry	208989	1	06/19/2015 18:50	YH
Benzo(a)pyrene	1000	350		ug/Kg-dry	208989	1	06/19/2015 18:50	YH
Benzo(b)fluoranthene	1900	350		ug/Kg-dry	208989	1	06/19/2015 18:50	YH
Surr: 2,4,6-Tribromophenol	88.7	41-128		%REC	208989	1	06/19/2015 18:50	YH
Surr: 2-Fluorobiphenyl	84.9	47-120		%REC	208989	1	06/19/2015 18:50	YH
Surr: 2-Fluorophenol	67.1	38.3-120		%REC	208989	1	06/19/2015 18:50	YH
Surr: 4-Terphenyl-d14	86	51.4-125		%REC	208989	1	06/19/2015 18:50	YH
Surr: Nitrobenzene-d5	68.7	40.1-120		%REC	208989	1	06/19/2015 18:50	YH
Surr: Phenol-d5	86.4	40.3-120		%REC	208989	1	06/19/2015 18:50	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.01		mg/Kg-dry	208957	1	06/19/2015 20:18	IO
Arsenic	13.3	5.01		mg/Kg-dry	208957	1	06/19/2015 20:18	IO
Beryllium	BRL	2.50		mg/Kg-dry	208957	1	06/19/2015 20:18	IO
Copper	88.4	2.50		mg/Kg-dry	208957	1	06/19/2015 20:18	IO
Lead	168	5.01		mg/Kg-dry	208957	1	06/19/2015 20:18	IO
PERCENT MOISTURE D2216								
Percent Moisture	4.76	0		wt%	R294418	1	06/22/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Jun-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-05-6F-(2)-20150616-01
Project Name:	Macon Remediation	**Collection Date:**	6/16/2015 10:46:00 AM
Lab ID:	1506H53-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Benz(a)anthracene	2000	360		ug/Kg-dry	208989	1	06/19/2015 19:16	YH
Benzo(a)pyrene	1200	360		ug/Kg-dry	208989	1	06/19/2015 19:16	YH
Benzo(b)fluoranthene	2000	360		ug/Kg-dry	208989	1	06/19/2015 19:16	YH
Surr: 2,4,6-Tribromophenol	78.4	41-128		%REC	208989	1	06/19/2015 19:16	YH
Surr: 2-Fluorobiphenyl	73.9	47-120		%REC	208989	1	06/19/2015 19:16	YH
Surr: 2-Fluorophenol	63.9	38.3-120		%REC	208989	1	06/19/2015 19:16	YH
Surr: 4-Terphenyl-d14	75.3	51.4-125		%REC	208989	1	06/19/2015 19:16	YH
Surr: Nitrobenzene-d5	59.7	40.1-120		%REC	208989	1	06/19/2015 19:16	YH
Surr: Phenol-d5	76.1	40.3-120		%REC	208989	1	06/19/2015 19:16	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.27		mg/Kg-dry	208957	1	06/19/2015 20:22	IO
Arsenic	12.1	5.27		mg/Kg-dry	208957	1	06/19/2015 20:22	IO
Beryllium	BRL	2.64		mg/Kg-dry	208957	1	06/19/2015 20:22	IO
Copper	90.3	2.64		mg/Kg-dry	208957	1	06/19/2015 20:22	IO
Lead	280	5.27		mg/Kg-dry	208957	1	06/19/2015 20:22	IO
PERCENT MOISTURE D2216								
Percent Moisture	8.85	0		wt%	R294418	1	06/22/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Jun-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-06-6F-(2)-20150616-01
Project Name:	Macon Remediation	**Collection Date:**	6/16/2015 10:51:00 AM
Lab ID:	1506H53-006	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Benz(a)anthracene	BRL	360		ug/Kg-dry	208989	1	06/19/2015 19:42	YH
Benzo(a)pyrene	BRL	360		ug/Kg-dry	208989	1	06/19/2015 19:42	YH
Benzo(b)fluoranthene	BRL	360		ug/Kg-dry	208989	1	06/19/2015 19:42	YH
Surr: 2,4,6-Tribromophenol	87.6	41-128		%REC	208989	1	06/19/2015 19:42	YH
Surr: 2-Fluorobiphenyl	84.2	47-120		%REC	208989	1	06/19/2015 19:42	YH
Surr: 2-Fluorophenol	79.2	38.3-120		%REC	208989	1	06/19/2015 19:42	YH
Surr: 4-Terphenyl-d14	85.1	51.4-125		%REC	208989	1	06/19/2015 19:42	YH
Surr: Nitrobenzene-d5	73.7	40.1-120		%REC	208989	1	06/19/2015 19:42	YH
Surr: Phenol-d5	94.8	40.3-120		%REC	208989	1	06/19/2015 19:42	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	4.96		mg/Kg-dry	208957	1	06/19/2015 20:26	IO
Arsenic	BRL	4.96		mg/Kg-dry	208957	1	06/19/2015 20:26	IO
Beryllium	BRL	2.48		mg/Kg-dry	208957	1	06/19/2015 20:26	IO
Copper	20.4	2.48		mg/Kg-dry	208957	1	06/19/2015 20:26	IO
Lead	29.8	4.96		mg/Kg-dry	208957	1	06/19/2015 20:26	IO
PERCENT MOISTURE D2216								
Percent Moisture	7.08	0		wt%	R294418	1	06/22/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Jun-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-07-6F-(2)-20150616-01
Project Name:	Macon Remediation	**Collection Date:**	6/16/2015 10:55:00 AM
Lab ID:	1506H53-007	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Benz(a)anthracene	2100	350		ug/Kg-dry	208989	1	06/19/2015 20:08	YH
Benzo(a)pyrene	1900	350		ug/Kg-dry	208989	1	06/19/2015 20:08	YH
Benzo(b)fluoranthene	3200	350		ug/Kg-dry	208989	1	06/19/2015 20:08	YH
Surr: 2,4,6-Tribromophenol	85.7	41-128		%REC	208989	1	06/19/2015 20:08	YH
Surr: 2-Fluorobiphenyl	82.4	47-120		%REC	208989	1	06/19/2015 20:08	YH
Surr: 2-Fluorophenol	70.3	38.3-120		%REC	208989	1	06/19/2015 20:08	YH
Surr: 4-Terphenyl-d14	84.3	51.4-125		%REC	208989	1	06/19/2015 20:08	YH
Surr: Nitrobenzene-d5	71.5	40.1-120		%REC	208989	1	06/19/2015 20:08	YH
Surr: Phenol-d5	87.2	40.3-120		%REC	208989	1	06/19/2015 20:08	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.07		mg/Kg-dry	208957	1	06/19/2015 20:30	IO
Arsenic	21.3	5.07		mg/Kg-dry	208957	1	06/19/2015 20:30	IO
Beryllium	BRL	2.54		mg/Kg-dry	208957	1	06/19/2015 20:30	IO
Copper	74.2	2.54		mg/Kg-dry	208957	1	06/19/2015 20:30	IO
Lead	115	5.07		mg/Kg-dry	208957	1	06/19/2015 20:30	IO
PERCENT MOISTURE D2216								
Percent Moisture	4.75	0		wt%	R294418	1	06/22/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Jun-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-08-6F-(2)-20150616-01
Project Name:	Macon Remediation	**Collection Date:**	6/16/2015 11:00:00 AM
Lab ID:	1506H53-008	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Benz(a)anthracene	BRL	350		ug/Kg-dry	209003	1	06/19/2015 18:37	YH
Benzo(a)pyrene	BRL	350		ug/Kg-dry	209003	1	06/19/2015 18:37	YH
Benzo(b)fluoranthene	BRL	350		ug/Kg-dry	209003	1	06/19/2015 18:37	YH
Surr: 2,4,6-Tribromophenol	61.5	41-128		%REC	209003	1	06/19/2015 18:37	YH
Surr: 2-Fluorobiphenyl	73.2	47-120		%REC	209003	1	06/19/2015 18:37	YH
Surr: 2-Fluorophenol	69.8	38.3-120		%REC	209003	1	06/19/2015 18:37	YH
Surr: 4-Terphenyl-d14	82.2	51.4-125		%REC	209003	1	06/19/2015 18:37	YH
Surr: Nitrobenzene-d5	87.4	40.1-120		%REC	209003	1	06/19/2015 18:37	YH
Surr: Phenol-d5	77.1	40.3-120		%REC	209003	1	06/19/2015 18:37	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	4.85		mg/Kg-dry	208957	1	06/19/2015 20:34	IO
Arsenic	BRL	4.85		mg/Kg-dry	208957	1	06/19/2015 20:34	IO
Beryllium	BRL	2.43		mg/Kg-dry	208957	1	06/19/2015 20:34	IO
Copper	23.8	2.43		mg/Kg-dry	208957	1	06/19/2015 20:34	IO
Lead	32.7	4.85		mg/Kg-dry	208957	1	06/19/2015 20:34	IO
PERCENT MOISTURE D2216								
Percent Moisture	5.55	0		wt%	R294418	1	06/22/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Jun-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-09-6F-(2)-20150616-01
Project Name:	Macon Remediation	**Collection Date:**	6/16/2015 11:05:00 AM
Lab ID:	1506H53-009	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Benz(a)anthracene	12000	3500		ug/Kg-dry	209003	10	06/22/2015 14:07	YH
Benzo(a)pyrene	14000	3500		ug/Kg-dry	209003	10	06/22/2015 14:07	YH
Benzo(b)fluoranthene	28000	3500		ug/Kg-dry	209003	10	06/22/2015 14:07	YH
Surr: 2,4,6-Tribromophenol	69.5	41-128		%REC	209003	1	06/19/2015 19:04	YH
Surr: 2-Fluorobiphenyl	85.2	47-120		%REC	209003	1	06/19/2015 19:04	YH
Surr: 2-Fluorophenol	84	38.3-120		%REC	209003	1	06/19/2015 19:04	YH
Surr: 4-Terphenyl-d14	76.9	51.4-125		%REC	209003	1	06/19/2015 19:04	YH
Surr: Nitrobenzene-d5	106	40.1-120		%REC	209003	1	06/19/2015 19:04	YH
Surr: Phenol-d5	91.4	40.3-120		%REC	209003	1	06/19/2015 19:04	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	4.95		mg/Kg-dry	208957	1	06/19/2015 20:38	IO
Arsenic	20.4	4.95		mg/Kg-dry	208957	1	06/19/2015 20:38	IO
Beryllium	BRL	2.47		mg/Kg-dry	208957	1	06/19/2015 20:38	IO
Copper	146	2.47		mg/Kg-dry	208957	1	06/19/2015 20:38	IO
Lead	230	4.95		mg/Kg-dry	208957	1	06/19/2015 20:38	IO
PERCENT MOISTURE D2216								
Percent Moisture	4.73	0		wt%	R294418	1	06/22/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Jun-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-10-6F-(2)-20150616-01
Project Name:	Macon Remediation	**Collection Date:**	6/16/2015 11:10:00 AM
Lab ID:	1506H53-010	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Benz(a)anthracene	BRL	370		ug/Kg-dry	209003	1	06/19/2015 19:30	YH
Benzo(a)pyrene	BRL	370		ug/Kg-dry	209003	1	06/19/2015 19:30	YH
Benzo(b)fluoranthene	BRL	370		ug/Kg-dry	209003	1	06/19/2015 19:30	YH
Surr: 2,4,6-Tribromophenol	57.3	41-128		%REC	209003	1	06/19/2015 19:30	YH
Surr: 2-Fluorobiphenyl	75.2	47-120		%REC	209003	1	06/19/2015 19:30	YH
Surr: 2-Fluorophenol	56.3	38.3-120		%REC	209003	1	06/19/2015 19:30	YH
Surr: 4-Terphenyl-d14	80.6	51.4-125		%REC	209003	1	06/19/2015 19:30	YH
Surr: Nitrobenzene-d5	87	40.1-120		%REC	209003	1	06/19/2015 19:30	YH
Surr: Phenol-d5	66.4	40.3-120		%REC	209003	1	06/19/2015 19:30	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.40		mg/Kg-dry	208957	1	06/19/2015 20:48	IO
Arsenic	19.4	5.40		mg/Kg-dry	208957	1	06/19/2015 20:48	IO
Beryllium	BRL	2.70		mg/Kg-dry	208957	1	06/19/2015 20:48	IO
Copper	162	2.70		mg/Kg-dry	208957	1	06/19/2015 20:48	IO
Lead	500	5.40		mg/Kg-dry	208957	1	06/19/2015 20:48	IO
PERCENT MOISTURE D2216								
Percent Moisture	11.7	0		wt%	R294418	1	06/22/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Jun-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-11-6F-(2)-20150616-01
Project Name:	Macon Remediation	**Collection Date:**	6/16/2015 11:15:00 AM
Lab ID:	1506H53-011	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Benz(a)anthracene	BRL	370		ug/Kg-dry	209003	1	06/19/2015 19:57	YH
Benzo(a)pyrene	BRL	370		ug/Kg-dry	209003	1	06/19/2015 19:57	YH
Benzo(b)fluoranthene	BRL	370		ug/Kg-dry	209003	1	06/19/2015 19:57	YH
Surr: 2,4,6-Tribromophenol	62.5	41-128		%REC	209003	1	06/19/2015 19:57	YH
Surr: 2-Fluorobiphenyl	79.4	47-120		%REC	209003	1	06/19/2015 19:57	YH
Surr: 2-Fluorophenol	58.9	38.3-120		%REC	209003	1	06/19/2015 19:57	YH
Surr: 4-Terphenyl-d14	85.2	51.4-125		%REC	209003	1	06/19/2015 19:57	YH
Surr: Nitrobenzene-d5	91.9	40.1-120		%REC	209003	1	06/19/2015 19:57	YH
Surr: Phenol-d5	69.7	40.3-120		%REC	209003	1	06/19/2015 19:57	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.27		mg/Kg-dry	208957	1	06/19/2015 20:53	IO
Arsenic	19.5	5.27		mg/Kg-dry	208957	1	06/19/2015 20:53	IO
Beryllium	BRL	2.64		mg/Kg-dry	208957	1	06/19/2015 20:53	IO
Copper	174	2.64		mg/Kg-dry	208957	1	06/19/2015 20:53	IO
Lead	410	5.27		mg/Kg-dry	208957	1	06/19/2015 20:53	IO
PERCENT MOISTURE D2216								
Percent Moisture	9.74	0		wt%	R294418	1	06/22/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Jun-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-12-6F-(2)-20150616-01
Project Name:	Macon Remediation	**Collection Date:**	6/16/2015 11:20:00 AM
Lab ID:	1506H53-012	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Benz(a)anthracene	3000	350		ug/Kg-dry	209003	1	06/19/2015 20:25	YH
Benzo(a)pyrene	3000	350		ug/Kg-dry	209003	1	06/19/2015 20:25	YH
Benzo(b)fluoranthene	5400	350		ug/Kg-dry	209003	1	06/19/2015 20:25	YH
Surr: 2,4,6-Tribromophenol	64.9	41-128		%REC	209003	1	06/19/2015 20:25	YH
Surr: 2-Fluorobiphenyl	77.8	47-120		%REC	209003	1	06/19/2015 20:25	YH
Surr: 2-Fluorophenol	70.9	38.3-120		%REC	209003	1	06/19/2015 20:25	YH
Surr: 4-Terphenyl-d14	76.9	51.4-125		%REC	209003	1	06/19/2015 20:25	YH
Surr: Nitrobenzene-d5	92.5	40.1-120		%REC	209003	1	06/19/2015 20:25	YH
Surr: Phenol-d5	80.5	40.3-120		%REC	209003	1	06/19/2015 20:25	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	5.24	4.91		mg/Kg-dry	208957	1	06/19/2015 20:57	IO
Arsenic	32.0	4.91		mg/Kg-dry	208957	1	06/19/2015 20:57	IO
Beryllium	BRL	2.45		mg/Kg-dry	208957	1	06/19/2015 20:57	IO
Copper	147	2.45		mg/Kg-dry	208957	1	06/19/2015 20:57	IO
Lead	283	4.91		mg/Kg-dry	208957	1	06/19/2015 20:57	IO
PERCENT MOISTURE D2216								
Percent Moisture	5.82	0		wt%	R294418	1	06/22/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Jun-15

Client:	ERM-Southeast	**Client Sample ID:**	EB-01-20150616-01
Project Name:	Macon Remediation	**Collection Date:**	6/16/2015 11:30:00 AM
Lab ID:	1506H53-013	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	10		ug/L	208993	1	06/19/2015 19:19	YH
Benzo(a)pyrene	BRL	10		ug/L	208993	1	06/19/2015 19:19	YH
Benzo(b)fluoranthene	BRL	10		ug/L	208993	1	06/19/2015 19:19	YH
Surr: 2,4,6-Tribromophenol	91.9	52-133		%REC	208993	1	06/19/2015 19:19	YH
Surr: 2-Fluorobiphenyl	79.4	50-121		%REC	208993	1	06/19/2015 19:19	YH
Surr: 2-Fluorophenol	67.6	27.5-120		%REC	208993	1	06/19/2015 19:19	YH
Surr: 4-Terphenyl-d14	90.8	46.3-137		%REC	208993	1	06/19/2015 19:19	YH
Surr: Nitrobenzene-d5	90.8	41.2-121		%REC	208993	1	06/19/2015 19:19	YH
Surr: Phenol-d5	62.4	14.3-120		%REC	208993	1	06/19/2015 19:19	YH
METALS, TOTAL SW6010C				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	208942	1	06/18/2015 23:19	IO
Arsenic	BRL	0.0500		mg/L	208942	1	06/18/2015 23:19	IO
Beryllium	BRL	0.0100		mg/L	208942	1	06/18/2015 23:19	IO
Copper	BRL	0.0100		mg/L	208942	1	06/18/2015 23:19	IO
Lead	BRL	0.0100		mg/L	208942	1	06/18/2015 23:19	IO

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Jun-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-13-6F-(2)-20150616-01
Project Name:	Macon Remediation	**Collection Date:**	6/16/2015 1:55:00 PM
Lab ID:	1506H53-014	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Benz(a)anthracene	3600	360		ug/Kg-dry	209003	1	06/19/2015 20:53	YH
Benzo(a)pyrene	3000	360		ug/Kg-dry	209003	1	06/19/2015 20:53	YH
Benzo(b)fluoranthene	5000	360		ug/Kg-dry	209003	1	06/19/2015 20:53	YH
Surr: 2,4,6-Tribromophenol	72.3	41-128		%REC	209003	1	06/19/2015 20:53	YH
Surr: 2-Fluorobiphenyl	80.8	47-120		%REC	209003	1	06/19/2015 20:53	YH
Surr: 2-Fluorophenol	72.1	38.3-120		%REC	209003	1	06/19/2015 20:53	YH
Surr: 4-Terphenyl-d14	82.5	51.4-125		%REC	209003	1	06/19/2015 20:53	YH
Surr: Nitrobenzene-d5	93.2	40.1-120		%REC	209003	1	06/19/2015 20:53	YH
Surr: Phenol-d5	83.6	40.3-120		%REC	209003	1	06/19/2015 20:53	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.22		mg/Kg-dry	208957	1	06/19/2015 21:02	IO
Arsenic	25.2	5.22		mg/Kg-dry	208957	1	06/19/2015 21:02	IO
Beryllium	BRL	2.61		mg/Kg-dry	208957	1	06/19/2015 21:02	IO
Copper	43.6	2.61		mg/Kg-dry	208957	1	06/19/2015 21:02	IO
Lead	47.8	5.22		mg/Kg-dry	208957	1	06/19/2015 21:02	IO
PERCENT MOISTURE D2216								
Percent Moisture	7.99	0		wt%	R294418	1	06/22/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Jun-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-14-6F-(2)-20150616-01
Project Name:	Macon Remediation	**Collection Date:**	6/16/2015 1:57:00 PM
Lab ID:	1506H53-015	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Benz(a)anthracene	BRL	350		ug/Kg-dry	209003	1	06/19/2015 21:20	YH
Benzo(a)pyrene	BRL	350		ug/Kg-dry	209003	1	06/19/2015 21:20	YH
Benzo(b)fluoranthene	440	350		ug/Kg-dry	209003	1	06/19/2015 21:20	YH
Surr: 2,4,6-Tribromophenol	69.5	41-128		%REC	209003	1	06/19/2015 21:20	YH
Surr: 2-Fluorobiphenyl	82.6	47-120		%REC	209003	1	06/19/2015 21:20	YH
Surr: 2-Fluorophenol	71.7	38.3-120		%REC	209003	1	06/19/2015 21:20	YH
Surr: 4-Terphenyl-d14	87.5	51.4-125		%REC	209003	1	06/19/2015 21:20	YH
Surr: Nitrobenzene-d5	95.6	40.1-120		%REC	209003	1	06/19/2015 21:20	YH
Surr: Phenol-d5	80.6	40.3-120		%REC	209003	1	06/19/2015 21:20	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.08		mg/Kg-dry	208957	1	06/19/2015 21:06	IO
Arsenic	13.8	5.08		mg/Kg-dry	208957	1	06/19/2015 21:06	IO
Beryllium	BRL	2.54		mg/Kg-dry	208957	1	06/19/2015 21:06	IO
Copper	51.1	2.54		mg/Kg-dry	208957	1	06/19/2015 21:06	IO
Lead	83.1	5.08		mg/Kg-dry	208957	1	06/19/2015 21:06	IO
PERCENT MOISTURE D2216								
Percent Moisture	5.71	0		wt%	R294418	1	06/22/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Jun-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-15-6F-(2)-20150616-01
Project Name:	Macon Remediation	**Collection Date:**	6/16/2015 2:05:00 PM
Lab ID:	1506H53-016	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Benz(a)anthracene	750	360		ug/Kg-dry	209003	1	06/19/2015 21:48	YH
Benzo(a)pyrene	690	360		ug/Kg-dry	209003	1	06/19/2015 21:48	YH
Benzo(b)fluoranthene	1100	360		ug/Kg-dry	209003	1	06/19/2015 21:48	YH
Surr: 2,4,6-Tribromophenol	77.6	41-128		%REC	209003	1	06/19/2015 21:48	YH
Surr: 2-Fluorobiphenyl	82.4	47-120		%REC	209003	1	06/19/2015 21:48	YH
Surr: 2-Fluorophenol	76.7	38.3-120		%REC	209003	1	06/19/2015 21:48	YH
Surr: 4-Terphenyl-d14	90.8	51.4-125		%REC	209003	1	06/19/2015 21:48	YH
Surr: Nitrobenzene-d5	96.4	40.1-120		%REC	209003	1	06/19/2015 21:48	YH
Surr: Phenol-d5	87.3	40.3-120		%REC	209003	1	06/19/2015 21:48	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.04		mg/Kg-dry	208957	1	06/19/2015 21:10	IO
Arsenic	BRL	5.04		mg/Kg-dry	208957	1	06/19/2015 21:10	IO
Beryllium	BRL	2.52		mg/Kg-dry	208957	1	06/19/2015 21:10	IO
Copper	7.77	2.52		mg/Kg-dry	208957	1	06/19/2015 21:10	IO
Lead	33.5	5.04		mg/Kg-dry	208957	1	06/19/2015 21:10	IO
PERCENT MOISTURE D2216								
Percent Moisture	9.39	0		wt%	R294418	1	06/22/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Jun-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-16-6F-(2)-20150616-01
Project Name:	Macon Remediation	**Collection Date:**	6/16/2015 2:07:00 PM
Lab ID:	1506H53-017	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Benz(a)anthracene	510	370		ug/Kg-dry	209003	1	06/19/2015 22:16	YH
Benzo(a)pyrene	540	370		ug/Kg-dry	209003	1	06/19/2015 22:16	YH
Benzo(b)fluoranthene	780	370		ug/Kg-dry	209003	1	06/19/2015 22:16	YH
Surr: 2,4,6-Tribromophenol	72.5	41-128		%REC	209003	1	06/19/2015 22:16	YH
Surr: 2-Fluorobiphenyl	81.2	47-120		%REC	209003	1	06/19/2015 22:16	YH
Surr: 2-Fluorophenol	77.8	38.3-120		%REC	209003	1	06/19/2015 22:16	YH
Surr: 4-Terphenyl-d14	88.7	51.4-125		%REC	209003	1	06/19/2015 22:16	YH
Surr: Nitrobenzene-d5	91.7	40.1-120		%REC	209003	1	06/19/2015 22:16	YH
Surr: Phenol-d5	89	40.3-120		%REC	209003	1	06/19/2015 22:16	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.33		mg/Kg-dry	208957	1	06/19/2015 21:13	IO
Arsenic	BRL	5.33		mg/Kg-dry	208957	1	06/19/2015 21:13	IO
Beryllium	BRL	2.66		mg/Kg-dry	208957	1	06/19/2015 21:13	IO
Copper	8.96	2.66		mg/Kg-dry	208957	1	06/19/2015 21:13	IO
Lead	9.99	5.33		mg/Kg-dry	208957	1	06/19/2015 21:13	IO
PERCENT MOISTURE D2216								
Percent Moisture	11.0	0		wt%	R294418	1	06/22/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Jun-15

Client:	ERM-Southeast	**Client Sample ID:**	DUP-01-20150616-01
Project Name:	Macon Remediation	**Collection Date:**	6/16/2015
Lab ID:	1506H53-018	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Benz(a)anthracene	1900	350		ug/Kg-dry	209003	1	06/19/2015 22:44	YH
Benzo(a)pyrene	1700	350		ug/Kg-dry	209003	1	06/19/2015 22:44	YH
Benzo(b)fluoranthene	3200	350		ug/Kg-dry	209003	1	06/19/2015 22:44	YH
Surr: 2,4,6-Tribromophenol	71.4	41-128		%REC	209003	1	06/19/2015 22:44	YH
Surr: 2-Fluorobiphenyl	84.8	47-120		%REC	209003	1	06/19/2015 22:44	YH
Surr: 2-Fluorophenol	76.6	38.3-120		%REC	209003	1	06/19/2015 22:44	YH
Surr: 4-Terphenyl-d14	83.9	51.4-125		%REC	209003	1	06/19/2015 22:44	YH
Surr: Nitrobenzene-d5	96.6	40.1-120		%REC	209003	1	06/19/2015 22:44	YH
Surr: Phenol-d5	86.5	40.3-120		%REC	209003	1	06/19/2015 22:44	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	4.97		mg/Kg-dry	208957	1	06/19/2015 21:17	IO
Arsenic	21.7	4.97		mg/Kg-dry	208957	1	06/19/2015 21:17	IO
Beryllium	BRL	2.49		mg/Kg-dry	208957	1	06/19/2015 21:17	IO
Copper	66.9	2.49		mg/Kg-dry	208957	1	06/19/2015 21:17	IO
Lead	112	4.97		mg/Kg-dry	208957	1	06/19/2015 21:17	IO
PERCENT MOISTURE D2216								
Percent Moisture	5.18	0		wt%	R294418	1	06/22/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Jun-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-17-6W-(0-2')-20150616-01
Project Name:	Macon Remediation	**Collection Date:**	6/16/2015 2:15:00 PM
Lab ID:	1506H53-019	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Benz(a)anthracene	5100	350		ug/Kg-dry	209003	1	06/19/2015 23:12	YH
Benzo(a)pyrene	5000	350		ug/Kg-dry	209003	1	06/19/2015 23:12	YH
Benzo(b)fluoranthene	16000	3500		ug/Kg-dry	209003	10	06/22/2015 15:39	YH
Surr: 2,4,6-Tribromophenol	65.6	41-128		%REC	209003	1	06/19/2015 23:12	YH
Surr: 2-Fluorobiphenyl	79.4	47-120		%REC	209003	1	06/19/2015 23:12	YH
Surr: 2-Fluorophenol	73	38.3-120		%REC	209003	1	06/19/2015 23:12	YH
Surr: 4-Terphenyl-d14	77	51.4-125		%REC	209003	1	06/19/2015 23:12	YH
Surr: Nitrobenzene-d5	94	40.1-120		%REC	209003	1	06/19/2015 23:12	YH
Surr: Phenol-d5	83	40.3-120		%REC	209003	1	06/19/2015 23:12	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	4.94		mg/Kg-dry	208957	1	06/19/2015 21:21	IO
Arsenic	38.4	4.94		mg/Kg-dry	208957	1	06/19/2015 21:21	IO
Beryllium	BRL	2.47		mg/Kg-dry	208957	1	06/19/2015 21:21	IO
Copper	145	2.47		mg/Kg-dry	208957	1	06/19/2015 21:21	IO
Lead	152	4.94		mg/Kg-dry	208957	1	06/19/2015 21:21	IO
PERCENT MOISTURE D2216								
Percent Moisture	6.36	0		wt%	R294418	1	06/22/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM-SE Work Order Number 1506H53

Checklist completed by Katie Forum 6/17/15
Signature Date

Carrier name: FedEx __ UPS __ Courier ✓ Client __ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 3.2°C Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted ✓ Yes __ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by KF

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506H53

ANALYTICAL QC SUMMARY REPORT

BatchID: 208942

Sample ID: **MB-208942** Client ID: Units: **mg/L** Prep Date: **06/17/2015** Run No: **294272**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **208942** Analysis Date: **06/22/2015** Seq No: **6273294**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	0.0200									
Arsenic	BRL	0.0500									
Beryllium	BRL	0.0100									
Copper	BRL	0.0100									
Lead	BRL	0.0100									

Sample ID: **LCS-208942** Client ID: Units: **mg/L** Prep Date: **06/17/2015** Run No: **294272**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **208942** Analysis Date: **06/18/2015** Seq No: **6270429**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.036	0.0200	1.000		104	80	120				
Arsenic	1.026	0.0500	1.000		103	80	120				
Beryllium	1.032	0.0100	1.000		103	80	120				
Copper	1.026	0.0100	1.000		103	80	120				
Lead	1.024	0.0100	1.000		102	80	120				

Sample ID: **1506H41-004BMS** Client ID: Units: **mg/L** Prep Date: **06/17/2015** Run No: **294272**
SampleType: **MS** TestCode: **METALS, TOTAL SW6010C** BatchID: **208942** Analysis Date: **06/18/2015** Seq No: **6270431**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.005	0.0200	1.000		100	75	125				
Arsenic	1.004	0.0500	1.000		100	75	125				
Beryllium	1.019	0.0100	1.000		102	75	125				
Copper	1.023	0.0100	1.000	0.009131	101	75	125				
Lead	1.006	0.0100	1.000	0.003819	100	75	125				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506H53

ANALYTICAL QC SUMMARY REPORT

BatchID: 208942

Sample ID: **1506H41-004BMSD** Client ID:
SampleType: **MSD** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/L** Prep Date: **06/17/2015** Run No: **294272**
BatchID: **208942** Analysis Date: **06/18/2015** Seq No: **6270432**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	0.9953	0.0200	1.000		99.5	75	125	1.005	0.930	20	
Arsenic	1.000	0.0500	1.000		100	75	125	1.004	0.398	20	
Beryllium	1.017	0.0100	1.000		102	75	125	1.019	0.204	20	
Copper	1.020	0.0100	1.000	0.009131	101	75	125	1.023	0.338	20	
Lead	0.9983	0.0100	1.000	0.003819	99.5	75	125	1.006	0.736	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506H53

ANALYTICAL QC SUMMARY REPORT

BatchID: 208957

Sample ID: **MB-208957** Client ID: Units: **mg/Kg** Prep Date: **06/17/2015** Run No: **294364**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **208957** Analysis Date: **06/19/2015** Seq No: **6272790**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	5.00									
Arsenic	BRL	5.00									
Beryllium	BRL	2.50									
Copper	BRL	2.50									
Lead	BRL	5.00									

Sample ID: **LCS-208957** Client ID: Units: **mg/Kg** Prep Date: **06/17/2015** Run No: **294364**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **208957** Analysis Date: **06/19/2015** Seq No: **6272791**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	49.48	5.00	50.00		99.0	80	120				
Arsenic	47.11	5.00	50.00		94.2	80	120				
Beryllium	48.65	2.50	50.00		97.3	80	120				
Copper	48.96	2.50	50.00		97.9	80	120				
Lead	48.07	5.00	50.00		96.1	80	120				

Sample ID: **1506H53-001BMS** Client ID: **SCS-01-6F-(2)-20150616-01** Units: **mg/Kg-dry** Prep Date: **06/17/2015** Run No: **294364**
SampleType: **MS** TestCode: **METALS, TOTAL SW6010C** BatchID: **208957** Analysis Date: **06/19/2015** Seq No: **6272793**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	39.22	5.32	53.16	1.205	71.5	75	125				S
Arsenic	59.49	5.32	53.16	12.12	89.1	75	125				
Beryllium	50.03	2.66	53.16	0.4163	93.3	75	125				
Copper	78.59	2.66	53.16	32.66	86.4	75	125				
Lead	86.21	5.32	53.16	55.30	58.1	75	125				S

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506H53

ANALYTICAL QC SUMMARY REPORT

BatchID: 208957

Sample ID: **1506H53-001BMSD** Client ID: **SCS-01-6F-(2)-20150616-01** Units: **mg/Kg-dry** Prep Date: **06/17/2015** Run No: **294364**
SampleType: **MSD** TestCode: **METALS, TOTAL SW6010C** BatchID: **208957** Analysis Date: **06/19/2015** Seq No: **6272794**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	39.93	5.32	53.17	1.205	72.8	75	125	39.22	1.78	20	S
Arsenic	59.72	5.32	53.17	12.12	89.5	75	125	59.49	0.397	20	
Beryllium	49.14	2.66	53.17	0.4163	91.6	75	125	50.03	1.78	20	
Copper	80.20	2.66	53.17	32.66	89.4	75	125	78.59	2.04	20	
Lead	90.91	5.32	53.17	55.30	67.0	75	125	86.21	5.30	20	S

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506H53

ANALYTICAL QC SUMMARY REPORT

BatchID: 208993

Sample ID: **MB-208993** Client ID: Units: **ug/L** Prep Date: **06/19/2015** Run No: **294397**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **208993** Analysis Date: **06/19/2015** Seq No: **6273401**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1´-Biphenyl	BRL	10									
1,2,4,5-Tetrachlorobenzene	BRL	10									
1,2,4-Trichlorobenzene	BRL	10									
1,2-Dichlorobenzene	BRL	10									
1,2-Diphenylhydrazine	BRL	10									
1,3,5-Trinitrobenzene	BRL	10									
1,3-Dichlorobenzene	BRL	10									
1,3-Dinitrobenzene	BRL	20									
1,4-Dichlorobenzene	BRL	10									
1,4-Napthoquinone	BRL	10									
1-Chloronaphthalene	BRL	10									
1-Methylnaphthalene	BRL	10									
1-Naphthylamine	BRL	10									
2,2´-oxybis(1-Chloropropane)	BRL	10									
2,3,4,6-Tetrachlorophenol	BRL	10									
2,3-Dichloroaniline	BRL	10									
2,4,5-Trichlorophenol	BRL	25									
2,4,6-Trichlorophenol	BRL	10									
2,4-Dichlorophenol	BRL	10									
2,4-Dimethylphenol	BRL	10									
2,4-Dinitrophenol	BRL	25									
2,4-Dinitrotoluene	BRL	10									
2,6-Dichlorophenol	BRL	10									
2,6-Dinitrotoluene	BRL	10									
2-Acetylaminofluorene	BRL	20									
2-Chloronaphthalene	BRL	10									
2-Chlorophenol	BRL	10									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506H53

ANALYTICAL QC SUMMARY REPORT

BatchID: 208993

Sample ID: **MB-208993** Client ID:
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/L** Prep Date: **06/19/2015** Run No: **294397**
BatchID: **208993** Analysis Date: **06/19/2015** Seq No: **6273401**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2-Methylnaphthalene	BRL	10									
2-Methylphenol	BRL	10									
2-Naphthylamine	BRL	10									
2-Nitroaniline	BRL	50									
2-Nitrophenol	BRL	10									
2-Picoline	BRL	10									
3,3´-Dichlorobenzidine	BRL	20									
3,3´-Dimethoxybenzidine	BRL	10									
3,3´-Dimethylbenzidine	BRL	20									
3,4-Methylphenol	BRL	10									
3-Chloroaniline	BRL	10									
3-Methylcholanthrene	BRL	10									
3-Methylphenol	BRL	10									
3-Nitroaniline	BRL	25									
4,6-Dinitro-2-methylphenol	BRL	25									
4-Aminobiphenyl	BRL	10									
4-Bromophenyl phenyl ether	BRL	10									
4-Chloro-3-methylphenol	BRL	10									
4-Chloroaniline	BRL	10									
4-Chlorophenyl phenyl ether	BRL	10									
4-Methylphenol	BRL	10									
4-Nitroaniline	BRL	25									
4-Nitrophenol	BRL	25									
4-Nitroquinoline,1-oxide	BRL	50									
5-Nitro-o-toluidine	BRL	10									
7,12-Dimethylbenz(a)anthracene	BRL	10									
a,a-Dimethylphenethylamine	BRL	50									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506H53

ANALYTICAL QC SUMMARY REPORT

BatchID: 208993

Sample ID: **MB-208993** Client ID: Units: **ug/L** Prep Date: **06/19/2015** Run No: **294397**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **208993** Analysis Date: **06/19/2015** Seq No: **6273401**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	10									
Acenaphthylene	BRL	10									
Acetophenone	BRL	10									
Allethrin	BRL	10									
alpha-Terpineol	BRL	10									
Aniline	BRL	10									
Anthracene	BRL	10									
Aramite	BRL	10									
Atrazine	BRL	10									
Baygon	BRL	10									
Benz(a)anthracene	BRL	10									
Benzaldehyde	BRL	10									
Benzidine	BRL	80									
Benzo(a)pyrene	BRL	10									
Benzo(b)fluoranthene	BRL	10									
Benzo(g,h,i)perylene	BRL	10									
Benzo(k)fluoranthene	BRL	10									
Benzoic acid	BRL	100									
Benzyl alcohol	BRL	10									
Bis(2-chloroethoxy)methane	BRL	10									
Bis(2-chloroethyl)ether	BRL	10									
Bis(2-chloroisopropyl)ether	BRL	10									
Bis(2-ethylhexyl)phthalate	BRL	10									
Bis(chloromethyl) ether	BRL	100									
Butyl benzyl phthalate	BRL	10									
Caprolactam	BRL	10									
Carbazole	BRL	10									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506H53

ANALYTICAL QC SUMMARY REPORT

BatchID: 208993

Sample ID: **MB-208993** Client ID: Units: **ug/L** Prep Date: **06/19/2015** Run No: **294397**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **208993** Analysis Date: **06/19/2015** Seq No: **6273401**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chlorobenzilate	BRL	10									
Chloropyrifos	BRL	10									
Chrysene	BRL	10									
Decane	BRL	10									
Di-n-butyl phthalate	BRL	10									
Di-n-octyl phthalate	BRL	10									
Diallate	BRL	10									
Diazinon	BRL	10									
Dibenz(a,h)anthracene	BRL	10									
Dibenz(a,j)acridine	BRL	10									
Dibenzofuran	BRL	10									
Diethyl phthalate	BRL	10									
Dimethoate	BRL	20									
Dimethyl phthalate	BRL	10									
Dimethylaminoazobenzene	BRL	10									
Diphenylamine	BRL	10									
Disulfoton	BRL	10									
Ethyl methanesulfonate	BRL	10									
Famphur	BRL	20									
Fenvalerate	BRL	10									
Fluoranthene	BRL	10									
Fluorene	BRL	10									
Hexachlorobenzene	BRL	10									
Hexachlorobutadiene	BRL	10									
Hexachlorocyclopentadiene	BRL	10									
Hexachloroethane	BRL	10									
Hexachlorophene	BRL	80									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506H53

ANALYTICAL QC SUMMARY REPORT

BatchID: 208993

Sample ID: **MB-208993** Client ID: Units: **ug/L** Prep Date: **06/19/2015** Run No: **294397**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **208993** Analysis Date: **06/19/2015** Seq No: **6273401**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Hexachloropropene	BRL	10									
Indeno(1,2,3-cd)pyrene	BRL	10									
Isodrin	BRL	10									
Isophorone	BRL	10									
Isosafrole	BRL	10									
Kepone	BRL	50									
Methapyrilene	BRL	20									
Methyl methanesulfonate	BRL	10									
Methyl parathion	BRL	10									
MGK-264	BRL	10									
N-Nitrosodi-n-butylamine	BRL	10									
N-Nitrosodi-n-propylamine	BRL	10									
N-Nitrosodiethylamine	BRL	10									
N-Nitrosodimethylamine	BRL	10									
N-Nitrosodiphenylamine	BRL	10									
N-Nitrosomethylethylamine	BRL	10									
N-Nitrosomorpholine	BRL	10									
N-Nitrosopiperidine	BRL	10									
N-Nitrosopyrrolidine	BRL	40									
N-Octadecane	BRL	10									
Naphthalene	BRL	10									
Nitrobenzene	BRL	10									
O,O,O-Triethyl phosphorothioate	BRL	10									
o-Toluidine	BRL	10									
p-Dimethylaminoazobenzene	BRL	10									
p-Phenylenediamine	BRL	500									
Parathion	BRL	10									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506H53

ANALYTICAL QC SUMMARY REPORT

BatchID: 208993

Sample ID: **MB-208993** Client ID: Units: **ug/L** Prep Date: **06/19/2015** Run No: **294397**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **208993** Analysis Date: **06/19/2015** Seq No: **6273401**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Pentachlorobenzene	BRL	10									
Pentachloronitrobenzene	BRL	10									
Pentachlorophenol	BRL	25									
Perylene	BRL	10									
Phenacetin	BRL	10									
Phenanthrene	BRL	10									
Phenol	BRL	10									
Phenothrin	BRL	10									
Phorate	BRL	10									
Piperonyl Butoxide	BRL	10									
Pronamide	BRL	10									
Pyrene	BRL	10									
Pyrethrin	BRL	50									
Pyridine	BRL	10									
Resmethrin	BRL	10									
Safrole	BRL	50									
Sym-Trinitrobenzene	BRL	10									
Tetraethyl dithiopyrophosphate	BRL	10									
Tetramethrin	BRL	10									
Thionazin	BRL	10									
Surr: 2,4,6-Tribromophenol	88.83	0	100.0		88.8	52	133				
Surr: 2-Fluorobiphenyl	41.24	0	50.00		82.5	50	121				
Surr: 2-Fluorophenol	59.47	0	100.0		59.5	27.5	120				
Surr: 4-Terphenyl-d14	43.36	0	50.00		86.7	46.3	137				
Surr: Nitrobenzene-d5	45.54	0	50.00		91.1	41.2	121				
Surr: Phenol-d5	43.94	0	100.0		43.9	14.3	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506H53

ANALYTICAL QC SUMMARY REPORT

BatchID: 208993

Sample ID: **LCS-208993** Client ID: Units: **ug/L** Prep Date: **06/19/2015** Run No: **294397**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **208993** Analysis Date: **06/19/2015** Seq No: **6273402**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	81.49	10	100.0		81.5	59.4	120				
1,4-Dichlorobenzene	82.02	10	100.0		82.0	52.6	120				
2,4-Dinitrotoluene	118.9	10	100.0		119	69.9	127				
2-Chlorophenol	94.64	10	100.0		94.6	59.8	120				
4-Chloro-3-methylphenol	116.1	10	100.0		116	65.7	126				
4-Nitrophenol	49.43	25	100.0		49.4	21	120				
Acenaphthene	107.7	10	100.0		108	68.2	124				
N-Nitrosodi-n-propylamine	130.5	10	100.0		131	60.3	138				
Pentachlorophenol	81.76	25	100.0		81.8	50.2	136				
Phenol	49.29	10	100.0		49.3	25.6	120				
Pyrene	112.2	10	100.0		112	70.1	124				
Surr: 2,4,6-Tribromophenol	108.5	0	100.0		108	52	133				
Surr: 2-Fluorobiphenyl	48.77	0	50.00		97.5	50	121				
Surr: 2-Fluorophenol	66.68	0	100.0		66.7	27.5	120				
Surr: 4-Terphenyl-d14	49.68	0	50.00		99.4	46.3	137				
Surr: Nitrobenzene-d5	51.90	0	50.00		104	41.2	121				
Surr: Phenol-d5	47.73	0	100.0		47.7	14.3	120				

Sample ID: **1506H53-013AMS** Client ID: **EB-01-20150616-01** Units: **ug/L** Prep Date: **06/19/2015** Run No: **294397**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **208993** Analysis Date: **06/19/2015** Seq No: **6273404**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	66.35	10	100.0		66.4	51.4	120				
1,4-Dichlorobenzene	67.89	10	100.0		67.9	50.3	120				
2,4-Dinitrotoluene	98.58	10	100.0		98.6	50.5	120				
2-Chlorophenol	78.41	10	100.0		78.4	51.4	120				
4-Chloro-3-methylphenol	97.22	10	100.0		97.2	50	121				
4-Nitrophenol	68.43	25	100.0		68.4	23.7	120				

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506H53

ANALYTICAL QC SUMMARY REPORT

BatchID: 208993

Sample ID: **1506H53-013AMS** Client ID: **EB-01-20150616-01** Units: **ug/L** Prep Date: **06/19/2015** Run No: **294397**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **208993** Analysis Date: **06/19/2015** Seq No: **6273404**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	86.67	10	100.0		86.7	53.9	120				
N-Nitrosodi-n-propylamine	106.9	10	100.0		107	52.6	122				
Pentachlorophenol	67.60	25	100.0		67.6	42.1	134				
Phenol	56.93	10	100.0		56.9	31	120				
Pyrene	97.48	10	100.0		97.5	53	112				
Surr: 2,4,6-Tribromophenol	92.69	0	100.0		92.7	52	133				
Surr: 2-Fluorobiphenyl	40.62	0	50.00		81.2	50	121				
Surr: 2-Fluorophenol	66.47	0	100.0		66.5	27.5	120				
Surr: 4-Terphenyl-d14	45.26	0	50.00		90.5	46.3	137				
Surr: Nitrobenzene-d5	43.26	0	50.00		86.5	41.2	121				
Surr: Phenol-d5	56.95	0	100.0		57.0	14.3	120				

Sample ID: **1506H53-013AMSD** Client ID: **EB-01-20150616-01** Units: **ug/L** Prep Date: **06/19/2015** Run No: **294397**
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **208993** Analysis Date: **06/19/2015** Seq No: **6273405**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	67.43	10	100.0		67.4	51.4	120	66.35	1.61	27.5	
1,4-Dichlorobenzene	68.78	10	100.0		68.8	50.3	120	67.89	1.30	22.9	
2,4-Dinitrotoluene	98.38	10	100.0		98.4	50.5	120	98.58	0.203	24.4	
2-Chlorophenol	79.39	10	100.0		79.4	51.4	120	78.41	1.24	27.3	
4-Chloro-3-methylphenol	99.01	10	100.0		99.0	50	121	97.22	1.82	26.5	
4-Nitrophenol	67.18	25	100.0		67.2	23.7	120	68.43	1.84	45.1	
Acenaphthene	88.23	10	100.0		88.2	53.9	120	86.67	1.78	22.5	
N-Nitrosodi-n-propylamine	107.4	10	100.0		107	52.6	122	106.9	0.439	28.9	
Pentachlorophenol	70.29	25	100.0		70.3	42.1	134	67.60	3.90	28.3	
Phenol	58.23	10	100.0		58.2	31	120	56.93	2.26	31.9	
Pyrene	97.44	10	100.0		97.4	53	112	97.48	0.041	22.3	
Surr: 2,4,6-Tribromophenol	93.22	0	100.0		93.2	52	133	92.69	0	0	

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506H53

ANALYTICAL QC SUMMARY REPORT

BatchID: 208993

Sample ID: **1506H53-013AMSD** Client ID: **EB-01-20150616-01** Units: **ug/L** Prep Date: **06/19/2015** Run No: **294397**
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **208993** Analysis Date: **06/19/2015** Seq No: **6273405**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 2-Fluorobiphenyl	41.36	0	50.00		82.7	50	121	40.62	0	0	
Surr: 2-Fluorophenol	67.97	0	100.0		68.0	27.5	120	66.47	0	0	
Surr: 4-Terphenyl-d14	45.41	0	50.00		90.8	46.3	137	45.26	0	0	
Surr: Nitrobenzene-d5	43.94	0	50.00		87.9	41.2	121	43.26	0	0	
Surr: Phenol-d5	58.31	0	100.0		58.3	14.3	120	56.95	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506H53

ANALYTICAL QC SUMMARY REPORT

BatchID: 209003

Sample ID: **MB-209003**	Client ID:		Units: **ug/Kg**	Prep Date: **06/19/2015**	Run No: **294383**
SampleType: **MBLK**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **209003**	Analysis Date: **06/19/2015**	Seq No: **6273095**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1´-Biphenyl	BRL	330									
1,2,4,5-Tetrachlorobenzene	BRL	330									
1,2,4-Trichlorobenzene	BRL	330									
1,2-Dichlorobenzene	BRL	330									
1,2-Dinitrobenzene	BRL	660									
1,2-Diphenylhydrazine	BRL	330									
1,3,5-Trinitrobenzene	BRL	660									
1,3-Dichlorobenzene	BRL	330									
1,3-Dinitrobenzene	BRL	660									
1,4-Dichlorobenzene	BRL	330									
1,4-Napthoquinone	BRL	330									
1-Chloronaphthalene	BRL	330									
1-Methylnaphthalene	BRL	330									
1-Naphthylamine	BRL	660									
2,3,4,6-Tetrachlorophenol	BRL	330									
2,4,5-Trichlorophenol	BRL	1700									
2,4,6-Trichlorophenol	BRL	330									
2,4-Dichlorophenol	BRL	330									
2,4-Dimethylphenol	BRL	330									
2,4-Dinitrophenol	BRL	1700									
2,4-Dinitrotoluene	BRL	330									
2,6-Dichlorophenol	BRL	330									
2,6-Dinitrotoluene	BRL	330									
2-Acetylaminofluorene	BRL	660									
2-Chloronaphthalene	BRL	330									
2-Chlorophenol	BRL	330									
2-Methylnaphthalene	BRL	330									

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506H53

ANALYTICAL QC SUMMARY REPORT

BatchID: 209003

Sample ID: **MB-209003** Client ID: Units: **ug/Kg** Prep Date: **06/19/2015** Run No: **294383**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **209003** Analysis Date: **06/19/2015** Seq No: **6273095**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2-Methylphenol	BRL	330									
2-Naphthylamine	BRL	660									
2-Nitroaniline	BRL	1700									
2-Nitrophenol	BRL	330									
2-Picoline	BRL	330									
3,3´-Dichlorobenzidine	BRL	660									
3,3´-Dimethylbenzidine	BRL	660									
3,4-Methylphenol	BRL	330									
3-Chloroaniline	BRL	330									
3-Methylcholanthrene	BRL	330									
3-Methylphenol	BRL	330									
3-Nitroaniline	BRL	1700									
4,6-Dinitro-2-methylphenol	BRL	1700									
4-Aminobiphenyl	BRL	660									
4-Bromophenyl phenyl ether	BRL	330									
4-Chloro-3-methylphenol	BRL	330									
4-Chloroaniline	BRL	330									
4-Chlorophenyl phenyl ether	BRL	330									
4-Methylphenol	BRL	330									
4-Nitroaniline	BRL	1700									
4-Nitrophenol	BRL	1700									
4-Nitroquinoline,1-oxide	BRL	1700									
5-Nitro-o-toluidine	BRL	330									
7,12-Dimethylbenz(a)anthracene	BRL	330									
a,a-Dimethylphenethylamine	BRL	1700									
Acenaphthene	BRL	330									
Acenaphthylene	BRL	330									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506H53

ANALYTICAL QC SUMMARY REPORT

BatchID: 209003

Sample ID: **MB-209003** Client ID:
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/Kg** Prep Date: **06/19/2015** Run No: **294383**
BatchID: **209003** Analysis Date: **06/19/2015** Seq No: **6273095**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acetophenone	BRL	330									
Allethrin	BRL	330									
Aniline	BRL	330									
Anthracene	BRL	330									
Aramite	BRL	330									
Atrazine	BRL	330									
Baygon	BRL	330									
Benz(a)anthracene	BRL	330									
Benzaldehyde	BRL	330									
Benzidine	BRL	2600									
Benzo(a)pyrene	BRL	330									
Benzo(b)fluoranthene	BRL	330									
Benzo(g,h,i)perylene	BRL	330									
Benzo(k)fluoranthene	BRL	330									
Benzoic acid	BRL	6600									
Benzyl alcohol	BRL	660									
Bis(2-chloroethoxy)methane	BRL	330									
Bis(2-chloroethyl)ether	BRL	330									
Bis(2-chloroisopropyl)ether	BRL	330									
Bis(2-ethylhexyl)phthalate	BRL	330									
Butyl benzyl phthalate	BRL	330									
Caprolactam	BRL	330									
Carbazole	BRL	330									
Chlorobenzilate	BRL	330									
Chloropyrifos	BRL	330									
Chrysene	BRL	330									
Di-n-butyl phthalate	BRL	330									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506H53

ANALYTICAL QC SUMMARY REPORT

BatchID: 209003

Sample ID: **MB-209003**	Client ID:		Units: **ug/Kg**	Prep Date: **06/19/2015**	Run No: **294383**
SampleType: **MBLK**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **209003**	Analysis Date: **06/19/2015**	Seq No: **6273095**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Di-n-octyl phthalate	BRL	330									
Diallate	BRL	330									
Diazinon	BRL	330									
Dibenz(a,h)anthracene	BRL	330									
Dibenz(a,j)acridine	BRL	330									
Dibenzofuran	BRL	330									
Diethyl phthalate	BRL	330									
Dimethoate	BRL	660									
Dimethyl phthalate	BRL	330									
Dimethylaminoazobenzene	BRL	330									
Diphenylamine	BRL	330									
Disulfoton	BRL	1900									
Ethyl methanesulfonate	BRL	660									
Famphur	BRL	660									
Fenvalerate	BRL	330									
Fluoranthene	BRL	330									
Fluorene	BRL	330									
Hexachlorobenzene	BRL	330									
Hexachlorobutadiene	BRL	330									
Hexachlorocyclopentadiene	BRL	660									
Hexachloroethane	BRL	2600									
Hexachlorophene	BRL	17000									
Hexachloropropene	BRL	1700									
Indeno(1,2,3-cd)pyrene	BRL	330									
Isodrin	BRL	660									
Isophorone	BRL	330									
Isosafrole	BRL	330									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506H53

ANALYTICAL QC SUMMARY REPORT

BatchID: 209003

Sample ID: **MB-209003** Client ID: Units: **ug/Kg** Prep Date: **06/19/2015** Run No: **294383**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **209003** Analysis Date: **06/19/2015** Seq No: **6273095**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Kepone	BRL	1700									
Methapyrilene	BRL	660									
Methyl methanesulfonate	BRL	1700									
Methyl parathion	BRL	330									
MGK-264	BRL	330									
N-Nitrosodi-n-butylamine	BRL	330									
N-Nitrosodi-n-propylamine	BRL	330									
N-Nitrosodiethylamine	BRL	660									
N-Nitrosodimethylamine	BRL	660									
N-Nitrosodiphenylamine	BRL	330									
N-Nitrosomethylethylamine	BRL	330									
N-Nitrosomorpholine	BRL	660									
N-Nitrosopiperidine	BRL	660									
N-Nitrosopyrrolidine	BRL	1700									
Naphthalene	BRL	330									
Nitrobenzene	BRL	330									
O,O,O-Triethyl phosphorothioate	BRL	330									
o-Toluidine	BRL	1300									
p-Dimethylaminoazobenzene	BRL	330									
p-Phenylenediamine	BRL	17000									
Parathion	BRL	330									
Pentachlorobenzene	BRL	330									
Pentachloronitrobenzene	BRL	660									
Pentachlorophenol	BRL	1700									
Perylene	BRL	330									
Phenacetin	BRL	660									
Phenanthrene	BRL	330									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506H53

ANALYTICAL QC SUMMARY REPORT

BatchID: 209003

Sample ID: **MB-209003** Client ID: Units: **ug/Kg** Prep Date: **06/19/2015** Run No: **294383**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **209003** Analysis Date: **06/19/2015** Seq No: **6273095**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	BRL	330									
Phenothrin	BRL	330									
Phorate	BRL	330									
Piperonyl Butoxide	BRL	330									
Pronamide	BRL	330									
Pyrene	BRL	330									
Pyrethrin	BRL	1700									
Pyridine	BRL	330									
Resmethrin	BRL	330									
Safrole	BRL	330									
Sym-Trinitrobenzene	BRL	330									
Tetraethyl dithiopyrophosphate	BRL	660									
Tetramethrin	BRL	330									
Thionazin	BRL	660									
Surr: 2,4,6-Tribromophenol	2175	0	3333		65.3	41	128				
Surr: 2-Fluorobiphenyl	1304	0	1667		78.2	47	120				
Surr: 2-Fluorophenol	2500	0	3333		75.0	38.3	120				
Surr: 4-Terphenyl-d14	1459	0	1667		87.5	51.4	125				
Surr: Nitrobenzene-d5	1471	0	1667		88.3	40.1	120				
Surr: Phenol-d5	2785	0	3333		83.6	40.3	120				

Sample ID: **LCS-209003** Client ID: Units: **ug/Kg** Prep Date: **06/19/2015** Run No: **294400**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **209003** Analysis Date: **06/22/2015** Seq No: **6273448**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	2700	330	3333		81.0	51.5	120				
1,4-Dichlorobenzene	2823	330	3333		84.7	50.8	120				
2,4-Dinitrotoluene	3570	330	3333		107	56.9	120				

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506H53

ANALYTICAL QC SUMMARY REPORT

BatchID: 209003

Sample ID: **LCS-209003** Client ID: Units: **ug/Kg** Prep Date: **06/19/2015** Run No: **294400**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **209003** Analysis Date: **06/22/2015** Seq No: **6273448**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2-Chlorophenol	3066	330	3333		92.0	51	120				
4-Chloro-3-methylphenol	3523	330	3333		106	54	120				
4-Nitrophenol	3469	1700	3333		104	40.7	120				
Acenaphthene	3163	330	3333		94.9	57.9	120				
N-Nitrosodi-n-propylamine	4069	330	3333		122	56.5	124				
Pentachlorophenol	2533	1700	3333		76.0	41.8	120				
Phenol	3052	330	3333		91.6	50.1	120				
Pyrene	3321	330	3333		99.6	59.4	120				
Surr: 2,4,6-Tribromophenol	3210	0	3333		96.3	41	128				
Surr: 2-Fluorobiphenyl	1489	0	1667		89.4	47	120				
Surr: 2-Fluorophenol	2881	0	3333		86.4	38.3	120				
Surr: 4-Terphenyl-d14	1548	0	1667		92.9	51.4	125				
Surr: Nitrobenzene-d5	1679	0	1667		101	40.1	120				
Surr: Phenol-d5	3157	0	3333		94.7	40.3	120				

Sample ID: **1506I73-002BMS** Client ID: Units: **ug/Kg-dry** Prep Date: **06/19/2015** Run No: **294383**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **209003** Analysis Date: **06/19/2015** Seq No: **6273098**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	2799	370	3714		75.4	53	120				
1,4-Dichlorobenzene	2633	370	3714		70.9	40	120				
2,4-Dinitrotoluene	2978	370	3714		80.2	41.7	120				
2-Chlorophenol	2987	370	3714		80.4	42.9	120				
4-Chloro-3-methylphenol	4030	370	3714		109	41.1	120				
4-Nitrophenol	4458	1900	3714		120	32	120				S
Acenaphthene	3103	370	3714		83.6	51.5	120				
N-Nitrosodi-n-propylamine	4102	370	3714		110	50.2	120				
Pentachlorophenol	2109	1900	3714		56.8	38.4	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506H53

ANALYTICAL QC SUMMARY REPORT

BatchID: 209003

Sample ID: **1506I73-002BMS** Client ID: Units: **ug/Kg-dry** Prep Date: **06/19/2015** Run No: **294383**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **209003** Analysis Date: **06/19/2015** Seq No: **6273098**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	3265	370	3714		87.9	41.5	120				
Pyrene	3745	370	3714		101	45.2	120				
Surr: 2,4,6-Tribromophenol	2690	0	3714		72.4	41	128				
Surr: 2-Fluorobiphenyl	1515	0	1857		81.6	47	120				
Surr: 2-Fluorophenol	2825	0	3714		76.1	38.3	120				
Surr: 4-Terphenyl-d14	1637	0	1857		88.2	51.4	125				
Surr: Nitrobenzene-d5	1805	0	1857		97.2	40.1	120				
Surr: Phenol-d5	3278	0	3714		88.3	40.3	120				

Sample ID: **1506I73-002BMSD** Client ID: Units: **ug/Kg-dry** Prep Date: **06/19/2015** Run No: **294383**
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **209003** Analysis Date: **06/19/2015** Seq No: **6273099**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	2687	370	3714		72.4	53	120	2799	4.09	25.5	
1,4-Dichlorobenzene	2636	370	3714		71.0	40	120	2633	0.127	26	
2,4-Dinitrotoluene	2951	370	3714		79.5	41.7	120	2978	0.914	33.1	
2-Chlorophenol	2854	370	3714		76.8	42.9	120	2987	4.54	30.7	
4-Chloro-3-methylphenol	3811	370	3714		103	41.1	120	4030	5.60	40.5	
4-Nitrophenol	4623	1900	3714		124	32	120	4458	3.64	37.9	S
Acenaphthene	3051	370	3714		82.2	51.5	120	3103	1.70	26.3	
N-Nitrosodi-n-propylamine	4015	370	3714		108	50.2	120	4102	2.16	34.9	
Pentachlorophenol	2174	1900	3714		58.5	38.4	120	2109	3.00	35.9	
Phenol	3174	370	3714		85.5	41.5	120	3265	2.84	37.4	
Pyrene	3879	370	3714		104	45.2	120	3745	3.52	35	
Surr: 2,4,6-Tribromophenol	2592	0	3714		69.8	41	128	2690	0	0	
Surr: 2-Fluorobiphenyl	1445	0	1857		77.8	47	120	1515	0	0	
Surr: 2-Fluorophenol	2702	0	3714		72.8	38.3	120	2825	0	0	
Surr: 4-Terphenyl-d14	1659	0	1857		89.3	51.4	125	1637	0	0	

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506H53

ANALYTICAL QC SUMMARY REPORT

BatchID: 209003

Sample ID: **1506I73-002BMSD** Client ID:
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/Kg-dry** Prep Date: **06/19/2015** Run No: **294383**
BatchID: **209003** Analysis Date: **06/19/2015** Seq No: **6273099**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: Nitrobenzene-d5	1653	0	1857		89.0	40.1	120	1805	0	0	
Surr: Phenol-d5	3148	0	3714		84.8	40.3	120	3278	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

July 08, 2015

Nic Vrey
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: Macon Remediation

Dear Nic Vrey: Order No: 1506R04

Analytical Environmental Services, Inc. received 32 samples on 6/25/2015 7:18:00 PM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/15.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC

3080 Presidential Drive, Atlanta GA 30340-3704
TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1506R04

Date: 6/25/15 Page 1 of 3

COMPANY:	ADDRESS:
ERM	3200 Windy Hill Rd SE Suite 1500W Atlanta, GA 30339
PHONE: 678-486-2700	FAX:
SAMPLED BY: Rena K Cgnter	SIGNATURE: Rena K Cgnter

ANALYSIS REQUESTED

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	8260B (Benzene, Chloromethane)	6010B (Arsenic)	8270C (Benzo(a)anthracene, Benzo(a)pyrene)	REMARKS	No # of Containers
	PRESERVATION (See codes)						HNO3	NA	NA		
1	SCS-18-7W-(0-2)-20150624-01	6/24/15	1020	X		SO	3			8260 B: Analyze only	3
2	SCS-19-7F-3-20150624-01	6/24/15	1145	X		SO	3			for Benzene and	3
3	SCS-20-7W-(0-2)-20150624-01	6/24/15	1230	X		SO	3			Chloromethane	3
4	DUP-02-20150624-01	6/24/15	1545	X		SO	3				3
5	SCS-21-7W-(0-2)-20150624-01	6/24/15	1400	X		SO	3			6010B: Analyze only	3
6	SCS-22-2W-(0-2)-20150625-01	6/25/15	1030		X	SO		1	1	for Arsenic	1
7	SCS-23-2W-(0-2)-20150625-01	6/25/15	1035		X	SO		1	1		1
8	SCS-24-2W-(0-2)-20150625-01	6/25/15	1040		X	SO		1	1	8270C: Analyze only	1
9	SCS-25-2W-(0-2)-20150625-01	6/25/15	1045		X	SO		1	1	for Benzo(a)pyrene	1
10	SCS-26-2W-(0-2)-20150625-01	6/25/15	1050		X	SO		1	1	and Benzo(a)anthracene	1
11	SCS-27-2F-(2)-20150625-01	6/25/15	1310		X	SO		1	1		1
12	SCS-28-2F-(2)-20150625-01	6/25/15	1315		X	SO		1	1		1
13	SCS-29-2F-(2)-20150625-01	6/25/15	1320		X	SO		1	1		1
14	SCS-30-2F-(2)-20150625-01	6/25/15	1325		X	SO		1	1		1

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: Rena K Cgnter	6/15/2481750	1:	5-25-15 5:50
2:	6-25-15 7:18	2: Tanya Belcher	6/25/15 7:18p
3:		3:	

PROJECT INFORMATION

PROJECT NAME: Macon Remediation
PROJECT #: 0176740
SITE ADDRESS:
SEND REPORT TO: Nic.Vrey@ERM.com
INVOICE TO: (IF DIFFERENT FROM ABOVE)
QUOTE #: PO#:

RECEIPT

Total # of Containers:

Turnaround Time Request
- ○ Standard 5 Business Days
- ○ 2 Business Day Rush
- ○ Next Business Day Rush
- ○ Same Day Rush (auth req.)
- ⊗ Other 3 Day TAT

STATE PROGRAM (if any):
E-mail? Y / N; Fax? Y / N
DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
CLIENT FedEx UPS MAIL (COURIER)
GREYHOUND OTHER

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

ANALYTICAL ENVIRONMENTAL SERVICES, INC

3080 Presidential Drive, Atlanta GA 30340-3704

AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 150R04

Date: 6/25/15 Page 2 of 3

COMPANY: ERM

ADDRESS: 3200 Windy Hill Rd SE, Suite 1500W, Atlanta, Ga 30339

PHONE: 678-486-2700 FAX:

SAMPLED BY: Reece K Carpenter SIGNATURE: Reece K Carpenter

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	8260B (Benzene, Chloromethane)	6010B (Arsenic)	8270C (Benzo(a)anthracene, Benzo(a)pyrene)	PRESERVATION (See codes) S/M+I	NA	NA	REMARKS	No # of Containers
1	SCS-31-2F-(2)-20150625-01	6/25/15	1330		X	SO		1	1				Same as remarks	1
2	SCS-32-2F-(2)-20150625-01	6/25/15	1335		X	SO		1	1				on pg. 1	1
3	SCS-33-2W-(0-2)-20150625-01	6/25/15	1350		X	SO		1	1					1
4	SCS-34-2W-(0-2)-20150625-01	6/25/15	1355		X	SO		1	1					1
5	DUP-03-20150625-01	6/25/15	—		X	SO		1	1					1
6	SCS-35-7W-(0-2)-20150625-01	6/25/15	1500	X		SO	3							3
7	SCS-36-7W-(0-2)-20150625-01	6/25/15	1505	X		SO	3							3
8	SCS-37-7W-(0-2)-20150625-01		1510	X		SO	3							3
9	SCS-38-7F-(2)-20150625-01		1515	X		SO	3							3
10	SCS-39-7F-(2)-20150625		1515	X		SO	3							3
11	SCS-40-7F-(2)-20150625		1520	X		SO	3							3
12	SCS-41-7W-(0-2)-20150625		1525	X		SO	3							3
13	SCS-42-7W-(0-2)-20150625		1530	X		SO	3							3
14	SCS-43-7W-(0-2)-20150625	↓	1535	X		SO	3							3

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: Reece K Carpenter	6/25/15	1:	6-25-15 5:50
2:	6-25-15 7:28pm	2: Tanya Dollins	6/25/15 7:28p
3:		3:	

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD

OUT / / VIA:

IN / / VIA:

CLIENT FedEx UPS MAIL COURIER

GREYHOUND OTHER_____

PROJECT INFORMATION

PROJECT NAME: Macon Remediation

PROJECT #: 0176740

SITE ADDRESS:

SEND REPORT TO: Nic.Vrey@ERM.com

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #:_____ PO#:_____

RECEIPT

Total # of Containers

Turnaround Time Request

- ○ Standard 5 Business Days
- ○ 2 Business Day Rush
- ○ Next Business Day Rush
- ○ Same Day Rush **(auth req.)**
- ⊗ Other 3 day TAT

STATE PROGRAM (if any): _____

E-mail? Y / N; Fax? Y / N

DATA PACKAGE: I II III IV

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

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PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

ANALYTICAL ENVIRONMENTAL SERVICES, INC

3080 Presidential Drive, Atlanta GA 30340-3704

AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1SD0R04

Date: 6/25/15 Page 3 of 3

COMPANY:	ADDRESS:
ERM	3200 Windy Hill Rd SE Suite 1500 W Atlanta, Ga
PHONE: 678-486-2700	FAX:
SAMPLED BY: Reece Carpenter	SIGNATURE: Reece Carpenter

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	PRESERVATION (See codes)	8260B (Benzene Chloromethane)	VOCs	SVOCs	Metals	REMARKS	No # of Containers
1	DUP-04-20150625-01	6/25/15	—	X		SO	3					8260B for only	3
2	EB-02-20150624-01	6/24/15	1630	X		W		X2	1	1		Benzene and	3 4
3	EB-03-20150625-01	6/25/15	1630	X		W		X2	1	1		Chloromethane	3 4
4	Trip Blank	6/25/15				W							1
5	Temp Blank	6/25/15				W							1
6													
7													
8													
9													
10													
11													
12													
13													
14													

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: Reece Carpenter	6/15/24	1:	5-25-15 5:51
2:	6-25-15 7:18	2: Renefa Collins	6/25/15 7:18p
3:		3:	

PROJECT INFORMATION

PROJECT NAME: Macon Remediation

PROJECT #: 0176740

SITE ADDRESS:

SEND REPORT TO: Nic.Vrey@ERM.com

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: PO#:

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD

OUT / / VIA:

IN / / VIA:

CLIENT FedEx UPS MAIL (COURIER)

GREYHOUND OTHER

RECEIPT

Total # of Containers

Turnaround Time Request

- ○ Standard 5 Business Days
- ○ 2 Business Day Rush
- ○ Next Business Day Rush
- ○ Same Day Rush (auth req.)
- ⊗ Other 3 day TAT

STATE PROGRAM (if any):

E-mail? Y / N; Fax? Y / N

DATA PACKAGE: I II III IV

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

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PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Client: ERM-Southeast
Project: Macon Remediation
Lab ID: 1506R04

Case Narrative

Sample Receiving Nonconformance:

For samples 1506R04-001A through 1506R04-005A and 1506R04-020A through 1506R04-029A, unpreserved samples for Percent Moisture analysis were not received. Percent Moisture analysis could not be performed. Nic Vrey was notified via email 6/26/2015.

The received date on the Chain of Custody was signed by the courier as "5-25-15". However, samples were received 6/25/2015.

Volatile Organic Compounds Analysis by Method 8260B:

Percent recovery for the internal standard compound 1,4-Dichlorobenzene-d4 on sample 1506R04-021A was outside control limits biased low due to suspected matrix interference.

Percent recoveries for the internal standard compounds Pentafluorobenzene, Chlorobenzene-d5, and 1,4-Dichlorobenzene-d4 on sample 1506R04-026A were outside control limits biased low due to suspected matrix interference.

Due to sample matrix, samples 1506R04-022A, -028A, and -029A required dilution during preparation and/or analysis resulting in elevated reporting limits.

Analytical Environmental Services, Inc **Date:** 8-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-18-7W-(0-2)-20150624-01
Project Name:	Macon Remediation	**Collection Date:**	6/24/2015 10:20:00 AM
Lab ID:	1506R04-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5035)**				
Benzene	BRL	2.3		ug/Kg	209409	1	07/01/2015 10:31	CG
Chloromethane	BRL	4.6		ug/Kg	209409	1	07/01/2015 10:31	CG
Surr: 4-Bromofluorobenzene	83.4	70-128		%REC	209409	1	07/01/2015 10:31	CG
Surr: Dibromofluoromethane	114	78.2-128		%REC	209409	1	07/01/2015 10:31	CG
Surr: Toluene-d8	96.6	76.5-116		%REC	209409	1	07/01/2015 10:31	CG

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-19-7F-3-20150624-01
Project Name:	Macon Remediation	**Collection Date:**	6/24/2015 11:45:00 AM
Lab ID:	1506R04-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5035)**				
Benzene	BRL	2.8		ug/Kg	209409	1	07/01/2015 11:22	CG
Chloromethane	BRL	5.5		ug/Kg	209409	1	07/01/2015 11:22	CG
Surr: 4-Bromofluorobenzene	79.1	70-128		%REC	209409	1	07/01/2015 11:22	CG
Surr: Dibromofluoromethane	117	78.2-128		%REC	209409	1	07/01/2015 11:22	CG
Surr: Toluene-d8	96	76.5-116		%REC	209409	1	07/01/2015 11:22	CG

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-20-7W-(0-2)-20150624-01
Project Name:	Macon Remediation	**Collection Date:**	6/24/2015 12:30:00 PM
Lab ID:	1506R04-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5035)**				
Benzene	BRL	2.6		ug/Kg	209409	1	06/28/2015 02:19	CG
Chloromethane	BRL	5.1		ug/Kg	209409	1	06/28/2015 02:19	CG
Surr: 4-Bromofluorobenzene	104	70-128		%REC	209409	1	06/28/2015 02:19	CG
Surr: Dibromofluoromethane	143	78.2-128	S	%REC	209409	1	06/28/2015 02:19	CG
Surr: Toluene-d8	102	76.5-116		%REC	209409	1	06/28/2015 02:19	CG

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	DUP-02-20150624-01
Project Name:	Macon Remediation	**Collection Date:**	6/24/2015 3:45:00 PM
Lab ID:	1506R04-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5035)**				
Benzene	BRL	2.5		ug/Kg	209409	1	06/28/2015 02:43	CG
Chloromethane	BRL	5.0		ug/Kg	209409	1	06/28/2015 02:43	CG
Surr: 4-Bromofluorobenzene	104	70-128		%REC	209409	1	06/28/2015 02:43	CG
Surr: Dibromofluoromethane	144	78.2-128	S	%REC	209409	1	06/28/2015 02:43	CG
Surr: Toluene-d8	102	76.5-116		%REC	209409	1	06/28/2015 02:43	CG

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-21-7W-(0-2)-20150624-01
Project Name:	Macon Remediation	**Collection Date:**	6/24/2015 2:00:00 PM
Lab ID:	1506R04-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5035)**				
Benzene	BRL	2.7		ug/Kg	209349	1	06/28/2015 18:07	MD
Chloromethane	BRL	5.5		ug/Kg	209349	1	06/28/2015 18:07	MD
Surr: 4-Bromofluorobenzene	75.5	70-128		%REC	209349	1	06/28/2015 18:07	MD
Surr: Dibromofluoromethane	116	78.2-128		%REC	209349	1	06/28/2015 18:07	MD
Surr: Toluene-d8	97.2	76.5-116		%REC	209349	1	06/28/2015 18:07	MD

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-22-2W-(0-2)-20150625-01
Project Name:	Macon Remediation	**Collection Date:**	6/25/2015 10:30:00 AM
Lab ID:	1506R04-006	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Benz(a)anthracene	BRL	330		ug/Kg-dry	209386	1	06/29/2015 15:45	YH
Benzo(a)pyrene	BRL	330		ug/Kg-dry	209386	1	06/29/2015 15:45	YH
Surr: 2,4,6-Tribromophenol	79.6	41-128		%REC	209386	1	06/29/2015 15:45	YH
Surr: 2-Fluorobiphenyl	83.5	47-120		%REC	209386	1	06/29/2015 15:45	YH
Surr: 2-Fluorophenol	82.9	38.3-120		%REC	209386	1	06/29/2015 15:45	YH
Surr: 4-Terphenyl-d14	96.4	51.4-125		%REC	209386	1	06/29/2015 15:45	YH
Surr: Nitrobenzene-d5	89.6	40.1-120		%REC	209386	1	06/29/2015 15:45	YH
Surr: Phenol-d5	94.7	40.3-120		%REC	209386	1	06/29/2015 15:45	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	BRL	4.87		mg/Kg-dry	209417	1	06/30/2015 20:20	IO
PERCENT MOISTURE D2216								
Percent Moisture	0.766	0		wt%	R295158	1	07/01/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-23-2W-(0-2)-20150625-01
Project Name:	Macon Remediation	**Collection Date:**	6/25/2015 10:35:00 AM
Lab ID:	1506R04-007	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Benz(a)anthracene	16000	3400		ug/Kg-dry	209386	10	06/30/2015 15:24	YH
Benzo(a)pyrene	9200	3400		ug/Kg-dry	209386	10	06/30/2015 15:24	YH
Surr: 2,4,6-Tribromophenol	81.1	41-128		%REC	209386	1	06/29/2015 16:12	YH
Surr: 2-Fluorobiphenyl	87.3	47-120		%REC	209386	1	06/29/2015 16:12	YH
Surr: 2-Fluorophenol	75.3	38.3-120		%REC	209386	1	06/29/2015 16:12	YH
Surr: 4-Terphenyl-d14	77.8	51.4-125		%REC	209386	1	06/29/2015 16:12	YH
Surr: Nitrobenzene-d5	97.6	40.1-120		%REC	209386	1	06/29/2015 16:12	YH
Surr: Phenol-d5	88.7	40.3-120		%REC	209386	1	06/29/2015 16:12	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	BRL	5.05		mg/Kg-dry	209417	1	06/30/2015 20:33	IO
PERCENT MOISTURE D2216								
Percent Moisture	2.40	0		wt%	R295158	1	07/01/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-24-2W-(0-2)-20150625-01
Project Name:	Macon Remediation	**Collection Date:**	6/25/2015 10:40:00 AM
Lab ID:	1506R04-008	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Benz(a)anthracene	13000	3400		ug/Kg-dry	209386	10	06/30/2015 15:50	YH
Benzo(a)pyrene	9000	3400		ug/Kg-dry	209386	10	06/30/2015 15:50	YH
Surr: 2,4,6-Tribromophenol	85.1	41-128		%REC	209386	1	06/29/2015 16:39	YH
Surr: 2-Fluorobiphenyl	89.7	47-120		%REC	209386	1	06/29/2015 16:39	YH
Surr: 2-Fluorophenol	80.9	38.3-120		%REC	209386	1	06/29/2015 16:39	YH
Surr: 4-Terphenyl-d14	79	51.4-125		%REC	209386	1	06/29/2015 16:39	YH
Surr: Nitrobenzene-d5	101	40.1-120		%REC	209386	1	06/29/2015 16:39	YH
Surr: Phenol-d5	91.4	40.3-120		%REC	209386	1	06/29/2015 16:39	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	BRL	4.93		mg/Kg-dry	209417	1	06/30/2015 20:37	IO
PERCENT MOISTURE D2216								
Percent Moisture	1.64	0		wt%	R295158	1	07/01/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-25-2W-(0-2)-20150625-01
Project Name:	Macon Remediation	**Collection Date:**	6/25/2015 10:45:00 AM
Lab ID:	1506R04-009	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Benz(a)anthracene	2700	360		ug/Kg-dry	209386	1	06/29/2015 17:06	YH
Benzo(a)pyrene	2400	360		ug/Kg-dry	209386	1	06/29/2015 17:06	YH
Surr: 2,4,6-Tribromophenol	90.5	41-128		%REC	209386	1	06/29/2015 17:06	YH
Surr: 2-Fluorobiphenyl	94.7	47-120		%REC	209386	1	06/29/2015 17:06	YH
Surr: 2-Fluorophenol	80.8	38.3-120		%REC	209386	1	06/29/2015 17:06	YH
Surr: 4-Terphenyl-d14	92.6	51.4-125		%REC	209386	1	06/29/2015 17:06	YH
Surr: Nitrobenzene-d5	101	40.1-120		%REC	209386	1	06/29/2015 17:06	YH
Surr: Phenol-d5	93.4	40.3-120		%REC	209386	1	06/29/2015 17:06	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	BRL	5.20		mg/Kg-dry	209417	1	06/30/2015 20:41	IO
PERCENT MOISTURE D2216								
Percent Moisture	7.19	0		wt%	R295158	1	07/01/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-26-2W-(0-2)-20150625-01
Project Name:	Macon Remediation	**Collection Date:**	6/25/2015 10:50:00 AM
Lab ID:	1506R04-010	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Benz(a)anthracene	25000	3500		ug/Kg-dry	209386	10	06/30/2015 16:15	YH
Benzo(a)pyrene	24000	3500		ug/Kg-dry	209386	10	06/30/2015 16:15	YH
Surr: 2,4,6-Tribromophenol	85.7	41-128		%REC	209386	1	06/29/2015 17:32	YH
Surr: 2-Fluorobiphenyl	93.6	47-120		%REC	209386	1	06/29/2015 17:32	YH
Surr: 2-Fluorophenol	85.3	38.3-120		%REC	209386	1	06/29/2015 17:32	YH
Surr: 4-Terphenyl-d14	74.6	51.4-125		%REC	209386	1	06/29/2015 17:32	YH
Surr: Nitrobenzene-d5	103	40.1-120		%REC	209386	1	06/29/2015 17:32	YH
Surr: Phenol-d5	97.3	40.3-120		%REC	209386	1	06/29/2015 17:32	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	7.66	4.91		mg/Kg-dry	209417	1	06/30/2015 20:44	IO
PERCENT MOISTURE D2216								
Percent Moisture	4.93	0		wt%	R295158	1	07/01/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-27-2F-(2)-20150625-01
Project Name:	Macon Remediation	**Collection Date:**	6/25/2015 1:10:00 PM
Lab ID:	1506R04-011	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Benz(a)anthracene	BRL	370		ug/Kg-dry	209386	1	06/29/2015 17:59	YH
Benzo(a)pyrene	BRL	370		ug/Kg-dry	209386	1	06/29/2015 17:59	YH
Surr: 2,4,6-Tribromophenol	82.4	41-128		%REC	209386	1	06/29/2015 17:59	YH
Surr: 2-Fluorobiphenyl	82.1	47-120		%REC	209386	1	06/29/2015 17:59	YH
Surr: 2-Fluorophenol	75	38.3-120		%REC	209386	1	06/29/2015 17:59	YH
Surr: 4-Terphenyl-d14	91.2	51.4-125		%REC	209386	1	06/29/2015 17:59	YH
Surr: Nitrobenzene-d5	83.6	40.1-120		%REC	209386	1	06/29/2015 17:59	YH
Surr: Phenol-d5	87.7	40.3-120		%REC	209386	1	06/29/2015 17:59	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	BRL	5.20		mg/Kg-dry	209417	1	06/30/2015 20:48	IO
PERCENT MOISTURE D2216								
Percent Moisture	10.7	0		wt%	R295158	1	07/01/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-28-2F-(2)-20150625-01
Project Name:	Macon Remediation	**Collection Date:**	6/25/2015 1:15:00 PM
Lab ID:	1506R04-012	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Benz(a)anthracene	BRL	380		ug/Kg-dry	209386	1	06/29/2015 18:26	YH
Benzo(a)pyrene	BRL	380		ug/Kg-dry	209386	1	06/29/2015 18:26	YH
Surr: 2,4,6-Tribromophenol	79.6	41-128		%REC	209386	1	06/29/2015 18:26	YH
Surr: 2-Fluorobiphenyl	78.6	47-120		%REC	209386	1	06/29/2015 18:26	YH
Surr: 2-Fluorophenol	73.3	38.3-120		%REC	209386	1	06/29/2015 18:26	YH
Surr: 4-Terphenyl-d14	91.1	51.4-125		%REC	209386	1	06/29/2015 18:26	YH
Surr: Nitrobenzene-d5	82.6	40.1-120		%REC	209386	1	06/29/2015 18:26	YH
Surr: Phenol-d5	81.5	40.3-120		%REC	209386	1	06/29/2015 18:26	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	BRL	5.30		mg/Kg-dry	209417	1	06/30/2015 20:52	IO
PERCENT MOISTURE D2216								
Percent Moisture	12.4	0		wt%	R295158	1	07/01/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-29-2F-(2)-20150625-01
Project Name:	Macon Remediation	**Collection Date:**	6/25/2015 1:20:00 PM
Lab ID:	1506R04-013	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Benz(a)anthracene	1800	370		ug/Kg-dry	209386	1	06/29/2015 18:52	YH
Benzo(a)pyrene	2000	370		ug/Kg-dry	209386	1	06/29/2015 18:52	YH
Surr: 2,4,6-Tribromophenol	88	41-128		%REC	209386	1	06/29/2015 18:52	YH
Surr: 2-Fluorobiphenyl	91.2	47-120		%REC	209386	1	06/29/2015 18:52	YH
Surr: 2-Fluorophenol	84.9	38.3-120		%REC	209386	1	06/29/2015 18:52	YH
Surr: 4-Terphenyl-d14	90.4	51.4-125		%REC	209386	1	06/29/2015 18:52	YH
Surr: Nitrobenzene-d5	97.4	40.1-120		%REC	209386	1	06/29/2015 18:52	YH
Surr: Phenol-d5	96.7	40.3-120		%REC	209386	1	06/29/2015 18:52	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	7.50	5.39		mg/Kg-dry	209417	1	06/30/2015 20:56	IO
PERCENT MOISTURE D2216								
Percent Moisture	9.83	0		wt%	R295158	1	07/01/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-30-2F-(2)-20150625-01
Project Name:	Macon Remediation	**Collection Date:**	6/25/2015 1:25:00 PM
Lab ID:	1506R04-014	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Benz(a)anthracene	BRL	370		ug/Kg-dry	209386	1	06/29/2015 19:18	YH
Benzo(a)pyrene	BRL	370		ug/Kg-dry	209386	1	06/29/2015 19:18	YH
Surr: 2,4,6-Tribromophenol	81.9	41-128		%REC	209386	1	06/29/2015 19:18	YH
Surr: 2-Fluorobiphenyl	78.9	47-120		%REC	209386	1	06/29/2015 19:18	YH
Surr: 2-Fluorophenol	80	38.3-120		%REC	209386	1	06/29/2015 19:18	YH
Surr: 4-Terphenyl-d14	94.7	51.4-125		%REC	209386	1	06/29/2015 19:18	YH
Surr: Nitrobenzene-d5	80.2	40.1-120		%REC	209386	1	06/29/2015 19:18	YH
Surr: Phenol-d5	89.4	40.3-120		%REC	209386	1	06/29/2015 19:18	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	BRL	5.30		mg/Kg-dry	209417	1	06/30/2015 20:59	IO
PERCENT MOISTURE D2216								
Percent Moisture	11.6	0		wt%	R295158	1	07/01/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-31-2F-(2)-20150625-01
Project Name:	Macon Remediation	**Collection Date:**	6/25/2015 1:30:00 PM
Lab ID:	1506R04-015	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Benz(a)anthracene	BRL	380		ug/Kg-dry	209386	1	06/29/2015 16:14	YH
Benzo(a)pyrene	BRL	380		ug/Kg-dry	209386	1	06/29/2015 16:14	YH
Surr: 2,4,6-Tribromophenol	79.1	41-128		%REC	209386	1	06/29/2015 16:14	YH
Surr: 2-Fluorobiphenyl	76.4	47-120		%REC	209386	1	06/29/2015 16:14	YH
Surr: 2-Fluorophenol	75.7	38.3-120		%REC	209386	1	06/29/2015 16:14	YH
Surr: 4-Terphenyl-d14	82	51.4-125		%REC	209386	1	06/29/2015 16:14	YH
Surr: Nitrobenzene-d5	87.3	40.1-120		%REC	209386	1	06/29/2015 16:14	YH
Surr: Phenol-d5	88.3	40.3-120		%REC	209386	1	06/29/2015 16:14	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	BRL	5.52		mg/Kg-dry	209417	1	06/30/2015 20:01	IO
PERCENT MOISTURE D2216								
Percent Moisture	12.0	0		wt%	R295158	1	07/01/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-32-2F-(2)-20150625-01
Project Name:	Macon Remediation	**Collection Date:**	6/25/2015 1:35:00 PM
Lab ID:	1506R04-016	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Benz(a)anthracene	BRL	360		ug/Kg-dry	209386	1	06/29/2015 19:45	YH
Benzo(a)pyrene	BRL	360		ug/Kg-dry	209386	1	06/29/2015 19:45	YH
Surr: 2,4,6-Tribromophenol	84.8	41-128		%REC	209386	1	06/29/2015 19:45	YH
Surr: 2-Fluorobiphenyl	79.1	47-120		%REC	209386	1	06/29/2015 19:45	YH
Surr: 2-Fluorophenol	67.8	38.3-120		%REC	209386	1	06/29/2015 19:45	YH
Surr: 4-Terphenyl-d14	94.5	51.4-125		%REC	209386	1	06/29/2015 19:45	YH
Surr: Nitrobenzene-d5	78.8	40.1-120		%REC	209386	1	06/29/2015 19:45	YH
Surr: Phenol-d5	79	40.3-120		%REC	209386	1	06/29/2015 19:45	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	BRL	5.09		mg/Kg-dry	209417	1	06/30/2015 21:03	IO
PERCENT MOISTURE D2216								
Percent Moisture	8.73	0		wt%	R295158	1	07/01/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-33-2W-(0-2)-20150625-01
Project Name:	Macon Remediation	**Collection Date:**	6/25/2015 1:50:00 PM
Lab ID:	1506R04-017	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Benz(a)anthracene	3400	380		ug/Kg-dry	209386	1	06/29/2015 20:11	YH
Benzo(a)pyrene	3600	380		ug/Kg-dry	209386	1	06/29/2015 20:11	YH
Surr: 2,4,6-Tribromophenol	89.8	41-128		%REC	209386	1	06/29/2015 20:11	YH
Surr: 2-Fluorobiphenyl	94.3	47-120		%REC	209386	1	06/29/2015 20:11	YH
Surr: 2-Fluorophenol	86.2	38.3-120		%REC	209386	1	06/29/2015 20:11	YH
Surr: 4-Terphenyl-d14	93.1	51.4-125		%REC	209386	1	06/29/2015 20:11	YH
Surr: Nitrobenzene-d5	99	40.1-120		%REC	209386	1	06/29/2015 20:11	YH
Surr: Phenol-d5	96	40.3-120		%REC	209386	1	06/29/2015 20:11	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	7.59	5.40		mg/Kg-dry	209417	1	06/30/2015 21:07	IO
PERCENT MOISTURE D2216								
Percent Moisture	12.9	0		wt%	R295158	1	07/01/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-34-2W-(0-2)-20150625-01
Project Name:	Macon Remediation	**Collection Date:**	6/25/2015 1:55:00 PM
Lab ID:	1506R04-018	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Benz(a)anthracene	4700	380		ug/Kg-dry	209386	1	06/29/2015 20:38	YH
Benzo(a)pyrene	5700	380		ug/Kg-dry	209386	1	06/29/2015 20:38	YH
Surr: 2,4,6-Tribromophenol	85.9	41-128		%REC	209386	1	06/29/2015 20:38	YH
Surr: 2-Fluorobiphenyl	90.6	47-120		%REC	209386	1	06/29/2015 20:38	YH
Surr: 2-Fluorophenol	79.6	38.3-120		%REC	209386	1	06/29/2015 20:38	YH
Surr: 4-Terphenyl-d14	84	51.4-125		%REC	209386	1	06/29/2015 20:38	YH
Surr: Nitrobenzene-d5	95.8	40.1-120		%REC	209386	1	06/29/2015 20:38	YH
Surr: Phenol-d5	91.5	40.3-120		%REC	209386	1	06/29/2015 20:38	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	39.3	5.36		mg/Kg-dry	209417	1	06/30/2015 21:18	IO
PERCENT MOISTURE D2216								
Percent Moisture	12.8	0		wt%	R295158	1	07/01/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	DUP-03-20150625-01
Project Name:	Macon Remediation	**Collection Date:**	6/25/2015
Lab ID:	1506R04-019	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Benz(a)anthracene	BRL	360		ug/Kg-dry	209386	1	06/29/2015 21:05	YH
Benzo(a)pyrene	BRL	360		ug/Kg-dry	209386	1	06/29/2015 21:05	YH
Surr: 2,4,6-Tribromophenol	87.3	41-128		%REC	209386	1	06/29/2015 21:05	YH
Surr: 2-Fluorobiphenyl	89.5	47-120		%REC	209386	1	06/29/2015 21:05	YH
Surr: 2-Fluorophenol	83.7	38.3-120		%REC	209386	1	06/29/2015 21:05	YH
Surr: 4-Terphenyl-d14	97.2	51.4-125		%REC	209386	1	06/29/2015 21:05	YH
Surr: Nitrobenzene-d5	90.6	40.1-120		%REC	209386	1	06/29/2015 21:05	YH
Surr: Phenol-d5	92.8	40.3-120		%REC	209386	1	06/29/2015 21:05	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	BRL	5.21		mg/Kg-dry	209417	1	06/30/2015 21:21	IO
PERCENT MOISTURE D2216								
Percent Moisture	7.99	0		wt%	R295158	1	07/01/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-35-7W-(0-2)-20150625-01
Project Name:	Macon Remediation	**Collection Date:**	6/25/2015 3:00:00 PM
Lab ID:	1506R04-020	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5035)**				
Benzene	BRL	2.6		ug/Kg	209349	1	06/29/2015 19:09	CG
Chloromethane	BRL	5.2		ug/Kg	209349	1	06/29/2015 19:09	CG
Surr: 4-Bromofluorobenzene	90.4	70-128		%REC	209349	1	06/29/2015 19:09	CG
Surr: Dibromofluoromethane	129	78.2-128	S	%REC	209349	1	06/29/2015 19:09	CG
Surr: Toluene-d8	101	76.5-116		%REC	209349	1	06/29/2015 19:09	CG

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-36-7W-(0-2)-20150625-01
Project Name:	Macon Remediation	**Collection Date:**	6/25/2015 3:05:00 PM
Lab ID:	1506R04-021	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5035)**				
Benzene	BRL	3.4		ug/Kg	209460	1	06/29/2015 12:45	CG
Chloromethane	BRL	6.8		ug/Kg	209460	1	06/29/2015 12:45	CG
Surr: 4-Bromofluorobenzene	80.1	70-128		%REC	209460	1	06/29/2015 12:45	CG
Surr: Dibromofluoromethane	124	78.2-128		%REC	209460	1	06/29/2015 12:45	CG
Surr: Toluene-d8	102	76.5-116		%REC	209460	1	06/29/2015 12:45	CG

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-37-7W-(0-2)-20150625-01
Project Name:	Macon Remediation	**Collection Date:**	6/25/2015 3:10:00 PM
Lab ID:	1506R04-022	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5035)**				
Benzene	BRL	180		ug/Kg	209546	50	07/01/2015 15:18	TH
Chloromethane	BRL	350		ug/Kg	209546	50	07/01/2015 15:18	TH
Surr: 4-Bromofluorobenzene	101	70-128		%REC	209546	50	07/01/2015 15:18	TH
Surr: Dibromofluoromethane	103	78.2-128		%REC	209546	50	07/01/2015 15:18	TH
Surr: Toluene-d8	101	76.5-116		%REC	209546	50	07/01/2015 15:18	TH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-38-7F-(2)-20150625-01
Project Name:	Macon Remediation	**Collection Date:**	6/25/2015 3:15:00 PM
Lab ID:	1506R04-023	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5035)**				
Benzene	BRL	2.6		ug/Kg	209460	1	06/29/2015 19:33	CG
Chloromethane	BRL	5.1		ug/Kg	209460	1	06/29/2015 19:33	CG
Surr: 4-Bromofluorobenzene	110	70-128		%REC	209460	1	06/29/2015 19:33	CG
Surr: Dibromofluoromethane	125	78.2-128		%REC	209460	1	06/29/2015 19:33	CG
Surr: Toluene-d8	103	76.5-116		%REC	209460	1	06/29/2015 19:33	CG

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-39-7F-(2)-20150625-01
Project Name:	Macon Remediation	**Collection Date:**	6/25/2015 3:15:00 PM
Lab ID:	1506R04-024	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5035)**				
Benzene	BRL	2.7		ug/Kg	209460	1	07/01/2015 11:03	MD
Chloromethane	BRL	5.3		ug/Kg	209460	1	07/01/2015 11:03	MD
Surr: 4-Bromofluorobenzene	95.8	70-128		%REC	209460	1	07/01/2015 11:03	MD
Surr: Dibromofluoromethane	102	78.2-128		%REC	209460	1	07/01/2015 11:03	MD
Surr: Toluene-d8	93.6	76.5-116		%REC	209460	1	07/01/2015 11:03	MD

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-40-7F-(2)-20150625-01
Project Name:	Macon Remediation	**Collection Date:**	6/25/2015 3:20:00 PM
Lab ID:	1506R04-025	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5035)**				
Benzene	BRL	2.9		ug/Kg	209460	1	06/29/2015 20:45	CG
Chloromethane	BRL	5.7		ug/Kg	209460	1	06/29/2015 20:45	CG
Surr: 4-Bromofluorobenzene	73.9	70-128		%REC	209460	1	06/29/2015 20:45	CG
Surr: Dibromofluoromethane	120	78.2-128		%REC	209460	1	06/29/2015 20:45	CG
Surr: Toluene-d8	101	76.5-116		%REC	209460	1	06/29/2015 20:45	CG

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-41-7W-(0-2)-20150625-01
Project Name:	Macon Remediation	**Collection Date:**	6/25/2015 3:25:00 PM
Lab ID:	1506R04-026	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5035)**				
Benzene	BRL	2.6		ug/Kg	209460	1	07/01/2015 13:13	CG
Chloromethane	BRL	5.2		ug/Kg	209460	1	07/01/2015 13:13	CG
Surr: 4-Bromofluorobenzene	46.6	70-128	S	%REC	209460	1	07/01/2015 13:13	CG
Surr: Dibromofluoromethane	119	78.2-128		%REC	209460	1	07/01/2015 13:13	CG
Surr: Toluene-d8	92.7	76.5-116		%REC	209460	1	07/01/2015 13:13	CG

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-42-7W-(0-2)-20150625-01
Project Name:	Macon Remediation	**Collection Date:**	6/25/2015 3:30:00 PM
Lab ID:	1506R04-027	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5035)**				
Benzene	BRL	6.4		ug/Kg	209460	1	06/29/2015 21:33	CG
Chloromethane	BRL	13		ug/Kg	209460	1	06/29/2015 21:33	CG
Surr: 4-Bromofluorobenzene	78	70-128		%REC	209460	1	06/29/2015 21:33	CG
Surr: Dibromofluoromethane	146	78.2-128	S	%REC	209460	1	06/29/2015 21:33	CG
Surr: Toluene-d8	96.8	76.5-116		%REC	209460	1	06/29/2015 21:33	CG

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-43-7W-(0-2)-20150625-01
Project Name:	Macon Remediation	**Collection Date:**	6/25/2015 3:35:00 PM
Lab ID:	1506R04-028	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5035)**				
Benzene	BRL	180		ug/Kg	209546	50	07/01/2015 15:42	TH
Chloromethane	BRL	360		ug/Kg	209546	50	07/01/2015 15:42	TH
Surr: 4-Bromofluorobenzene	100	70-128		%REC	209546	50	07/01/2015 15:42	TH
Surr: Dibromofluoromethane	103	78.2-128		%REC	209546	50	07/01/2015 15:42	TH
Surr: Toluene-d8	103	76.5-116		%REC	209546	50	07/01/2015 15:42	TH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	DUP-04-20150625-01
Project Name:	Macon Remediation	**Collection Date:**	6/25/2015
Lab ID:	1506R04-029	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5035)**				
Benzene	BRL	150		ug/Kg	209546	50	07/01/2015 16:06	TH
Chloromethane	BRL	310		ug/Kg	209546	50	07/01/2015 16:06	TH
Surr: 4-Bromofluorobenzene	96.9	70-128		%REC	209546	50	07/01/2015 16:06	TH
Surr: Dibromofluoromethane	104	78.2-128		%REC	209546	50	07/01/2015 16:06	TH
Surr: Toluene-d8	99.9	76.5-116		%REC	209546	50	07/01/2015 16:06	TH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	EB-02-20150624-01
Project Name:	Macon Remediation	**Collection Date:**	6/24/2015 4:30:00 PM
Lab ID:	1506R04-030	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	209585	1	07/01/2015 05:21	TH
Chloromethane	BRL	10		ug/L	209585	1	07/01/2015 05:21	TH
Surr: 4-Bromofluorobenzene	95.8	70.6-123		%REC	209585	1	07/01/2015 05:21	TH
Surr: Dibromofluoromethane	110	78.7-124		%REC	209585	1	07/01/2015 05:21	TH
Surr: Toluene-d8	104	81.3-120		%REC	209585	1	07/01/2015 05:21	TH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	10		ug/L	209478	1	06/30/2015 17:59	YH
Benzo(a)pyrene	BRL	10		ug/L	209478	1	06/30/2015 17:59	YH
Benzo(b)fluoranthene	BRL	10		ug/L	209478	1	06/30/2015 17:59	YH
Surr: 2,4,6-Tribromophenol	89.6	52-133		%REC	209478	1	06/30/2015 17:59	YH
Surr: 2-Fluorobiphenyl	83.8	50-121		%REC	209478	1	06/30/2015 17:59	YH
Surr: 2-Fluorophenol	64.9	27.5-120		%REC	209478	1	06/30/2015 17:59	YH
Surr: 4-Terphenyl-d14	87.3	46.3-137		%REC	209478	1	06/30/2015 17:59	YH
Surr: Nitrobenzene-d5	71.4	41.2-121		%REC	209478	1	06/30/2015 17:59	YH
Surr: Phenol-d5	59.2	14.3-120		%REC	209478	1	06/30/2015 17:59	YH
METALS, TOTAL SW6010C				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	209369	1	06/29/2015 20:19	TA
Arsenic	BRL	0.0500		mg/L	209369	1	06/29/2015 20:19	TA
Beryllium	BRL	0.0100		mg/L	209369	1	06/29/2015 20:19	TA
Copper	BRL	0.0100		mg/L	209369	1	07/07/2015 17:46	IO
Lead	BRL	0.0100		mg/L	209369	1	06/29/2015 20:19	TA

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	EB-03-20150625-01
Project Name:	Macon Remediation	**Collection Date:**	6/25/2015 4:30:00 PM
Lab ID:	1506R04-031	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	209585	1	07/01/2015 05:45	TH
Chloromethane	BRL	10		ug/L	209585	1	07/01/2015 05:45	TH
Surr: 4-Bromofluorobenzene	98	70.6-123		%REC	209585	1	07/01/2015 05:45	TH
Surr: Dibromofluoromethane	108	78.7-124		%REC	209585	1	07/01/2015 05:45	TH
Surr: Toluene-d8	104	81.3-120		%REC	209585	1	07/01/2015 05:45	TH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	10		ug/L	209478	1	06/30/2015 18:25	YH
Benzo(a)pyrene	BRL	10		ug/L	209478	1	06/30/2015 18:25	YH
Benzo(b)fluoranthene	BRL	10		ug/L	209478	1	06/30/2015 18:25	YH
Surr: 2,4,6-Tribromophenol	81.9	52-133		%REC	209478	1	06/30/2015 18:25	YH
Surr: 2-Fluorobiphenyl	74.2	50-121		%REC	209478	1	06/30/2015 18:25	YH
Surr: 2-Fluorophenol	60.4	27.5-120		%REC	209478	1	06/30/2015 18:25	YH
Surr: 4-Terphenyl-d14	85.1	46.3-137		%REC	209478	1	06/30/2015 18:25	YH
Surr: Nitrobenzene-d5	63.1	41.2-121		%REC	209478	1	06/30/2015 18:25	YH
Surr: Phenol-d5	50.1	14.3-120		%REC	209478	1	06/30/2015 18:25	YH
METALS, TOTAL SW6010C				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	209369	1	06/29/2015 20:21	TA
Arsenic	BRL	0.0500		mg/L	209369	1	06/29/2015 20:21	TA
Beryllium	BRL	0.0100		mg/L	209369	1	06/29/2015 20:21	TA
Copper	BRL	0.0100		mg/L	209369	1	06/29/2015 20:21	TA
Lead	BRL	0.0100		mg/L	209369	1	06/29/2015 20:21	TA

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 8-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	TRIP BLANK
Project Name:	Macon Remediation	**Collection Date:**	6/25/2015
Lab ID:	1506R04-032	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL VOLATILE ORGANICS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	209585	1	07/01/2015 00:35	TH
Chloromethane	BRL	10		ug/L	209585	1	07/01/2015 00:35	TH
Surr: 4-Bromofluorobenzene	108	70.6-123		%REC	209585	1	07/01/2015 00:35	TH
Surr: Dibromofluoromethane	113	78.7-124		%REC	209585	1	07/01/2015 00:35	TH
Surr: Toluene-d8	102	81.3-120		%REC	209585	1	07/01/2015 00:35	TH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM Work Order Number 1506R04

Checklist completed by [signature] 6/26/15
Signature Date

Carrier name: FedEx __ UPS __ Courier ✓ Client __ US Mail __ Other _____

Shipping container/cooler in good condition?	Yes ✓	No __	Not Present __
Custody seals intact on shipping container/cooler?	Yes ✓	No __	Not Present ✓ TD6696
Custody seals intact on sample bottles?	Yes __	No __	Not Present ✓
Container/Temp Blank temperature in compliance? (0°≤6°C)*	Yes ✓	No __	

Cooler #1 3.3 Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present?	Yes ✓	No __	
Chain of custody signed when relinquished and received?	Yes ✓	No __	
Chain of custody agrees with sample labels?	Yes ✓	No __	
Samples in proper container/bottle?	Yes ✓	No __	
Sample containers intact?	Yes ✓	No __	
Sufficient sample volume for indicated test?	Yes ✓	No __	
All samples received within holding time?	Yes ✓	No __	
Was TAT marked on the COC?	Yes ✓	No __	
Proceed with Standard TAT as per project history?	Yes __	No __	Not Applicable ✓
Water - VOA vials have zero headspace?	No VOA vials submitted __	Yes ✓	No __
Water - pH acceptable upon receipt?	Yes ✓	No __	Not Applicable __

Adjusted? _____ Checked by Tanya

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506R04

ANALYTICAL QC SUMMARY REPORT

BatchID: 209349

Sample ID: **MB-209349**	Client ID:		Units: **ug/Kg**	Prep Date: **06/25/2015**	Run No: **294810**
SampleType: **MBLK**	TestCode: **TCL VOLATILE ORGANICS SW8260B**		BatchID: **209349**	Analysis Date: **06/26/2015**	Seq No: **6283387**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Chloromethane	BRL	10									
Surr: 4-Bromofluorobenzene	50.73	0	50.00		101	70	128				
Surr: Dibromofluoromethane	59.39	0	50.00		119	78.2	128				
Surr: Toluene-d8	51.70	0	50.00		103	76.5	116				

Sample ID: **LCS-209349**	Client ID:		Units: **ug/Kg**	Prep Date: **06/25/2015**	Run No: **294810**
SampleType: **LCS**	TestCode: **TCL VOLATILE ORGANICS SW8260B**		BatchID: **209349**	Analysis Date: **06/26/2015**	Seq No: **6283384**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	55.88	5.0	50.00		112	72.3	130				
Surr: 4-Bromofluorobenzene	51.88	0	50.00		104	70	128				
Surr: Dibromofluoromethane	57.57	0	50.00		115	78.2	128				
Surr: Toluene-d8	50.24	0	50.00		100	76.5	116				

Sample ID: **1506H83-007AMS**	Client ID:		Units: **ug/Kg-dry**	Prep Date: **06/25/2015**	Run No: **294810**
SampleType: **MS**	TestCode: **TCL VOLATILE ORGANICS SW8260B**		BatchID: **209349**	Analysis Date: **06/26/2015**	Seq No: **6284901**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	65.76	6.0	60.12		109	70.4	130				
Surr: 4-Bromofluorobenzene	61.23	0	60.12		102	70	128				
Surr: Dibromofluoromethane	70.51	0	60.12		117	78.2	128				
Surr: Toluene-d8	62.47	0	60.12		104	76.5	116				

Sample ID: **1506H83-007AMSD**	Client ID:		Units: **ug/Kg-dry**	Prep Date: **06/25/2015**	Run No: **294810**
SampleType: **MSD**	TestCode: **TCL VOLATILE ORGANICS SW8260B**		BatchID: **209349**	Analysis Date: **06/26/2015**	Seq No: **6284902**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506R04

ANALYTICAL QC SUMMARY REPORT

BatchID: 209349

Sample ID: **1506H83-007AMSD** Client ID:
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B**
Units: **ug/Kg-dry** Prep Date: **06/25/2015** Run No: **294810**
BatchID: **209349** Analysis Date: **06/26/2015** Seq No: **6284902**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	63.80	6.0	60.12		106	70.4	130	65.76	3.03	16.9	
Surr: 4-Bromofluorobenzene	62.31	0	60.12		104	70	128	61.23	0	0	
Surr: Dibromofluoromethane	71.46	0	60.12		119	78.2	128	70.51	0	0	
Surr: Toluene-d8	61.84	0	60.12		103	76.5	116	62.47	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506R04

ANALYTICAL QC SUMMARY REPORT

BatchID: 209369

Sample ID: **MB-209369** Client ID: Units: **mg/L** Prep Date: **06/26/2015** Run No: **294997**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **209369** Analysis Date: **06/29/2015** Seq No: **6288072**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	0.0200									
Arsenic	BRL	0.0500									
Beryllium	BRL	0.0100									
Copper	BRL	0.0100									
Lead	BRL	0.0100									

Sample ID: **LCS-209369** Client ID: Units: **mg/L** Prep Date: **06/26/2015** Run No: **294997**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **209369** Analysis Date: **06/29/2015** Seq No: **6288073**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.013	0.0200	1.000		101	80	120				
Arsenic	0.9985	0.0500	1.000		99.9	80	120				
Beryllium	1.027	0.0100	1.000		103	80	120				
Copper	0.9965	0.0100	1.000		99.6	80	120				
Lead	1.007	0.0100	1.000		101	80	120				

Sample ID: **1506O85-001BMS** Client ID: Units: **mg/L** Prep Date: **06/26/2015** Run No: **294997**
SampleType: **MS** TestCode: **METALS, TOTAL SW6010C** BatchID: **209369** Analysis Date: **06/29/2015** Seq No: **6288076**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.005	0.0200	1.000		101	75	125				
Arsenic	1.008	0.0500	1.000		101	75	125				
Beryllium	1.009	0.0100	1.000		101	75	125				
Copper	1.002	0.0100	1.000	0.003240	99.9	75	125				
Lead	0.9852	0.0100	1.000		98.5	75	125				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506R04

ANALYTICAL QC SUMMARY REPORT

BatchID: 209369

Sample ID: **1506O85-001BMSD** Client ID:
SampleType: **MSD** TestCode: **METALS, TOTAL SW6010C**
Units: **mg/L** Prep Date: **06/26/2015** Run No: **294997**
BatchID: **209369** Analysis Date: **06/29/2015** Seq No: **6288077**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.005	0.0200	1.000		101	75	125	1.005	0.033	20	
Arsenic	1.003	0.0500	1.000		100	75	125	1.008	0.493	20	
Beryllium	1.006	0.0100	1.000		101	75	125	1.009	0.351	20	
Copper	1.006	0.0100	1.000	0.003240	100	75	125	1.002	0.357	20	
Lead	0.9796	0.0100	1.000		98.0	75	125	0.9852	0.568	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506R04

ANALYTICAL QC SUMMARY REPORT

BatchID: 209409

Sample ID: **MB-209409** Client ID: Units: **ug/Kg** Prep Date: **06/27/2015** Run No: **294909**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **209409** Analysis Date: **06/27/2015** Seq No: **6287039**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Chloromethane	BRL	10									
Surr: 4-Bromofluorobenzene	50.82	0	50.00		102	70	128				
Surr: Dibromofluoromethane	57.62	0	50.00		115	78.2	128				
Surr: Toluene-d8	51.95	0	50.00		104	76.5	116				

Sample ID: **LCS-209409** Client ID: Units: **ug/Kg** Prep Date: **06/27/2015** Run No: **294909**
SampleType: **LCS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **209409** Analysis Date: **06/27/2015** Seq No: **6298447**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	48.96	5.0	50.00		97.9	72.3	130				
Surr: 4-Bromofluorobenzene	52.94	0	50.00		106	70	128				
Surr: Dibromofluoromethane	59.98	0	50.00		120	78.2	128				
Surr: Toluene-d8	51.36	0	50.00		103	76.5	116				

Sample ID: **1506P72-008AMS** Client ID: Units: **ug/Kg-dry** Prep Date: **06/27/2015** Run No: **294909**
SampleType: **MS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **209409** Analysis Date: **06/27/2015** Seq No: **6287037**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	54.93	5.7	57.42		95.7	70.4	130				
Surr: 4-Bromofluorobenzene	59.73	0	57.42		104	70	128				
Surr: Dibromofluoromethane	68.21	0	57.42		119	78.2	128				
Surr: Toluene-d8	58.54	0	57.42		102	76.5	116				

Sample ID: **1506P72-008AMSD** Client ID: Units: **ug/Kg-dry** Prep Date: **06/27/2015** Run No: **294909**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **209409** Analysis Date: **06/27/2015** Seq No: **6287038**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506R04

ANALYTICAL QC SUMMARY REPORT

BatchID: 209409

Sample ID: **1506P72-008AMSD** Client ID:
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B**
Units: **ug/Kg-dry** Prep Date: **06/27/2015** Run No: **294909**
BatchID: **209409** Analysis Date: **06/27/2015** Seq No: **6287038**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	57.21	5.7	57.42		99.6	70.4	130	54.93	4.06	16.9	
Surr: 4-Bromofluorobenzene	60.02	0	57.42		105	70	128	59.73	0	0	
Surr: Dibromofluoromethane	68.82	0	57.42		120	78.2	128	68.21	0	0	
Surr: Toluene-d8	58.94	0	57.42		103	76.5	116	58.54	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506R04

ANALYTICAL QC SUMMARY REPORT

BatchID: 209417

Sample ID: **MB-209417**	Client ID:			Units: **mg/Kg**	Prep Date: **06/29/2015**	Run No: **295107**
SampleType: **MBLK**	TestCode: **METALS, TOTAL** **SW6010C**			BatchID: **209417**	Analysis Date: **06/30/2015**	Seq No: **6290683**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	BRL	5.00									

Sample ID: **LCS-209417**	Client ID:			Units: **mg/Kg**	Prep Date: **06/29/2015**	Run No: **295107**
SampleType: **LCS**	TestCode: **METALS, TOTAL** **SW6010C**			BatchID: **209417**	Analysis Date: **06/30/2015**	Seq No: **6290684**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	47.38	5.00	50.00		94.8	80	120				

Sample ID: **1506R04-015AMS**	Client ID: **SCS-31-2F-(2)-20150625-01**			Units: **mg/Kg-dry**	Prep Date: **06/29/2015**	Run No: **295107**
SampleType: **MS**	TestCode: **METALS, TOTAL** **SW6010C**			BatchID: **209417**	Analysis Date: **06/30/2015**	Seq No: **6290686**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	50.64	5.53	55.26	0.5363	90.7	75	125				

Sample ID: **1506R04-015AMSD**	Client ID: **SCS-31-2F-(2)-20150625-01**			Units: **mg/Kg-dry**	Prep Date: **06/29/2015**	Run No: **295107**
SampleType: **MSD**	TestCode: **METALS, TOTAL** **SW6010C**			BatchID: **209417**	Analysis Date: **06/30/2015**	Seq No: **6290687**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	49.80	5.53	55.26	0.5363	89.1	75	125	50.64	1.69	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506R04

ANALYTICAL QC SUMMARY REPORT

BatchID: 209460

Sample ID: **MB-209460** Client ID: Units: **ug/Kg** Prep Date: **06/29/2015** Run No: **294925**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **209460** Analysis Date: **06/29/2015** Seq No: **6286561**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Chloromethane	BRL	10									
Surr: 4-Bromofluorobenzene	51.07	0	50.00		102	70	128				
Surr: Dibromofluoromethane	62.21	0	50.00		124	78.2	128				
Surr: Toluene-d8	53.12	0	50.00		106	76.5	116				

Sample ID: **LCS-209460** Client ID: Units: **ug/Kg** Prep Date: **06/29/2015** Run No: **295271**
SampleType: **LCS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **209460** Analysis Date: **07/04/2015** Seq No: **6298325**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	51.23	5.0	50.00		102	72.3	130				
Surr: 4-Bromofluorobenzene	40.19	0	50.00		80.4	70	128				
Surr: Dibromofluoromethane	54.20	0	50.00		108	78.2	128				
Surr: Toluene-d8	45.98	0	50.00		92.0	76.5	116				

Sample ID: **1506Q95-001AMS** Client ID: Units: **ug/Kg-dry** Prep Date: **06/29/2015** Run No: **294925**
SampleType: **MS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **209460** Analysis Date: **06/29/2015** Seq No: **6286112**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	56.49	5.9	58.52		96.5	70.4	130				
Surr: 4-Bromofluorobenzene	62.32	0	58.52		106	70	128				
Surr: Dibromofluoromethane	69.26	0	58.52		118	78.2	128				
Surr: Toluene-d8	58.61	0	58.52		100	76.5	116				

Sample ID: **1506Q95-001AMSD** Client ID: Units: **ug/Kg-dry** Prep Date: **06/29/2015** Run No: **294925**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **209460** Analysis Date: **06/29/2015** Seq No: **6286113**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506R04

ANALYTICAL QC SUMMARY REPORT

BatchID: 209460

Sample ID: **1506Q95-001AMSD** Client ID:
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B**
Units: **ug/Kg-dry** Prep Date: **06/29/2015** Run No: **294925**
BatchID: **209460** Analysis Date: **06/29/2015** Seq No: **6286113**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	56.67	5.9	58.52		96.8	70.4	130	56.49	0.310	16.9	
Surr: 4-Bromofluorobenzene	60.74	0	58.52		104	70	128	62.32	0	0	
Surr: Dibromofluoromethane	68.84	0	58.52		118	78.2	128	69.26	0	0	
Surr: Toluene-d8	60.35	0	58.52		103	76.5	116	58.61	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506R04

ANALYTICAL QC SUMMARY REPORT

BatchID: 209546

Sample ID: **MB-209546** Client ID: Units: **ug/Kg** Prep Date: **06/30/2015** Run No: **295039**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **209546** Analysis Date: **06/30/2015** Seq No: **6289466**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	250									
Chloromethane	BRL	500									
Surr: 4-Bromofluorobenzene	2469	0	2500		98.8	70	128				
Surr: Dibromofluoromethane	2596	0	2500		104	78.2	128				
Surr: Toluene-d8	2513	0	2500		101	76.5	116				

Sample ID: **LCS-209546** Client ID: Units: **ug/Kg** Prep Date: **06/30/2015** Run No: **295039**
SampleType: **LCS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **209546** Analysis Date: **06/30/2015** Seq No: **6289463**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	2390	250	2500		95.6	72.3	130				
Surr: 4-Bromofluorobenzene	2426	0	2500		97.0	70	128				
Surr: Dibromofluoromethane	2513	0	2500		101	78.2	128				
Surr: Toluene-d8	2574	0	2500		103	76.5	116				

Sample ID: **1506R10-002AMS** Client ID: Units: **ug/Kg-dry** Prep Date: **06/30/2015** Run No: **295039**
SampleType: **MS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **209546** Analysis Date: **06/30/2015** Seq No: **6289797**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	54650	5400	53750		102	70.4	130				
Surr: 4-Bromofluorobenzene	52410	0	53750		97.5	70	128				
Surr: Dibromofluoromethane	54170	0	53750		101	78.2	128				
Surr: Toluene-d8	53110	0	53750		98.8	76.5	116				

Sample ID: **1506R10-002AMSD** Client ID: Units: **ug/Kg-dry** Prep Date: **06/30/2015** Run No: **295039**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **209546** Analysis Date: **06/30/2015** Seq No: **6289891**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506R04

ANALYTICAL QC SUMMARY REPORT

BatchID: 209546

Sample ID: **1506R10-002AMSD** Client ID:
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B**
Units: **ug/Kg-dry** Prep Date: **06/30/2015** Run No: **295039**
BatchID: **209546** Analysis Date: **06/30/2015** Seq No: **6289891**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	52410	5400	53750		97.5	70.4	130	54650	4.18	16.9	
Surr: 4-Bromofluorobenzene	54120	0	53750		101	70	128	52410	0	0	
Surr: Dibromofluoromethane	55400	0	53750		103	78.2	128	54170	0	0	
Surr: Toluene-d8	55150	0	53750		103	76.5	116	53110	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506R04

ANALYTICAL QC SUMMARY REPORT

BatchID: 209585

Sample ID: **MB-209585** Client ID: Units: **ug/L** Prep Date: **06/30/2015** Run No: **295099**
SampleType: **MBLK** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **209585** Analysis Date: **07/01/2015** Seq No: **6290450**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Chloromethane	BRL	10									
Surr: 4-Bromofluorobenzene	49.71	0	50.00		99.4	70.6	123				
Surr: Dibromofluoromethane	55.17	0	50.00		110	78.7	124				
Surr: Toluene-d8	51.37	0	50.00		103	81.3	120				

Sample ID: **LCS-209585** Client ID: Units: **ug/L** Prep Date: **06/30/2015** Run No: **295099**
SampleType: **LCS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **209585** Analysis Date: **06/30/2015** Seq No: **6290446**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	50.19	5.0	50.00		100	72.8	128				
Surr: 4-Bromofluorobenzene	50.07	0	50.00		100	70.6	123				
Surr: Dibromofluoromethane	56.81	0	50.00		114	78.7	124				
Surr: Toluene-d8	50.33	0	50.00		101	81.3	120				

Sample ID: **1506S99-005AMS** Client ID: Units: **ug/L** Prep Date: **06/30/2015** Run No: **295099**
SampleType: **MS** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **209585** Analysis Date: **07/01/2015** Seq No: **6290501**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	52.29	5.0	50.00		105	70	135				
Surr: 4-Bromofluorobenzene	48.34	0	50.00		96.7	70.6	123				
Surr: Dibromofluoromethane	53.31	0	50.00		107	78.7	124				
Surr: Toluene-d8	52.45	0	50.00		105	81.3	120				

Sample ID: **1506S99-005AMSD** Client ID: Units: **ug/L** Prep Date: **06/30/2015** Run No: **295099**
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B** BatchID: **209585** Analysis Date: **07/01/2015** Seq No: **6290502**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506R04

ANALYTICAL QC SUMMARY REPORT

BatchID: 209585

Sample ID: **1506S99-005AMSD** Client ID:
SampleType: **MSD** TestCode: **TCL VOLATILE ORGANICS SW8260B**
Units: **ug/L** Prep Date: **06/30/2015** Run No: **295099**
BatchID: **209585** Analysis Date: **07/01/2015** Seq No: **6290502**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	50.21	5.0	50.00		100	70	135	52.29	4.06	20	
Surr: 4-Bromofluorobenzene	50.11	0	50.00		100	70.6	123	48.34	0	0	
Surr: Dibromofluoromethane	53.21	0	50.00		106	78.7	124	53.31	0	0	
Surr: Toluene-d8	50.78	0	50.00		102	81.3	120	52.45	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506R04

ANALYTICAL QC SUMMARY REPORT

BatchID: 209386

Sample ID: **MB-209386** Client ID: Units: **ug/Kg** Prep Date: **06/29/2015** Run No: **294965**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **209386** Analysis Date: **06/29/2015** Seq No: **6287099**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1´-Biphenyl	BRL	330									
1,2,4,5-Tetrachlorobenzene	BRL	330									
1,2,4-Trichlorobenzene	BRL	330									
1,2-Dichlorobenzene	BRL	330									
1,2-Dinitrobenzene	BRL	660									N
1,2-Diphenylhydrazine	BRL	330									
1,3,5-Trinitrobenzene	BRL	660									
1,3-Dichlorobenzene	BRL	330									
1,3-Dinitrobenzene	BRL	660									
1,4-Dichlorobenzene	BRL	330									
1,4-Napthoquinone	BRL	330									
1-Chloronaphthalene	BRL	330									
1-Methylnaphthalene	BRL	330									
1-Naphthylamine	BRL	660									
2,3,4,6-Tetrachlorophenol	BRL	330									
2,4,5-Trichlorophenol	BRL	1700									
2,4,6-Trichlorophenol	BRL	330									
2,4-Dichlorophenol	BRL	330									
2,4-Dimethylphenol	BRL	330									
2,4-Dinitrophenol	BRL	1700									
2,4-Dinitrotoluene	BRL	330									
2,6-Dichlorophenol	BRL	330									
2,6-Dinitrotoluene	BRL	330									
2-Acetylaminofluorene	BRL	660									
2-Chloronaphthalene	BRL	330									
2-Chlorophenol	BRL	330									
2-Methylnaphthalene	BRL	330									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506R04

ANALYTICAL QC SUMMARY REPORT

BatchID: 209386

Sample ID: **MB-209386** Client ID: Units: **ug/Kg** Prep Date: **06/29/2015** Run No: **294965**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **209386** Analysis Date: **06/29/2015** Seq No: **6287099**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2-Methylphenol	BRL	330									
2-Naphthylamine	BRL	660									
2-Nitroaniline	BRL	1700									
2-Nitrophenol	BRL	330									
2-Picoline	BRL	330									
3,3´-Dichlorobenzidine	BRL	660									
3,3´-Dimethylbenzidine	BRL	660									
3,4-Methylphenol	BRL	330									
3-Chloroaniline	BRL	330									
3-Methylcholanthrene	BRL	330									
3-Methylphenol	BRL	330									
3-Nitroaniline	BRL	1700									
4,6-Dinitro-2-methylphenol	BRL	1700									
4-Aminobiphenyl	BRL	660									
4-Bromophenyl phenyl ether	BRL	330									
4-Chloro-3-methylphenol	BRL	330									
4-Chloroaniline	BRL	330									
4-Chlorophenyl phenyl ether	BRL	330									
4-Methylphenol	BRL	330									
4-Nitroaniline	BRL	1700									
4-Nitrophenol	BRL	1700									
4-Nitroquinoline,1-oxide	BRL	1700									
5-Nitro-o-toluidine	BRL	330									
7,12-Dimethylbenz(a)anthracene	BRL	330									
a,a-Dimethylphenethylamine	BRL	1700									
Acenaphthene	BRL	330									
Acenaphthylene	BRL	330									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506R04

ANALYTICAL QC SUMMARY REPORT

BatchID: 209386

Sample ID: **MB-209386** Client ID:
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/Kg** Prep Date: **06/29/2015** Run No: **294965**
BatchID: **209386** Analysis Date: **06/29/2015** Seq No: **6287099**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acetophenone	BRL	330									
Allethrin	BRL	330									N
Aniline	BRL	330									
Anthracene	BRL	330									
Aramite	BRL	330									
Atrazine	BRL	330									
Baygon	BRL	330									N
Benz(a)anthracene	BRL	330									
Benzaldehyde	BRL	330									
Benzidine	BRL	2600									
Benzo(a)pyrene	BRL	330									
Benzo(b)fluoranthene	BRL	330									
Benzo(g,h,i)perylene	BRL	330									
Benzo(k)fluoranthene	BRL	330									
Benzoic acid	BRL	6600									
Benzyl alcohol	BRL	660									
Bis(2-chloroethoxy)methane	BRL	330									
Bis(2-chloroethyl)ether	BRL	330									
Bis(2-chloroisopropyl)ether	BRL	330									
Bis(2-ethylhexyl)phthalate	BRL	330									
Butyl benzyl phthalate	BRL	330									
Caprolactam	BRL	330									
Carbazole	BRL	330									
Chlorobenzilate	BRL	330									
Chloropyrifos	BRL	330									N
Chrysene	BRL	330									
Di-n-butyl phthalate	BRL	330									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506R04

ANALYTICAL QC SUMMARY REPORT

BatchID: 209386

Sample ID: **MB-209386** Client ID: Units: **ug/Kg** Prep Date: **06/29/2015** Run No: **294965**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **209386** Analysis Date: **06/29/2015** Seq No: **6287099**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Di-n-octyl phthalate	BRL	330									
Diallate	BRL	330									
Diazinon	BRL	330									N
Dibenz(a,h)anthracene	BRL	330									
Dibenz(a,j)acridine	BRL	330									
Dibenzofuran	BRL	330									
Diethyl phthalate	BRL	330									
Dimethoate	BRL	660									
Dimethyl phthalate	BRL	330									
Dimethylaminoazobenzene	BRL	330									N
Diphenylamine	BRL	330									
Disulfoton	BRL	1900									
Ethyl methanesulfonate	BRL	660									
Famphur	BRL	660									
Fenvalerate	BRL	330									N
Fluoranthene	BRL	330									
Fluorene	BRL	330									
Hexachlorobenzene	BRL	330									
Hexachlorobutadiene	BRL	330									
Hexachlorocyclopentadiene	BRL	660									
Hexachloroethane	BRL	2600									
Hexachlorophene	BRL	17000									
Hexachloropropene	BRL	1700									
Indeno(1,2,3-cd)pyrene	BRL	330									
Isodrin	BRL	660									
Isophorone	BRL	330									
Isosafrole	BRL	330									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506R04

ANALYTICAL QC SUMMARY REPORT

BatchID: 209386

Sample ID: **MB-209386** Client ID:
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/Kg** Prep Date: **06/29/2015** Run No: **294965**
BatchID: **209386** Analysis Date: **06/29/2015** Seq No: **6287099**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Kepone	BRL	1700									
Methapyrilene	BRL	660									
Methyl methanesulfonate	BRL	1700									
Methyl parathion	BRL	330									
MGK-264	BRL	330									N
N-Nitrosodi-n-butylamine	BRL	330									
N-Nitrosodi-n-propylamine	BRL	330									
N-Nitrosodiethylamine	BRL	660									
N-Nitrosodimethylamine	BRL	660									
N-Nitrosodiphenylamine	BRL	330									
N-Nitrosomethylethylamine	BRL	330									
N-Nitrosomorpholine	BRL	660									
N-Nitrosopiperidine	BRL	660									
N-Nitrosopyrrolidine	BRL	1700									
Naphthalene	BRL	330									
Nitrobenzene	BRL	330									
O,O,O-Triethyl phosphorothioate	BRL	330									
o-Toluidine	BRL	1300									
p-Dimethylaminoazobenzene	BRL	330									
p-Phenylenediamine	BRL	17000									
Parathion	BRL	330									
Pentachlorobenzene	BRL	330									
Pentachloronitrobenzene	BRL	660									
Pentachlorophenol	BRL	1700									
Perylene	BRL	330									N
Phenacetin	BRL	660									
Phenanthrene	BRL	330									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506R04

ANALYTICAL QC SUMMARY REPORT

BatchID: 209386

Sample ID: **MB-209386** Client ID: Units: **ug/Kg** Prep Date: **06/29/2015** Run No: **294965**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **209386** Analysis Date: **06/29/2015** Seq No: **6287099**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	BRL	330									
Phenothrin	BRL	330									N
Phorate	BRL	330									
Piperonyl Butoxide	BRL	330									N
Pronamide	BRL	330									
Pyrene	BRL	330									
Pyrethrin	BRL	1700									N
Pyridine	BRL	330									
Resmethrin	BRL	330									N
Safrole	BRL	330									
Sym-Trinitrobenzene	BRL	330									
Tetraethyl dithiopyrophosphate	BRL	660									
Tetramethrin	BRL	330									N
Thionazin	BRL	660									
Surr: 2,4,6-Tribromophenol	2697	0	3333		80.9	41	128				
Surr: 2-Fluorobiphenyl	1348	0	1667		80.9	47	120				
Surr: 2-Fluorophenol	2700	0	3333		81.0	38.3	120				
Surr: 4-Terphenyl-d14	1389	0	1667		83.3	51.4	125				
Surr: Nitrobenzene-d5	1464	0	1667		87.8	40.1	120				
Surr: Phenol-d5	3087	0	3333		92.6	40.3	120				

Sample ID: **LCS-209386** Client ID: Units: **ug/Kg** Prep Date: **06/29/2015** Run No: **295061**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **209386** Analysis Date: **06/30/2015** Seq No: **6289630**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	2682	330	3333		80.5	51.5	120				
1,4-Dichlorobenzene	2812	330	3333		84.4	50.8	120				
2,4-Dinitrotoluene	3322	330	3333		99.6	56.9	120				

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506R04

ANALYTICAL QC SUMMARY REPORT

BatchID: 209386

Sample ID: **LCS-209386** Client ID: Units: **ug/Kg** Prep Date: **06/29/2015** Run No: **295061**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **209386** Analysis Date: **06/30/2015** Seq No: **6289630**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2-Chlorophenol	3120	330	3333		93.6	51	120				
4-Chloro-3-methylphenol	3456	330	3333		104	54	120				
4-Nitrophenol	3224	1700	3333		96.7	40.7	120				
Acenaphthene	3138	330	3333		94.1	57.9	120				
N-Nitrosodi-n-propylamine	4057	330	3333		122	56.5	124				
Pentachlorophenol	2275	1700	3333		68.2	41.8	120				
Phenol	3007	330	3333		90.2	50.1	120				
Pyrene	3254	330	3333		97.6	59.4	120				
Surr: 2,4,6-Tribromophenol	3018	0	3333		90.5	41	128				
Surr: 2-Fluorobiphenyl	1479	0	1667		88.7	47	120				
Surr: 2-Fluorophenol	2886	0	3333		86.6	38.3	120				
Surr: 4-Terphenyl-d14	1483	0	1667		89.0	51.4	125				
Surr: Nitrobenzene-d5	1721	0	1667		103	40.1	120				
Surr: Phenol-d5	3180	0	3333		95.4	40.3	120				

Sample ID: **1506R04-015AMS** Client ID: **SCS-31-2F-(2)-20150625-01** Units: **ug/Kg-dry** Prep Date: **06/29/2015** Run No: **294965**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **209386** Analysis Date: **06/29/2015** Seq No: **6287125**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	2506	380	3788		66.1	53	120				
1,4-Dichlorobenzene	2685	380	3788		70.9	40	120				
2,4-Dinitrotoluene	3626	380	3788		95.7	41.7	120				
2-Chlorophenol	2987	380	3788		78.9	42.9	120				
4-Chloro-3-methylphenol	3415	380	3788		90.2	41.1	120				
4-Nitrophenol	3331	1900	3788		87.9	32	120				
Acenaphthene	3195	380	3788		84.3	51.5	120				
N-Nitrosodi-n-propylamine	4032	380	3788		106	50.2	120				
Pentachlorophenol	2479	1900	3788		65.4	38.4	120				

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506R04

ANALYTICAL QC SUMMARY REPORT

BatchID: 209386

Sample ID: **1506R04-015AMS** Client ID: **SCS-31-2F-(2)-20150625-01** Units: **ug/Kg-dry** Prep Date: **06/29/2015** Run No: **294965**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **209386** Analysis Date: **06/29/2015** Seq No: **6287125**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2964	380	3788		78.3	41.5	120				
Pyrene	3579	380	3788		94.5	45.2	120				
Surr: 2,4,6-Tribromophenol	3330	0	3788		87.9	41	128				
Surr: 2-Fluorobiphenyl	1445	0	1894		76.3	47	120				
Surr: 2-Fluorophenol	2708	0	3788		71.5	38.3	120				
Surr: 4-Terphenyl-d14	1640	0	1894		86.6	51.4	125				
Surr: Nitrobenzene-d5	1618	0	1894		85.4	40.1	120				
Surr: Phenol-d5	3148	0	3788		83.1	40.3	120				

Sample ID: **1506R04-015AMSD** Client ID: **SCS-31-2F-(2)-20150625-01** Units: **ug/Kg-dry** Prep Date: **06/29/2015** Run No: **294965**
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **209386** Analysis Date: **06/29/2015** Seq No: **6287126**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	2660	380	3788		70.2	53	120	2506	5.97	25.5	
1,4-Dichlorobenzene	2786	380	3788		73.5	40	120	2685	3.68	26	
2,4-Dinitrotoluene	3464	380	3788		91.4	41.7	120	3626	4.56	33.1	
2-Chlorophenol	3102	380	3788		81.9	42.9	120	2987	3.78	30.7	
4-Chloro-3-methylphenol	3344	380	3788		88.3	41.1	120	3415	2.12	40.5	
4-Nitrophenol	3031	1900	3788		80.0	32	120	3331	9.44	37.9	
Acenaphthene	3206	380	3788		84.6	51.5	120	3195	0.331	26.3	
N-Nitrosodi-n-propylamine	4003	380	3788		106	50.2	120	4032	0.726	34.9	
Pentachlorophenol	2305	1900	3788		60.8	38.4	120	2479	7.29	35.9	
Phenol	3068	380	3788		81.0	41.5	120	2964	3.44	37.4	
Pyrene	3418	380	3788		90.2	45.2	120	3579	4.62	35	
Surr: 2,4,6-Tribromophenol	3155	0	3788		83.3	41	128	3330	0	0	
Surr: 2-Fluorobiphenyl	1487	0	1894		78.5	47	120	1445	0	0	
Surr: 2-Fluorophenol	2797	0	3788		73.8	38.3	120	2708	0	0	
Surr: 4-Terphenyl-d14	1537	0	1894		81.1	51.4	125	1640	0	0	

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506R04

ANALYTICAL QC SUMMARY REPORT

BatchID: 209386

Sample ID: **1506R04-015AMSD** Client ID: **SCS-31-2F-(2)-20150625-01** Units: **ug/Kg-dry** Prep Date: **06/29/2015** Run No: **294965**
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **209386** Analysis Date: **06/29/2015** Seq No: **6287126**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: Nitrobenzene-d5	1697	0	1894		89.6	40.1	120	1618	0	0	
Surr: Phenol-d5	3213	0	3788		84.8	40.3	120	3148	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506R04

ANALYTICAL QC SUMMARY REPORT

BatchID: 209478

Sample ID: **MB-209478** Client ID: Units: **ug/L** Prep Date: **06/30/2015** Run No: **295031**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **209478** Analysis Date: **06/30/2015** Seq No: **6288741**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1´-Biphenyl	BRL	10									
1,2,4,5-Tetrachlorobenzene	BRL	10									
1,2,4-Trichlorobenzene	BRL	10									
1,2-Dichlorobenzene	BRL	10									
1,2-Diphenylhydrazine	BRL	10									
1,3,5-Trinitrobenzene	BRL	10									
1,3-Dichlorobenzene	BRL	10									
1,3-Dinitrobenzene	BRL	20									
1,4-Dichlorobenzene	BRL	10									
1,4-Napthoquinone	BRL	10									
1-Chloronaphthalene	BRL	10									
1-Methylnaphthalene	BRL	10									
1-Naphthylamine	BRL	10									
2,2´-oxybis(1-Chloropropane)	BRL	10									
2,3,4,6-Tetrachlorophenol	BRL	10									
2,3-Dichloroaniline	BRL	10									N
2,4,5-Trichlorophenol	BRL	25									
2,4,6-Trichlorophenol	BRL	10									
2,4-Dichlorophenol	BRL	10									
2,4-Dimethylphenol	BRL	10									
2,4-Dinitrophenol	BRL	25									
2,4-Dinitrotoluene	BRL	10									
2,6-Dichlorophenol	BRL	10									
2,6-Dinitrotoluene	BRL	10									
2-Acetylaminofluorene	BRL	20									
2-Chloronaphthalene	BRL	10									
2-Chlorophenol	BRL	10									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506R04

ANALYTICAL QC SUMMARY REPORT

BatchID: 209478

Sample ID: **MB-209478** Client ID: Units: **ug/L** Prep Date: **06/30/2015** Run No: **295031**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **209478** Analysis Date: **06/30/2015** Seq No: **6288741**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2-Methylnaphthalene	BRL	10									
2-Methylphenol	BRL	10									
2-Naphthylamine	BRL	10									
2-Nitroaniline	BRL	50									
2-Nitrophenol	BRL	10									
2-Picoline	BRL	10									
3,3´-Dichlorobenzidine	BRL	20									
3,3´-Dimethoxybenzidine	BRL	10									N
3,3´-Dimethylbenzidine	BRL	20									
3,4-Methylphenol	BRL	10									
3-Chloroaniline	BRL	10									
3-Methylcholanthrene	BRL	10									
3-Methylphenol	BRL	10									
3-Nitroaniline	BRL	25									
4,6-Dinitro-2-methylphenol	BRL	25									
4-Aminobiphenyl	BRL	10									
4-Bromophenyl phenyl ether	BRL	10									
4-Chloro-3-methylphenol	BRL	10									
4-Chloroaniline	BRL	10									
4-Chlorophenyl phenyl ether	BRL	10									
4-Methylphenol	BRL	10									
4-Nitroaniline	BRL	25									
4-Nitrophenol	BRL	25									
4-Nitroquinoline,1-oxide	BRL	50									
5-Nitro-o-toluidine	BRL	10									
7,12-Dimethylbenz(a)anthracene	BRL	10									
a,a-Dimethylphenethylamine	BRL	50									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506R04

ANALYTICAL QC SUMMARY REPORT

BatchID: 209478

Sample ID: **MB-209478** Client ID: Units: **ug/L** Prep Date: **06/30/2015** Run No: **295031**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **209478** Analysis Date: **06/30/2015** Seq No: **6288741**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	10									
Acenaphthylene	BRL	10									
Acetophenone	BRL	10									
Allethrin	BRL	10									N
alpha-Terpineol	BRL	10									N
Aniline	BRL	10									
Anthracene	BRL	10									
Aramite	BRL	10									
Atrazine	BRL	10									
Baygon	BRL	10									N
Benz(a)anthracene	BRL	10									
Benzaldehyde	BRL	10									
Benzidine	BRL	80									
Benzo(a)pyrene	BRL	10									
Benzo(b)fluoranthene	BRL	10									
Benzo(g,h,i)perylene	BRL	10									
Benzo(k)fluoranthene	BRL	10									
Benzoic acid	BRL	100									
Benzyl alcohol	BRL	10									
Bis(2-chloroethoxy)methane	BRL	10									
Bis(2-chloroethyl)ether	BRL	10									
Bis(2-chloroisopropyl)ether	BRL	10									
Bis(2-ethylhexyl)phthalate	BRL	10									
Bis(chloromethyl) ether	BRL	100									N
Butyl benzyl phthalate	BRL	10									
Caprolactam	BRL	10									
Carbazole	BRL	10									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506R04

ANALYTICAL QC SUMMARY REPORT

BatchID: 209478

Sample ID: **MB-209478** Client ID:
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/L** Prep Date: **06/30/2015** Run No: **295031**
BatchID: **209478** Analysis Date: **06/30/2015** Seq No: **6288741**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chlorobenzilate	BRL	10									
Chloropyrifos	BRL	10									N
Chrysene	BRL	10									
Decane	BRL	10									N
Di-n-butyl phthalate	BRL	10									
Di-n-octyl phthalate	BRL	10									
Diallate	BRL	10									
Diazinon	BRL	10									N
Dibenz(a,h)anthracene	BRL	10									
Dibenz(a,j)acridine	BRL	10									
Dibenzofuran	BRL	10									
Diethyl phthalate	BRL	10									
Dimethoate	BRL	20									
Dimethyl phthalate	BRL	10									
Dimethylaminoazobenzene	BRL	10									N
Diphenylamine	BRL	10									
Disulfoton	BRL	10									
Ethyl methanesulfonate	BRL	10									
Famphur	BRL	20									
Fenvalerate	BRL	10									N
Fluoranthene	BRL	10									
Fluorene	BRL	10									
Hexachlorobenzene	BRL	10									
Hexachlorobutadiene	BRL	10									
Hexachlorocyclopentadiene	BRL	10									
Hexachloroethane	BRL	10									
Hexachlorophene	BRL	80									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506R04

ANALYTICAL QC SUMMARY REPORT

BatchID: 209478

Sample ID: **MB-209478** Client ID: Units: **ug/L** Prep Date: **06/30/2015** Run No: **295031**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **209478** Analysis Date: **06/30/2015** Seq No: **6288741**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Hexachloropropene	BRL	10									
Indeno(1,2,3-cd)pyrene	BRL	10									
Isodrin	BRL	10									
Isophorone	BRL	10									
Isosafrole	BRL	10									
Kepone	BRL	50									
Methapyrilene	BRL	20									
Methyl methanesulfonate	BRL	10									
Methyl parathion	BRL	10									
MGK-264	BRL	10									N
N-Nitrosodi-n-butylamine	BRL	10									
N-Nitrosodi-n-propylamine	BRL	10									
N-Nitrosodiethylamine	BRL	10									
N-Nitrosodimethylamine	BRL	10									
N-Nitrosodiphenylamine	BRL	10									
N-Nitrosomethylethylamine	BRL	10									
N-Nitrosomorpholine	BRL	10									
N-Nitrosopiperidine	BRL	10									
N-Nitrosopyrrolidine	BRL	40									
N-Octadecane	BRL	10									N
Naphthalene	BRL	10									
Nitrobenzene	BRL	10									
O,O,O-Triethyl phosphorothioate	BRL	10									
o-Toluidine	BRL	10									
p-Dimethylaminoazobenzene	BRL	10									
p-Phenylenediamine	BRL	500									
Parathion	BRL	10									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506R04

ANALYTICAL QC SUMMARY REPORT

BatchID: 209478

Sample ID: **MB-209478** Client ID:
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/L** Prep Date: **06/30/2015** Run No: **295031**
BatchID: **209478** Analysis Date: **06/30/2015** Seq No: **6288741**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Pentachlorobenzene	BRL	10									
Pentachloronitrobenzene	BRL	10									
Pentachlorophenol	BRL	25									
Perylene	BRL	10									N
Phenacetin	BRL	10									
Phenanthrene	BRL	10									
Phenol	BRL	10									
Phenothrin	BRL	10									N
Phorate	BRL	10									
Piperonyl Butoxide	BRL	10									N
Pronamide	BRL	10									
Pyrene	BRL	10									
Pyrethrin	BRL	50									N
Pyridine	BRL	10									
Resmethrin	BRL	10									N
Safrole	BRL	50									
Sym-Trinitrobenzene	BRL	10									
Tetraethyl dithiopyrophosphate	BRL	10									
Tetramethrin	BRL	10									N
Thionazin	BRL	10									
Surr: 2,4,6-Tribromophenol	86.30	0	100.0		86.3	52	133				
Surr: 2-Fluorobiphenyl	45.42	0	50.00		90.8	50	121				
Surr: 2-Fluorophenol	51.11	0	100.0		51.1	27.5	120				
Surr: 4-Terphenyl-d14	46.47	0	50.00		92.9	46.3	137				
Surr: Nitrobenzene-d5	40.29	0	50.00		80.6	41.2	121				
Surr: Phenol-d5	35.83	0	100.0		35.8	14.3	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506R04

ANALYTICAL QC SUMMARY REPORT

BatchID: 209478

Sample ID: **LCS-209478**	Client ID:		Units: **ug/L**	Prep Date: **06/30/2015**	Run No: **295037**
SampleType: **LCS**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **209478**	Analysis Date: **06/30/2015**	Seq No: **6289493**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	83.09	10	100.0		83.1	59.4	120				
1,4-Dichlorobenzene	83.28	10	100.0		83.3	52.6	120				
2,4-Dinitrotoluene	103.4	10	100.0		103	69.9	127				
2-Chlorophenol	83.25	10	100.0		83.2	59.8	120				
4-Chloro-3-methylphenol	108.1	10	100.0		108	65.7	126				
4-Nitrophenol	BRL	25	100.0		21.1	21	120				
Acenaphthene	104.3	10	100.0		104	68.2	124				
N-Nitrosodi-n-propylamine	127.9	10	100.0		128	60.3	138				
Pentachlorophenol	62.28	25	100.0		62.3	50.2	136				
Phenol	29.00	10	100.0		29.0	25.6	120				
Pyrene	117.8	10	100.0		118	70.1	124				
Surr: 2,4,6-Tribromophenol	97.19	0	100.0		97.2	52	133				
Surr: 2-Fluorobiphenyl	50.92	0	50.00		102	50	121				
Surr: 2-Fluorophenol	46.13	0	100.0		46.1	27.5	120				
Surr: 4-Terphenyl-d14	53.16	0	50.00		106	46.3	137				
Surr: Nitrobenzene-d5	48.83	0	50.00		97.7	41.2	121				
Surr: Phenol-d5	29.96	0	100.0		30.0	14.3	120				

Sample ID: **1506S39-002AMS**	Client ID:		Units: **ug/L**	Prep Date: **06/30/2015**	Run No: **295031**
SampleType: **MS**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **209478**	Analysis Date: **06/30/2015**	Seq No: **6288916**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	72.28	10	100.0		72.3	51.4	120				
1,4-Dichlorobenzene	81.99	10	100.0		82.0	50.3	120				
2,4-Dinitrotoluene	90.04	10	100.0		90.0	50.5	120				
2-Chlorophenol	85.94	10	100.0		85.9	51.4	120				
4-Chloro-3-methylphenol	86.26	10	100.0		86.3	50	121				
4-Nitrophenol	30.12	25	100.0		30.1	23.7	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506R04

ANALYTICAL QC SUMMARY REPORT

BatchID: 209478

Sample ID: **1506S39-002AMS** Client ID: Units: **ug/L** Prep Date: **06/30/2015** Run No: **295031**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **209478** Analysis Date: **06/30/2015** Seq No: **6288916**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	97.13	10	100.0		97.1	53.9	120				
N-Nitrosodi-n-propylamine	91.86	10	100.0		91.9	52.6	122				
Pentachlorophenol	68.54	25	100.0		68.5	42.1	134				
Phenol	48.41	10	100.0		48.4	31	120				
Pyrene	93.64	10	100.0		93.6	53	112				
Surr: 2,4,6-Tribromophenol	92.66	0	100.0		92.7	52	133				
Surr: 2-Fluorobiphenyl	47.45	0	50.00		94.9	50	121				
Surr: 2-Fluorophenol	57.00	0	100.0		57.0	27.5	120				
Surr: 4-Terphenyl-d14	47.63	0	50.00		95.3	46.3	137				
Surr: Nitrobenzene-d5	36.58	0	50.00		73.2	41.2	121				
Surr: Phenol-d5	45.53	0	100.0		45.5	14.3	120				

Sample ID: **1506S39-002AMSD** Client ID: Units: **ug/L** Prep Date: **06/30/2015** Run No: **295031**
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **209478** Analysis Date: **06/30/2015** Seq No: **6289080**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	79.30	10	100.0		79.3	51.4	120	72.28	9.26	27.5	
1,4-Dichlorobenzene	90.09	10	100.0		90.1	50.3	120	81.99	9.41	22.9	
2,4-Dinitrotoluene	90.24	10	100.0		90.2	50.5	120	90.04	0.222	24.4	
2-Chlorophenol	90.72	10	100.0		90.7	51.4	120	85.94	5.41	27.3	
4-Chloro-3-methylphenol	85.16	10	100.0		85.2	50	121	86.26	1.28	26.5	
4-Nitrophenol	32.52	25	100.0		32.5	23.7	120	30.12	7.66	45.1	
Acenaphthene	95.43	10	100.0		95.4	53.9	120	97.13	1.77	22.5	
N-Nitrosodi-n-propylamine	101.7	10	100.0		102	52.6	122	91.86	10.2	28.9	
Pentachlorophenol	71.93	25	100.0		71.9	42.1	134	68.54	4.83	28.3	
Phenol	50.06	10	100.0		50.1	31	120	48.41	3.35	31.9	
Pyrene	96.26	10	100.0		96.3	53	112	93.64	2.76	22.3	
Surr: 2,4,6-Tribromophenol	87.38	0	100.0		87.4	52	133	92.66	0	0	

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1506R04

ANALYTICAL QC SUMMARY REPORT

BatchID: 209478

Sample ID: **1506S39-002AMSD** Client ID:
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/L** Prep Date: **06/30/2015** Run No: **295031**
BatchID: **209478** Analysis Date: **06/30/2015** Seq No: **6289080**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 2-Fluorobiphenyl	46.08	0	50.00		92.2	50	121	47.45	0	0	
Surr: 2-Fluorophenol	60.46	0	100.0		60.5	27.5	120	57.00	0	0	
Surr: 4-Terphenyl-d14	47.60	0	50.00		95.2	46.3	137	47.63	0	0	
Surr: Nitrobenzene-d5	40.53	0	50.00		81.1	41.2	121	36.58	0	0	
Surr: Phenol-d5	47.32	0	100.0		47.3	14.3	120	45.53	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

July 13, 2015

Nic Vrey
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: Macon Remediation

Dear Nic Vrey: Order No: 1507058

Analytical Environmental Services, Inc. received 7 samples on 7/1/2015 10:45:00 AM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/15.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC

3080 Presidential Drive, Atlanta GA 30340-3704
TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

AES

CHAIN OF CUSTODY

Work Order: 1507058

Date: 6/30/15 Page 1 of 1

COMPANY: ERM

ADDRESS: 3200 Windy Hill Rd SE Suite 1500W Atlanta, Ga 30339

PHONE: 678-466-2700

FAX:

SAMPLED BY: Reece K Carpenter

SIGNATURE: Reece K Carpenter

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	VOCs 8260B	SVOCs 8270C	Metals 6010B	Cyanide 9012A	Mercury 7470A	No # of Containers	REMARKS
	PRESERVATION (See codes)						H+I	NA	NA	NA	NA		
1	SSS-01-20150630-01	6/30/15	1400		X	SO	4	1	1	1	1	5	For SCS-44
2	SSS-02-20150630-01	6/30/15	1410		X	SO	4	1	1	1	1	5	VOCs ONLY
3	SSS-03-20150630-01	6/30/15	1500		X	SO	4	1	1	1	1	5	Benzene and
4	EB-04-20150630-01	6/30/15		X		W	2	1	1			3	Chloromethane
5	SGS-44-TW-(0-2)-20150630-01	6/30/15	1420	X		SO	4					4	
6	SSS-04-20150630-01	6/30/15	1510		X	SO	4	1	1	1	1	5	
7	TB-02-20150630-01 Trip Blank	6/30/15	—			W	2						
8													
9													
10													
11													
12													
13													
14													

ANALYSIS REQUESTED

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: Reece K Carpenter	6/30/15 @1600	1: [illegible]	7/1/15 10:45
2:		2:	
3:		3:	

PROJECT INFORMATION

PROJECT NAME: Macon Remediation

PROJECT #: 0176740

SITE ADDRESS:

SEND REPORT TO: Nic.Vrey@erm.com

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: PO#:

RECEIPT

Total # of Containers: 27

Turnaround Time Request

- ○ Standard 5 Business Days
- ○ 2 Business Day Rush
- ○ Next Business Day Rush
- ○ Same Day Rush (auth req.)
- ⊗ Other 3 day TAT

STATE PROGRAM (if any):

E-mail? Y / N; Fax? Y / N

DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD

OUT / / VIA:

IN / / VIA:

CLIENT FedEx UPS MAIL COURIER

GREYHOUND OTHER

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Client: ERM-Southeast
Project: Macon Remediation
Lab ID: 1507058

Case Narrative

Volatile Organic Compounds Analysis by Method 8260B:

Percent recovery for the internal standard compound Pentafluorobenzene on sample 1507058-005 A was outside control limits biased low due to suspected matrix interference. All other internal standard recoveries were within control limits.

Percent recoveries for the internal standard compound 1,4-Dichlorobenzene-d4 on samples 1507058-001A, -003A, and -006 A were outside control limits biased low due to suspected matrix interference. All other internal standard recoveries were within control limits.

PAH Analysis by Method 8270D SIM:

Due to sample matrix, samples 1507058-001C, -002C, -003C and -006C required dilution during analysis resulting in elevated reporting limits.

Analytical Environmental Services, Inc **Date:** 13-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-01-20150630-01
Project Name:	Macon Remediation	**Collection Date:**	6/30/2015 2:00:00 PM
Lab ID:	1507058-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	7.6		ug/Kg-dry	209686	1	07/04/2015 18:10	CG
Benzene	BRL	3.8		ug/Kg-dry	209686	1	07/04/2015 18:10	CG
Toluene	BRL	3.8		ug/Kg-dry	209686	1	07/04/2015 18:10	CG
Ethylbenzene	BRL	3.8		ug/Kg-dry	209686	1	07/04/2015 18:10	CG
Xylenes, Total	BRL	3.8		ug/Kg-dry	209686	1	07/04/2015 18:10	CG
Surr: 4-Bromofluorobenzene	74.6	70-128		%REC	209686	1	07/04/2015 18:10	CG
Surr: Dibromofluoromethane	111	78.2-128		%REC	209686	1	07/04/2015 18:10	CG
Surr: Toluene-d8	89	76.5-116		%REC	209686	1	07/04/2015 18:10	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	0.128	0.102		mg/Kg-dry	209689	1	07/06/2015 14:20	JW
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	900		ug/Kg-dry	209643	50	07/07/2015 15:01	YH
Acenaphthylene	BRL	1800		ug/Kg-dry	209643	50	07/07/2015 15:01	YH
Anthracene	900	90		ug/Kg-dry	209643	50	07/07/2015 15:01	YH
Benz(a)anthracene	2900	90		ug/Kg-dry	209643	50	07/07/2015 15:01	YH
Benzo(a)pyrene	2700	90		ug/Kg-dry	209643	50	07/07/2015 15:01	YH
Benzo(b)fluoranthene	3800	180		ug/Kg-dry	209643	50	07/07/2015 15:01	YH
Benzo(g,h,i)perylene	1700	180		ug/Kg-dry	209643	50	07/07/2015 15:01	YH
Benzo(k)fluoranthene	1300	90		ug/Kg-dry	209643	50	07/07/2015 15:01	YH
Chrysene	3200	90		ug/Kg-dry	209643	50	07/07/2015 15:01	YH
Dibenz(a,h)anthracene	610	180		ug/Kg-dry	209643	50	07/07/2015 15:01	YH
Fluoranthene	5200	180		ug/Kg-dry	209643	50	07/07/2015 15:01	YH
Fluorene	350	180		ug/Kg-dry	209643	50	07/07/2015 15:01	YH
Indeno(1,2,3-cd)pyrene	1500	90		ug/Kg-dry	209643	50	07/07/2015 15:01	YH
Naphthalene	BRL	900		ug/Kg-dry	209643	50	07/07/2015 15:01	YH
Phenanthrene	3800	90		ug/Kg-dry	209643	50	07/07/2015 15:01	YH
Pyrene	4800	90		ug/Kg-dry	209643	50	07/07/2015 15:01	YH
Surr: 4-Terphenyl-d14	373	42-124	S	%REC	209643	50	07/07/2015 15:01	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	350		ug/Kg-dry	209671	1	07/06/2015 22:33	YH
2-Methylphenol	BRL	350		ug/Kg-dry	209671	1	07/06/2015 22:33	YH
3,4-Methylphenol	BRL	350		ug/Kg-dry	209671	1	07/06/2015 22:33	YH
Phenol	BRL	350		ug/Kg-dry	209671	1	07/06/2015 22:33	YH
Surr: 2,4,6-Tribromophenol	87.1	41-128		%REC	209671	1	07/06/2015 22:33	YH
Surr: 2-Fluorobiphenyl	86.5	47-120		%REC	209671	1	07/06/2015 22:33	YH
Surr: 2-Fluorophenol	78.1	38.3-120		%REC	209671	1	07/06/2015 22:33	YH
Surr: 4-Terphenyl-d14	84.8	51.4-125		%REC	209671	1	07/06/2015 22:33	YH
Surr: Nitrobenzene-d5	96.5	40.1-120		%REC	209671	1	07/06/2015 22:33	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 13-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-01-20150630-01
Project Name:	Macon Remediation	**Collection Date:**	6/30/2015 2:00:00 PM
Lab ID:	1507058-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	93.5	40.3-120		%REC	209671	1	07/06/2015 22:33	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.06		mg/Kg-dry	209831	1	07/07/2015 16:30	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	4.94		mg/Kg-dry	209626	1	07/06/2015 13:10	IO
Arsenic	BRL	4.94		mg/Kg-dry	209626	1	07/06/2015 13:10	IO
Barium	68.9	4.94		mg/Kg-dry	209626	1	07/06/2015 13:10	IO
Beryllium	BRL	2.47		mg/Kg-dry	209626	1	07/06/2015 13:10	IO
Cadmium	BRL	2.47		mg/Kg-dry	209626	1	07/06/2015 13:10	IO
Chromium	17.9	2.47		mg/Kg-dry	209626	1	07/06/2015 13:10	IO
Copper	10.3	2.47		mg/Kg-dry	209626	1	07/06/2015 13:10	IO
Lead	43.3	4.94		mg/Kg-dry	209626	1	07/06/2015 13:10	IO
Nickel	BRL	4.94		mg/Kg-dry	209626	1	07/06/2015 13:10	IO
Zinc	122	4.94		mg/Kg-dry	209626	1	07/06/2015 13:10	IO
PERCENT MOISTURE D2216								
Percent Moisture	5.82	0		wt%	R295445	1	07/07/2015 11:00	PF

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 13-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-02-20150630-01
Project Name:	Macon Remediation	**Collection Date:**	6/30/2015 2:10:00 PM
Lab ID:	1507058-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	7.3		ug/Kg-dry	209686	1	07/04/2015 18:33	CG
Benzene	BRL	3.6		ug/Kg-dry	209686	1	07/04/2015 18:33	CG
Toluene	BRL	3.6		ug/Kg-dry	209686	1	07/04/2015 18:33	CG
Ethylbenzene	BRL	3.6		ug/Kg-dry	209686	1	07/04/2015 18:33	CG
Xylenes, Total	BRL	3.6		ug/Kg-dry	209686	1	07/04/2015 18:33	CG
Surr: 4-Bromofluorobenzene	91.5	70-128		%REC	209686	1	07/04/2015 18:33	CG
Surr: Dibromofluoromethane	121	78.2-128		%REC	209686	1	07/04/2015 18:33	CG
Surr: Toluene-d8	94	76.5-116		%REC	209686	1	07/04/2015 18:33	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	0.135	0.108		mg/Kg-dry	209689	1	07/06/2015 14:29	JW
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	960		ug/Kg-dry	209643	50	07/07/2015 15:33	YH
Acenaphthylene	BRL	1900		ug/Kg-dry	209643	50	07/07/2015 15:33	YH
Anthracene	720	96		ug/Kg-dry	209643	50	07/07/2015 15:33	YH
Benz(a)anthracene	2000	96		ug/Kg-dry	209643	50	07/07/2015 15:33	YH
Benzo(a)pyrene	1200	96		ug/Kg-dry	209643	50	07/07/2015 15:33	YH
Benzo(b)fluoranthene	1300	190		ug/Kg-dry	209643	50	07/07/2015 15:33	YH
Benzo(g,h,i)perylene	590	190		ug/Kg-dry	209643	50	07/07/2015 15:33	YH
Benzo(k)fluoranthene	640	96		ug/Kg-dry	209643	50	07/07/2015 15:33	YH
Chrysene	2100	96		ug/Kg-dry	209643	50	07/07/2015 15:33	YH
Dibenz(a,h)anthracene	340	190		ug/Kg-dry	209643	50	07/07/2015 15:33	YH
Fluoranthene	2200	190		ug/Kg-dry	209643	50	07/07/2015 15:33	YH
Fluorene	360	190		ug/Kg-dry	209643	50	07/07/2015 15:33	YH
Indeno(1,2,3-cd)pyrene	570	96		ug/Kg-dry	209643	50	07/07/2015 15:33	YH
Naphthalene	BRL	960		ug/Kg-dry	209643	50	07/07/2015 15:33	YH
Phenanthrene	1800	96		ug/Kg-dry	209643	50	07/07/2015 15:33	YH
Pyrene	3800	96		ug/Kg-dry	209643	50	07/07/2015 15:33	YH
Surr: 4-Terphenyl-d14	401	42-124	S	%REC	209643	50	07/07/2015 15:33	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	370		ug/Kg-dry	209671	1	07/06/2015 22:59	YH
2-Methylphenol	BRL	370		ug/Kg-dry	209671	1	07/06/2015 22:59	YH
3,4-Methylphenol	BRL	370		ug/Kg-dry	209671	1	07/06/2015 22:59	YH
Phenol	BRL	370		ug/Kg-dry	209671	1	07/06/2015 22:59	YH
Surr: 2,4,6-Tribromophenol	92.7	41-128		%REC	209671	1	07/06/2015 22:59	YH
Surr: 2-Fluorobiphenyl	91.8	47-120		%REC	209671	1	07/06/2015 22:59	YH
Surr: 2-Fluorophenol	80.4	38.3-120		%REC	209671	1	07/06/2015 22:59	YH
Surr: 4-Terphenyl-d14	84.2	51.4-125		%REC	209671	1	07/06/2015 22:59	YH
Surr: Nitrobenzene-d5	101	40.1-120		%REC	209671	1	07/06/2015 22:59	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 13-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-02-20150630-01
Project Name:	Macon Remediation	**Collection Date:**	6/30/2015 2:10:00 PM
Lab ID:	1507058-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	94.6	40.3-120		%REC	209671	1	07/06/2015 22:59	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.12		mg/Kg-dry	209831	1	07/07/2015 16:30	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.27		mg/Kg-dry	209626	1	07/06/2015 13:14	IO
Arsenic	BRL	5.27		mg/Kg-dry	209626	1	07/06/2015 13:14	IO
Barium	45.3	5.27		mg/Kg-dry	209626	1	07/06/2015 13:14	IO
Beryllium	BRL	2.64		mg/Kg-dry	209626	1	07/06/2015 13:14	IO
Cadmium	BRL	2.64		mg/Kg-dry	209626	1	07/06/2015 13:14	IO
Chromium	13.5	2.64		mg/Kg-dry	209626	1	07/06/2015 13:14	IO
Copper	6.79	2.64		mg/Kg-dry	209626	1	07/06/2015 13:14	IO
Lead	14.2	5.27		mg/Kg-dry	209626	1	07/06/2015 13:14	IO
Nickel	BRL	5.27		mg/Kg-dry	209626	1	07/06/2015 13:14	IO
Zinc	17.0	5.27		mg/Kg-dry	209626	1	07/06/2015 13:14	IO
PERCENT MOISTURE D2216								
Percent Moisture	11.0	0		wt%	R295445	1	07/07/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 13-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-03-20150630-01
Project Name:	Macon Remediation	**Collection Date:**	6/30/2015 3:00:00 PM
Lab ID:	1507058-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	6.7		ug/Kg-dry	209686	1	07/07/2015 13:08	MD
Benzene	BRL	3.3		ug/Kg-dry	209686	1	07/07/2015 13:08	MD
Toluene	BRL	3.3		ug/Kg-dry	209686	1	07/07/2015 13:08	MD
Ethylbenzene	BRL	3.3		ug/Kg-dry	209686	1	07/07/2015 13:08	MD
Xylenes, Total	BRL	3.3		ug/Kg-dry	209686	1	07/07/2015 13:08	MD
Surr: 4-Bromofluorobenzene	66.4	70-128	S	%REC	209686	1	07/07/2015 13:08	MD
Surr: Dibromofluoromethane	124	78.2-128		%REC	209686	1	07/07/2015 13:08	MD
Surr: Toluene-d8	96.3	76.5-116		%REC	209686	1	07/07/2015 13:08	MD
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	0.157	0.111		mg/Kg-dry	209689	1	07/06/2015 14:31	JW
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	960		ug/Kg-dry	209643	50	07/07/2015 15:58	YH
Acenaphthylene	BRL	1900		ug/Kg-dry	209643	50	07/07/2015 15:58	YH
Anthracene	990	96		ug/Kg-dry	209643	50	07/07/2015 15:58	YH
Benz(a)anthracene	4300	96		ug/Kg-dry	209643	50	07/07/2015 15:58	YH
Benzo(a)pyrene	3100	96		ug/Kg-dry	209643	50	07/07/2015 15:58	YH
Benzo(b)fluoranthene	4300	190		ug/Kg-dry	209643	50	07/07/2015 15:58	YH
Benzo(g,h,i)perylene	1700	190		ug/Kg-dry	209643	50	07/07/2015 15:58	YH
Benzo(k)fluoranthene	1500	96		ug/Kg-dry	209643	50	07/07/2015 15:58	YH
Chrysene	5000	96		ug/Kg-dry	209643	50	07/07/2015 15:58	YH
Dibenz(a,h)anthracene	720	190		ug/Kg-dry	209643	50	07/07/2015 15:58	YH
Fluoranthene	5900	190		ug/Kg-dry	209643	50	07/07/2015 15:58	YH
Fluorene	340	190		ug/Kg-dry	209643	50	07/07/2015 15:58	YH
Indeno(1,2,3-cd)pyrene	1600	96		ug/Kg-dry	209643	50	07/07/2015 15:58	YH
Naphthalene	BRL	960		ug/Kg-dry	209643	50	07/07/2015 15:58	YH
Phenanthrene	3700	96		ug/Kg-dry	209643	50	07/07/2015 15:58	YH
Pyrene	7100	96		ug/Kg-dry	209643	50	07/07/2015 15:58	YH
Surr: 4-Terphenyl-d14	369	42-124	S	%REC	209643	50	07/07/2015 15:58	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	370		ug/Kg-dry	209671	1	07/06/2015 23:24	YH
2-Methylphenol	BRL	370		ug/Kg-dry	209671	1	07/06/2015 23:24	YH
3,4-Methylphenol	BRL	370		ug/Kg-dry	209671	1	07/06/2015 23:24	YH
Phenol	BRL	370		ug/Kg-dry	209671	1	07/06/2015 23:24	YH
Surr: 2,4,6-Tribromophenol	96.3	41-128		%REC	209671	1	07/06/2015 23:24	YH
Surr: 2-Fluorobiphenyl	92.3	47-120		%REC	209671	1	07/06/2015 23:24	YH
Surr: 2-Fluorophenol	82.8	38.3-120		%REC	209671	1	07/06/2015 23:24	YH
Surr: 4-Terphenyl-d14	89.9	51.4-125		%REC	209671	1	07/06/2015 23:24	YH
Surr: Nitrobenzene-d5	105	40.1-120		%REC	209671	1	07/06/2015 23:24	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 13-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-03-20150630-01
Project Name:	Macon Remediation	**Collection Date:**	6/30/2015 3:00:00 PM
Lab ID:	1507058-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	96.2	40.3-120		%REC	209671	1	07/06/2015 23:24	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.13		mg/Kg-dry	209831	1	07/07/2015 16:30	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.38		mg/Kg-dry	209626	1	07/06/2015 13:18	IO
Arsenic	6.19	5.38		mg/Kg-dry	209626	1	07/06/2015 13:18	IO
Barium	89.8	5.38		mg/Kg-dry	209626	1	07/06/2015 13:18	IO
Beryllium	BRL	2.69		mg/Kg-dry	209626	1	07/06/2015 13:18	IO
Cadmium	BRL	2.69		mg/Kg-dry	209626	1	07/06/2015 13:18	IO
Chromium	12.3	2.69		mg/Kg-dry	209626	1	07/06/2015 13:18	IO
Copper	20.3	2.69		mg/Kg-dry	209626	1	07/06/2015 13:18	IO
Lead	160	5.38		mg/Kg-dry	209626	1	07/06/2015 13:18	IO
Nickel	BRL	5.38		mg/Kg-dry	209626	1	07/06/2015 13:18	IO
Zinc	40.9	5.38		mg/Kg-dry	209626	1	07/06/2015 13:18	IO
PERCENT MOISTURE D2216								
Percent Moisture	11.2	0		wt%	R295445	1	07/07/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 13-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	EB-04-20150630-01
Project Name:	Macon Remediation	**Collection Date:**	6/30/2015
Lab ID:	1507058-004	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	209654	1	07/06/2015 10:12	TH
Carbon disulfide	BRL	5.0		ug/L	209654	1	07/06/2015 10:12	TH
Ethylbenzene	BRL	5.0		ug/L	209654	1	07/06/2015 10:12	TH
Toluene	BRL	5.0		ug/L	209654	1	07/06/2015 10:12	TH
Xylenes, Total	BRL	5.0		ug/L	209654	1	07/06/2015 10:12	TH
Surr: 4-Bromofluorobenzene	98.6	70.6-123		%REC	209654	1	07/06/2015 10:12	TH
Surr: Dibromofluoromethane	106	78.7-124		%REC	209654	1	07/06/2015 10:12	TH
Surr: Toluene-d8	105	81.3-120		%REC	209654	1	07/06/2015 10:12	TH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	209596	1	07/07/2015 21:58	YH
Acenaphthylene	BRL	1.0		ug/L	209596	1	07/07/2015 21:58	YH
Acenaphthene	BRL	0.50		ug/L	209596	1	07/07/2015 21:58	YH
Fluorene	BRL	0.10		ug/L	209596	1	07/07/2015 21:58	YH
Phenanthrene	BRL	0.050		ug/L	209596	1	07/07/2015 21:58	YH
Anthracene	BRL	0.050		ug/L	209596	1	07/07/2015 21:58	YH
Fluoranthene	BRL	0.10		ug/L	209596	1	07/07/2015 21:58	YH
Pyrene	BRL	0.050		ug/L	209596	1	07/07/2015 21:58	YH
Benz(a)anthracene	BRL	0.050		ug/L	209596	1	07/07/2015 21:58	YH
Chrysene	BRL	0.050		ug/L	209596	1	07/07/2015 21:58	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	209596	1	07/07/2015 21:58	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	209596	1	07/07/2015 21:58	YH
Benzo(a)pyrene	BRL	0.050		ug/L	209596	1	07/07/2015 21:58	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	209596	1	07/07/2015 21:58	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	209596	1	07/07/2015 21:58	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	209596	1	07/07/2015 21:58	YH
Surr: 4-Terphenyl-d14	67.5	55.4-136		%REC	209596	1	07/07/2015 21:58	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	209596	1	07/06/2015 14:39	EI
2-Methylphenol	BRL	10		ug/L	209596	1	07/06/2015 14:39	EI
3,4-Methylphenol	BRL	10		ug/L	209596	1	07/06/2015 14:39	EI
Phenol	BRL	10		ug/L	209596	1	07/06/2015 14:39	EI
Surr: 2,4,6-Tribromophenol	104	52-133		%REC	209596	1	07/06/2015 14:39	EI
Surr: 2-Fluorobiphenyl	80.5	50-121		%REC	209596	1	07/06/2015 14:39	EI
Surr: 2-Fluorophenol	65.8	27.5-120		%REC	209596	1	07/06/2015 14:39	EI
Surr: 4-Terphenyl-d14	96	46.3-137		%REC	209596	1	07/06/2015 14:39	EI
Surr: Nitrobenzene-d5	78.7	41.2-121		%REC	209596	1	07/06/2015 14:39	EI
Surr: Phenol-d5	55.6	14.3-120		%REC	209596	1	07/06/2015 14:39	EI
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 13-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	EB-04-20150630-01
Project Name:	Macon Remediation	**Collection Date:**	6/30/2015
Lab ID:	1507058-004	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	209633	1	07/02/2015 13:05	TA
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	209640	1	07/02/2015 17:42	IO
Arsenic	BRL	0.0500		mg/L	209640	1	07/02/2015 17:42	IO
Barium	BRL	0.0200		mg/L	209640	1	07/02/2015 17:42	IO
Beryllium	BRL	0.0100		mg/L	209640	1	07/02/2015 17:42	IO
Cadmium	BRL	0.0050		mg/L	209640	1	07/02/2015 17:42	IO
Chromium	BRL	0.0100		mg/L	209640	1	07/02/2015 17:42	IO
Copper	0.0158	0.0100		mg/L	209640	1	07/02/2015 17:42	IO
Lead	BRL	0.0100		mg/L	209640	1	07/02/2015 17:42	IO
Nickel	BRL	0.0200		mg/L	209640	1	07/02/2015 17:42	IO
Zinc	BRL	0.0200		mg/L	209640	1	07/02/2015 17:42	IO

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 13-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-44-7W-(0-2)-20150630-01
Project Name:	Macon Remediation	**Collection Date:**	6/30/2015 2:20:00 PM
Lab ID:	1507058-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5035)								
Chloromethane	BRL	8.4		ug/Kg-dry	209686	1	07/06/2015 11:29	MD
Benzene	BRL	4.2		ug/Kg-dry	209686	1	07/06/2015 11:29	MD
Surr: 4-Bromofluorobenzene	73.3	70-128		%REC	209686	1	07/06/2015 11:29	MD
Surr: Dibromofluoromethane	118	78.2-128		%REC	209686	1	07/06/2015 11:29	MD
Surr: Toluene-d8	95.4	76.5-116		%REC	209686	1	07/06/2015 11:29	MD
PERCENT MOISTURE D2216								
Percent Moisture	27.7	0		wt%	R295445	1	07/07/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 13-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-04-20150630-01
Project Name:	Macon Remediation	**Collection Date:**	6/30/2015 3:10:00 PM
Lab ID:	1507058-006	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	7.6		ug/Kg-dry	209686	1	07/04/2015 19:20	CG
Benzene	BRL	3.8		ug/Kg-dry	209686	1	07/04/2015 19:20	CG
Toluene	BRL	3.8		ug/Kg-dry	209686	1	07/04/2015 19:20	CG
Ethylbenzene	BRL	3.8		ug/Kg-dry	209686	1	07/04/2015 19:20	CG
Xylenes, Total	BRL	3.8		ug/Kg-dry	209686	1	07/04/2015 19:20	CG
Surr: 4-Bromofluorobenzene	82.9	70-128		%REC	209686	1	07/04/2015 19:20	CG
Surr: Dibromofluoromethane	108	78.2-128		%REC	209686	1	07/04/2015 19:20	CG
Surr: Toluene-d8	92.2	76.5-116		%REC	209686	1	07/04/2015 19:20	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.102		mg/Kg-dry	209689	1	07/06/2015 14:37	JW
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	190		ug/Kg-dry	209643	10	07/07/2015 16:23	YH
Acenaphthylene	BRL	370		ug/Kg-dry	209643	10	07/07/2015 16:23	YH
Anthracene	150	19		ug/Kg-dry	209643	10	07/07/2015 16:23	YH
Benz(a)anthracene	410	19		ug/Kg-dry	209643	10	07/07/2015 16:23	YH
Benzo(a)pyrene	420	19		ug/Kg-dry	209643	10	07/07/2015 16:23	YH
Benzo(b)fluoranthene	640	37		ug/Kg-dry	209643	10	07/07/2015 16:23	YH
Benzo(g,h,i)perylene	290	37		ug/Kg-dry	209643	10	07/07/2015 16:23	YH
Benzo(k)fluoranthene	280	19		ug/Kg-dry	209643	10	07/07/2015 16:23	YH
Chrysene	510	19		ug/Kg-dry	209643	10	07/07/2015 16:23	YH
Dibenz(a,h)anthracene	99	37		ug/Kg-dry	209643	10	07/07/2015 16:23	YH
Fluoranthene	780	37		ug/Kg-dry	209643	10	07/07/2015 16:23	YH
Fluorene	70	37		ug/Kg-dry	209643	10	07/07/2015 16:23	YH
Indeno(1,2,3-cd)pyrene	260	19		ug/Kg-dry	209643	10	07/07/2015 16:23	YH
Naphthalene	BRL	190		ug/Kg-dry	209643	10	07/07/2015 16:23	YH
Phenanthrene	520	19		ug/Kg-dry	209643	10	07/07/2015 16:23	YH
Pyrene	680	19		ug/Kg-dry	209643	10	07/07/2015 16:23	YH
Surr: 4-Terphenyl-d14	151	42-124	S	%REC	209643	10	07/07/2015 16:23	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	370		ug/Kg-dry	209671	1	07/06/2015 23:49	YH
2-Methylphenol	BRL	370		ug/Kg-dry	209671	1	07/06/2015 23:49	YH
3,4-Methylphenol	BRL	370		ug/Kg-dry	209671	1	07/06/2015 23:49	YH
Phenol	BRL	370		ug/Kg-dry	209671	1	07/06/2015 23:49	YH
Surr: 2,4,6-Tribromophenol	87.1	41-128		%REC	209671	1	07/06/2015 23:49	YH
Surr: 2-Fluorobiphenyl	75.7	47-120		%REC	209671	1	07/06/2015 23:49	YH
Surr: 2-Fluorophenol	66.2	38.3-120		%REC	209671	1	07/06/2015 23:49	YH
Surr: 4-Terphenyl-d14	81.2	51.4-125		%REC	209671	1	07/06/2015 23:49	YH
Surr: Nitrobenzene-d5	79.3	40.1-120		%REC	209671	1	07/06/2015 23:49	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 13-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-04-20150630-01
Project Name:	Macon Remediation	**Collection Date:**	6/30/2015 3:10:00 PM
Lab ID:	1507058-006	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	80.4	40.3-120		%REC	209671	1	07/06/2015 23:49	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.11		mg/Kg-dry	209831	1	07/07/2015 16:30	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.36		mg/Kg-dry	209626	1	07/06/2015 13:22	IO
Arsenic	BRL	5.36		mg/Kg-dry	209626	1	07/06/2015 13:22	IO
Barium	39.4	5.36		mg/Kg-dry	209626	1	07/06/2015 13:22	IO
Beryllium	BRL	2.68		mg/Kg-dry	209626	1	07/06/2015 13:22	IO
Cadmium	BRL	2.68		mg/Kg-dry	209626	1	07/06/2015 13:22	IO
Chromium	16.7	2.68		mg/Kg-dry	209626	1	07/06/2015 13:22	IO
Copper	8.10	2.68		mg/Kg-dry	209626	1	07/06/2015 13:22	IO
Lead	13.1	5.36		mg/Kg-dry	209626	1	07/06/2015 13:22	IO
Nickel	BRL	5.36		mg/Kg-dry	209626	1	07/06/2015 13:22	IO
Zinc	14.4	5.36		mg/Kg-dry	209626	1	07/06/2015 13:22	IO
PERCENT MOISTURE D2216								
Percent Moisture	9.84	0		wt%	R295445	1	07/07/2015 11:00	PF

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 13-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	TB-02-20150630-01
Project Name:	Macon Remediation	**Collection Date:**	6/30/2015
Lab ID:	1507058-007	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	209654	1	07/06/2015 10:36	TH
Carbon disulfide	BRL	5.0		ug/L	209654	1	07/06/2015 10:36	TH
Ethylbenzene	BRL	5.0		ug/L	209654	1	07/06/2015 10:36	TH
Toluene	BRL	5.0		ug/L	209654	1	07/06/2015 10:36	TH
Xylenes, Total	BRL	5.0		ug/L	209654	1	07/06/2015 10:36	TH
Surr: 4-Bromofluorobenzene	97.9	70.6-123		%REC	209654	1	07/06/2015 10:36	TH
Surr: Dibromofluoromethane	111	78.7-124		%REC	209654	1	07/06/2015 10:36	TH
Surr: Toluene-d8	104	81.3-120		%REC	209654	1	07/06/2015 10:36	TH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM Work Order Number 1507058

Checklist completed by JamB 7/1/15
Signature Date

Carrier name: FedEx ✓ UPS __ Courier __ Client __ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 3.2 Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by JB

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209596

Sample ID: **MB-209596**	Client ID:		Units: **ug/L**	Prep Date: **07/02/2015**	Run No: **295286**
SampleType: **MBLK**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **209596**	Analysis Date: **07/02/2015**	Seq No: **6295639**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	10									
2-Methylphenol	BRL	10									
3,4-Methylphenol	BRL	10									
Phenol	BRL	10									
Surr: 2,4,6-Tribromophenol	89.54	0	100.0		89.5	52	133				
Surr: 2-Fluorobiphenyl	45.03	0	50.00		90.1	50	121				
Surr: 2-Fluorophenol	55.00	0	100.0		55.0	27.5	120				
Surr: 4-Terphenyl-d14	50.16	0	50.00		100	46.3	137				
Surr: Nitrobenzene-d5	42.08	0	50.00		84.2	41.2	121				
Surr: Phenol-d5	36.39	0	100.0		36.4	14.3	120				

Sample ID: **MB-209596**	Client ID:		Units: **ug/L**	Prep Date: **07/02/2015**	Run No: **295451**
SampleType: **MBLK**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**		BatchID: **209596**	Analysis Date: **07/07/2015**	Seq No: **6299974**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	0.50									
Acenaphthylene	BRL	1.0									
Anthracene	BRL	0.050									
Benz(a)anthracene	BRL	0.050									
Benzo(a)pyrene	BRL	0.050									
Benzo(b)fluoranthene	BRL	0.10									
Benzo(g,h,i)perylene	BRL	0.10									
Benzo(k)fluoranthene	BRL	0.050									
Chrysene	BRL	0.050									
Dibenz(a,h)anthracene	BRL	0.10									
Fluoranthene	BRL	0.10									
Fluorene	BRL	0.10									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209596

Sample ID: **MB-209596**	Client ID:		Units: **ug/L**	Prep Date: **07/02/2015**	Run No: **295451**
SampleType: **MBLK**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**		BatchID: **209596**	Analysis Date: **07/07/2015**	Seq No: **6299974**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Indeno(1,2,3-cd)pyrene	BRL	0.050									
Naphthalene	BRL	0.50									
Phenanthrene	BRL	0.050									
Pyrene	BRL	0.050									
Surr: 4-Terphenyl-d14	35.28	0	50.00		70.6	55.4	136				

Sample ID: **LCS-209596**	Client ID:		Units: **ug/L**	Prep Date: **07/02/2015**	Run No: **295286**
SampleType: **LCS**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **209596**	Analysis Date: **07/02/2015**	Seq No: **6295641**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	40.05	10	100.0		40.0	25.6	120				
Surr: 2,4,6-Tribromophenol	103.4	0	100.0		103	52	133				
Surr: 2-Fluorobiphenyl	48.98	0	50.00		98.0	50	121				
Surr: 2-Fluorophenol	58.94	0	100.0		58.9	27.5	120				
Surr: 4-Terphenyl-d14	52.25	0	50.00		104	46.3	137				
Surr: Nitrobenzene-d5	45.46	0	50.00		90.9	41.2	121				
Surr: Phenol-d5	36.79	0	100.0		36.8	14.3	120				

Sample ID: **1506U71-009CMS**	Client ID:		Units: **ug/L**	Prep Date: **07/02/2015**	Run No: **295323**
SampleType: **MS**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **209596**	Analysis Date: **07/06/2015**	Seq No: **6297976**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	55.72	10	100.0		55.7	31	120	70.05			
Surr: 2,4,6-Tribromophenol	119.4	0	100.0		119	52	133	156.7			
Surr: 2-Fluorobiphenyl	48.24	0	50.00		96.5	50	121	64.35			
Surr: 2-Fluorophenol	70.42	0	100.0		70.4	27.5	120	85.61			
Surr: 4-Terphenyl-d14	45.86	0	50.00		91.7	46.3	137	64.64			
Surr: Nitrobenzene-d5	46.16	0	50.00		92.3	41.2	121	58.44			

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209596

Sample ID: **1506U71-009CMS**	Client ID:		Units: **ug/L**	Prep Date: **07/02/2015**	Run No: **295323**
SampleType: **MS**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **209596**	Analysis Date: **07/06/2015**	Seq No: **6297976**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: Phenol-d5	59.37	0	100.0		59.4	14.3	120	73.62			

Sample ID: **1506U71-009CMSD**	Client ID:		Units: **ug/L**	Prep Date: **07/02/2015**	Run No: **295323**
SampleType: **MSD**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **209596**	Analysis Date: **07/06/2015**	Seq No: **6297975**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	70.05	10	100.0		70.0	31	120	55.72	22.8	31.9	
Surr: 2,4,6-Tribromophenol	156.7	0	100.0		157	52	133	119.4	0	0	S
Surr: 2-Fluorobiphenyl	64.35	0	50.00		129	50	121	48.24	0	0	S
Surr: 2-Fluorophenol	85.61	0	100.0		85.6	27.5	120	70.42	0	0	
Surr: 4-Terphenyl-d14	64.64	0	50.00		129	46.3	137	45.86	0	0	
Surr: Nitrobenzene-d5	58.44	0	50.00		117	41.2	121	46.16	0	0	
Surr: Phenol-d5	73.62	0	100.0		73.6	14.3	120	59.37	0	0	

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209626

Sample ID: **MB-209626** Client ID: Units: **mg/Kg** Prep Date: **07/02/2015** Run No: **295321**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **209626** Analysis Date: **07/06/2015** Seq No: **6296165**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	5.00									
Arsenic	BRL	5.00									
Barium	BRL	5.00									
Beryllium	BRL	2.50									
Cadmium	BRL	2.50									
Chromium	BRL	2.50									
Copper	BRL	2.50									
Lead	BRL	5.00									
Nickel	BRL	5.00									
Zinc	BRL	5.00									

Sample ID: **LCS-209626** Client ID: Units: **mg/Kg** Prep Date: **07/02/2015** Run No: **295321**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **209626** Analysis Date: **07/06/2015** Seq No: **6296166**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	48.79	5.00	50.00		97.6	80	120				
Arsenic	48.43	5.00	50.00		96.9	80	120				
Barium	49.33	5.00	50.00		98.7	80	120				
Beryllium	48.96	2.50	50.00		97.9	80	120				
Cadmium	48.16	2.50	50.00		96.3	80	120				
Chromium	49.52	2.50	50.00	0.08029	98.9	80	120				
Copper	49.76	2.50	50.00		99.5	80	120				
Lead	48.85	5.00	50.00		97.7	80	120				
Nickel	48.55	5.00	50.00		97.1	80	120				
Zinc	47.19	5.00	50.00		94.4	80	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209626

Sample ID: **1506T73-001BMS** Client ID:
SampleType: **MS** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/Kg-dry** Prep Date: **07/02/2015** Run No: **295321**
BatchID: **209626** Analysis Date: **07/06/2015** Seq No: **6296168**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	30.76	5.68	56.83		54.1	75	125				S
Arsenic	49.05	5.68	56.83		86.3	75	125				
Barium	128.9	5.68	56.83	85.05	77.2	75	125				
Beryllium	55.06	2.84	56.83	0.6011	95.8	75	125				
Cadmium	53.59	2.84	56.83		94.3	75	125				
Chromium	55.34	2.84	56.83	1.599	94.6	75	125				
Copper	56.86	2.84	56.83	0.6025	99.0	75	125				
Lead	54.70	5.68	56.83	5.591	86.4	75	125				
Nickel	51.63	5.68	56.83	0.1943	90.5	75	125				
Zinc	80.08	5.68	56.83	28.61	90.6	75	125				

Sample ID: **1506T73-001BMSD** Client ID:
SampleType: **MSD** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/Kg-dry** Prep Date: **07/02/2015** Run No: **295321**
BatchID: **209626** Analysis Date: **07/06/2015** Seq No: **6296169**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	29.10	5.68	56.81		51.2	75	125	30.76	5.56	20	S
Arsenic	48.61	5.68	56.81		85.6	75	125	49.05	0.912	20	
Barium	129.2	5.68	56.81	85.05	77.8	75	125	128.9	0.242	20	
Beryllium	54.64	2.84	56.81	0.6011	95.1	75	125	55.06	0.752	20	
Cadmium	52.92	2.84	56.81		93.2	75	125	53.59	1.27	20	
Chromium	55.21	2.84	56.81	1.599	94.4	75	125	55.34	0.231	20	
Copper	56.48	2.84	56.81	0.6025	98.4	75	125	56.86	0.664	20	
Lead	55.12	5.68	56.81	5.591	87.2	75	125	54.70	0.771	20	
Nickel	51.03	5.68	56.81	0.1943	89.5	75	125	51.63	1.17	20	
Zinc	78.95	5.68	56.81	28.61	88.6	75	125	80.08	1.43	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209633

Sample ID: **MB-209633**	Client ID:				Units: **mg/L**		Prep Date: **07/02/2015**		Run No: **295243**
SampleType: **MBLK**	TestCode: **Mercury, Total SW7470A**				BatchID: **209633**		Analysis Date: **07/02/2015**		Seq No: **6294254**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.00020									

Sample ID: **LCS-209633**	Client ID:				Units: **mg/L**		Prep Date: **07/02/2015**		Run No: **295243**
SampleType: **LCS**	TestCode: **Mercury, Total SW7470A**				BatchID: **209633**		Analysis Date: **07/02/2015**		Seq No: **6294255**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005151	0.00020	0.0050		103	80	120				

Sample ID: **1506U71-006BMS**	Client ID:				Units: **mg/L**		Prep Date: **07/02/2015**		Run No: **295243**
SampleType: **MS**	TestCode: **Mercury, Total SW7470A**				BatchID: **209633**		Analysis Date: **07/02/2015**		Seq No: **6294257**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005310	0.00020	0.0050	0.00004126	105	70	130				

Sample ID: **1506U71-006BMSD**	Client ID:				Units: **mg/L**		Prep Date: **07/02/2015**		Run No: **295243**
SampleType: **MSD**	TestCode: **Mercury, Total SW7470A**				BatchID: **209633**		Analysis Date: **07/02/2015**		Seq No: **6294258**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005266	0.00020	0.0050	0.00004126	104	70	130	0.005310	0.844	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209640

Sample ID: **MB-209640** Client ID: Units: **mg/L** Prep Date: **07/02/2015** Run No: **295278**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **209640** Analysis Date: **07/02/2015** Seq No: **6295341**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	0.0200									
Arsenic	BRL	0.0500									
Barium	BRL	0.0200									
Beryllium	BRL	0.0100									
Cadmium	BRL	0.0050									
Chromium	BRL	0.0100									
Copper	BRL	0.0100									
Lead	BRL	0.0100									
Nickel	BRL	0.0200									
Zinc	BRL	0.0200									

Sample ID: **LCS-209640** Client ID: Units: **mg/L** Prep Date: **07/02/2015** Run No: **295278**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **209640** Analysis Date: **07/02/2015** Seq No: **6295342**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.007	0.0200	1.000		101	80	120				
Arsenic	1.007	0.0500	1.000		101	80	120				
Barium	1.018	0.0200	1.000		102	80	120				
Beryllium	1.018	0.0100	1.000		102	80	120				
Cadmium	1.017	0.0050	1.000		102	80	120				
Chromium	0.9573	0.0100	1.000		95.7	80	120				
Copper	1.015	0.0100	1.000		102	80	120				
Lead	1.005	0.0100	1.000		100	80	120				
Nickel	1.008	0.0200	1.000		101	80	120				
Zinc	1.004	0.0200	1.000		100	80	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209640

Sample ID: **1507058-004BMS** Client ID: **EB-04-20150630-01** Units: **mg/L** Prep Date: **07/02/2015** Run No: **295278**
SampleType: **MS** TestCode: **METALS, TOTAL SW6010C** BatchID: **209640** Analysis Date: **07/02/2015** Seq No: **6295344**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.007	0.0200	1.000		101	75	125				
Arsenic	1.012	0.0500	1.000		101	75	125				
Barium	1.022	0.0200	1.000		102	75	125				
Beryllium	1.023	0.0100	1.000		102	75	125				
Cadmium	1.019	0.0050	1.000		102	75	125				
Chromium	1.008	0.0100	1.000	0.001287	101	75	125				
Copper	1.035	0.0100	1.000	0.01583	102	75	125				
Lead	1.011	0.0100	1.000		101	75	125				
Nickel	1.012	0.0200	1.000	0.0006006	101	75	125				
Zinc	1.016	0.0200	1.000	0.01047	101	75	125				

Sample ID: **1507058-004BMSD** Client ID: **EB-04-20150630-01** Units: **mg/L** Prep Date: **07/02/2015** Run No: **295278**
SampleType: **MSD** TestCode: **METALS, TOTAL SW6010C** BatchID: **209640** Analysis Date: **07/02/2015** Seq No: **6295346**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.013	0.0200	1.000		101	75	125	1.007	0.550	20	
Arsenic	1.018	0.0500	1.000		102	75	125	1.012	0.555	20	
Barium	1.018	0.0200	1.000		102	75	125	1.022	0.387	20	
Beryllium	1.022	0.0100	1.000		102	75	125	1.023	0.111	20	
Cadmium	1.017	0.0050	1.000		102	75	125	1.019	0.191	20	
Chromium	0.9572	0.0100	1.000	0.001287	95.6	75	125	1.008	5.17	20	
Copper	1.032	0.0100	1.000	0.01583	102	75	125	1.035	0.338	20	
Lead	1.008	0.0100	1.000		101	75	125	1.011	0.277	20	
Nickel	1.011	0.0200	1.000	0.0006006	101	75	125	1.012	0.133	20	
Zinc	1.019	0.0200	1.000	0.01047	101	75	125	1.016	0.343	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209643

Sample ID: **MB-209643**	Client ID:		Units: **ug/Kg**	Prep Date: **07/02/2015**	Run No: **295430**
SampleType: **MBLK**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**		BatchID: **209643**	Analysis Date: **07/07/2015**	Seq No: **6298880**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	17									
Acenaphthylene	BRL	33									
Anthracene	BRL	1.7									
Benz(a)anthracene	BRL	1.7									
Benzo(a)pyrene	BRL	1.7									
Benzo(b)fluoranthene	BRL	3.3									
Benzo(g,h,i)perylene	BRL	3.3									
Benzo(k)fluoranthene	BRL	1.7									
Chrysene	BRL	1.7									
Dibenz(a,h)anthracene	BRL	3.3									
Fluoranthene	BRL	3.3									
Fluorene	BRL	3.3									
Indeno(1,2,3-cd)pyrene	BRL	1.7									
Naphthalene	BRL	17									
Phenanthrene	BRL	1.7									
Pyrene	BRL	1.7									
Surr: 4-Terphenyl-d14	68.59	0	66.67		103	42	124				

Sample ID: **LCS-209643**	Client ID:		Units: **ug/Kg**	Prep Date: **07/02/2015**	Run No: **295430**
SampleType: **LCS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**		BatchID: **209643**	Analysis Date: **07/07/2015**	Seq No: **6298881**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	56.02	17	66.70		84.0	61.2	120				
Acenaphthylene	50.92	33	66.70		76.3	60.1	120				
Anthracene	54.28	1.7	66.70		81.4	58.4	120				
Benz(a)anthracene	56.17	1.7	66.70		84.2	56.7	124				
Benzo(a)pyrene	62.99	1.7	66.70		94.4	57.5	120				
Benzo(b)fluoranthene	61.01	3.3	66.70		91.5	60.9	118				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209643

Sample ID: **LCS-209643** Client ID: Units: **ug/Kg** Prep Date: **07/02/2015** Run No: **295430**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **209643** Analysis Date: **07/07/2015** Seq No: **6298881**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(g,h,i)perylene	61.82	3.3	66.70		92.7	50.7	125				
Benzo(k)fluoranthene	64.16	1.7	66.70		96.2	53	125				
Chrysene	64.59	1.7	66.70		96.8	61.2	120				
Dibenz(a,h)anthracene	63.18	3.3	66.70		94.7	48	125				
Fluoranthene	59.65	3.3	66.70		89.4	64.9	121				
Fluorene	55.28	3.3	66.70		82.9	62.1	120				
Indeno(1,2,3-cd)pyrene	63.86	1.7	66.70		95.7	56	121				
Naphthalene	57.14	17	66.70		85.7	57.4	120				
Phenanthrene	53.25	1.7	66.70		79.8	63.3	120				
Pyrene	58.42	1.7	66.70		87.6	61.2	120				
Surr: 4-Terphenyl-d14	62.12	0	66.70		93.1	42	124				

Sample ID: **1507058-006CMS** Client ID: **SSS-04-20150630-01** Units: **ug/Kg-dry** Prep Date: **07/02/2015** Run No: **295430**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **209643** Analysis Date: **07/07/2015** Seq No: **6300084**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	190	73.98	75.98	95.5	45.8	120				
Acenaphthylene	BRL	370	73.98	81.78	98.6	50.6	120				
Anthracene	216.9	19	73.98	148.4	92.6	42.4	125				
Benz(a)anthracene	493.3	19	73.98	414.6	106	44.9	136				
Benzo(a)pyrene	503.0	19	73.98	421.8	110	40.3	123				
Benzo(b)fluoranthene	716.0	37	73.98	642.6	99.3	37	128				
Benzo(g,h,i)perylene	374.0	37	73.98	292.3	111	41.1	137				
Benzo(k)fluoranthene	334.0	19	73.98	283.2	68.7	37.7	126				
Chrysene	553.8	19	73.98	507.5	62.6	43	120				
Dibenz(a,h)anthracene	172.7	37	73.98	98.58	100	42.6	130				
Fluoranthene	934.3	37	73.98	776.6	213	44.4	133				S
Fluorene	139.7	37	73.98	69.63	94.7	42.5	119				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209643

Sample ID: **1507058-006CMS** Client ID: **SSS-04-20150630-01** Units: **ug/Kg-dry** Prep Date: **07/02/2015** Run No: **295430**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **209643** Analysis Date: **07/07/2015** Seq No: **6300084**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Indeno(1,2,3-cd)pyrene	338.5	19	73.98	260.6	105	41.7	135				
Naphthalene	BRL	190	73.98	109.2	51.6	42.5	120				
Phenanthrene	559.3	19	73.98	517.6	56.4	44.1	120				
Pyrene	798.2	19	73.98	683.2	156	41.5	120				S
Surr: 4-Terphenyl-d14	110.4	0	73.98		149	42	124				S

Sample ID: **1507058-006CMSD** Client ID: **SSS-04-20150630-01** Units: **ug/Kg-dry** Prep Date: **07/02/2015** Run No: **295430**
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **209643** Analysis Date: **07/07/2015** Seq No: **6300085**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	190	73.98	75.98	64.9	45.8	120	146.6	0	38.4	
Acenaphthylene	BRL	370	73.98	81.78	111	50.6	120	154.7	0	37.8	
Anthracene	163.0	19	73.98	148.4	19.8	42.4	125	216.9	28.4	49.7	S
Benz(a)anthracene	371.0	19	73.98	414.6	-58.9	44.9	136	493.3	28.3	33.8	S
Benzo(a)pyrene	382.8	19	73.98	421.8	-52.7	40.3	123	503.0	27.2	40.2	S
Benzo(b)fluoranthene	528.4	37	73.98	642.6	-154	37	128	716.0	30.2	36.5	S
Benzo(g,h,i)perylene	303.9	37	73.98	292.3	15.7	41.1	137	374.0	20.7	39.3	S
Benzo(k)fluoranthene	302.2	19	73.98	283.2	25.7	37.7	126	334.0	9.98	35	S
Chrysene	456.1	19	73.98	507.5	-69.5	43	120	553.8	19.4	28.6	S
Dibenz(a,h)anthracene	164.6	37	73.98	98.58	89.2	42.6	130	172.7	4.80	44.6	
Fluoranthene	573.2	37	73.98	776.6	-275	44.4	133	934.3	47.9	33.2	SR
Fluorene	109.1	37	73.98	69.63	53.3	42.5	119	139.7	24.6	35.4	
Indeno(1,2,3-cd)pyrene	282.0	19	73.98	260.6	28.9	41.7	135	338.5	18.2	37.3	S
Naphthalene	BRL	190	73.98	109.2	15.2	42.5	120	147.4	0	39.4	S
Phenanthrene	344.1	19	73.98	517.6	-234	44.1	120	559.3	47.6	37	SR
Pyrene	562.4	19	73.98	683.2	-163	41.5	120	798.2	34.7	33.1	SR
Surr: 4-Terphenyl-d14	120.6	0	73.98		163	42	124	110.4	0	20	S

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209654

Sample ID: **MB-209654** Client ID: Units: **ug/L** Prep Date: **07/02/2015** Run No: **295283**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **209654** Analysis Date: **07/06/2015** Seq No: **6297713**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	5.0									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	49.40	0	50.00		98.8	70.6	123				
Surr: Dibromofluoromethane	56.15	0	50.00		112	78.7	124				
Surr: Toluene-d8	51.63	0	50.00		103	81.3	120				

Sample ID: **LCS-209654** Client ID: Units: **ug/L** Prep Date: **07/02/2015** Run No: **295283**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **209654** Analysis Date: **07/06/2015** Seq No: **6297712**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	51.81	5.0	50.00		104	72.8	128				
Toluene	52.45	5.0	50.00		105	74.9	127				
Surr: 4-Bromofluorobenzene	49.18	0	50.00		98.4	70.6	123				
Surr: Dibromofluoromethane	56.04	0	50.00		112	78.7	124				
Surr: Toluene-d8	50.43	0	50.00		101	81.3	120				

Sample ID: **1506U52-001AMS** Client ID: Units: **ug/L** Prep Date: **07/02/2015** Run No: **295283**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **209654** Analysis Date: **07/06/2015** Seq No: **6297714**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	55.95	5.0	50.00		112	70	135				
Toluene	55.21	5.0	50.00		110	70.5	137				
Surr: 4-Bromofluorobenzene	50.68	0	50.00		101	70.6	123				
Surr: Dibromofluoromethane	55.05	0	50.00		110	78.7	124				
Surr: Toluene-d8	50.42	0	50.00		101	81.3	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209654

Sample ID: **1506U52-001AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/L** Prep Date: **07/02/2015** Run No: **295283**
BatchID: **209654** Analysis Date: **07/06/2015** Seq No: **6297715**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	54.97	5.0	50.00		110	70	135	55.95	1.77	20	
Toluene	53.64	5.0	50.00		107	70.5	137	55.21	2.88	20	
Surr: 4-Bromofluorobenzene	51.45	0	50.00		103	70.6	123	50.68	0	0	
Surr: Dibromofluoromethane	54.77	0	50.00		110	78.7	124	55.05	0	0	
Surr: Toluene-d8	50.90	0	50.00		102	81.3	120	50.42	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209671

Sample ID: **MB-209671** Client ID: Units: **ug/Kg** Prep Date: **07/06/2015** Run No: **295403**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **209671** Analysis Date: **07/06/2015** Seq No: **6298363**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	330									
2-Methylphenol	BRL	330									
3,4-Methylphenol	BRL	330									
Phenol	BRL	330									
Surr: 2,4,6-Tribromophenol	2725	0	3333		81.8	41	128				
Surr: 2-Fluorobiphenyl	1235	0	1667		74.1	47	120				
Surr: 2-Fluorophenol	2316	0	3333		69.5	38.3	120				
Surr: 4-Terphenyl-d14	1408	0	1667		84.5	51.4	125				
Surr: Nitrobenzene-d5	1307	0	1667		78.4	40.1	120				
Surr: Phenol-d5	2699	0	3333		81.0	40.3	120				

Sample ID: **LCS-209671** Client ID: Units: **ug/Kg** Prep Date: **07/06/2015** Run No: **295403**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **209671** Analysis Date: **07/06/2015** Seq No: **6298364**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2429	330	3333		72.9	50.1	120				
Surr: 2,4,6-Tribromophenol	2979	0	3333		89.4	41	128				
Surr: 2-Fluorobiphenyl	1335	0	1667		80.1	47	120				
Surr: 2-Fluorophenol	2426	0	3333		72.8	38.3	120				
Surr: 4-Terphenyl-d14	1396	0	1667		83.8	51.4	125				
Surr: Nitrobenzene-d5	1429	0	1667		85.7	40.1	120				
Surr: Phenol-d5	2729	0	3333		81.9	40.3	120				

Sample ID: **1506U83-004CMS** Client ID: Units: **ug/Kg-dry** Prep Date: **07/06/2015** Run No: **295403**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **209671** Analysis Date: **07/06/2015** Seq No: **6298371**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2859	390	3892		73.5	41.5	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209671

Sample ID: **1506U83-004CMS** Client ID: Units: **ug/Kg-dry** Prep Date: **07/06/2015** Run No: **295403**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **209671** Analysis Date: **07/06/2015** Seq No: **6298371**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 2,4,6-Tribromophenol	3631	0	3892		93.3	41	128				
Surr: 2-Fluorobiphenyl	1696	0	1946		87.1	47	120				
Surr: 2-Fluorophenol	2913	0	3892		74.8	38.3	120				
Surr: 4-Terphenyl-d14	1711	0	1946		87.9	51.4	125				
Surr: Nitrobenzene-d5	1751	0	1946		90.0	40.1	120				
Surr: Phenol-d5	3322	0	3892		85.4	40.3	120				

Sample ID: **1506U83-004CMSD** Client ID: Units: **ug/Kg-dry** Prep Date: **07/06/2015** Run No: **295403**
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **209671** Analysis Date: **07/06/2015** Seq No: **6298372**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2910	390	3892		74.8	41.5	120	2859	1.75	37.4	
Surr: 2,4,6-Tribromophenol	3177	0	3892		81.6	41	128	3631	0	0	
Surr: 2-Fluorobiphenyl	1528	0	1946		78.5	47	120	1696	0	0	
Surr: 2-Fluorophenol	2793	0	3892		71.8	38.3	120	2913	0	0	
Surr: 4-Terphenyl-d14	1545	0	1946		79.4	51.4	125	1711	0	0	
Surr: Nitrobenzene-d5	1741	0	1946		89.4	40.1	120	1751	0	0	
Surr: Phenol-d5	3224	0	3892		82.8	40.3	120	3322	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209686

Sample ID: **MB-209686** Client ID: Units: **ug/Kg** Prep Date: **07/04/2015** Run No: **295288**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **209686** Analysis Date: **07/04/2015** Seq No: **6295862**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	10									
Chloromethane	BRL	10									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	46.88	0	50.00		93.8	70	128				
Surr: Dibromofluoromethane	53.96	0	50.00		108	78.2	128				
Surr: Toluene-d8	46.15	0	50.00		92.3	76.5	116				

Sample ID: **LCS-209686** Client ID: Units: **ug/Kg** Prep Date: **07/04/2015** Run No: **295288**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **209686** Analysis Date: **07/04/2015** Seq No: **6295863**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	57.21	5.0	50.00		114	72.3	130				
Toluene	58.22	5.0	50.00		116	71.1	130				
Surr: 4-Bromofluorobenzene	46.53	0	50.00		93.1	70	128				
Surr: Dibromofluoromethane	52.43	0	50.00		105	78.2	128				
Surr: Toluene-d8	48.00	0	50.00		96.0	76.5	116				

Sample ID: **1506S86-001AMS** Client ID: Units: **ug/Kg-dry** Prep Date: **07/04/2015** Run No: **295288**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **209686** Analysis Date: **07/04/2015** Seq No: **6295864**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	73.81	6.7	66.67		111	70.4	130				
Toluene	75.01	6.7	66.67		113	70.4	130				
Surr: 4-Bromofluorobenzene	62.59	0	66.67		93.9	70	128				
Surr: Dibromofluoromethane	68.91	0	66.67		103	78.2	128				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209686

Sample ID: **1506S86-001AMS**	Client ID:			Units: **ug/Kg-dry**	Prep Date: **07/04/2015**	Run No: **295288**
SampleType: **MS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**			BatchID: **209686**	Analysis Date: **07/04/2015**	Seq No: **6295864**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: Toluene-d8	62.71	0	66.67		94.1	76.5	116				

Sample ID: **1506S86-001AMSD**	Client ID:			Units: **ug/Kg-dry**	Prep Date: **07/04/2015**	Run No: **295288**
SampleType: **MSD**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**			BatchID: **209686**	Analysis Date: **07/04/2015**	Seq No: **6295865**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	71.84	6.7	66.67		108	70.4	130	73.81	2.71	16.9	
Toluene	75.69	6.7	66.67		114	70.4	130	75.01	0.902	16.6	
Surr: 4-Bromofluorobenzene	59.76	0	66.67		89.6	70	128	62.59	0	0	
Surr: Dibromofluoromethane	66.97	0	66.67		100	78.2	128	68.91	0	0	
Surr: Toluene-d8	63.49	0	66.67		95.2	76.5	116	62.71	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209689

Sample ID: **MB-209689**	Client ID:			Units: **mg/Kg**	Prep Date: **07/06/2015**	Run No: **295339**
SampleType: **MBLK**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **209689**	Analysis Date: **07/06/2015**	Seq No: **6296694**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.100									

Sample ID: **LCS-209689**	Client ID:			Units: **mg/Kg**	Prep Date: **07/06/2015**	Run No: **295339**
SampleType: **LCS**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **209689**	Analysis Date: **07/06/2015**	Seq No: **6299548**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.3635	0.100	0.4000	0.008355	88.8	80	120				

Sample ID: **1507058-001CMS**	Client ID: **SSS-01-20150630-01**			Units: **mg/Kg-dry**	Prep Date: **07/06/2015**	Run No: **295339**
SampleType: **MS**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **209689**	Analysis Date: **07/06/2015**	Seq No: **6296696**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.4427	0.102	0.4060	0.1283	77.4	70	130				

Sample ID: **1507058-001CMSD**	Client ID: **SSS-01-20150630-01**			Units: **mg/Kg-dry**	Prep Date: **07/06/2015**	Run No: **295339**
SampleType: **MSD**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **209689**	Analysis Date: **07/06/2015**	Seq No: **6296697**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.4517	0.102	0.4084	0.1283	79.2	70	130	0.4427	2.01	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209831

Sample ID: **MB-209831**	Client ID:					Units: **mg/Kg**		Prep Date: **07/07/2015**		Run No: **295447**	
SampleType: **MBLK**	TestCode: **Cyanide, Total SW9014**					BatchID: **209831**		Analysis Date: **07/07/2015**		Seq No: **6299315**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	1.00									

Sample ID: **LCS-209831**	Client ID:					Units: **mg/Kg**		Prep Date: **07/07/2015**		Run No: **295447**	
SampleType: **LCS**	TestCode: **Cyanide, Total SW9014**					BatchID: **209831**		Analysis Date: **07/07/2015**		Seq No: **6299316**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	11.86	1.00	12.50		94.9	85	115				

Sample ID: **1507006-005BMS**	Client ID:					Units: **mg/Kg**		Prep Date: **07/07/2015**		Run No: **295447**	
SampleType: **MS**	TestCode: **Cyanide, Total SW9014**					BatchID: **209831**		Analysis Date: **07/07/2015**		Seq No: **6299340**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	8.340	1.00	12.50		66.7	70	130				S

Sample ID: **1507006-005BMSD**	Client ID:					Units: **mg/Kg**		Prep Date: **07/07/2015**		Run No: **295447**	
SampleType: **MSD**	TestCode: **Cyanide, Total SW9014**					BatchID: **209831**		Analysis Date: **07/07/2015**		Seq No: **6299341**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	8.535	1.00	12.50		68.3	70	130	8.340	2.31	30	S

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

July 22, 2015

Nic Vrey
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: Macon Remediation

Dear Nic Vrey: Order No: 1507905

Analytical Environmental Services, Inc. received 8 samples on 7/10/2015 10:30:00 AM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/15.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1507905

Date: 7/8/15 Page 1 of 1

COMPANY: ERM	ADDRESS: 3200 Windy Hill Rd SE Suite 1500w Atlanta, GA 30339
PHONE: 678 486 2700	FAX:
SAMPLED BY: Will Virgo	SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	VOCs 8260B	SVOCs 8270C	Metals 6010B	Cyanide 9012A	Mercury 7470A	No # of Containers	REMARKS
	PRESERVATION (See codes)							N	N	N	N		
1	SCS-45-2W-(0-2)-20150708-01	7/8/15	1702	X		SO		1	1			2	For SCS-45, 46, 47
2	SCS-46-2W-(0-2)-20150709-01		1710	X		SO		1	1			2	8270C: Analyze only
3	SCS-47-2W-(0-2)-20150708-01		1720	X		SO		1	1			2	Benzo(a)anthracene
4	SSS-05-20150708-01		1735		X	SO	4	1	1	1	1	6	+ Benzo(a)pyrene
5	SSS-06-20150708-01		1755		X	SO	4	1	1	1	1	6	6010B: Analyze only
6	SSS-07-20150708-01		1805		X	SO	4	1	1	1	1	6	Arsenic
7	ER-05-20150708-01		—			W	2	1	1			4	
8	~~ER~~ TB-01-20150708-01		—			W	2					2	For SSS-05, 06 +
9													07: Analyze
10													full COI List
11													
12													
13													
14													

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: Will Virgo	7/9/15 1700	1: James	7/10/15 10:30
2:		2:	
3:		3:	

PROJECT INFORMATION
PROJECT NAME: Macon Remediation
PROJECT #: 0176740
SITE ADDRESS: Macon, GA
SEND REPORT TO: Nic.Vrey@ERM.com
INVOICE TO: (IF DIFFERENT FROM ABOVE)
QUOTE #: PO#:

RECEIPT
Total # of Containers: 30

Turnaround Time Request
- ○ Standard 5 Business Days
- ○ 2 Business Day Rush
- ○ Next Business Day Rush
- ○ Same Day Rush (auth req.)
- ⊗ Other 3 Day TAT

STATE PROGRAM (if any):
E-mail? Y / N: Fax? Y / N
DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
CLIENT FedEx UPS MAIL COURIER
GREYHOUND OTHER

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.
SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water
PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Client: ERM-Southeast
Project: Macon Remediation
Lab ID: 1507905

Case Narrative

PAH Analysis by Method 8270D SIM:

Due to sample matrix, sample 1507905-001A, -003A required dilution during preparation and/or analysis resulting in elevated reporting limits.

Volatile Organic Compounds Analysis by Method 8260B:

Percent recovery for the internal standard compound 1,4-Dichlorobenzene-d4 on samples 1506905-004A, & -005A was outside control limits biased low due to suspected matrix interference. All other internal standard recoveries were within control limits.

Analytical Environmental Services, Inc **Date:** 22-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-45-2W-(0-2)-20150708-01
Project Name:	Macon Remediation	**Collection Date:**	7/8/2015 5:02:00 PM
Lab ID:	1507905-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	7900	360		ug/Kg-dry	210027	100	07/14/2015 14:15	YH
Benzo(a)pyrene	6500	360		ug/Kg-dry	210027	100	07/14/2015 14:15	YH
Surr: 4-Terphenyl-d14	50.5	42-124		%REC	210027	1	07/13/2015 23:27	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	60.2	5.09		mg/Kg-dry	210011	1	07/13/2015 14:21	IO
PERCENT MOISTURE D2216								
Percent Moisture	4.78	0		wt%	R295978	1	07/15/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 22-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-46-2W-(0-2)-20150708-01
Project Name:	Macon Remediation	**Collection Date:**	7/8/2015 5:10:00 PM
Lab ID:	1507905-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	300	2.2		ug/Kg-dry	210027	1	07/13/2015 23:55	YH
Benzo(a)pyrene	200	2.2		ug/Kg-dry	210027	1	07/13/2015 23:55	YH
Surr: 4-Terphenyl-d14	91	42-124		%REC	210027	1	07/13/2015 23:55	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	BRL	6.45		mg/Kg-dry	210011	1	07/13/2015 14:25	IO
PERCENT MOISTURE D2216								
Percent Moisture	22.8	0		wt%	R295978	1	07/15/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 22-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-47-2W-(0-2)-20150708-01
Project Name:	Macon Remediation	**Collection Date:**	7/8/2015 5:20:00 PM
Lab ID:	1507905-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	8100	380		ug/Kg-dry	210027	100	07/14/2015 14:42	YH
Benzo(a)pyrene	5300	380		ug/Kg-dry	210027	100	07/14/2015 14:42	YH
Surr: 4-Terphenyl-d14	50.5	42-124		%REC	210027	1	07/14/2015 00:23	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	BRL	5.53		mg/Kg-dry	210011	1	07/13/2015 14:29	IO
PERCENT MOISTURE D2216								
Percent Moisture	10.3	0		wt%	R295978	1	07/15/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 22-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-05-20150708-01
Project Name:	Macon Remediation	**Collection Date:**	7/8/2015 5:35:00 PM
Lab ID:	1507905-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	8.4		ug/Kg-dry	210174	1	07/14/2015 13:48	CG
Benzene	BRL	4.2		ug/Kg-dry	210174	1	07/14/2015 13:48	CG
Toluene	BRL	4.2		ug/Kg-dry	210174	1	07/14/2015 13:48	CG
Ethylbenzene	BRL	4.2		ug/Kg-dry	210174	1	07/14/2015 13:48	CG
Xylenes, Total	BRL	4.2		ug/Kg-dry	210174	1	07/14/2015 13:48	CG
Surr: 4-Bromofluorobenzene	79.3	70-128		%REC	210174	1	07/14/2015 13:48	CG
Surr: Dibromofluoromethane	106	78.2-128		%REC	210174	1	07/14/2015 13:48	CG
Surr: Toluene-d8	94.9	76.5-116		%REC	210174	1	07/14/2015 13:48	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.103		mg/Kg-dry	210136	1	07/15/2015 14:45	TA
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	18		ug/Kg-dry	210027	1	07/14/2015 00:50	YH
Acenaphthylene	61	35		ug/Kg-dry	210027	1	07/14/2015 00:50	YH
Anthracene	25	1.8		ug/Kg-dry	210027	1	07/14/2015 00:50	YH
Benz(a)anthracene	84	1.8		ug/Kg-dry	210027	1	07/14/2015 00:50	YH
Benzo(a)pyrene	64	1.8		ug/Kg-dry	210027	1	07/14/2015 00:50	YH
Benzo(b)fluoranthene	140	3.5		ug/Kg-dry	210027	1	07/14/2015 00:50	YH
Benzo(g,h,i)perylene	41	3.5		ug/Kg-dry	210027	1	07/14/2015 00:50	YH
Benzo(k)fluoranthene	35	1.8		ug/Kg-dry	210027	1	07/14/2015 00:50	YH
Chrysene	68	1.8		ug/Kg-dry	210027	1	07/14/2015 00:50	YH
Dibenz(a,h)anthracene	12	3.5		ug/Kg-dry	210027	1	07/14/2015 00:50	YH
Fluoranthene	94	3.5		ug/Kg-dry	210027	1	07/14/2015 00:50	YH
Fluorene	8.0	3.5		ug/Kg-dry	210027	1	07/14/2015 00:50	YH
Indeno(1,2,3-cd)pyrene	39	1.8		ug/Kg-dry	210027	1	07/14/2015 00:50	YH
Naphthalene	BRL	18		ug/Kg-dry	210027	1	07/14/2015 00:50	YH
Phenanthrene	28	1.8		ug/Kg-dry	210027	1	07/14/2015 00:50	YH
Pyrene	120	1.8		ug/Kg-dry	210027	1	07/14/2015 00:50	YH
Surr: 4-Terphenyl-d14	91.7	42-124		%REC	210027	1	07/14/2015 00:50	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	350		ug/Kg-dry	210167	1	07/15/2015 11:59	YH
2-Methylphenol	BRL	350		ug/Kg-dry	210167	1	07/15/2015 11:59	YH
3,4-Methylphenol	BRL	350		ug/Kg-dry	210167	1	07/15/2015 11:59	YH
Phenol	BRL	350		ug/Kg-dry	210167	1	07/15/2015 11:59	YH
Surr: 2,4,6-Tribromophenol	88.1	41-128		%REC	210167	1	07/15/2015 11:59	YH
Surr: 2-Fluorobiphenyl	84.1	47-120		%REC	210167	1	07/15/2015 11:59	YH
Surr: 2-Fluorophenol	67.1	38.3-120		%REC	210167	1	07/15/2015 11:59	YH
Surr: 4-Terphenyl-d14	87.6	51.4-125		%REC	210167	1	07/15/2015 11:59	YH
Surr: Nitrobenzene-d5	75.7	40.1-120		%REC	210167	1	07/15/2015 11:59	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 22-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-05-20150708-01
Project Name:	Macon Remediation	**Collection Date:**	7/8/2015 5:35:00 PM
Lab ID:	1507905-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	76.6	40.3-120		%REC	210167	1	07/15/2015 11:59	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.06		mg/Kg-dry	210098	1	07/14/2015 16:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	4.93		mg/Kg-dry	210011	1	07/13/2015 14:33	IO
Arsenic	BRL	4.93		mg/Kg-dry	210011	1	07/13/2015 14:33	IO
Barium	31.6	4.93		mg/Kg-dry	210011	1	07/13/2015 14:33	IO
Beryllium	BRL	2.46		mg/Kg-dry	210011	1	07/13/2015 14:33	IO
Cadmium	BRL	2.46		mg/Kg-dry	210011	1	07/13/2015 14:33	IO
Chromium	10.3	2.46		mg/Kg-dry	210011	1	07/13/2015 14:33	IO
Copper	14.3	2.46		mg/Kg-dry	210011	1	07/13/2015 14:33	IO
Lead	27.5	4.93		mg/Kg-dry	210011	1	07/13/2015 14:33	IO
Nickel	BRL	4.93		mg/Kg-dry	210011	1	07/13/2015 14:33	IO
Zinc	15.7	4.93		mg/Kg-dry	210011	1	07/13/2015 14:33	IO
PERCENT MOISTURE D2216								
Percent Moisture	5.60	0		wt%	R295978	1	07/15/2015 10:00	PF

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 22-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-06-20150708-01
Project Name:	Macon Remediation	**Collection Date:**	7/8/2015 5:55:00 PM
Lab ID:	1507905-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	8.6		ug/Kg-dry	210174	1	07/14/2015 14:14	CG
Benzene	BRL	4.3		ug/Kg-dry	210174	1	07/14/2015 14:14	CG
Toluene	BRL	4.3		ug/Kg-dry	210174	1	07/14/2015 14:14	CG
Ethylbenzene	BRL	4.3		ug/Kg-dry	210174	1	07/14/2015 14:14	CG
Xylenes, Total	BRL	4.3		ug/Kg-dry	210174	1	07/14/2015 14:14	CG
Surr: 4-Bromofluorobenzene	77.2	70-128		%REC	210174	1	07/14/2015 14:14	CG
Surr: Dibromofluoromethane	105	78.2-128		%REC	210174	1	07/14/2015 14:14	CG
Surr: Toluene-d8	94.8	76.5-116		%REC	210174	1	07/14/2015 14:14	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.118		mg/Kg-dry	210136	1	07/15/2015 14:48	TA
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	23		ug/Kg-dry	210027	1	07/14/2015 01:18	YH
Acenaphthylene	62	44		ug/Kg-dry	210027	1	07/14/2015 01:18	YH
Anthracene	38	2.3		ug/Kg-dry	210027	1	07/14/2015 01:18	YH
Benz(a)anthracene	180	2.3		ug/Kg-dry	210027	1	07/14/2015 01:18	YH
Benzo(a)pyrene	130	2.3		ug/Kg-dry	210027	1	07/14/2015 01:18	YH
Benzo(b)fluoranthene	310	4.4		ug/Kg-dry	210027	1	07/14/2015 01:18	YH
Benzo(g,h,i)perylene	130	4.4		ug/Kg-dry	210027	1	07/14/2015 01:18	YH
Benzo(k)fluoranthene	82	2.3		ug/Kg-dry	210027	1	07/14/2015 01:18	YH
Chrysene	150	2.3		ug/Kg-dry	210027	1	07/14/2015 01:18	YH
Dibenz(a,h)anthracene	36	4.4		ug/Kg-dry	210027	1	07/14/2015 01:18	YH
Fluoranthene	190	4.4		ug/Kg-dry	210027	1	07/14/2015 01:18	YH
Fluorene	7.4	4.4		ug/Kg-dry	210027	1	07/14/2015 01:18	YH
Indeno(1,2,3-cd)pyrene	120	2.3		ug/Kg-dry	210027	1	07/14/2015 01:18	YH
Naphthalene	BRL	23		ug/Kg-dry	210027	1	07/14/2015 01:18	YH
Phenanthrene	63	2.3		ug/Kg-dry	210027	1	07/14/2015 01:18	YH
Pyrene	230	2.3		ug/Kg-dry	210027	1	07/14/2015 01:18	YH
Surr: 4-Terphenyl-d14	84.6	42-124		%REC	210027	1	07/14/2015 01:18	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	440		ug/Kg-dry	210167	1	07/15/2015 12:25	YH
2-Methylphenol	BRL	440		ug/Kg-dry	210167	1	07/15/2015 12:25	YH
3,4-Methylphenol	BRL	440		ug/Kg-dry	210167	1	07/15/2015 12:25	YH
Phenol	BRL	440		ug/Kg-dry	210167	1	07/15/2015 12:25	YH
Surr: 2,4,6-Tribromophenol	77.5	41-128		%REC	210167	1	07/15/2015 12:25	YH
Surr: 2-Fluorobiphenyl	74.6	47-120		%REC	210167	1	07/15/2015 12:25	YH
Surr: 2-Fluorophenol	57.8	38.3-120		%REC	210167	1	07/15/2015 12:25	YH
Surr: 4-Terphenyl-d14	75.8	51.4-125		%REC	210167	1	07/15/2015 12:25	YH
Surr: Nitrobenzene-d5	65.6	40.1-120		%REC	210167	1	07/15/2015 12:25	YH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 22-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-06-20150708-01
Project Name:	Macon Remediation	**Collection Date:**	7/8/2015 5:55:00 PM
Lab ID:	1507905-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	68.2	40.3-120		%REC	210167	1	07/15/2015 12:25	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.34		mg/Kg-dry	210098	1	07/14/2015 16:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	6.40		mg/Kg-dry	210011	1	07/13/2015 14:36	IO
Arsenic	BRL	6.40		mg/Kg-dry	210011	1	07/13/2015 14:36	IO
Barium	26.3	6.40		mg/Kg-dry	210011	1	07/13/2015 14:36	IO
Beryllium	BRL	3.20		mg/Kg-dry	210011	1	07/13/2015 14:36	IO
Cadmium	BRL	3.20		mg/Kg-dry	210011	1	07/13/2015 14:36	IO
Chromium	16.1	3.20		mg/Kg-dry	210011	1	07/13/2015 14:36	IO
Copper	9.97	3.20		mg/Kg-dry	210011	1	07/13/2015 14:36	IO
Lead	12.0	6.40		mg/Kg-dry	210011	1	07/13/2015 14:36	IO
Nickel	BRL	6.40		mg/Kg-dry	210011	1	07/13/2015 14:36	IO
Zinc	11.3	6.40		mg/Kg-dry	210011	1	07/13/2015 14:36	IO
PERCENT MOISTURE D2216								
Percent Moisture	25.6	0		wt%	R295978	1	07/15/2015 10:00	PF

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 22-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-07-20150708-01
Project Name:	Macon Remediation	**Collection Date:**	7/8/2015 6:05:00 PM
Lab ID:	1507905-006	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	7.8		ug/Kg-dry	210174	1	07/14/2015 14:39	CG
Benzene	BRL	3.9		ug/Kg-dry	210174	1	07/14/2015 14:39	CG
Toluene	BRL	3.9		ug/Kg-dry	210174	1	07/14/2015 14:39	CG
Ethylbenzene	BRL	3.9		ug/Kg-dry	210174	1	07/14/2015 14:39	CG
Xylenes, Total	BRL	3.9		ug/Kg-dry	210174	1	07/14/2015 14:39	CG
Surr: 4-Bromofluorobenzene	83.3	70-128		%REC	210174	1	07/14/2015 14:39	CG
Surr: Dibromofluoromethane	104	78.2-128		%REC	210174	1	07/14/2015 14:39	CG
Surr: Toluene-d8	90.8	76.5-116		%REC	210174	1	07/14/2015 14:39	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.102		mg/Kg-dry	210136	1	07/15/2015 14:54	TA
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	19		ug/Kg-dry	210027	1	07/14/2015 01:45	YH
Acenaphthylene	BRL	36		ug/Kg-dry	210027	1	07/14/2015 01:45	YH
Anthracene	11	1.9		ug/Kg-dry	210027	1	07/14/2015 01:45	YH
Benz(a)anthracene	50	1.9		ug/Kg-dry	210027	1	07/14/2015 01:45	YH
Benzo(a)pyrene	41	1.9		ug/Kg-dry	210027	1	07/14/2015 01:45	YH
Benzo(b)fluoranthene	89	3.6		ug/Kg-dry	210027	1	07/14/2015 01:45	YH
Benzo(g,h,i)perylene	31	3.6		ug/Kg-dry	210027	1	07/14/2015 01:45	YH
Benzo(k)fluoranthene	22	1.9		ug/Kg-dry	210027	1	07/14/2015 01:45	YH
Chrysene	42	1.9		ug/Kg-dry	210027	1	07/14/2015 01:45	YH
Dibenz(a,h)anthracene	8.3	3.6		ug/Kg-dry	210027	1	07/14/2015 01:45	YH
Fluoranthene	62	3.6		ug/Kg-dry	210027	1	07/14/2015 01:45	YH
Fluorene	BRL	3.6		ug/Kg-dry	210027	1	07/14/2015 01:45	YH
Indeno(1,2,3-cd)pyrene	28	1.9		ug/Kg-dry	210027	1	07/14/2015 01:45	YH
Naphthalene	BRL	19		ug/Kg-dry	210027	1	07/14/2015 01:45	YH
Phenanthrene	18	1.9		ug/Kg-dry	210027	1	07/14/2015 01:45	YH
Pyrene	69	1.9		ug/Kg-dry	210027	1	07/14/2015 01:45	YH
Surr: 4-Terphenyl-d14	86.4	42-124		%REC	210027	1	07/14/2015 01:45	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	360		ug/Kg-dry	210167	1	07/15/2015 12:49	YH
2-Methylphenol	BRL	360		ug/Kg-dry	210167	1	07/15/2015 12:49	YH
3,4-Methylphenol	BRL	360		ug/Kg-dry	210167	1	07/15/2015 12:49	YH
Phenol	BRL	360		ug/Kg-dry	210167	1	07/15/2015 12:49	YH
Surr: 2,4,6-Tribromophenol	80.4	41-128		%REC	210167	1	07/15/2015 12:49	YH
Surr: 2-Fluorobiphenyl	70.5	47-120		%REC	210167	1	07/15/2015 12:49	YH
Surr: 2-Fluorophenol	53.9	38.3-120		%REC	210167	1	07/15/2015 12:49	YH
Surr: 4-Terphenyl-d14	77.6	51.4-125		%REC	210167	1	07/15/2015 12:49	YH
Surr: Nitrobenzene-d5	59.4	40.1-120		%REC	210167	1	07/15/2015 12:49	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 22-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-07-20150708-01
Project Name:	Macon Remediation	**Collection Date:**	7/8/2015 6:05:00 PM
Lab ID:	1507905-006	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	64.5	40.3-120		%REC	210167	1	07/15/2015 12:49	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.10		mg/Kg-dry	210098	1	07/14/2015 16:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.25		mg/Kg-dry	210011	1	07/13/2015 14:40	IO
Arsenic	BRL	5.25		mg/Kg-dry	210011	1	07/13/2015 14:40	IO
Barium	16.4	5.25		mg/Kg-dry	210011	1	07/13/2015 14:40	IO
Beryllium	BRL	2.63		mg/Kg-dry	210011	1	07/13/2015 14:40	IO
Cadmium	BRL	2.63		mg/Kg-dry	210011	1	07/13/2015 14:40	IO
Chromium	9.99	2.63		mg/Kg-dry	210011	1	07/13/2015 14:40	IO
Copper	5.74	2.63		mg/Kg-dry	210011	1	07/13/2015 14:40	IO
Lead	7.36	5.25		mg/Kg-dry	210011	1	07/13/2015 14:40	IO
Nickel	BRL	5.25		mg/Kg-dry	210011	1	07/13/2015 14:40	IO
Zinc	7.57	5.25		mg/Kg-dry	210011	1	07/13/2015 14:40	IO
PERCENT MOISTURE D2216								
Percent Moisture	8.73	0		wt%	R295978	1	07/15/2015 10:00	PF

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 22-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	EB-05-20150708-01
Project Name:	Macon Remediation	**Collection Date:**	7/8/2015
Lab ID:	1507905-007	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	210089	1	07/13/2015 15:29	NP
Carbon disulfide	BRL	5.0		ug/L	210089	1	07/13/2015 15:29	NP
Ethylbenzene	BRL	5.0		ug/L	210089	1	07/13/2015 15:29	NP
Toluene	BRL	5.0		ug/L	210089	1	07/13/2015 15:29	NP
Xylenes, Total	BRL	5.0		ug/L	210089	1	07/13/2015 15:29	NP
Surr: 4-Bromofluorobenzene	77.4	70.6-123		%REC	210089	1	07/13/2015 15:29	NP
Surr: Dibromofluoromethane	113	78.7-124		%REC	210089	1	07/13/2015 15:29	NP
Surr: Toluene-d8	94.3	81.3-120		%REC	210089	1	07/13/2015 15:29	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	210108	1	07/15/2015 12:13	YH
Acenaphthylene	BRL	1.0		ug/L	210108	1	07/15/2015 12:13	YH
Acenaphthene	BRL	0.50		ug/L	210108	1	07/15/2015 12:13	YH
Fluorene	BRL	0.10		ug/L	210108	1	07/15/2015 12:13	YH
Phenanthrene	BRL	0.050		ug/L	210108	1	07/15/2015 12:13	YH
Anthracene	BRL	0.050		ug/L	210108	1	07/15/2015 12:13	YH
Fluoranthene	BRL	0.10		ug/L	210108	1	07/15/2015 12:13	YH
Pyrene	BRL	0.050		ug/L	210108	1	07/15/2015 12:13	YH
Benz(a)anthracene	BRL	0.050		ug/L	210108	1	07/15/2015 12:13	YH
Chrysene	BRL	0.050		ug/L	210108	1	07/15/2015 12:13	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	210108	1	07/15/2015 12:13	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	210108	1	07/15/2015 12:13	YH
Benzo(a)pyrene	BRL	0.050		ug/L	210108	1	07/15/2015 12:13	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	210108	1	07/15/2015 12:13	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	210108	1	07/15/2015 12:13	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	210108	1	07/15/2015 12:13	YH
Surr: 4-Terphenyl-d14	94.8	55.4-136		%REC	210108	1	07/15/2015 12:13	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	11		ug/L	210141	1	07/15/2015 15:19	YH
2-Methylphenol	BRL	11		ug/L	210141	1	07/15/2015 15:19	YH
3,4-Methylphenol	BRL	11		ug/L	210141	1	07/15/2015 15:19	YH
Phenol	BRL	11		ug/L	210141	1	07/15/2015 15:19	YH
Surr: 2,4,6-Tribromophenol	71.8	52-133		%REC	210141	1	07/15/2015 15:19	YH
Surr: 2-Fluorobiphenyl	73.3	50-121		%REC	210141	1	07/15/2015 15:19	YH
Surr: 2-Fluorophenol	64.1	27.5-120		%REC	210141	1	07/15/2015 15:19	YH
Surr: 4-Terphenyl-d14	101	46.3-137		%REC	210141	1	07/15/2015 15:19	YH
Surr: Nitrobenzene-d5	73.6	41.2-121		%REC	210141	1	07/15/2015 15:19	YH
Surr: Phenol-d5	52.5	14.3-120		%REC	210141	1	07/15/2015 15:19	YH
METALS, TOTAL SW6010C				**(SW3010A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 22-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	EB-05-20150708-01
Project Name:	Macon Remediation	**Collection Date:**	7/8/2015
Lab ID:	1507905-007	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, TOTAL SW6010C				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	209977	1	07/13/2015 13:05	IO
Arsenic	BRL	0.0500		mg/L	209977	1	07/13/2015 13:05	IO
Barium	BRL	0.0200		mg/L	209977	1	07/13/2015 13:05	IO
Beryllium	BRL	0.0100		mg/L	209977	1	07/13/2015 13:05	IO
Cadmium	BRL	0.0050		mg/L	209977	1	07/13/2015 13:05	IO
Chromium	BRL	0.0100		mg/L	209977	1	07/13/2015 13:05	IO
Copper	BRL	0.0100		mg/L	209977	1	07/13/2015 13:05	IO
Lead	BRL	0.0100		mg/L	209977	1	07/13/2015 13:05	IO
Nickel	BRL	0.0200		mg/L	209977	1	07/13/2015 13:05	IO
Zinc	BRL	0.0200		mg/L	209977	1	07/13/2015 13:05	IO

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 22-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	TB-01-20150708-01
Project Name:	Macon Remediation	**Collection Date:**	7/8/2015
Lab ID:	1507905-008	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	210089	1	07/13/2015 15:02	NP
Carbon disulfide	BRL	5.0		ug/L	210089	1	07/13/2015 15:02	NP
Ethylbenzene	BRL	5.0		ug/L	210089	1	07/13/2015 15:02	NP
Toluene	BRL	5.0		ug/L	210089	1	07/13/2015 15:02	NP
Xylenes, Total	BRL	5.0		ug/L	210089	1	07/13/2015 15:02	NP
Surr: 4-Bromofluorobenzene	79	70.6-123		%REC	210089	1	07/13/2015 15:02	NP
Surr: Dibromofluoromethane	109	78.7-124		%REC	210089	1	07/13/2015 15:02	NP
Surr: Toluene-d8	92	81.3-120		%REC	210089	1	07/13/2015 15:02	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM Work Order Number 1507905

Checklist completed by Jan B 7/10/15
Signature Date

Carrier name: FedEx ✓ UPS __ Courier __ Client __ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 3.4° Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by JB

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 209977

Sample ID: **MB-209977** Client ID: Units: **mg/L** Prep Date: **07/09/2015** Run No: **295688**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **209977** Analysis Date: **07/10/2015** Seq No: **6305051**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	0.0200									
Arsenic	BRL	0.0500									
Barium	BRL	0.0200									
Beryllium	BRL	0.0100									
Cadmium	BRL	0.0050									
Chromium	BRL	0.0100									
Copper	BRL	0.0100									
Lead	BRL	0.0100									
Nickel	BRL	0.0200									
Zinc	BRL	0.0200									

Sample ID: **LCS-209977** Client ID: Units: **mg/L** Prep Date: **07/09/2015** Run No: **295688**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **209977** Analysis Date: **07/10/2015** Seq No: **6305052**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.045	0.0200	1.000		104	80	120				
Arsenic	1.065	0.0500	1.000		106	80	120				
Barium	1.050	0.0200	1.000		105	80	120				
Beryllium	1.055	0.0100	1.000		105	80	120				
Cadmium	1.056	0.0050	1.000		106	80	120				
Chromium	1.054	0.0100	1.000		105	80	120				
Copper	1.042	0.0100	1.000		104	80	120				
Lead	1.057	0.0100	1.000		106	80	120				
Nickel	1.062	0.0200	1.000		106	80	120				
Zinc	1.073	0.0200	1.000		107	80	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 209977

Sample ID: **1507538-001CMS** Client ID:
SampleType: **MS** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/L** Prep Date: **07/09/2015** Run No: **295688**
BatchID: **209977** Analysis Date: **07/10/2015** Seq No: **6305054**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.052	0.0200	1.000		105	75	125				
Arsenic	1.075	0.0500	1.000		108	75	125				
Barium	1.103	0.0200	1.000	0.06114	104	75	125				
Beryllium	1.052	0.0100	1.000		105	75	125				
Cadmium	1.052	0.0050	1.000		105	75	125				
Chromium	1.070	0.0100	1.000	0.01790	105	75	125				
Copper	1.039	0.0100	1.000		104	75	125				
Lead	1.048	0.0100	1.000		105	75	125				
Nickel	1.031	0.0200	1.000		103	75	125				
Zinc	1.077	0.0200	1.000	0.006062	107	75	125				

Sample ID: **1507538-001CMSD** Client ID:
SampleType: **MSD** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/L** Prep Date: **07/09/2015** Run No: **295688**
BatchID: **209977** Analysis Date: **07/10/2015** Seq No: **6305055**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.034	0.0200	1.000		103	75	125	1.052	1.69	20	
Arsenic	1.070	0.0500	1.000		107	75	125	1.075	0.432	20	
Barium	1.097	0.0200	1.000	0.06114	104	75	125	1.103	0.510	20	
Beryllium	1.045	0.0100	1.000		104	75	125	1.052	0.671	20	
Cadmium	1.047	0.0050	1.000		105	75	125	1.052	0.512	20	
Chromium	1.065	0.0100	1.000	0.01790	105	75	125	1.070	0.440	20	
Copper	1.034	0.0100	1.000		103	75	125	1.039	0.468	20	
Lead	1.043	0.0100	1.000		104	75	125	1.048	0.524	20	
Nickel	1.028	0.0200	1.000		103	75	125	1.031	0.296	20	
Zinc	1.070	0.0200	1.000	0.006062	106	75	125	1.077	0.612	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210011

Sample ID: **MB-210011** Client ID: Units: **mg/Kg** Prep Date: **07/10/2015** Run No: **295774**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **210011** Analysis Date: **07/13/2015** Seq No: **6308506**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	5.00									
Arsenic	BRL	5.00									
Barium	BRL	5.00									
Beryllium	BRL	2.50									
Cadmium	BRL	2.50									
Chromium	BRL	2.50									
Copper	BRL	2.50									
Lead	BRL	5.00									
Nickel	BRL	5.00									
Zinc	BRL	5.00									

Sample ID: **LCS-210011** Client ID: Units: **mg/Kg** Prep Date: **07/10/2015** Run No: **295774**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **210011** Analysis Date: **07/13/2015** Seq No: **6308507**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	48.94	5.00	50.00		97.9	80	120				
Arsenic	48.42	5.00	50.00		96.8	80	120				
Barium	49.23	5.00	50.00		98.5	80	120				
Beryllium	48.82	2.50	50.00		97.6	80	120				
Cadmium	48.31	2.50	50.00		96.6	80	120				
Chromium	49.48	2.50	50.00	0.07570	98.8	80	120				
Copper	49.36	2.50	50.00		98.7	80	120				
Lead	47.74	5.00	50.00	0.08983	95.3	80	120				
Nickel	48.43	5.00	50.00		96.9	80	120				
Zinc	47.44	5.00	50.00	0.2085	94.5	80	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210011

Sample ID: **1507791-001AMS** Client ID:
SampleType: **MS** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/Kg-dry** Prep Date: **07/10/2015** Run No: **295774**
BatchID: **210011** Analysis Date: **07/13/2015** Seq No: **6308509**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	140.3	18.0	180.5	6.180	74.3	75	125				S
Arsenic	173.7	18.0	180.5	2.790	94.7	75	125				
Barium	644.6	18.0	180.5	487.7	87.0	75	125				
Beryllium	170.3	9.02	180.5	0.3056	94.2	75	125				
Cadmium	170.4	9.02	180.5	1.233	93.7	75	125				
Chromium	282.4	9.02	180.5	114.0	93.3	75	125				
Copper	754.0	9.02	180.5	603.5	83.4	75	125				
Lead	205.3	18.0	180.5	46.13	88.2	75	125				
Nickel	183.0	18.0	180.5	21.10	89.7	75	125				
Zinc	1512	18.0	180.5	1384	71.2	75	125				S

Sample ID: **1507791-001AMSD** Client ID:
SampleType: **MSD** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/Kg-dry** Prep Date: **07/10/2015** Run No: **295774**
BatchID: **210011** Analysis Date: **07/13/2015** Seq No: **6308510**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	135.5	18.0	180.4	6.180	71.7	75	125	140.3	3.42	20	S
Arsenic	170.3	18.0	180.4	2.790	92.9	75	125	173.7	1.95	20	
Barium	646.9	18.0	180.4	487.7	88.3	75	125	644.6	0.364	20	
Beryllium	166.7	9.02	180.4	0.3056	92.2	75	125	170.3	2.17	20	
Cadmium	166.9	9.02	180.4	1.233	91.8	75	125	170.4	2.07	20	
Chromium	278.0	9.02	180.4	114.0	90.9	75	125	282.4	1.54	20	
Copper	774.9	9.02	180.4	603.5	95.0	75	125	754.0	2.74	20	
Lead	201.1	18.0	180.4	46.13	85.9	75	125	205.3	2.10	20	
Nickel	179.1	18.0	180.4	21.10	87.6	75	125	183.0	2.19	20	
Zinc	1520	18.0	180.4	1384	75.5	75	125	1512	0.509	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210027

Sample ID: **MB-210027** Client ID: Units: **ug/Kg** Prep Date: **07/13/2015** Run No: **295806**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210027** Analysis Date: **07/13/2015** Seq No: **6307955**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	17									
Acenaphthylene	BRL	33									
Anthracene	BRL	1.7									
Benz(a)anthracene	BRL	1.7									
Benzo(a)pyrene	BRL	1.7									
Benzo(b)fluoranthene	BRL	3.3									
Benzo(g,h,i)perylene	BRL	3.3									
Benzo(k)fluoranthene	BRL	1.7									
Chrysene	BRL	1.7									
Dibenz(a,h)anthracene	BRL	3.3									
Fluoranthene	BRL	3.3									
Fluorene	BRL	3.3									
Indeno(1,2,3-cd)pyrene	BRL	1.7									
Naphthalene	BRL	17									
Phenanthrene	BRL	1.7									
Pyrene	BRL	1.7									
Surr: 4-Terphenyl-d14	55.51	0	66.67		83.3	42	124				

Sample ID: **LCS-210027** Client ID: Units: **ug/Kg** Prep Date: **07/13/2015** Run No: **295806**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210027** Analysis Date: **07/13/2015** Seq No: **6308051**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	53.15	17	66.70		79.7	61.2	120				
Acenaphthylene	52.95	33	66.70		79.4	60.1	120				
Anthracene	54.67	1.7	66.70		82.0	58.4	120				
Benz(a)anthracene	59.43	1.7	66.70		89.1	56.7	124				
Benzo(a)pyrene	55.31	1.7	66.70		82.9	57.5	120				
Benzo(b)fluoranthene	55.02	3.3	66.70		82.5	60.9	118				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210027

Sample ID: **LCS-210027**	Client ID:		Units: **ug/Kg**	Prep Date: **07/13/2015**	Run No: **295806**
SampleType: **LCS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**		BatchID: **210027**	Analysis Date: **07/13/2015**	Seq No: **6308051**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(g,h,i)perylene	55.52	3.3	66.70		83.2	50.7	125				
Benzo(k)fluoranthene	60.38	1.7	66.70		90.5	53	125				
Chrysene	67.28	1.7	66.70		101	61.2	120				
Dibenz(a,h)anthracene	53.63	3.3	66.70		80.4	48	125				
Fluoranthene	59.59	3.3	66.70		89.3	64.9	121				
Fluorene	54.85	3.3	66.70		82.2	62.1	120				
Indeno(1,2,3-cd)pyrene	57.38	1.7	66.70		86.0	56	121				
Naphthalene	51.80	17	66.70		77.7	57.4	120				
Phenanthrene	56.86	1.7	66.70		85.3	63.3	120				
Pyrene	64.04	1.7	66.70		96.0	61.2	120				
Surr: 4-Terphenyl-d14	67.81	0	66.70		102	42	124				

Sample ID: **1507635-011BMS**	Client ID:		Units: **ug/Kg-dry**	Prep Date: **07/13/2015**	Run No: **295806**
SampleType: **MS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**		BatchID: **210027**	Analysis Date: **07/13/2015**	Seq No: **6308595**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	55.75	19	73.02		76.3	45.8	120				
Acenaphthylene	56.57	36	73.02		77.5	50.6	120				
Anthracene	50.86	1.9	73.02		69.7	42.4	125				
Benz(a)anthracene	66.65	1.9	73.02		91.3	44.9	136				
Benzo(a)pyrene	55.05	1.9	73.02		75.4	40.3	123				
Benzo(b)fluoranthene	54.11	3.6	73.02		74.1	37	128				
Benzo(g,h,i)perylene	53.46	3.6	73.02		73.2	41.1	137				
Benzo(k)fluoranthene	51.46	1.9	73.02		70.5	37.7	126				
Chrysene	65.96	1.9	73.02		90.3	43	120				
Dibenz(a,h)anthracene	54.94	3.6	73.02		75.2	42.6	130				
Fluoranthene	59.51	3.6	73.02	0.6510	80.6	44.4	133				
Fluorene	58.92	3.6	73.02	1.741	78.3	42.5	119				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210027

Sample ID: **1507635-011BMS**	Client ID:		Units: **ug/Kg-dry**	Prep Date: **07/13/2015**	Run No: **295806**
SampleType: **MS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **210027**	Analysis Date: **07/13/2015**	Seq No: **6308595**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Indeno(1,2,3-cd)pyrene	55.01	1.9	73.02		75.3	41.7	135				
Naphthalene	98.90	19	73.02	82.39	22.6	42.5	120				S
Phenanthrene	61.07	1.9	73.02	4.271	77.8	44.1	120				
Pyrene	64.90	1.9	73.02		88.9	41.5	120				
Surr: 4-Terphenyl-d14	66.36	0	73.02		90.9	42	124				

Sample ID: **1507635-011BMSD**	Client ID:		Units: **ug/Kg-dry**	Prep Date: **07/13/2015**	Run No: **295806**
SampleType: **MSD**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **210027**	Analysis Date: **07/13/2015**	Seq No: **6308599**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	56.82	19	73.02		77.8	45.8	120	55.75	1.90	38.4	
Acenaphthylene	56.62	36	73.02		77.5	50.6	120	56.57	0.104	37.8	
Anthracene	51.74	1.9	73.02		70.9	42.4	125	50.86	1.73	49.7	
Benz(a)anthracene	67.79	1.9	73.02		92.8	44.9	136	66.65	1.69	33.8	
Benzo(a)pyrene	55.52	1.9	73.02		76.0	40.3	123	55.05	0.850	40.2	
Benzo(b)fluoranthene	55.48	3.6	73.02		76.0	37	128	54.11	2.51	36.5	
Benzo(g,h,i)perylene	54.72	3.6	73.02		74.9	41.1	137	53.46	2.33	39.3	
Benzo(k)fluoranthene	55.30	1.9	73.02		75.7	37.7	126	51.46	7.19	35	
Chrysene	61.44	1.9	73.02		84.1	43	120	65.96	7.11	28.6	
Dibenz(a,h)anthracene	54.92	3.6	73.02		75.2	42.6	130	54.94	0.036	44.6	
Fluoranthene	59.40	3.6	73.02	0.6510	80.5	44.4	133	59.51	0.185	33.2	
Fluorene	59.20	3.6	73.02	1.741	78.7	42.5	119	58.92	0.463	35.4	
Indeno(1,2,3-cd)pyrene	55.70	1.9	73.02		76.3	41.7	135	55.01	1.25	37.3	
Naphthalene	112.8	19	73.02	82.39	41.7	42.5	120	98.90	13.1	39.4	S
Phenanthrene	60.36	1.9	73.02	4.271	76.8	44.1	120	61.07	1.17	37	
Pyrene	64.88	1.9	73.02		88.9	41.5	120	64.90	0.028	33.1	
Surr: 4-Terphenyl-d14	65.26	0	73.02		89.4	42	124	66.36	0	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210089

Sample ID: **MB-210089**	Client ID:		Units: **ug/L**	Prep Date: **07/13/2015**	Run No: **295754**
SampleType: **MBLK**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **210089**	Analysis Date: **07/13/2015**	Seq No: **6308279**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	5.0									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	40.46	0	50.00		80.9	70.6	123				
Surr: Dibromofluoromethane	48.65	0	50.00		97.3	78.7	124				
Surr: Toluene-d8	44.26	0	50.00		88.5	81.3	120				

Sample ID: **LCS-210089**	Client ID:		Units: **ug/L**	Prep Date: **07/13/2015**	Run No: **295754**
SampleType: **LCS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **210089**	Analysis Date: **07/13/2015**	Seq No: **6308286**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	45.00	5.0	50.00		90.0	72.8	128				
Toluene	46.78	5.0	50.00		93.6	74.9	127				
Surr: 4-Bromofluorobenzene	39.09	0	50.00		78.2	70.6	123				
Surr: Dibromofluoromethane	51.19	0	50.00		102	78.7	124				
Surr: Toluene-d8	44.87	0	50.00		89.7	81.3	120				

Sample ID: **1507926-001AMS**	Client ID:		Units: **ug/L**	Prep Date: **07/13/2015**	Run No: **295946**
SampleType: **MS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **210089**	Analysis Date: **07/15/2015**	Seq No: **6311558**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	46.76	5.0	50.00		93.5	70	135				
Toluene	47.34	5.0	50.00		94.7	70.5	137				
Surr: 4-Bromofluorobenzene	48.98	0	50.00		98.0	70.6	123				
Surr: Dibromofluoromethane	50.73	0	50.00		101	78.7	124				
Surr: Toluene-d8	44.91	0	50.00		89.8	81.3	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210089

Sample ID: **1507926-001AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/L** Prep Date: **07/13/2015** Run No: **295946**
BatchID: **210089** Analysis Date: **07/15/2015** Seq No: **6311737**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	45.50	5.0	50.00		91.0	70	135	46.76	2.73	20	
Toluene	46.04	5.0	50.00		92.1	70.5	137	47.34	2.78	20	
Surr: 4-Bromofluorobenzene	48.43	0	50.00		96.9	70.6	123	48.98	0	0	
Surr: Dibromofluoromethane	49.04	0	50.00		98.1	78.7	124	50.73	0	0	
Surr: Toluene-d8	43.96	0	50.00		87.9	81.3	120	44.91	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210098

Sample ID: **MB-210098**	Client ID:				Units: **mg/Kg**		Prep Date: **07/13/2015**		Run No: **295812**	
SampleType: **MBLK**	TestCode: **Cyanide, Total SW9014**				BatchID: **210098**		Analysis Date: **07/13/2015**		Seq No: **6308071**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	1.00									

Sample ID: **LCS-210098**	Client ID:				Units: **mg/Kg**		Prep Date: **07/13/2015**		Run No: **295812**	
SampleType: **LCS**	TestCode: **Cyanide, Total SW9014**				BatchID: **210098**		Analysis Date: **07/13/2015**		Seq No: **6308072**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	11.40	1.00	12.50		91.2	85	115				

Sample ID: **1507476-002BMS**	Client ID:				Units: **mg/Kg**		Prep Date: **07/13/2015**		Run No: **295812**	
SampleType: **MS**	TestCode: **Cyanide, Total SW9014**				BatchID: **210098**		Analysis Date: **07/13/2015**		Seq No: **6308077**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	1.750	1.00	12.50		14.0	70	130				S

Sample ID: **1507476-002BMSD**	Client ID:				Units: **mg/Kg**		Prep Date: **07/13/2015**		Run No: **295812**	
SampleType: **MSD**	TestCode: **Cyanide, Total SW9014**				BatchID: **210098**		Analysis Date: **07/13/2015**		Seq No: **6308078**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	1.720	1.00	12.50		13.8	70	130	1.750	1.73	30	S

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210108

Sample ID: **MB-210108**	Client ID:		Units: **ug/L**	Prep Date: **07/14/2015**	Run No: **295916**
SampleType: **MBLK**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **210108**	Analysis Date: **07/15/2015**	Seq No: **6311204**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	0.50									
Acenaphthylene	BRL	1.0									
Anthracene	BRL	0.050									
Benz(a)anthracene	BRL	0.050									
Benzo(a)pyrene	BRL	0.050									
Benzo(b)fluoranthene	BRL	0.10									
Benzo(g,h,i)perylene	BRL	0.10									
Benzo(k)fluoranthene	BRL	0.050									
Chrysene	BRL	0.050									
Dibenz(a,h)anthracene	BRL	0.10									
Fluoranthene	BRL	0.10									
Fluorene	BRL	0.10									
Indeno(1,2,3-cd)pyrene	BRL	0.050									
Naphthalene	BRL	0.50									
Phenanthrene	BRL	0.050									
Pyrene	BRL	0.050									
Surr: 4-Terphenyl-d14	1.869	0	2.000		93.5	55.4	136				

Sample ID: **MB-210108**	Client ID:		Units: **ug/L**	Prep Date: **07/14/2015**	Run No: **296126**
SampleType: **MBLK**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **210108**	Analysis Date: **07/16/2015**	Seq No: **6315299**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	0.50									
Acenaphthylene	BRL	1.0									
Anthracene	BRL	0.050									
Benz(a)anthracene	BRL	0.050									
Benzo(a)pyrene	BRL	0.050									
Benzo(b)fluoranthene	BRL	0.10									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210108

Sample ID: **MB-210108** Client ID: Units: **ug/L** Prep Date: **07/14/2015** Run No: **296126**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210108** Analysis Date: **07/16/2015** Seq No: **6315299**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(g,h,i)perylene	BRL	0.10									
Benzo(k)fluoranthene	BRL	0.050									
Chrysene	BRL	0.050									
Dibenz(a,h)anthracene	BRL	0.10									
Fluoranthene	BRL	0.10									
Fluorene	BRL	0.10									
Indeno(1,2,3-cd)pyrene	BRL	0.050									
Naphthalene	BRL	0.50									
Phenanthrene	BRL	0.050									
Pyrene	BRL	0.050									
Surr: 4-Terphenyl-d14	1.966	0	2.000		98.3	55.4	136				

Sample ID: **LCS-210108** Client ID: Units: **ug/L** Prep Date: **07/14/2015** Run No: **295916**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210108** Analysis Date: **07/15/2015** Seq No: **6311205**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.492	0.50	2.000		74.6	66.3	118				
Acenaphthylene	1.450	1.0	2.000		72.5	64	120				
Anthracene	1.629	0.050	2.000	0.01470	80.7	64.6	127				
Benz(a)anthracene	1.925	0.050	2.000		96.3	60.6	137				
Benzo(a)pyrene	1.640	0.050	2.000		82.0	64	124				
Benzo(b)fluoranthene	1.622	0.10	2.000		81.1	56.4	133				
Benzo(g,h,i)perylene	1.582	0.10	2.000		79.1	49.9	137				
Benzo(k)fluoranthene	1.559	0.050	2.000		77.9	61.7	137				
Chrysene	1.789	0.050	2.000		89.5	65.5	127				
Dibenz(a,h)anthracene	1.681	0.10	2.000		84.1	52.4	130				
Fluoranthene	1.755	0.10	2.000		87.8	67	131				
Fluorene	1.579	0.10	2.000		78.9	68.3	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210108

Sample ID: **LCS-210108**	Client ID:		Units: **ug/L**	Prep Date: **07/14/2015**	Run No: **295916**
SampleType: **LCS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **210108**	Analysis Date: **07/15/2015**	Seq No: **6311205**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Indeno(1,2,3-cd)pyrene	1.665	0.050	2.000		83.3	50.4	139				
Naphthalene	1.376	0.50	2.000		68.8	61.1	120				
Phenanthrene	1.659	0.050	2.000	0.01526	82.2	68	119				
Pyrene	1.804	0.050	2.000		90.2	62	127				
Surr: 4-Terphenyl-d14	1.846	0	2.000		92.3	55.4	136				

Sample ID: **LCSD-210108**	Client ID:		Units: **ug/L**	Prep Date: **07/14/2015**	Run No: **295916**
SampleType: **LCSD**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **210108**	Analysis Date: **07/15/2015**	Seq No: **6311206**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.704	0.50	2.000		85.2	66.3	118	1.492	13.3	21.8	
Acenaphthylene	1.651	1.0	2.000		82.6	64	120	1.450	13.0	22.9	
Anthracene	1.734	0.050	2.000	0.01470	85.9	64.6	127	1.629	6.20	18.6	
Benz(a)anthracene	1.996	0.050	2.000		99.8	60.6	137	1.925	3.64	22.9	
Benzo(a)pyrene	1.764	0.050	2.000		88.2	64	124	1.640	7.32	22.7	
Benzo(b)fluoranthene	1.703	0.10	2.000		85.1	56.4	133	1.622	4.86	20.3	
Benzo(g,h,i)perylene	1.664	0.10	2.000		83.2	49.9	137	1.582	5.07	20.6	
Benzo(k)fluoranthene	1.756	0.050	2.000		87.8	61.7	137	1.559	11.9	26.5	
Chrysene	1.936	0.050	2.000		96.8	65.5	127	1.789	7.87	21.6	
Dibenz(a,h)anthracene	1.681	0.10	2.000		84.1	52.4	130	1.681	0.003	21.7	
Fluoranthene	1.802	0.10	2.000		90.1	67	131	1.755	2.61	20.7	
Fluorene	1.708	0.10	2.000		85.4	68.3	120	1.579	7.89	20.5	
Indeno(1,2,3-cd)pyrene	1.696	0.050	2.000		84.8	50.4	139	1.665	1.80	19.2	
Naphthalene	1.522	0.50	2.000		76.1	61.1	120	1.376	10.0	25.1	
Phenanthrene	1.755	0.050	2.000	0.01526	87.0	68	119	1.659	5.58	19.7	
Pyrene	1.908	0.050	2.000		95.4	62	127	1.804	5.60	20.5	
Surr: 4-Terphenyl-d14	1.869	0	2.000		93.4	55.4	136	1.846	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210108

Sample ID: **1507B73-017BMS** Client ID: Units: **ug/L** Prep Date: **07/15/2015** Run No: **296126**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210108** Analysis Date: **07/16/2015** Seq No: **6315302**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.536	0.50	2.000		76.8	45.6	120				
Acenaphthylene	1.493	1.0	2.000		74.6	48.3	124				
Anthracene	1.523	0.050	2.000		76.1	57.7	124				
Benz(a)anthracene	1.914	0.050	2.000		95.7	50.3	143				
Benzo(a)pyrene	1.507	0.050	2.000		75.3	44.2	127				
Benzo(b)fluoranthene	1.532	0.10	2.000		76.6	48.4	125				
Benzo(g,h,i)perylene	1.255	0.10	2.000		62.8	40.2	122				
Benzo(k)fluoranthene	1.475	0.050	2.000		73.8	45.5	122				
Chrysene	1.683	0.050	2.000		84.2	46	124				
Dibenz(a,h)anthracene	1.232	0.10	2.000		61.6	40.1	128				
Fluoranthene	1.678	0.10	2.000	0.01707	83.1	58	127				
Fluorene	1.605	0.10	2.000		80.3	52.6	124				
Indeno(1,2,3-cd)pyrene	1.352	0.050	2.000		67.6	40.3	129				
Naphthalene	1.384	0.50	2.000	0.02248	68.1	46.6	120				
Phenanthrene	1.610	0.050	2.000	0.02315	79.3	50.6	122				
Pyrene	1.757	0.050	2.000	0.02165	86.8	50.1	128				
Surr: 4-Terphenyl-d14	1.788	0	2.000		89.4	55.4	136				

Sample ID: **1507B73-017BMSD** Client ID: Units: **ug/L** Prep Date: **07/15/2015** Run No: **296126**
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210108** Analysis Date: **07/16/2015** Seq No: **6315303**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.552	0.50	2.000		77.6	45.6	120	1.536	1.02	29.4	
Acenaphthylene	1.507	1.0	2.000		75.3	48.3	124	1.493	0.933	32.5	
Anthracene	1.552	0.050	2.000		77.6	57.7	124	1.523	1.89	21.9	
Benz(a)anthracene	1.845	0.050	2.000		92.3	50.3	143	1.914	3.66	26.8	
Benzo(a)pyrene	1.415	0.050	2.000		70.8	44.2	127	1.507	6.27	40.9	
Benzo(b)fluoranthene	1.522	0.10	2.000		76.1	48.4	125	1.532	0.648	24.2	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210108

Sample ID: **1507B73-017BMSD** Client ID:
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**
Units: **ug/L** Prep Date: **07/15/2015** Run No: **296126**
BatchID: **210108** Analysis Date: **07/16/2015** Seq No: **6315303**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(g,h,i)perylene	1.238	0.10	2.000		61.9	40.2	122	1.255	1.40	26.2	
Benzo(k)fluoranthene	1.492	0.050	2.000		74.6	45.5	122	1.475	1.13	23.3	
Chrysene	1.629	0.050	2.000		81.4	46	124	1.683	3.28	25	
Dibenz(a,h)anthracene	1.169	0.10	2.000		58.4	40.1	128	1.232	5.26	23.6	
Fluoranthene	1.680	0.10	2.000	0.01707	83.1	58	127	1.678	0.070	23.5	
Fluorene	1.612	0.10	2.000		80.6	52.6	124	1.605	0.412	31.5	
Indeno(1,2,3-cd)pyrene	1.306	0.050	2.000		65.3	40.3	129	1.352	3.47	28.8	
Naphthalene	1.455	0.50	2.000	0.02248	71.6	46.6	120	1.384	5.02	22.9	
Phenanthrene	1.627	0.050	2.000	0.02315	80.2	50.6	122	1.610	1.04	20.2	
Pyrene	1.735	0.050	2.000	0.02165	85.7	50.1	128	1.757	1.26	24.7	
Surr: 4-Terphenyl-d14	1.871	0	2.000		93.6	55.4	136	1.788	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210136

Sample ID: **MB-210136**	Client ID:				Units: **mg/Kg**		Prep Date: **07/15/2015**		Run No: **295972**	
SampleType: **MBLK**	TestCode: **TOTAL MERCURY SW7471B**				BatchID: **210136**		Analysis Date: **07/15/2015**		Seq No: **6312075**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.100									

Sample ID: **LCS-210136**	Client ID:				Units: **mg/Kg**		Prep Date: **07/15/2015**		Run No: **295972**	
SampleType: **LCS**	TestCode: **TOTAL MERCURY SW7471B**				BatchID: **210136**		Analysis Date: **07/15/2015**		Seq No: **6312076**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.3803	0.100	0.4000		95.1	80	120				

Sample ID: **1507803-001BMS**	Client ID:				Units: **mg/Kg-dry**		Prep Date: **07/15/2015**		Run No: **295972**	
SampleType: **MS**	TestCode: **TOTAL MERCURY SW7471B**				BatchID: **210136**		Analysis Date: **07/15/2015**		Seq No: **6312080**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.4825	0.125	0.5000	0.01838	92.8	70	130				

Sample ID: **1507803-001BMSD**	Client ID:				Units: **mg/Kg-dry**		Prep Date: **07/15/2015**		Run No: **295972**	
SampleType: **MSD**	TestCode: **TOTAL MERCURY SW7471B**				BatchID: **210136**		Analysis Date: **07/15/2015**		Seq No: **6312081**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.5105	0.125	0.5000	0.01838	98.4	70	130	0.4825	5.63	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210141

Sample ID: **MB-210141** Client ID: Units: **ug/L** Prep Date: **07/15/2015** Run No: **295917**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210141** Analysis Date: **07/15/2015** Seq No: **6312794**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	10									
2-Methylphenol	BRL	10									
3,4-Methylphenol	BRL	10									
Phenol	BRL	10									
Surr: 2,4,6-Tribromophenol	77.82	0	100.0		77.8	52	133				
Surr: 2-Fluorobiphenyl	36.45	0	50.00		72.9	50	121				
Surr: 2-Fluorophenol	47.69	0	100.0		47.7	27.5	120				
Surr: 4-Terphenyl-d14	50.60	0	50.00		101	46.3	137				
Surr: Nitrobenzene-d5	35.96	0	50.00		71.9	41.2	121				
Surr: Phenol-d5	33.31	0	100.0		33.3	14.3	120				

Sample ID: **LCS-210141** Client ID: Units: **ug/L** Prep Date: **07/15/2015** Run No: **295917**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210141** Analysis Date: **07/15/2015** Seq No: **6312803**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	44.43	10	100.0		44.4	25.6	120				
Surr: 2,4,6-Tribromophenol	82.71	0	100.0		82.7	52	133				
Surr: 2-Fluorobiphenyl	42.93	0	50.00		85.9	50	121				
Surr: 2-Fluorophenol	58.86	0	100.0		58.9	27.5	120				
Surr: 4-Terphenyl-d14	51.43	0	50.00		103	46.3	137				
Surr: Nitrobenzene-d5	42.31	0	50.00		84.6	41.2	121				
Surr: Phenol-d5	44.61	0	100.0		44.6	14.3	120				

Sample ID: **1507A57-002BMS** Client ID: Units: **ug/L** Prep Date: **07/15/2015** Run No: **295917**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210141** Analysis Date: **07/15/2015** Seq No: **6312826**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	54.91	10	100.0		54.9	31	120				

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210141

Sample ID: **1507A57-002BMS** Client ID: Units: **ug/L** Prep Date: **07/15/2015** Run No: **295917**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210141** Analysis Date: **07/15/2015** Seq No: **6312826**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 2,4,6-Tribromophenol	80.77	0	100.0		80.8	52	133				
Surr: 2-Fluorobiphenyl	39.45	0	50.00		78.9	50	121				
Surr: 2-Fluorophenol	61.97	0	100.0		62.0	27.5	120				
Surr: 4-Terphenyl-d14	49.36	0	50.00		98.7	46.3	137				
Surr: Nitrobenzene-d5	39.46	0	50.00		78.9	41.2	121				
Surr: Phenol-d5	55.14	0	100.0		55.1	14.3	120				

Sample ID: **1507A57-002BMSD** Client ID: Units: **ug/L** Prep Date: **07/15/2015** Run No: **295917**
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210141** Analysis Date: **07/15/2015** Seq No: **6312827**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	61.81	10	100.0		61.8	31	120	54.91	11.8	31.9	
Surr: 2,4,6-Tribromophenol	85.34	0	100.0		85.3	52	133	80.77	0	0	
Surr: 2-Fluorobiphenyl	41.38	0	50.00		82.8	50	121	39.45	0	0	
Surr: 2-Fluorophenol	67.37	0	100.0		67.4	27.5	120	61.97	0	0	
Surr: 4-Terphenyl-d14	49.46	0	50.00		98.9	46.3	137	49.36	0	0	
Surr: Nitrobenzene-d5	38.87	0	50.00		77.7	41.2	121	39.46	0	0	
Surr: Phenol-d5	59.20	0	100.0		59.2	14.3	120	55.14	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210167

Sample ID: **MB-210167** Client ID: Units: **ug/Kg** Prep Date: **07/15/2015** Run No: **295947**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210167** Analysis Date: **07/15/2015** Seq No: **6311459**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	330									
2-Methylphenol	BRL	330									
3,4-Methylphenol	BRL	330									
Phenol	BRL	330									
Surr: 2,4,6-Tribromophenol	2571	0	3333		77.1	41	128				
Surr: 2-Fluorobiphenyl	1237	0	1667		74.2	47	120				
Surr: 2-Fluorophenol	2121	0	3333		63.6	38.3	120				
Surr: 4-Terphenyl-d14	1334	0	1667		80.0	51.4	125				
Surr: Nitrobenzene-d5	1127	0	1667		67.6	40.1	120				
Surr: Phenol-d5	2326	0	3333		69.8	40.3	120				

Sample ID: **LCS-210167** Client ID: Units: **ug/Kg** Prep Date: **07/15/2015** Run No: **295947**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210167** Analysis Date: **07/15/2015** Seq No: **6311467**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2468	330	3333		74.0	50.1	120				
Surr: 2,4,6-Tribromophenol	3280	0	3333		98.4	41	128				
Surr: 2-Fluorobiphenyl	1477	0	1667		88.6	47	120				
Surr: 2-Fluorophenol	2388	0	3333		71.6	38.3	120				
Surr: 4-Terphenyl-d14	1653	0	1667		99.2	51.4	125				
Surr: Nitrobenzene-d5	1385	0	1667		83.1	40.1	120				
Surr: Phenol-d5	2548	0	3333		76.4	40.3	120				

Sample ID: **1507905-006CMS** Client ID: **SSS-07-20150708-01** Units: **ug/Kg-dry** Prep Date: **07/15/2015** Run No: **295947**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210167** Analysis Date: **07/15/2015** Seq No: **6311886**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2194	360	3652		60.1	41.5	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210167

Sample ID: **1507905-006CMS** Client ID: **SSS-07-20150708-01** Units: **ug/Kg-dry** Prep Date: **07/15/2015** Run No: **295947**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210167** Analysis Date: **07/15/2015** Seq No: **6311886**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 2,4,6-Tribromophenol	3084	0	3652		84.5	41	128				
Surr: 2-Fluorobiphenyl	1271	0	1826		69.6	47	120				
Surr: 2-Fluorophenol	1956	0	3652		53.6	38.3	120				
Surr: 4-Terphenyl-d14	1412	0	1826		77.3	51.4	125				
Surr: Nitrobenzene-d5	1093	0	1826		59.9	40.1	120				
Surr: Phenol-d5	2270	0	3652		62.2	40.3	120				

Sample ID: **1507905-006CMSD** Client ID: **SSS-07-20150708-01** Units: **ug/Kg-dry** Prep Date: **07/15/2015** Run No: **295947**
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210167** Analysis Date: **07/15/2015** Seq No: **6311992**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2358	360	3652		64.6	41.5	120	2194	7.20	37.4	
Surr: 2,4,6-Tribromophenol	3399	0	3652		93.1	41	128	3084	0	0	
Surr: 2-Fluorobiphenyl	1516	0	1826		83.0	47	120	1271	0	0	
Surr: 2-Fluorophenol	2285	0	3652		62.6	38.3	120	1956	0	0	
Surr: 4-Terphenyl-d14	1559	0	1826		85.4	51.4	125	1412	0	0	
Surr: Nitrobenzene-d5	1374	0	1826		75.2	40.1	120	1093	0	0	
Surr: Phenol-d5	2541	0	3652		69.6	40.3	120	2270	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210174

Sample ID: **MB-210174** Client ID: Units: **ug/Kg** Prep Date: **07/14/2015** Run No: **295871**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **210174** Analysis Date: **07/14/2015** Seq No: **6310853**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	10									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	44.30	0	50.00		88.6	70	128				
Surr: Dibromofluoromethane	53.43	0	50.00		107	78.2	128				
Surr: Toluene-d8	48.36	0	50.00		96.7	76.5	116				

Sample ID: **LCS-210174** Client ID: Units: **ug/Kg** Prep Date: **07/14/2015** Run No: **295871**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **210174** Analysis Date: **07/14/2015** Seq No: **6310856**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	50.13	5.0	50.00		100	72.3	130				
Toluene	48.47	5.0	50.00		96.9	71.1	130				
Surr: 4-Bromofluorobenzene	44.71	0	50.00		89.4	70	128				
Surr: Dibromofluoromethane	50.06	0	50.00		100	78.2	128				
Surr: Toluene-d8	48.50	0	50.00		97.0	76.5	116				

Sample ID: **1507905-006AMS** Client ID: **SSS-07-20150708-01** Units: **ug/Kg-dry** Prep Date: **07/14/2015** Run No: **295871**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **210174** Analysis Date: **07/14/2015** Seq No: **6310857**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	50.04	5.5	54.78		91.3	70.4	130				
Toluene	50.70	5.5	54.78		92.6	70.4	130				
Surr: 4-Bromofluorobenzene	48.83	0	54.78		89.1	70	128				
Surr: Dibromofluoromethane	55.37	0	54.78		101	78.2	128				
Surr: Toluene-d8	51.58	0	54.78		94.2	76.5	116				

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210174

Sample ID: **1507905-006AMSD** Client ID: **SSS-07-20150708-01** Units: **ug/Kg-dry** Prep Date: **07/14/2015** Run No: **295871**
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **210174** Analysis Date: **07/14/2015** Seq No: **6310858**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	54.59	5.5	54.78		99.7	70.4	130	50.04	8.71	16.9	
Toluene	54.05	5.5	54.78		98.7	70.4	130	50.70	6.38	16.6	
Surr: 4-Bromofluorobenzene	48.66	0	54.78		88.8	70	128	48.83	0	0	
Surr: Dibromofluoromethane	53.90	0	54.78		98.4	78.2	128	55.37	0	0	
Surr: Toluene-d8	51.87	0	54.78		94.7	76.5	116	51.58	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

July 23, 2015

Nic Vrey
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: Macon Remediation

Dear Nic Vrey: Order No: 1507B75

Analytical Environmental Services, Inc. received 11 samples on 7/15/2015 8:10:00 AM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/15.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC

3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1507B75

Date: 7/14/15 Page 1 of ____

COMPANY: ERM

ADDRESS: 3200 Windy Hill Road SE Ste 1500W Atlanta, GA 30339

PHONE: 678-486-2700

FAX:

SAMPLED BY: W. Virgo / K. Spevacek

SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	VOCs 8260B	SVOCs 8270C	Metals 6010B	Cyanide 9012A	Mercury 7470A	REMARKS	No # of Containers
							PRESERVATION (See codes)						
1	SCS-48-2W-(0-2)-20150714-01	7/14/15		X		SO		1	1			For SCS-48-51	2
2	SCS-49-2W-(0-2)-20150714-01			X		SO		1	1			8270C: Analyze	2
3	SCS-50-2W-(0-2)-20150714-01			X		SO		1	1			only for	2
4	SCS-51-2W-(0-2)-20150714-01			X		SO		1	1			-Benzo(a)anthracene	2
5	SSS-08-20150714-01				X	SO	4	1	1	1	1	-Benzo(a)Pyrene	6
6	SSS-09-20150714-01				X	SO	4	1	1	1	1	6010B: Analyze	6
7	SSS-10-20150714-01				X	SO	4	1	1	1	1	only for Arsenic	6
8	SSS-11-20150714-01				X	SO	4	1	1	1	1		6
9	DUP-05-20150714-01			X		SO		1	1			For SSS-08, 09,	2
10	EB-06-20150714-01						2	2	1			10, + 11: Analyze	5
11	TB-04-20150714-01						2					Full COI List	2
12													
13													
14													

ANALYSIS REQUESTED

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: Will Virgo	7/15/15 8:10	1: Cataya Reeves	7/15/15 8:10
2:		2:	
3:		3:	

PROJECT INFORMATION

PROJECT NAME: Macon Remediation

PROJECT #: 0176740

SITE ADDRESS: Macon, GA

SEND REPORT TO: Vic.Virgo@ERM.com

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: PO#:

RECEIPT

Total # of Containers: 41

Turnaround Time Request

- ○ Standard 5 Business Days
- ○ 2 Business Day Rush
- ○ Next Business Day Rush
- ○ Same Day Rush (auth req.)
- ◎ Other 3 Day TAT

STATE PROGRAM (if any): ____

E-mail? Y / N; Fax? Y / N

DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD

OUT / / VIA:

IN / / VIA:

(CLIENT) FedEx UPS MAIL COURIER GREYHOUND OTHER ____

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Client: ERM-Southeast
Project: Macon Remediation
Lab ID: 1507B75

Case Narrative

Sample Receiving Nonconformance:

Preserved soil vial in accordance with Method 5035 was not received for sample 1507B75 -007A. Vial 2 of 3 only had the sodium bisulfate liquid inside, no soil. Preserved soil vials were prepared at the laboratory from the sample jar.

Volatile Organic Compounds Analysis by Method 8260B:

Percent recovery for the internal standard compound 1,4-Dichlorobenzene-d4 on samples 1507B75-005A, -006A,& -007 A was outside control limits biased low due to suspected matrix interference. All other internal standard recoveries were within control limits.

Semi-Volatile Organics Analysis by Method 8270D SIM:

Matrix spike and matrix spike duplicate analyses were not performed with Batch 210332 due to insufficient sample volume.

Analytical Environmental Services, Inc **Date:** 23-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-48-2W-(0-2)-20150714-01
Project Name:	Macon Remediation	**Collection Date:**	7/14/2015
Lab ID:	1507B75-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	2300	17		ug/Kg-dry	210247	10	07/18/2015 01:19	YH
Benzo(a)pyrene	1600	17		ug/Kg-dry	210247	10	07/18/2015 01:19	YH
Surr: 4-Terphenyl-d14	84.9	42-124		%REC	210247	1	07/17/2015 16:10	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	BRL	4.96		mg/Kg-dry	210189	1	07/16/2015 15:52	TA
PERCENT MOISTURE D2216								
Percent Moisture	1.59	0		wt%	R296203	1	07/20/2015 09:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 23-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-49-2W-(0-2)-20150714-01
Project Name:	Macon Remediation	**Collection Date:**	7/14/2015
Lab ID:	1507B75-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	9800	550		ug/Kg-dry	210247	100	07/18/2015 01:47	YH
Benzo(a)pyrene	7000	550		ug/Kg-dry	210247	100	07/18/2015 01:47	YH
Surr: 4-Terphenyl-d14	78.5	42-124		%REC	210247	1	07/17/2015 16:37	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	12.2	5.41		mg/Kg-dry	210189	1	07/16/2015 15:37	TA
PERCENT MOISTURE D2216								
Percent Moisture	8.07	0		wt%	R296203	1	07/20/2015 09:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 23-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-50-2W-(0-2)-20150714-01
Project Name:	Macon Remediation	**Collection Date:**	7/14/2015
Lab ID:	1507B75-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	140	1.8		ug/Kg-dry	210247	1	07/17/2015 17:05	YH
Benzo(a)pyrene	100	1.8		ug/Kg-dry	210247	1	07/17/2015 17:05	YH
Surr: 4-Terphenyl-d14	84.8	42-124		%REC	210247	1	07/17/2015 17:05	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	BRL	5.08		mg/Kg-dry	210189	1	07/16/2015 15:55	TA
PERCENT MOISTURE D2216								
Percent Moisture	3.31	0		wt%	R296203	1	07/20/2015 09:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 23-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-51-2W-(0-2)-20150714-01
Project Name:	Macon Remediation	**Collection Date:**	7/14/2015
Lab ID:	1507B75-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	180	1.8		ug/Kg-dry	210247	1	07/17/2015 17:32	YH
Benzo(a)pyrene	120	1.8		ug/Kg-dry	210247	1	07/17/2015 17:32	YH
Surr: 4-Terphenyl-d14	89.5	42-124		%REC	210247	1	07/17/2015 17:32	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	BRL	5.16		mg/Kg-dry	210189	1	07/16/2015 15:58	TA
PERCENT MOISTURE D2216								
Percent Moisture	3.94	0		wt%	R296203	1	07/20/2015 09:00	PF

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 23-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-08-20150714-01
Project Name:	Macon Remediation	**Collection Date:**	7/14/2015
Lab ID:	1507B75-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	13		ug/Kg-dry	210340	1	07/18/2015 13:58	MD
Benzene	BRL	6.4		ug/Kg-dry	210340	1	07/18/2015 13:58	MD
Toluene	BRL	6.4		ug/Kg-dry	210340	1	07/18/2015 13:58	MD
Ethylbenzene	BRL	6.4		ug/Kg-dry	210340	1	07/18/2015 13:58	MD
Xylenes, Total	BRL	6.4		ug/Kg-dry	210340	1	07/18/2015 13:58	MD
Surr: 4-Bromofluorobenzene	56.6	70-128	S	%REC	210340	1	07/18/2015 13:58	MD
Surr: Dibromofluoromethane	105	78.2-128		%REC	210340	1	07/18/2015 13:58	MD
Surr: Toluene-d8	86.2	76.5-116		%REC	210340	1	07/18/2015 13:58	MD
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.134		mg/Kg-dry	210267	1	07/17/2015 11:36	TA
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	45	24		ug/Kg-dry	210323	1	07/20/2015 11:02	YH
Acenaphthylene	58	46		ug/Kg-dry	210323	1	07/20/2015 11:02	YH
Anthracene	140	2.4		ug/Kg-dry	210323	1	07/20/2015 11:02	YH
Benz(a)anthracene	410	24		ug/Kg-dry	210323	10	07/20/2015 13:19	YH
Benzo(a)pyrene	330	2.4		ug/Kg-dry	210323	1	07/20/2015 11:02	YH
Benzo(b)fluoranthene	510	46		ug/Kg-dry	210323	10	07/20/2015 13:19	YH
Benzo(g,h,i)perylene	270	4.6		ug/Kg-dry	210323	1	07/20/2015 11:02	YH
Benzo(k)fluoranthene	170	2.4		ug/Kg-dry	210323	1	07/20/2015 11:02	YH
Chrysene	430	2.4		ug/Kg-dry	210323	1	07/20/2015 11:02	YH
Dibenz(a,h)anthracene	65	4.6		ug/Kg-dry	210323	1	07/20/2015 11:02	YH
Fluoranthene	690	46		ug/Kg-dry	210323	10	07/20/2015 13:19	YH
Fluorene	53	4.6		ug/Kg-dry	210323	1	07/20/2015 11:02	YH
Indeno(1,2,3-cd)pyrene	220	2.4		ug/Kg-dry	210323	1	07/20/2015 11:02	YH
Naphthalene	68	24		ug/Kg-dry	210323	1	07/20/2015 11:02	YH
Phenanthrene	510	24		ug/Kg-dry	210323	10	07/20/2015 13:19	YH
Pyrene	650	24		ug/Kg-dry	210323	10	07/20/2015 13:19	YH
Surr: 4-Terphenyl-d14	88.6	42-124		%REC	210323	1	07/20/2015 11:02	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	460		ug/Kg-dry	210245	1	07/16/2015 21:12	YH
2-Methylphenol	BRL	460		ug/Kg-dry	210245	1	07/16/2015 21:12	YH
3,4-Methylphenol	BRL	460		ug/Kg-dry	210245	1	07/16/2015 21:12	YH
Phenol	BRL	460		ug/Kg-dry	210245	1	07/16/2015 21:12	YH
Surr: 2,4,6-Tribromophenol	70.1	41-128		%REC	210245	1	07/16/2015 21:12	YH
Surr: 2-Fluorobiphenyl	78.3	47-120		%REC	210245	1	07/16/2015 21:12	YH
Surr: 2-Fluorophenol	69.5	38.3-120		%REC	210245	1	07/16/2015 21:12	YH
Surr: 4-Terphenyl-d14	88.2	51.4-125		%REC	210245	1	07/16/2015 21:12	YH
Surr: Nitrobenzene-d5	79.8	40.1-120		%REC	210245	1	07/16/2015 21:12	YH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 23-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-08-20150714-01
Project Name:	Macon Remediation	**Collection Date:**	7/14/2015
Lab ID:	1507B75-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	81.4	40.3-120		%REC	210245	1	07/16/2015 21:12	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.40		mg/Kg-dry	210354	1	07/20/2015 10:50	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	6.74		mg/Kg-dry	210189	1	07/16/2015 16:07	TA
Arsenic	BRL	6.74		mg/Kg-dry	210189	1	07/16/2015 16:07	TA
Barium	45.9	6.74		mg/Kg-dry	210189	1	07/16/2015 16:07	TA
Beryllium	BRL	3.37		mg/Kg-dry	210189	1	07/16/2015 16:07	TA
Cadmium	BRL	3.37		mg/Kg-dry	210189	1	07/16/2015 16:07	TA
Chromium	17.0	3.37		mg/Kg-dry	210189	1	07/16/2015 16:07	TA
Copper	28.1	3.37		mg/Kg-dry	210189	1	07/16/2015 16:07	TA
Lead	121	6.74		mg/Kg-dry	210189	1	07/16/2015 16:07	TA
Nickel	BRL	6.74		mg/Kg-dry	210189	1	07/16/2015 16:07	TA
Zinc	32.4	6.74		mg/Kg-dry	210189	1	07/16/2015 16:07	TA
PERCENT MOISTURE D2216								
Percent Moisture	28.4	0		wt%	R296203	1	07/20/2015 09:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 23-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-09-20150714-01
Project Name:	Macon Remediation	**Collection Date:**	7/14/2015
Lab ID:	1507B75-006	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	11		ug/Kg-dry	210340	1	07/17/2015 19:28	CG
Benzene	BRL	5.7		ug/Kg-dry	210340	1	07/17/2015 19:28	CG
Toluene	BRL	5.7		ug/Kg-dry	210340	1	07/17/2015 19:28	CG
Ethylbenzene	BRL	5.7		ug/Kg-dry	210340	1	07/17/2015 19:28	CG
Xylenes, Total	BRL	5.7		ug/Kg-dry	210340	1	07/17/2015 19:28	CG
Surr: 4-Bromofluorobenzene	73.5	70-128		%REC	210340	1	07/17/2015 19:28	CG
Surr: Dibromofluoromethane	96.2	78.2-128		%REC	210340	1	07/17/2015 19:28	CG
Surr: Toluene-d8	94.2	76.5-116		%REC	210340	1	07/17/2015 19:28	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	0.396	0.118		mg/Kg-dry	210267	1	07/17/2015 11:43	TA
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	20		ug/Kg-dry	210323	1	07/20/2015 12:52	YH
Acenaphthylene	80	40		ug/Kg-dry	210323	1	07/20/2015 12:52	YH
Anthracene	100	2.0		ug/Kg-dry	210323	1	07/20/2015 12:52	YH
Benz(a)anthracene	410	20		ug/Kg-dry	210323	10	07/20/2015 14:40	YH
Benzo(a)pyrene	340	2.0		ug/Kg-dry	210323	1	07/20/2015 12:52	YH
Benzo(b)fluoranthene	490	40		ug/Kg-dry	210323	10	07/20/2015 14:40	YH
Benzo(g,h,i)perylene	290	4.0		ug/Kg-dry	210323	1	07/20/2015 12:52	YH
Benzo(k)fluoranthene	170	2.0		ug/Kg-dry	210323	1	07/20/2015 12:52	YH
Chrysene	360	20		ug/Kg-dry	210323	10	07/20/2015 14:40	YH
Dibenz(a,h)anthracene	84	4.0		ug/Kg-dry	210323	1	07/20/2015 12:52	YH
Fluoranthene	660	40		ug/Kg-dry	210323	10	07/20/2015 14:40	YH
Fluorene	22	4.0		ug/Kg-dry	210323	1	07/20/2015 12:52	YH
Indeno(1,2,3-cd)pyrene	260	2.0		ug/Kg-dry	210323	1	07/20/2015 12:52	YH
Naphthalene	26	20		ug/Kg-dry	210323	1	07/20/2015 12:52	YH
Phenanthrene	330	20		ug/Kg-dry	210323	10	07/20/2015 14:40	YH
Pyrene	680	20		ug/Kg-dry	210323	10	07/20/2015 14:40	YH
Surr: 4-Terphenyl-d14	92.1	42-124		%REC	210323	1	07/20/2015 12:52	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	400		ug/Kg-dry	210245	1	07/16/2015 21:39	YH
2-Methylphenol	BRL	400		ug/Kg-dry	210245	1	07/16/2015 21:39	YH
3,4-Methylphenol	BRL	400		ug/Kg-dry	210245	1	07/16/2015 21:39	YH
Phenol	BRL	400		ug/Kg-dry	210245	1	07/16/2015 21:39	YH
Surr: 2,4,6-Tribromophenol	74.3	41-128		%REC	210245	1	07/16/2015 21:39	YH
Surr: 2-Fluorobiphenyl	78.8	47-120		%REC	210245	1	07/16/2015 21:39	YH
Surr: 2-Fluorophenol	76.3	38.3-120		%REC	210245	1	07/16/2015 21:39	YH
Surr: 4-Terphenyl-d14	90.4	51.4-125		%REC	210245	1	07/16/2015 21:39	YH
Surr: Nitrobenzene-d5	84.2	40.1-120		%REC	210245	1	07/16/2015 21:39	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 23-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-09-20150714-01
Project Name:	Macon Remediation	**Collection Date:**	7/14/2015
Lab ID:	1507B75-006	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	82.2	40.3-120		%REC	210245	1	07/16/2015 21:39	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.20		mg/Kg-dry	210354	1	07/20/2015 10:50	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.62		mg/Kg-dry	210189	1	07/16/2015 16:10	TA
Arsenic	BRL	5.62		mg/Kg-dry	210189	1	07/16/2015 16:10	TA
Barium	34.3	5.62		mg/Kg-dry	210189	1	07/16/2015 16:10	TA
Beryllium	BRL	2.81		mg/Kg-dry	210189	1	07/16/2015 16:10	TA
Cadmium	BRL	2.81		mg/Kg-dry	210189	1	07/16/2015 16:10	TA
Chromium	13.4	2.81		mg/Kg-dry	210189	1	07/16/2015 16:10	TA
Copper	13.6	2.81		mg/Kg-dry	210189	1	07/16/2015 16:10	TA
Lead	40.7	5.62		mg/Kg-dry	210189	1	07/16/2015 16:10	TA
Nickel	BRL	5.62		mg/Kg-dry	210189	1	07/16/2015 16:10	TA
Zinc	27.2	5.62		mg/Kg-dry	210189	1	07/16/2015 16:10	TA
PERCENT MOISTURE D2216								
Percent Moisture	16.8	0		wt%	R296203	1	07/20/2015 09:00	PF

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 23-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-10-20150714-01
Project Name:	Macon Remediation	**Collection Date:**	7/14/2015
Lab ID:	1507B75-007	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	10		ug/Kg-dry	210340	1	07/18/2015 14:23	MD
Benzene	BRL	5.2		ug/Kg-dry	210340	1	07/18/2015 14:23	MD
Toluene	BRL	5.2		ug/Kg-dry	210340	1	07/18/2015 14:23	MD
Ethylbenzene	BRL	5.2		ug/Kg-dry	210340	1	07/18/2015 14:23	MD
Xylenes, Total	BRL	5.2		ug/Kg-dry	210340	1	07/18/2015 14:23	MD
Surr: 4-Bromofluorobenzene	59.9	70-128	S	%REC	210340	1	07/18/2015 14:23	MD
Surr: Dibromofluoromethane	100	78.2-128		%REC	210340	1	07/18/2015 14:23	MD
Surr: Toluene-d8	89.8	76.5-116		%REC	210340	1	07/18/2015 14:23	MD
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	0.134	0.106		mg/Kg-dry	210267	1	07/17/2015 11:45	TA
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	20	19		ug/Kg-dry	210323	1	07/20/2015 13:46	YH
Acenaphthylene	57	38		ug/Kg-dry	210323	1	07/20/2015 13:46	YH
Anthracene	67	1.9		ug/Kg-dry	210323	1	07/20/2015 13:46	YH
Benz(a)anthracene	380	1.9		ug/Kg-dry	210323	1	07/20/2015 13:46	YH
Benzo(a)pyrene	260	1.9		ug/Kg-dry	210323	1	07/20/2015 13:46	YH
Benzo(b)fluoranthene	320	38		ug/Kg-dry	210323	10	07/20/2015 16:02	YH
Benzo(g,h,i)perylene	230	3.8		ug/Kg-dry	210323	1	07/20/2015 13:46	YH
Benzo(k)fluoranthene	110	1.9		ug/Kg-dry	210323	1	07/20/2015 13:46	YH
Chrysene	300	1.9		ug/Kg-dry	210323	1	07/20/2015 13:46	YH
Dibenz(a,h)anthracene	61	3.8		ug/Kg-dry	210323	1	07/20/2015 13:46	YH
Fluoranthene	430	38		ug/Kg-dry	210323	10	07/20/2015 16:02	YH
Fluorene	22	3.8		ug/Kg-dry	210323	1	07/20/2015 13:46	YH
Indeno(1,2,3-cd)pyrene	190	1.9		ug/Kg-dry	210323	1	07/20/2015 13:46	YH
Naphthalene	27	19		ug/Kg-dry	210323	1	07/20/2015 13:46	YH
Phenanthrene	290	1.9		ug/Kg-dry	210323	1	07/20/2015 13:46	YH
Pyrene	460	19		ug/Kg-dry	210323	10	07/20/2015 16:02	YH
Surr: 4-Terphenyl-d14	36	42-124	S	%REC	210323	1	07/20/2015 13:46	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	380		ug/Kg-dry	210245	1	07/16/2015 22:07	YH
2-Methylphenol	BRL	380		ug/Kg-dry	210245	1	07/16/2015 22:07	YH
3,4-Methylphenol	BRL	380		ug/Kg-dry	210245	1	07/16/2015 22:07	YH
Phenol	BRL	380		ug/Kg-dry	210245	1	07/16/2015 22:07	YH
Surr: 2,4,6-Tribromophenol	68	41-128		%REC	210245	1	07/16/2015 22:07	YH
Surr: 2-Fluorobiphenyl	77.3	47-120		%REC	210245	1	07/16/2015 22:07	YH
Surr: 2-Fluorophenol	69.5	38.3-120		%REC	210245	1	07/16/2015 22:07	YH
Surr: 4-Terphenyl-d14	87.2	51.4-125		%REC	210245	1	07/16/2015 22:07	YH
Surr: Nitrobenzene-d5	83.8	40.1-120		%REC	210245	1	07/16/2015 22:07	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 23-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-10-20150714-01
Project Name:	Macon Remediation	**Collection Date:**	7/14/2015
Lab ID:	1507B75-007	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	82	40.3-120		%REC	210245	1	07/16/2015 22:07	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.14		mg/Kg-dry	210354	1	07/20/2015 10:50	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.56		mg/Kg-dry	210189	1	07/16/2015 16:13	TA
Arsenic	BRL	5.56		mg/Kg-dry	210189	1	07/16/2015 16:13	TA
Barium	39.7	5.56		mg/Kg-dry	210189	1	07/16/2015 16:13	TA
Beryllium	BRL	2.78		mg/Kg-dry	210189	1	07/16/2015 16:13	TA
Cadmium	BRL	2.78		mg/Kg-dry	210189	1	07/16/2015 16:13	TA
Chromium	12.0	2.78		mg/Kg-dry	210189	1	07/16/2015 16:13	TA
Copper	19.4	2.78		mg/Kg-dry	210189	1	07/16/2015 16:13	TA
Lead	38.6	5.56		mg/Kg-dry	210189	1	07/16/2015 16:13	TA
Nickel	BRL	5.56		mg/Kg-dry	210189	1	07/16/2015 16:13	TA
Zinc	24.2	5.56		mg/Kg-dry	210189	1	07/16/2015 16:13	TA
PERCENT MOISTURE D2216								
Percent Moisture	12.2	0		wt%	R296203	1	07/20/2015 09:00	PF

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 23-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-11-20150714-01
Project Name:	Macon Remediation	**Collection Date:**	7/14/2015
Lab ID:	1507B75-008	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	10		ug/Kg-dry	210340	1	07/18/2015 14:49	MD
Benzene	BRL	5.2		ug/Kg-dry	210340	1	07/18/2015 14:49	MD
Toluene	BRL	5.2		ug/Kg-dry	210340	1	07/18/2015 14:49	MD
Ethylbenzene	BRL	5.2		ug/Kg-dry	210340	1	07/18/2015 14:49	MD
Xylenes, Total	BRL	5.2		ug/Kg-dry	210340	1	07/18/2015 14:49	MD
Surr: 4-Bromofluorobenzene	74.8	70-128		%REC	210340	1	07/18/2015 14:49	MD
Surr: Dibromofluoromethane	97.6	78.2-128		%REC	210340	1	07/18/2015 14:49	MD
Surr: Toluene-d8	92.2	76.5-116		%REC	210340	1	07/18/2015 14:49	MD
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.128		mg/Kg-dry	210267	1	07/17/2015 11:47	TA
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	57	23		ug/Kg-dry	210323	1	07/20/2015 12:24	YH
Acenaphthylene	73	44		ug/Kg-dry	210323	1	07/20/2015 12:24	YH
Anthracene	160	2.3		ug/Kg-dry	210323	1	07/20/2015 12:24	YH
Benz(a)anthracene	590	23		ug/Kg-dry	210323	10	07/20/2015 14:13	YH
Benzo(a)pyrene	380	2.3		ug/Kg-dry	210323	1	07/20/2015 12:24	YH
Benzo(b)fluoranthene	280	4.4		ug/Kg-dry	210323	1	07/20/2015 12:24	YH
Benzo(g,h,i)perylene	300	4.4		ug/Kg-dry	210323	1	07/20/2015 12:24	YH
Benzo(k)fluoranthene	200	23		ug/Kg-dry	210323	10	07/20/2015 14:13	YH
Chrysene	550	23		ug/Kg-dry	210323	10	07/20/2015 14:13	YH
Dibenz(a,h)anthracene	88	4.4		ug/Kg-dry	210323	1	07/20/2015 12:24	YH
Fluoranthene	920	44		ug/Kg-dry	210323	10	07/20/2015 14:13	YH
Fluorene	76	4.4		ug/Kg-dry	210323	1	07/20/2015 12:24	YH
Indeno(1,2,3-cd)pyrene	280	2.3		ug/Kg-dry	210323	1	07/20/2015 12:24	YH
Naphthalene	130	23		ug/Kg-dry	210323	1	07/20/2015 12:24	YH
Phenanthrene	600	23		ug/Kg-dry	210323	10	07/20/2015 14:13	YH
Pyrene	830	23		ug/Kg-dry	210323	10	07/20/2015 14:13	YH
Surr: 4-Terphenyl-d14	87.9	42-124		%REC	210323	1	07/20/2015 12:24	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	440		ug/Kg-dry	210245	1	07/16/2015 22:35	YH
2-Methylphenol	BRL	440		ug/Kg-dry	210245	1	07/16/2015 22:35	YH
3,4-Methylphenol	BRL	440		ug/Kg-dry	210245	1	07/16/2015 22:35	YH
Phenol	BRL	440		ug/Kg-dry	210245	1	07/16/2015 22:35	YH
Surr: 2,4,6-Tribromophenol	80.6	41-128		%REC	210245	1	07/16/2015 22:35	YH
Surr: 2-Fluorobiphenyl	86.9	47-120		%REC	210245	1	07/16/2015 22:35	YH
Surr: 2-Fluorophenol	78.2	38.3-120		%REC	210245	1	07/16/2015 22:35	YH
Surr: 4-Terphenyl-d14	95.6	51.4-125		%REC	210245	1	07/16/2015 22:35	YH
Surr: Nitrobenzene-d5	91	40.1-120		%REC	210245	1	07/16/2015 22:35	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 23-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-11-20150714-01
Project Name:	Macon Remediation	**Collection Date:**	7/14/2015
Lab ID:	1507B75-008	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D					**(SW3550C)**			
Surr: Phenol-d5	88.4	40.3-120		%REC	210245	1	07/16/2015 22:35	YH
Cyanide, Total SW9014					**(SW9010C)**			
Cyanide, Total	BRL	1.34		mg/Kg-dry	210354	1	07/20/2015 10:50	PF
METALS, TOTAL SW6010C					**(SW3050B)**			
Antimony	BRL	6.57		mg/Kg-dry	210189	1	07/16/2015 16:16	TA
Arsenic	BRL	6.57		mg/Kg-dry	210189	1	07/16/2015 16:16	TA
Barium	49.8	6.57		mg/Kg-dry	210189	1	07/16/2015 16:16	TA
Beryllium	BRL	3.28		mg/Kg-dry	210189	1	07/16/2015 16:16	TA
Cadmium	BRL	3.28		mg/Kg-dry	210189	1	07/16/2015 16:16	TA
Chromium	14.3	3.28		mg/Kg-dry	210189	1	07/16/2015 16:16	TA
Copper	27.1	3.28		mg/Kg-dry	210189	1	07/16/2015 16:16	TA
Lead	65.6	6.57		mg/Kg-dry	210189	1	07/16/2015 16:16	TA
Nickel	BRL	6.57		mg/Kg-dry	210189	1	07/16/2015 16:16	TA
Zinc	45.9	6.57		mg/Kg-dry	210189	1	07/16/2015 16:16	TA
PERCENT MOISTURE D2216								
Percent Moisture	25.6	0		wt%	R296203	1	07/20/2015 09:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 23-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	DUP-05-20150714-01
Project Name:	Macon Remediation	**Collection Date:**	7/14/2015
Lab ID:	1507B75-009	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	210	1.8		ug/Kg-dry	210323	1	07/20/2015 11:29	YH
Benzo(a)pyrene	140	1.8		ug/Kg-dry	210323	1	07/20/2015 11:29	YH
Surr: 4-Terphenyl-d14	82.9	42-124		%REC	210323	1	07/20/2015 11:29	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	BRL	5.13		mg/Kg-dry	210189	1	07/16/2015 16:19	TA
PERCENT MOISTURE D2216								
Percent Moisture	3.37	0		wt%	R296203	1	07/20/2015 09:00	PF

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 23-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	EB-06-20150714-01
Project Name:	Macon Remediation	**Collection Date:**	7/14/2015
Lab ID:	1507B75-010	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	210232	1	07/16/2015 17:15	MW
Carbon disulfide	BRL	5.0		ug/L	210232	1	07/16/2015 17:15	MW
Ethylbenzene	BRL	5.0		ug/L	210232	1	07/16/2015 17:15	MW
Toluene	BRL	5.0		ug/L	210232	1	07/16/2015 17:15	MW
Xylenes, Total	BRL	5.0		ug/L	210232	1	07/16/2015 17:15	MW
Surr: 4-Bromofluorobenzene	88.4	70.6-123		%REC	210232	1	07/16/2015 17:15	MW
Surr: Dibromofluoromethane	83.4	78.7-124		%REC	210232	1	07/16/2015 17:15	MW
Surr: Toluene-d8	94.7	81.3-120		%REC	210232	1	07/16/2015 17:15	MW
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	210332	1	07/20/2015 12:45	YH
Acenaphthylene	BRL	1.0		ug/L	210332	1	07/20/2015 12:45	YH
Acenaphthene	BRL	0.50		ug/L	210332	1	07/20/2015 12:45	YH
Fluorene	BRL	0.10		ug/L	210332	1	07/20/2015 12:45	YH
Phenanthrene	BRL	0.050		ug/L	210332	1	07/20/2015 12:45	YH
Anthracene	BRL	0.050		ug/L	210332	1	07/20/2015 12:45	YH
Fluoranthene	BRL	0.10		ug/L	210332	1	07/20/2015 12:45	YH
Pyrene	BRL	0.050		ug/L	210332	1	07/20/2015 12:45	YH
Benz(a)anthracene	BRL	0.050		ug/L	210332	1	07/20/2015 12:45	YH
Chrysene	BRL	0.050		ug/L	210332	1	07/20/2015 12:45	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	210332	1	07/20/2015 12:45	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	210332	1	07/20/2015 12:45	YH
Benzo(a)pyrene	BRL	0.050		ug/L	210332	1	07/20/2015 12:45	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	210332	1	07/20/2015 12:45	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	210332	1	07/20/2015 12:45	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	210332	1	07/20/2015 12:45	YH
Surr: 4-Terphenyl-d14	104	55.4-136		%REC	210332	1	07/20/2015 12:45	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	210141	1	07/16/2015 14:06	YH
2-Methylphenol	BRL	10		ug/L	210141	1	07/16/2015 14:06	YH
3,4-Methylphenol	BRL	10		ug/L	210141	1	07/16/2015 14:06	YH
Phenol	BRL	10		ug/L	210141	1	07/16/2015 14:06	YH
Surr: 2,4,6-Tribromophenol	96.6	52-133		%REC	210141	1	07/16/2015 14:06	YH
Surr: 2-Fluorobiphenyl	92	50-121		%REC	210141	1	07/16/2015 14:06	YH
Surr: 2-Fluorophenol	53.6	27.5-120		%REC	210141	1	07/16/2015 14:06	YH
Surr: 4-Terphenyl-d14	98	46.3-137		%REC	210141	1	07/16/2015 14:06	YH
Surr: Nitrobenzene-d5	83.8	41.2-121		%REC	210141	1	07/16/2015 14:06	YH
Surr: Phenol-d5	42.1	14.3-120		%REC	210141	1	07/16/2015 14:06	YH
METALS, TOTAL SW6010C				**(SW3010A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 23-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	EB-06-20150714-01
Project Name:	Macon Remediation	**Collection Date:**	7/14/2015
Lab ID:	1507B75-010	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, TOTAL SW6010C				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	210131	1	07/16/2015 19:46	IO
Arsenic	BRL	0.0500		mg/L	210131	1	07/16/2015 19:46	IO
Barium	BRL	0.0200		mg/L	210131	1	07/16/2015 19:46	IO
Beryllium	BRL	0.0100		mg/L	210131	1	07/16/2015 19:46	IO
Cadmium	BRL	0.0050		mg/L	210131	1	07/16/2015 19:46	IO
Chromium	BRL	0.0100		mg/L	210131	1	07/16/2015 19:46	IO
Copper	BRL	0.0100		mg/L	210131	1	07/16/2015 19:46	IO
Lead	BRL	0.0100		mg/L	210131	1	07/16/2015 19:46	IO
Nickel	BRL	0.0200		mg/L	210131	1	07/16/2015 19:46	IO
Zinc	BRL	0.0200		mg/L	210131	1	07/16/2015 19:46	IO

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 23-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	TB-04-20150714-01
Project Name:	Macon Remediation	**Collection Date:**	7/14/2015
Lab ID:	1507B75-011	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	210232	1	07/16/2015 16:51	MW
Carbon disulfide	BRL	5.0		ug/L	210232	1	07/16/2015 16:51	MW
Ethylbenzene	BRL	5.0		ug/L	210232	1	07/16/2015 16:51	MW
Toluene	BRL	5.0		ug/L	210232	1	07/16/2015 16:51	MW
Xylenes, Total	BRL	5.0		ug/L	210232	1	07/16/2015 16:51	MW
Surr: 4-Bromofluorobenzene	88.2	70.6-123		%REC	210232	1	07/16/2015 16:51	MW
Surr: Dibromofluoromethane	81.7	78.7-124		%REC	210232	1	07/16/2015 16:51	MW
Surr: Toluene-d8	94.2	81.3-120		%REC	210232	1	07/16/2015 16:51	MW

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM Work Order Number 1507B75

Checklist completed by Tanya Delles 7/15/15
Signature Date

Carrier name: FedEx __ UPS __ Courier __ Client ✓ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 3.8°C Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes __ No ✓

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by Tanya

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210131

Sample ID: **MB-210131** Client ID: Units: **mg/L** Prep Date: **07/15/2015** Run No: **296053**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **210131** Analysis Date: **07/16/2015** Seq No: **6313648**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	0.0200									
Arsenic	BRL	0.0500									
Barium	BRL	0.0200									
Beryllium	BRL	0.0100									
Cadmium	BRL	0.0050									
Chromium	BRL	0.0100									
Copper	BRL	0.0100									
Lead	BRL	0.0100									
Nickel	BRL	0.0200									
Zinc	BRL	0.0200									

Sample ID: **LCS-210131** Client ID: Units: **mg/L** Prep Date: **07/15/2015** Run No: **296053**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **210131** Analysis Date: **07/16/2015** Seq No: **6313649**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.066	0.0200	1.000		107	80	120				
Arsenic	1.018	0.0500	1.000		102	80	120				
Barium	1.027	0.0200	1.000		103	80	120				
Beryllium	1.034	0.0100	1.000		103	80	120				
Cadmium	1.029	0.0050	1.000		103	80	120				
Chromium	1.017	0.0100	1.000		102	80	120				
Copper	1.030	0.0100	1.000		103	80	120				
Lead	1.018	0.0100	1.000		102	80	120				
Nickel	1.021	0.0200	1.000		102	80	120				
Zinc	1.022	0.0200	1.000		102	80	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210131

Sample ID: **1507932-001BMS** Client ID:
SampleType: **MS** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/L** Prep Date: **07/15/2015** Run No: **296053**
BatchID: **210131** Analysis Date: **07/16/2015** Seq No: **6313651**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.045	0.0200	1.000		105	75	125				
Arsenic	1.019	0.0500	1.000		102	75	125				
Barium	1.032	0.0200	1.000	0.02859	100	75	125				
Beryllium	1.016	0.0100	1.000		102	75	125				
Cadmium	1.014	0.0050	1.000		101	75	125				
Chromium	1.004	0.0100	1.000	0.002400	100	75	125				
Copper	1.019	0.0100	1.000	0.003595	101	75	125				
Lead	0.9885	0.0100	1.000		98.8	75	125				
Nickel	1.004	0.0200	1.000		100	75	125				
Zinc	1.015	0.0200	1.000	0.02207	99.3	75	125				

Sample ID: **1507932-001BMSD** Client ID:
SampleType: **MSD** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/L** Prep Date: **07/15/2015** Run No: **296053**
BatchID: **210131** Analysis Date: **07/16/2015** Seq No: **6313652**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.023	0.0200	1.000		102	75	125	1.045	2.18	20	
Arsenic	0.9900	0.0500	1.000		99.0	75	125	1.019	2.87	20	
Barium	0.9983	0.0200	1.000	0.02859	97.0	75	125	1.032	3.31	20	
Beryllium	0.9859	0.0100	1.000		98.6	75	125	1.016	3.04	20	
Cadmium	0.9806	0.0050	1.000		98.1	75	125	1.014	3.33	20	
Chromium	0.9702	0.0100	1.000	0.002400	96.8	75	125	1.004	3.43	20	
Copper	0.9876	0.0100	1.000	0.003595	98.4	75	125	1.019	3.08	20	
Lead	0.9591	0.0100	1.000		95.9	75	125	0.9885	3.02	20	
Nickel	0.9640	0.0200	1.000		96.4	75	125	1.004	4.06	20	
Zinc	0.9838	0.0200	1.000	0.02207	96.2	75	125	1.015	3.11	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210141

Sample ID: **MB-210141** Client ID: Units: **ug/L** Prep Date: **07/15/2015** Run No: **295917**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210141** Analysis Date: **07/15/2015** Seq No: **6312794**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	10									
2-Methylphenol	BRL	10									
3,4-Methylphenol	BRL	10									
Phenol	BRL	10									
Surr: 2,4,6-Tribromophenol	77.82	0	100.0		77.8	52	133				
Surr: 2-Fluorobiphenyl	36.45	0	50.00		72.9	50	121				
Surr: 2-Fluorophenol	47.69	0	100.0		47.7	27.5	120				
Surr: 4-Terphenyl-d14	50.60	0	50.00		101	46.3	137				
Surr: Nitrobenzene-d5	35.96	0	50.00		71.9	41.2	121				
Surr: Phenol-d5	33.31	0	100.0		33.3	14.3	120				

Sample ID: **LCS-210141** Client ID: Units: **ug/L** Prep Date: **07/15/2015** Run No: **295917**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210141** Analysis Date: **07/15/2015** Seq No: **6312803**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	44.43	10	100.0		44.4	25.6	120				
Surr: 2,4,6-Tribromophenol	82.71	0	100.0		82.7	52	133				
Surr: 2-Fluorobiphenyl	42.93	0	50.00		85.9	50	121				
Surr: 2-Fluorophenol	58.86	0	100.0		58.9	27.5	120				
Surr: 4-Terphenyl-d14	51.43	0	50.00		103	46.3	137				
Surr: Nitrobenzene-d5	42.31	0	50.00		84.6	41.2	121				
Surr: Phenol-d5	44.61	0	100.0		44.6	14.3	120				

Sample ID: **1507A57-002BMS** Client ID: Units: **ug/L** Prep Date: **07/15/2015** Run No: **295917**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210141** Analysis Date: **07/15/2015** Seq No: **6312826**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	54.91	10	100.0		54.9	31	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210141

Sample ID: **1507A57-002BMS** Client ID: Units: **ug/L** Prep Date: **07/15/2015** Run No: **295917**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210141** Analysis Date: **07/15/2015** Seq No: **6312826**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 2,4,6-Tribromophenol	80.77	0	100.0		80.8	52	133				
Surr: 2-Fluorobiphenyl	39.45	0	50.00		78.9	50	121				
Surr: 2-Fluorophenol	61.97	0	100.0		62.0	27.5	120				
Surr: 4-Terphenyl-d14	49.36	0	50.00		98.7	46.3	137				
Surr: Nitrobenzene-d5	39.46	0	50.00		78.9	41.2	121				
Surr: Phenol-d5	55.14	0	100.0		55.1	14.3	120				

Sample ID: **1507A57-002BMSD** Client ID: Units: **ug/L** Prep Date: **07/15/2015** Run No: **295917**
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210141** Analysis Date: **07/15/2015** Seq No: **6312827**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	61.81	10	100.0		61.8	31	120	54.91	11.8	31.9	
Surr: 2,4,6-Tribromophenol	85.34	0	100.0		85.3	52	133	80.77	0	0	
Surr: 2-Fluorobiphenyl	41.38	0	50.00		82.8	50	121	39.45	0	0	
Surr: 2-Fluorophenol	67.37	0	100.0		67.4	27.5	120	61.97	0	0	
Surr: 4-Terphenyl-d14	49.46	0	50.00		98.9	46.3	137	49.36	0	0	
Surr: Nitrobenzene-d5	38.87	0	50.00		77.7	41.2	121	39.46	0	0	
Surr: Phenol-d5	59.20	0	100.0		59.2	14.3	120	55.14	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210189

Sample ID: **MB-210189** Client ID: Units: **mg/Kg** Prep Date: **07/15/2015** Run No: **295950**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **210189** Analysis Date: **07/16/2015** Seq No: **6314969**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	5.00									
Arsenic	BRL	5.00									
Barium	BRL	5.00									
Beryllium	BRL	2.50									
Cadmium	BRL	2.50									
Chromium	BRL	2.50									
Copper	BRL	2.50									
Lead	BRL	5.00									
Nickel	BRL	5.00									
Zinc	BRL	5.00									

Sample ID: **LCS-210189** Client ID: Units: **mg/Kg** Prep Date: **07/15/2015** Run No: **295950**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **210189** Analysis Date: **07/16/2015** Seq No: **6314970**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	48.22	5.00	50.00		96.4	80	120				
Arsenic	47.68	5.00	50.00		95.4	80	120				
Barium	50.92	5.00	50.00	0.08050	102	80	120				
Beryllium	51.14	2.50	50.00		102	80	120				
Cadmium	48.37	2.50	50.00		96.7	80	120				
Chromium	51.58	2.50	50.00	0.08600	103	80	120				
Copper	51.15	2.50	50.00		102	80	120				
Lead	48.70	5.00	50.00		97.4	80	120				
Nickel	49.85	5.00	50.00		99.7	80	120				
Zinc	48.09	5.00	50.00	0.2760	95.6	80	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210189

Sample ID: **1507B75-002BMS** Client ID: **SCS-49-2W-(0-2)-20150714-01** Units: **mg/Kg-dry** Prep Date: **07/15/2015** Run No: **295950**
SampleType: **MS** TestCode: **METALS, TOTAL SW6010C** BatchID: **210189** Analysis Date: **07/16/2015** Seq No: **6314972**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	35.90	5.41	54.09	5.397	56.4	75	125				S
Arsenic	58.69	5.41	54.09	12.20	86.0	75	125				
Barium	333.5	5.41	54.09	272.6	113	75	125				
Beryllium	48.88	2.70	54.09	0.7501	89.0	75	125				
Cadmium	53.86	2.70	54.09	4.731	90.8	75	125				
Chromium	83.07	2.70	54.09	31.92	94.6	75	125				
Copper	208.8	2.70	54.09	142.3	123	75	125				
Lead	754.7	5.41	54.09	717.2	69.3	75	125				S
Nickel	52.21	5.41	54.09	10.34	77.4	75	125				
Zinc	1096	5.41	54.09	1022	136	75	125				S

Sample ID: **1507B75-002BMSD** Client ID: **SCS-49-2W-(0-2)-20150714-01** Units: **mg/Kg-dry** Prep Date: **07/15/2015** Run No: **295950**
SampleType: **MSD** TestCode: **METALS, TOTAL SW6010C** BatchID: **210189** Analysis Date: **07/16/2015** Seq No: **6314973**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	42.85	5.41	54.08	5.397	69.3	75	125	35.90	17.7	20	S
Arsenic	63.64	5.41	54.08	12.20	95.1	75	125	58.69	8.09	20	
Barium	352.7	5.41	54.08	272.6	148	75	125	333.5	5.60	20	S
Beryllium	49.60	2.70	54.08	0.7501	90.3	75	125	48.88	1.47	20	
Cadmium	54.64	2.70	54.08	4.731	92.3	75	125	53.86	1.45	20	
Chromium	112.0	2.70	54.08	31.92	148	75	125	83.07	29.7	20	SR
Copper	217.4	2.70	54.08	142.3	139	75	125	208.8	4.02	20	S
Lead	900.3	5.41	54.08	717.2	339	75	125	754.7	17.6	20	S
Nickel	55.05	5.41	54.08	10.34	82.7	75	125	52.21	5.29	20	
Zinc	1153	5.41	54.08	1022	241	75	125	1096	5.07	20	S

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210232

Sample ID: **MB-210232** Client ID: Units: **ug/L** Prep Date: **07/15/2015** Run No: **295983**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **210232** Analysis Date: **07/15/2015** Seq No: **6313010**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	5.0									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	45.03	0	50.00		90.1	70.6	123				
Surr: Dibromofluoromethane	42.96	0	50.00		85.9	78.7	124				
Surr: Toluene-d8	47.16	0	50.00		94.3	81.3	120				

Sample ID: **LCS-210232** Client ID: Units: **ug/L** Prep Date: **07/15/2015** Run No: **295983**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **210232** Analysis Date: **07/15/2015** Seq No: **6313009**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	49.65	5.0	50.00		99.3	72.8	128				
Toluene	50.00	5.0	50.00		100	74.9	127				
Surr: 4-Bromofluorobenzene	45.44	0	50.00		90.9	70.6	123				
Surr: Dibromofluoromethane	42.58	0	50.00		85.2	78.7	124				
Surr: Toluene-d8	46.93	0	50.00		93.9	81.3	120				

Sample ID: **1507B25-001AMS** Client ID: Units: **ug/L** Prep Date: **07/15/2015** Run No: **295983**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **210232** Analysis Date: **07/15/2015** Seq No: **6313044**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	51.50	5.0	50.00		103	70	135				
Toluene	52.55	5.0	50.00		105	70.5	137				
Surr: 4-Bromofluorobenzene	44.32	0	50.00		88.6	70.6	123				
Surr: Dibromofluoromethane	43.61	0	50.00		87.2	78.7	124				
Surr: Toluene-d8	48.11	0	50.00		96.2	81.3	120				

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210232

Sample ID: **1507B25-001AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/L** Prep Date: **07/15/2015** Run No: **295983**
BatchID: **210232** Analysis Date: **07/15/2015** Seq No: **6313045**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	48.98	5.0	50.00		98.0	70	135	51.50	5.02	20	
Toluene	49.92	5.0	50.00		99.8	70.5	137	52.55	5.13	20	
Surr: 4-Bromofluorobenzene	44.87	0	50.00		89.7	70.6	123	44.32	0	0	
Surr: Dibromofluoromethane	42.62	0	50.00		85.2	78.7	124	43.61	0	0	
Surr: Toluene-d8	46.50	0	50.00		93.0	81.3	120	48.11	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210245

Sample ID: **MB-210245** Client ID: Units: **ug/Kg** Prep Date: **07/16/2015** Run No: **296134**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210245** Analysis Date: **07/16/2015** Seq No: **6315837**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	330									
2-Methylphenol	BRL	330									
3,4-Methylphenol	BRL	330									
Phenol	BRL	330									
Surr: 2,4,6-Tribromophenol	3013	0	3333		90.4	41	128				
Surr: 2-Fluorobiphenyl	1338	0	1667		80.3	47	120				
Surr: 2-Fluorophenol	2077	0	3333		62.3	38.3	120				
Surr: 4-Terphenyl-d14	1372	0	1667		82.3	51.4	125				
Surr: Nitrobenzene-d5	1187	0	1667		71.2	40.1	120				
Surr: Phenol-d5	2393	0	3333		71.8	40.3	120				

Sample ID: **LCS-210245** Client ID: Units: **ug/Kg** Prep Date: **07/16/2015** Run No: **296134**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210245** Analysis Date: **07/16/2015** Seq No: **6315849**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2339	330	3333		70.2	50.1	120				
Surr: 2,4,6-Tribromophenol	3561	0	3333		107	41	128				
Surr: 2-Fluorobiphenyl	1551	0	1667		93.1	47	120				
Surr: 2-Fluorophenol	2240	0	3333		67.2	38.3	120				
Surr: 4-Terphenyl-d14	1612	0	1667		96.7	51.4	125				
Surr: Nitrobenzene-d5	1368	0	1667		82.1	40.1	120				
Surr: Phenol-d5	2530	0	3333		75.9	40.3	120				

Sample ID: **1507C51-001AMS** Client ID: Units: **ug/Kg-dry** Prep Date: **07/16/2015** Run No: **296134**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210245** Analysis Date: **07/16/2015** Seq No: **6315865**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2842	400	4034		70.5	41.5	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210245

Sample ID: **1507C51-001AMS**	Client ID:		Units: **ug/Kg-dry**	Prep Date: **07/16/2015**	Run No: **296134**
SampleType: **MS**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **210245**	Analysis Date: **07/16/2015**	Seq No: **6315865**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 2,4,6-Tribromophenol	3982	0	4034		98.7	41	128				
Surr: 2-Fluorobiphenyl	1726	0	2017		85.6	47	120				
Surr: 2-Fluorophenol	2582	0	4034		64.0	38.3	120				
Surr: 4-Terphenyl-d14	1648	0	2017		81.7	51.4	125				
Surr: Nitrobenzene-d5	1569	0	2017		77.8	40.1	120				
Surr: Phenol-d5	2993	0	4034		74.2	40.3	120				

Sample ID: **1507C51-001AMSD**	Client ID:		Units: **ug/Kg-dry**	Prep Date: **07/16/2015**	Run No: **296134**
SampleType: **MSD**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **210245**	Analysis Date: **07/16/2015**	Seq No: **6315869**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2841	400	4034		70.4	41.5	120	2842	0.028	37.4	
Surr: 2,4,6-Tribromophenol	4233	0	4034		105	41	128	3982	0	0	
Surr: 2-Fluorobiphenyl	1805	0	2017		89.5	47	120	1726	0	0	
Surr: 2-Fluorophenol	2718	0	4034		67.4	38.3	120	2582	0	0	
Surr: 4-Terphenyl-d14	1706	0	2017		84.6	51.4	125	1648	0	0	
Surr: Nitrobenzene-d5	1655	0	2017		82.1	40.1	120	1569	0	0	
Surr: Phenol-d5	3174	0	4034		78.7	40.3	120	2993	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210247

Sample ID: **MB-210247** Client ID: Units: **ug/Kg** Prep Date: **07/17/2015** Run No: **296159**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210247** Analysis Date: **07/17/2015** Seq No: **6316095**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	BRL	1.7									
Benzo(a)pyrene	BRL	1.7									
Surr: 4-Terphenyl-d14	56.92	0	66.67		85.4	42	124				

Sample ID: **LCS-210247** Client ID: Units: **ug/Kg** Prep Date: **07/17/2015** Run No: **296159**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210247** Analysis Date: **07/17/2015** Seq No: **6316096**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	75.90	1.7	66.70		114	56.7	124				
Benzo(a)pyrene	55.46	1.7	66.70		83.1	57.5	120				
Surr: 4-Terphenyl-d14	68.44	0	66.70		103	42	124				

Sample ID: **1507B75-001AMS** Client ID: **SCS-48-2W-(0-2)-20150714-01** Units: **ug/Kg-dry** Prep Date: **07/17/2015** Run No: **296159**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210247** Analysis Date: **07/18/2015** Seq No: **6317069**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	4543	170	67.77	2318	3280	44.9	136				S
Benzo(a)pyrene	3312	170	67.77	1300	2970	40.3	123				S
Surr: 4-Terphenyl-d14	0	0	67.77		0	42	124				S

Sample ID: **1507B75-001AMSD** Client ID: **SCS-48-2W-(0-2)-20150714-01** Units: **ug/Kg-dry** Prep Date: **07/17/2015** Run No: **296210**
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210247** Analysis Date: **07/20/2015** Seq No: **6318296**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	2869	170	67.77	2318	813	44.9	136	4543	45.2	33.8	SR
Benzo(a)pyrene	2221	170	67.77	1300	1360	40.3	123	3312	39.4	40.2	S
Surr: 4-Terphenyl-d14	62.05	0	67.77		91.6	42	124	0	0	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210267

Sample ID: **MB-210267**	Client ID:			Units: **mg/Kg**	Prep Date: **07/16/2015**	Run No: **296124**
SampleType: **MBLK**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **210267**	Analysis Date: **07/17/2015**	Seq No: **6315180**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.100									

Sample ID: **LCS-210267**	Client ID:			Units: **mg/Kg**	Prep Date: **07/16/2015**	Run No: **296124**
SampleType: **LCS**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **210267**	Analysis Date: **07/17/2015**	Seq No: **6315184**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.4505	0.100	0.4000		113	80	120				

Sample ID: **1507B73-013CMS**	Client ID:			Units: **mg/Kg-dry**	Prep Date: **07/16/2015**	Run No: **296124**
SampleType: **MS**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **210267**	Analysis Date: **07/17/2015**	Seq No: **6315187**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.3489	0.104	0.4167		83.7	70	130				

Sample ID: **1507B73-013CMSD**	Client ID:			Units: **mg/Kg-dry**	Prep Date: **07/16/2015**	Run No: **296124**
SampleType: **MSD**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **210267**	Analysis Date: **07/17/2015**	Seq No: **6315188**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.3571	0.104	0.4167		85.7	70	130	0.3489	2.35	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210323

Sample ID: **MB-210323** Client ID: Units: **ug/Kg** Prep Date: **07/20/2015** Run No: **296210**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210323** Analysis Date: **07/20/2015** Seq No: **6317310**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	17									
Acenaphthylene	BRL	33									
Anthracene	BRL	1.7									
Benz(a)anthracene	BRL	1.7									
Benzo(a)pyrene	BRL	1.7									
Benzo(b)fluoranthene	BRL	3.3									
Benzo(g,h,i)perylene	BRL	3.3									
Benzo(k)fluoranthene	BRL	1.7									
Chrysene	BRL	1.7									
Dibenz(a,h)anthracene	BRL	3.3									
Fluoranthene	BRL	3.3									
Fluorene	BRL	3.3									
Indeno(1,2,3-cd)pyrene	BRL	1.7									
Naphthalene	BRL	17									
Phenanthrene	BRL	1.7									
Pyrene	BRL	1.7									
Surr: 4-Terphenyl-d14	62.62	0	66.67		93.9	42	124				

Sample ID: **LCS-210323** Client ID: Units: **ug/Kg** Prep Date: **07/20/2015** Run No: **296210**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210323** Analysis Date: **07/20/2015** Seq No: **6317311**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	56.09	17	66.70		84.1	61.2	120				
Acenaphthylene	57.05	33	66.70		85.5	60.1	120				
Anthracene	57.70	1.7	66.70		86.5	58.4	120				
Benz(a)anthracene	68.55	1.7	66.70		103	56.7	124				
Benzo(a)pyrene	53.29	1.7	66.70		79.9	57.5	120				
Benzo(b)fluoranthene	64.27	3.3	66.70		96.4	60.9	118				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210323

Sample ID: **LCS-210323** Client ID: Units: **ug/Kg** Prep Date: **07/20/2015** Run No: **296210**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210323** Analysis Date: **07/20/2015** Seq No: **6317311**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(g,h,i)perylene	55.93	3.3	66.70		83.8	50.7	125				
Benzo(k)fluoranthene	56.08	1.7	66.70		84.1	53	125				
Chrysene	57.41	1.7	66.70		86.1	61.2	120				
Dibenz(a,h)anthracene	59.14	3.3	66.70		88.7	48	125				
Fluoranthene	61.70	3.3	66.70		92.5	64.9	121				
Fluorene	59.35	3.3	66.70		89.0	62.1	120				
Indeno(1,2,3-cd)pyrene	58.79	1.7	66.70		88.1	56	121				
Naphthalene	55.47	17	66.70		83.2	57.4	120				
Phenanthrene	60.28	1.7	66.70		90.4	63.3	120				
Pyrene	61.08	1.7	66.70		91.6	61.2	120				
Surr: 4-Terphenyl-d14	64.36	0	66.70		96.5	42	124				

Sample ID: **1507B75-009AMS** Client ID: **DUP-05-20150714-01** Units: **ug/Kg-dry** Prep Date: **07/20/2015** Run No: **296210**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210323** Analysis Date: **07/20/2015** Seq No: **6317798**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	58.66	18	69.02	4.442	78.5	45.8	120				
Acenaphthylene	93.96	34	69.02	33.54	87.5	50.6	120				
Anthracene	92.01	1.8	69.02	34.46	83.4	42.4	125				
Benz(a)anthracene	288.5	1.8	69.02	212.9	110	44.9	136				
Benzo(a)pyrene	187.2	1.8	69.02	143.6	63.2	40.3	123				
Benzo(g,h,i)perylene	180.2	3.4	69.02	120.7	86.2	41.1	137				
Benzo(k)fluoranthene	121.6	1.8	69.02	80.50	59.5	37.7	126				
Chrysene	241.2	1.8	69.02	180.5	87.9	43	120				
Dibenz(a,h)anthracene	75.86	3.4	69.02	36.77	56.6	42.6	130				
Fluorene	62.50	3.4	69.02	5.757	82.2	42.5	119				
Indeno(1,2,3-cd)pyrene	163.6	1.8	69.02	105.9	83.5	41.7	135				
Naphthalene	75.00	18	69.02	22.65	75.8	42.5	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210323

Sample ID: **1507B75-009AMS**	Client ID: **DUP-05-20150714-01**				Units: **ug/Kg-dry**		Prep Date: **07/20/2015**		Run No: **296210**	
SampleType: **MS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**				BatchID: **210323**		Analysis Date: **07/20/2015**		Seq No: **6317798**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenanthrene	203.2	1.8	69.02	118.4	123	44.1	120				S
Surr: 4-Terphenyl-d14	57.52	0	69.02		83.3	42	124				

Sample ID: **1507B75-009AMSD**	Client ID: **DUP-05-20150714-01**				Units: **ug/Kg-dry**		Prep Date: **07/20/2015**		Run No: **296210**	
SampleType: **MSD**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**				BatchID: **210323**		Analysis Date: **07/20/2015**		Seq No: **6318289**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	56.49	18	69.02	4.442	75.4	45.8	120	58.66	3.77	38.4	
Acenaphthylene	84.13	34	69.02	33.54	73.3	50.6	120	93.96	11.0	37.8	
Anthracene	83.92	1.8	69.02	34.46	71.7	42.4	125	92.01	9.20	49.7	
Benz(a)anthracene	224.9	1.8	69.02	212.9	17.5	44.9	136	288.5	24.8	33.8	S
Benzo(a)pyrene	151.8	1.8	69.02	143.6	11.9	40.3	123	187.2	20.9	40.2	S
Benzo(b)fluoranthene	280.9	3.4	69.02	312.9	-46.4	37	128	360.5	24.8	36.5	S
Benzo(g,h,i)perylene	143.8	3.4	69.02	120.7	33.4	41.1	137	180.2	22.5	39.3	S
Benzo(k)fluoranthene	102.8	1.8	69.02	80.50	32.4	37.7	126	121.6	16.7	35	S
Chrysene	189.4	1.8	69.02	180.5	12.8	43	120	241.2	24.1	28.6	S
Dibenz(a,h)anthracene	87.72	3.4	69.02	36.77	73.8	42.6	130	75.86	14.5	44.6	
Fluoranthene	273.7	3.4	69.02	288.7	-21.7	44.4	133	365.9	28.8	33.2	S
Fluorene	60.25	3.4	69.02	5.757	79.0	42.5	119	62.50	3.65	35.4	
Indeno(1,2,3-cd)pyrene	134.5	1.8	69.02	105.9	41.4	41.7	135	163.6	19.5	37.3	S
Naphthalene	72.16	18	69.02	22.65	71.7	42.5	120	75.00	3.85	39.4	
Phenanthrene	157.5	1.8	69.02	118.4	56.5	44.1	120	203.2	25.4	37	
Pyrene	287.1	1.8	69.02	299.1	-17.4	41.5	120	379.9	27.8	33.1	S
Surr: 4-Terphenyl-d14	62.33	0	69.02		90.3	42	124	57.52	0	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210332

Sample ID: **MB-210332**	Client ID:		Units: **ug/L**	Prep Date: **07/20/2015**	Run No: **296217**
SampleType: **MBLK**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **210332**	Analysis Date: **07/20/2015**	Seq No: **6317518**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	0.50									
Acenaphthylene	BRL	1.0									
Anthracene	BRL	0.050									
Benz(a)anthracene	BRL	0.050									
Benzo(a)pyrene	BRL	0.050									
Benzo(b)fluoranthene	BRL	0.10									
Benzo(g,h,i)perylene	BRL	0.10									
Benzo(k)fluoranthene	BRL	0.050									
Chrysene	BRL	0.050									
Dibenz(a,h)anthracene	BRL	0.10									
Fluoranthene	BRL	0.10									
Fluorene	BRL	0.10									
Indeno(1,2,3-cd)pyrene	BRL	0.050									
Naphthalene	BRL	0.50									
Phenanthrene	BRL	0.050									
Pyrene	BRL	0.050									
Surr: 4-Terphenyl-d14	1.875	0	2.000		93.7	55.4	136				

Sample ID: **LCS-210332**	Client ID:		Units: **ug/L**	Prep Date: **07/20/2015**	Run No: **296217**
SampleType: **LCS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **210332**	Analysis Date: **07/20/2015**	Seq No: **6317519**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.675	0.50	2.000		83.8	66.3	118				
Acenaphthylene	1.627	1.0	2.000		81.3	64	120				
Anthracene	1.735	0.050	2.000		86.7	64.6	127				
Benz(a)anthracene	1.955	0.050	2.000		97.7	60.6	137				
Benzo(a)pyrene	2.097	0.050	2.000		105	64	124				
Benzo(b)fluoranthene	2.063	0.10	2.000		103	56.4	133				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210332

Sample ID: **LCS-210332** Client ID: Units: **ug/L** Prep Date: **07/20/2015** Run No: **296217**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210332** Analysis Date: **07/20/2015** Seq No: **6317519**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(g,h,i)perylene	2.017	0.10	2.000		101	49.9	137				
Benzo(k)fluoranthene	1.881	0.050	2.000		94.1	61.7	137				
Chrysene	2.136	0.050	2.000		107	65.5	127				
Dibenz(a,h)anthracene	1.973	0.10	2.000		98.7	52.4	130				
Fluoranthene	1.909	0.10	2.000		95.5	67	131				
Fluorene	1.707	0.10	2.000		85.3	68.3	120				
Indeno(1,2,3-cd)pyrene	2.128	0.050	2.000		106	50.4	139				
Naphthalene	1.600	0.50	2.000		80.0	61.1	120				
Phenanthrene	1.606	0.050	2.000		80.3	68	119				
Pyrene	1.910	0.050	2.000		95.5	62	127				
Surr: 4-Terphenyl-d14	1.746	0	2.000		87.3	55.4	136				

Sample ID: **LCSD-210332** Client ID: Units: **ug/L** Prep Date: **07/20/2015** Run No: **296217**
SampleType: **LCSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210332** Analysis Date: **07/20/2015** Seq No: **6317520**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.655	0.50	2.000		82.7	66.3	118	1.675	1.23	21.8	
Acenaphthylene	1.572	1.0	2.000		78.6	64	120	1.627	3.40	22.9	
Anthracene	1.702	0.050	2.000		85.1	64.6	127	1.735	1.88	18.6	
Benz(a)anthracene	1.833	0.050	2.000		91.7	60.6	137	1.955	6.40	22.9	
Benzo(a)pyrene	2.015	0.050	2.000		101	64	124	2.097	3.98	22.7	
Benzo(b)fluoranthene	1.987	0.10	2.000		99.3	56.4	133	2.063	3.79	20.3	
Benzo(g,h,i)perylene	2.104	0.10	2.000		105	49.9	137	2.017	4.19	20.6	
Benzo(k)fluoranthene	1.860	0.050	2.000		93.0	61.7	137	1.881	1.12	26.5	
Chrysene	2.095	0.050	2.000		105	65.5	127	2.136	1.96	21.6	
Dibenz(a,h)anthracene	2.070	0.10	2.000		104	52.4	130	1.973	4.79	21.7	
Fluoranthene	1.915	0.10	2.000		95.7	67	131	1.909	0.287	20.7	
Fluorene	1.649	0.10	2.000		82.4	68.3	120	1.707	3.48	20.5	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210332

Sample ID: **LCSD-210332** Client ID:
SampleType: **LCSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**
Units: **ug/L** Prep Date: **07/20/2015** Run No: **296217**
BatchID: **210332** Analysis Date: **07/20/2015** Seq No: **6317520**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Indeno(1,2,3-cd)pyrene	2.164	0.050	2.000		108	50.4	139	2.128	1.70	19.2	
Naphthalene	1.561	0.50	2.000		78.1	61.1	120	1.600	2.49	25.1	
Phenanthrene	1.590	0.050	2.000		79.5	68	119	1.606	0.962	19.7	
Pyrene	1.867	0.050	2.000		93.4	62	127	1.910	2.29	20.5	
Surr: 4-Terphenyl-d14	1.718	0	2.000		85.9	55.4	136	1.746	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210340

Sample ID: **MB-210340** Client ID: Units: **ug/Kg** Prep Date: **07/17/2015** Run No: **296165**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **210340** Analysis Date: **07/17/2015** Seq No: **6316675**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	10									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	45.06	0	50.00		90.1	70	128				
Surr: Dibromofluoromethane	49.27	0	50.00		98.5	78.2	128				
Surr: Toluene-d8	46.21	0	50.00		92.4	76.5	116				

Sample ID: **LCS-210340** Client ID: Units: **ug/Kg** Prep Date: **07/17/2015** Run No: **296165**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **210340** Analysis Date: **07/17/2015** Seq No: **6316681**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	51.63	5.0	50.00		103	72.3	130				
Toluene	51.99	5.0	50.00		104	71.1	130				
Surr: 4-Bromofluorobenzene	42.73	0	50.00		85.5	70	128				
Surr: Dibromofluoromethane	46.29	0	50.00		92.6	78.2	128				
Surr: Toluene-d8	44.50	0	50.00		89.0	76.5	116				

Sample ID: **1507F27-003AMS** Client ID: Units: **ug/Kg-dry** Prep Date: **07/17/2015** Run No: **296165**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **210340** Analysis Date: **07/17/2015** Seq No: **6316682**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	65.62	6.2	61.92		106	70.4	130				
Toluene	65.05	6.2	61.92		105	70.4	130				
Surr: 4-Bromofluorobenzene	51.69	0	61.92		83.5	70	128				
Surr: Dibromofluoromethane	59.86	0	61.92		96.7	78.2	128				
Surr: Toluene-d8	58.02	0	61.92		93.7	76.5	116				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210340

Sample ID: **1507F27-003AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/Kg-dry** Prep Date: **07/17/2015** Run No: **296165**
BatchID: **210340** Analysis Date: **07/17/2015** Seq No: **6316687**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	63.02	6.2	61.92		102	70.4	130	65.62	4.04	16.9	
Toluene	64.71	6.2	61.92		104	70.4	130	65.05	0.534	16.6	
Surr: 4-Bromofluorobenzene	54.84	0	61.92		88.6	70	128	51.69	0	0	
Surr: Dibromofluoromethane	59.27	0	61.92		95.7	78.2	128	59.86	0	0	
Surr: Toluene-d8	57.05	0	61.92		92.1	76.5	116	58.02	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210354

Sample ID: **MB-210354**	Client ID:			Units: **mg/Kg**	Prep Date: **07/20/2015**	Run No: **296195**
SampleType: **MBLK**	TestCode: **Cyanide, Total SW9014**			BatchID: **210354**	Analysis Date: **07/20/2015**	Seq No: **6316998**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	1.00									

Sample ID: **LCS-210354**	Client ID:			Units: **mg/Kg**	Prep Date: **07/20/2015**	Run No: **296195**
SampleType: **LCS**	TestCode: **Cyanide, Total SW9014**			BatchID: **210354**	Analysis Date: **07/20/2015**	Seq No: **6316999**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	12.22	1.00	12.50		97.8	85	115				

Sample ID: **1507B75-005BMS**	Client ID: **SSS-08-20150714-01**			Units: **mg/Kg-dry**	Prep Date: **07/20/2015**	Run No: **296195**
SampleType: **MS**	TestCode: **Cyanide, Total SW9014**			BatchID: **210354**	Analysis Date: **07/20/2015**	Seq No: **6317025**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	14.49	1.40	17.46		83.0	70	130				

Sample ID: **1507B75-005BMSD**	Client ID: **SSS-08-20150714-01**			Units: **mg/Kg-dry**	Prep Date: **07/20/2015**	Run No: **296195**
SampleType: **MSD**	TestCode: **Cyanide, Total SW9014**			BatchID: **210354**	Analysis Date: **07/20/2015**	Seq No: **6317026**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	14.51	1.40	17.46		83.1	70	130	14.49	0.144	30	

Sample ID: **1507C33-005ADUP**	Client ID:			Units: **mg/Kg**	Prep Date: **07/20/2015**	Run No: **296195**
SampleType: **DUP**	TestCode: **Cyanide, Total SW9014**			BatchID: **210354**	Analysis Date: **07/20/2015**	Seq No: **6320186**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	1.00						0	0	30	H

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

July 31, 2015

Nic Vrey
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: Macon Remediation

Dear Nic Vrey: Order No: 1507L89

Analytical Environmental Services, Inc. received 3 samples on 7/27/2015 7:05:00 AM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/15.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC

3080 Presidential Drive, Atlanta GA 30340-3704
TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1507L89

Date: 7/29/15 Page 1 of 1

COMPANY:	ADDRESS:
ERM	3200 Windy Hill Rd Suite 1500W ATL GA 30339
PHONE:	FAX:
SAMPLED BY: K. Spevacek / J. Mullooly	SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	Benzo(a) anthracene	Benzo(a) pyrene	Arsenic	REMARKS	No # of Containers
	PRESERVATION (See codes)						H	I	I		
1	SCS-24A-2W-(0-2)-20150724-01	7/24	1310	X		S	X	X	X	3 DAY TAT	1
2	SCS-26A-2W-(0-2)-20150724-01	7/24	1320	X		S	X	X	X		1
3	SCS-23A-2W-(0-2)-20150724-01	7/24	1730	X		S	X	X	X		1
4	[redacted]										
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: Kevin Spevacek	7/26 1400	1:	
2: [signature]		2: Latoya Reeves	7/27/15 7:05a
3:		3:	

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
CLIENT FedEx UPS MAIL COURIER
GREYHOUND OTHER_____

PROJECT INFORMATION

PROJECT NAME: Macon Remediation
PROJECT #: 0175740
SITE ADDRESS: 240 Walnut St. Macon GA
SEND REPORT TO: Nic.Vrey@erm.com
INVOICE TO: (IF DIFFERENT FROM ABOVE)
QUOTE #:_____ PO#:_____

RECEIPT
Total # of Containers

Turnaround Time Request
- Standard 5 Business Days
- [X] 2 Business Day Rush
- Next Business Day Rush
- Same Day Rush (auth req.)
- Other _____

STATE PROGRAM (if any): _____
E-mail? Y / N, Fax? Y / N
DATA PACKAGE: I II III IV

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc

Date: 31-Jul-15

Client: ERM-Southeast
Project: Macon Remediation
Lab ID: 1507L89

Case Narrative

Two business day turnaround and three business day turnaround were both indicated on the Chain of Custody (COC). Per Nic Vrey, three business day turnaround was required.

Per Nic Vrey 7/29/2015, arsenic was not required for all samples and Benz(a)anthracene was not required for sample "SCS-24A-2W-(0-2)-20150724-01".

Analytical Environmental Services, Inc **Date:** 31-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-24A-2W-(0-2)-20150724-01
Project Name:	Macon Remediation	**Collection Date:**	7/24/2015 1:10:00 PM
Lab ID:	1507L89-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D					**(SW3550C)**			
Benzo(a)pyrene	660	340		ug/Kg-dry	210655	1	07/28/2015 17:02	YH
Surr: 2,4,6-Tribromophenol	96.5	41-128		%REC	210655	1	07/28/2015 17:02	YH
Surr: 2-Fluorobiphenyl	85.7	47-120		%REC	210655	1	07/28/2015 17:02	YH
Surr: 2-Fluorophenol	70.8	38.3-120		%REC	210655	1	07/28/2015 17:02	YH
Surr: 4-Terphenyl-d14	82.7	51.4-125		%REC	210655	1	07/28/2015 17:02	YH
Surr: Nitrobenzene-d5	83.2	40.1-120		%REC	210655	1	07/28/2015 17:02	YH
Surr: Phenol-d5	81.7	40.3-120		%REC	210655	1	07/28/2015 17:02	YH
PERCENT MOISTURE D2216								
Percent Moisture	4.17	0		wt%	R296994	1	07/30/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 31-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-26A-S2-(0-2)-20150724-01
Project Name:	Macon Remediation	**Collection Date:**	7/24/2015 1:20:00 PM
Lab ID:	1507L89-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D					**(SW3550C)**			
Benz(a)anthracene	8300	4500		ug/Kg-dry	210655	10	07/29/2015 19:53	YH
Benzo(a)pyrene	8100	4500		ug/Kg-dry	210655	10	07/29/2015 19:53	YH
Surr: 2,4,6-Tribromophenol	104	41-128		%REC	210655	1	07/28/2015 17:27	YH
Surr: 2-Fluorobiphenyl	93.3	47-120		%REC	210655	1	07/28/2015 17:27	YH
Surr: 2-Fluorophenol	77.4	38.3-120		%REC	210655	1	07/28/2015 17:27	YH
Surr: 4-Terphenyl-d14	73.7	51.4-125		%REC	210655	1	07/28/2015 17:27	YH
Surr: Nitrobenzene-d5	88.3	40.1-120		%REC	210655	1	07/28/2015 17:27	YH
Surr: Phenol-d5	85	40.3-120		%REC	210655	1	07/28/2015 17:27	YH
PERCENT MOISTURE D2216								
Percent Moisture	26.1	0		wt%	R296994	1	07/30/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 31-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-23A-2W-(0-2)-20150724-01
Project Name:	Macon Remediation	**Collection Date:**	7/24/2015 5:30:00 PM
Lab ID:	1507L89-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Benz(a)anthracene	BRL	360		ug/Kg-dry	210655	1	07/28/2015 17:52	YH
Benzo(a)pyrene	BRL	360		ug/Kg-dry	210655	1	07/28/2015 17:52	YH
Surr: 2,4,6-Tribromophenol	88.2	41-128		%REC	210655	1	07/28/2015 17:52	YH
Surr: 2-Fluorobiphenyl	83	47-120		%REC	210655	1	07/28/2015 17:52	YH
Surr: 2-Fluorophenol	65.2	38.3-120		%REC	210655	1	07/28/2015 17:52	YH
Surr: 4-Terphenyl-d14	82.3	51.4-125		%REC	210655	1	07/28/2015 17:52	YH
Surr: Nitrobenzene-d5	76.9	40.1-120		%REC	210655	1	07/28/2015 17:52	YH
Surr: Phenol-d5	73.4	40.3-120		%REC	210655	1	07/28/2015 17:52	YH
PERCENT MOISTURE D2216								
Percent Moisture	8.97	0		wt%	R296994	1	07/30/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM Work Order Number 1507289

Checklist completed by [signature] 7/27/15
Signature Date

Carrier name: FedEx __ UPS __ Courier __ Client ✓ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 3.2° Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted ✓ Yes __ No __

Water - pH acceptable upon receipt? Yes __ No __ Not Applicable ✓

Adjusted? _____ Checked by _____

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507L89

ANALYTICAL QC SUMMARY REPORT

BatchID: 210634

Sample ID: **MB-210634**	Client ID:			Units: **mg/Kg**	Prep Date: **07/27/2015**	Run No: **296698**
SampleType: **MBLK**	TestCode: **METALS, TOTAL**	**SW6010C**		BatchID: **210634**	Analysis Date: **07/27/2015**	Seq No: **6330173**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	BRL	5.00									
Lead	BRL	5.00									

Sample ID: **LCS-210634**	Client ID:			Units: **mg/Kg**	Prep Date: **07/27/2015**	Run No: **296698**
SampleType: **LCS**	TestCode: **METALS, TOTAL**	**SW6010C**		BatchID: **210634**	Analysis Date: **07/27/2015**	Seq No: **6330174**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	47.59	5.00	50.00		95.2	80	120				
Lead	47.86	5.00	50.00		95.7	80	120				

Sample ID: **1507L63-002AMS**	Client ID:			Units: **mg/Kg-dry**	Prep Date: **07/27/2015**	Run No: **296698**
SampleType: **MS**	TestCode: **METALS, TOTAL**	**SW6010C**		BatchID: **210634**	Analysis Date: **07/27/2015**	Seq No: **6330176**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	50.15	5.65	56.45	1.821	85.6	75	125				
Lead	57.26	5.65	56.45	8.461	86.4	75	125				

Sample ID: **1507L63-002AMSD**	Client ID:			Units: **mg/Kg-dry**	Prep Date: **07/27/2015**	Run No: **296698**
SampleType: **MSD**	TestCode: **METALS, TOTAL**	**SW6010C**		BatchID: **210634**	Analysis Date: **07/27/2015**	Seq No: **6330177**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	50.68	5.65	56.48	1.821	86.5	75	125	50.15	1.05	20	
Lead	57.23	5.65	56.48	8.461	86.4	75	125	57.26	0.050	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507L89

ANALYTICAL QC SUMMARY REPORT

BatchID: 210655

Sample ID: **MB-210655** Client ID:
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/Kg** Prep Date: **07/28/2015** Run No: **296855**
BatchID: **210655** Analysis Date: **07/28/2015** Seq No: **6333519**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1´-Biphenyl	BRL	330									
1,2,4,5-Tetrachlorobenzene	BRL	330									
1,2,4-Trichlorobenzene	BRL	330									
1,2-Dichlorobenzene	BRL	330									
1,2-Dinitrobenzene	BRL	660									
1,2-Diphenylhydrazine	BRL	330									
1,3,5-Trinitrobenzene	BRL	660									
1,3-Dichlorobenzene	BRL	330									
1,3-Dinitrobenzene	BRL	660									
1,4-Dichlorobenzene	BRL	330									
1,4-Napthoquinone	BRL	330									
1-Chloronaphthalene	BRL	330									
1-Methylnaphthalene	BRL	330									
1-Naphthylamine	BRL	660									
2,3,4,6-Tetrachlorophenol	BRL	330									
2,4,5-Trichlorophenol	BRL	1700									
2,4,6-Trichlorophenol	BRL	330									
2,4-Dichlorophenol	BRL	330									
2,4-Dimethylphenol	BRL	330									
2,4-Dinitrophenol	BRL	1700									
2,4-Dinitrotoluene	BRL	330									
2,6-Dichlorophenol	BRL	330									
2,6-Dinitrotoluene	BRL	330									
2-Acetylaminofluorene	BRL	660									
2-Chloronaphthalene	BRL	330									
2-Chlorophenol	BRL	330									
2-Methylnaphthalene	BRL	330									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507L89

ANALYTICAL QC SUMMARY REPORT

BatchID: 210655

Sample ID: **MB-210655** Client ID: Units: **ug/Kg** Prep Date: **07/28/2015** Run No: **296855**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210655** Analysis Date: **07/28/2015** Seq No: **6333519**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2-Methylphenol	BRL	330									
2-Naphthylamine	BRL	660									
2-Nitroaniline	BRL	1700									
2-Nitrophenol	BRL	330									
2-Picoline	BRL	330									
3,3´-Dichlorobenzidine	BRL	660									
3,3´-Dimethylbenzidine	BRL	660									
3,4-Methylphenol	BRL	330									
3-Chloroaniline	BRL	330									
3-Methylcholanthrene	BRL	330									
3-Methylphenol	BRL	330									
3-Nitroaniline	BRL	1700									
4,6-Dinitro-2-methylphenol	BRL	1700									
4-Aminobiphenyl	BRL	660									
4-Bromophenyl phenyl ether	BRL	330									
4-Chloro-3-methylphenol	BRL	330									
4-Chloroaniline	BRL	330									
4-Chlorophenyl phenyl ether	BRL	330									
4-Methylphenol	BRL	330									
4-Nitroaniline	BRL	1700									
4-Nitrophenol	BRL	1700									
4-Nitroquinoline,1-oxide	BRL	1700									
5-Nitro-o-toluidine	BRL	330									
7,12-Dimethylbenz(a)anthracene	BRL	330									
a,a-Dimethylphenethylamine	BRL	1700									
Acenaphthene	BRL	330									
Acenaphthylene	BRL	330									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507L89

ANALYTICAL QC SUMMARY REPORT

BatchID: 210655

Sample ID: **MB-210655** Client ID: Units: **ug/Kg** Prep Date: **07/28/2015** Run No: **296855**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210655** Analysis Date: **07/28/2015** Seq No: **6333519**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acetophenone	BRL	330									
Allethrin	BRL	330									
Aniline	BRL	330									
Anthracene	BRL	330									
Aramite	BRL	330									
Atrazine	BRL	330									
Baygon	BRL	330									
Benz(a)anthracene	BRL	330									
Benzaldehyde	BRL	330									
Benzidine	BRL	2600									
Benzo(a)pyrene	BRL	330									
Benzo(b)fluoranthene	BRL	330									
Benzo(g,h,i)perylene	BRL	330									
Benzo(k)fluoranthene	BRL	330									
Benzoic acid	BRL	6600									
Benzyl alcohol	BRL	660									
Bis(2-chloroethoxy)methane	BRL	330									
Bis(2-chloroethyl)ether	BRL	330									
Bis(2-chloroisopropyl)ether	BRL	330									
Bis(2-ethylhexyl)phthalate	BRL	330									
Butyl benzyl phthalate	BRL	330									
Caprolactam	BRL	330									
Carbazole	BRL	330									
Chlorfenvinphos	0	0									
Chlorobenzilate	BRL	330									
Chloropyrifos	BRL	330									
Chrysene	BRL	330									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507L89

ANALYTICAL QC SUMMARY REPORT

BatchID: 210655

Sample ID: **MB-210655** Client ID: Units: **ug/Kg** Prep Date: **07/28/2015** Run No: **296855**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210655** Analysis Date: **07/28/2015** Seq No: **6333519**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Di-n-butyl phthalate	BRL	330									
Di-n-octyl phthalate	BRL	330									
Diallate	BRL	330									
Diazinon	BRL	330									
Dibenz(a,h)anthracene	BRL	330									
Dibenz(a,j)acridine	BRL	330									
Dibenzofuran	BRL	330									
Diethyl phthalate	BRL	330									
Dimethoate	BRL	660									
Dimethyl phthalate	BRL	330									
Dimethylaminoazobenzene	BRL	330									
Diphenylamine	BRL	330									
Disulfoton	BRL	1900									
Ethyl methanesulfonate	BRL	660									
Famphur	BRL	660									
Fenvalerate	BRL	330									
Fluoranthene	BRL	330									
Fluorene	BRL	330									
Hexachlorobenzene	BRL	330									
Hexachlorobutadiene	BRL	330									
Hexachlorocyclopentadiene	BRL	660									
Hexachloroethane	BRL	2600									
Hexachlorophene	BRL	17000									
Hexachloropropene	BRL	1700									
Indeno(1,2,3-cd)pyrene	BRL	330									
Isodrin	BRL	660									
Isophorone	BRL	330									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507L89

ANALYTICAL QC SUMMARY REPORT

BatchID: 210655

Sample ID: **MB-210655** Client ID: Units: **ug/Kg** Prep Date: **07/28/2015** Run No: **296855**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210655** Analysis Date: **07/28/2015** Seq No: **6333519**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Isosafrole	BRL	330									
Kepone	BRL	1700									
Methapyrilene	BRL	660									
Methyl methanesulfonate	BRL	1700									
Methyl parathion	BRL	330									
MGK-264	BRL	330									
N-Nitrosodi-n-butylamine	BRL	330									
N-Nitrosodi-n-propylamine	BRL	330									
N-Nitrosodiethylamine	BRL	660									
N-Nitrosodimethylamine	BRL	660									
N-Nitrosodiphenylamine	BRL	330									
N-Nitrosomethylethylamine	BRL	330									
N-Nitrosomorpholine	BRL	660									
N-Nitrosopiperidine	BRL	660									
N-Nitrosopyrrolidine	BRL	1700									
Naphthalene	BRL	330									
Nitrobenzene	BRL	330									
O,O,O-Triethyl phosphorothioate	BRL	330									
o-Toluidine	BRL	1300									
p-Dimethylaminoazobenzene	BRL	330									
p-Phenylenediamine	BRL	17000									
Parathion	BRL	330									
Pentachlorobenzene	BRL	330									
Pentachloronitrobenzene	BRL	660									
Pentachlorophenol	BRL	1700									
Perylene	BRL	330									
Phenacetin	BRL	660									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507L89

ANALYTICAL QC SUMMARY REPORT

BatchID: 210655

Sample ID: **MB-210655** Client ID: Units: **ug/Kg** Prep Date: **07/28/2015** Run No: **296855**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210655** Analysis Date: **07/28/2015** Seq No: **6333519**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenanthrene	BRL	330									
Phenol	BRL	330									
Phenothrin	BRL	330									
Phorate	BRL	330									
Piperonyl Butoxide	BRL	330									
Pronamide	BRL	330									
Pyrene	BRL	330									
Pyrethrin	BRL	1700									
Pyridine	BRL	330									
Resmethrin	BRL	330									
Safrole	BRL	330									
Sym-Trinitrobenzene	BRL	330									
Tetraethyl dithiopyrophosphate	BRL	660									
Tetramethrin	BRL	330									
Thionazin	BRL	660									
Surr: 2,4,6-Tribromophenol	2219	0	3333		66.6	41	128				
Surr: 2-Fluorobiphenyl	1373	0	1667		82.4	47	120				
Surr: 2-Fluorophenol	2874	0	3333		86.2	38.3	120				
Surr: 4-Terphenyl-d14	1470	0	1667		88.2	51.4	125				
Surr: Nitrobenzene-d5	1506	0	1667		90.3	40.1	120				
Surr: Phenol-d5	3017	0	3333		90.5	40.3	120				

Sample ID: **LCS-210655** Client ID: Units: **ug/Kg** Prep Date: **07/28/2015** Run No: **296855**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210655** Analysis Date: **07/28/2015** Seq No: **6333520**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	2853	330	3333		85.6	51.5	120				
1,4-Dichlorobenzene	2769	330	3333		83.1	50.8	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507L89

ANALYTICAL QC SUMMARY REPORT

BatchID: 210655

Sample ID: **LCS-210655** Client ID: Units: **ug/Kg** Prep Date: **07/28/2015** Run No: **296855**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210655** Analysis Date: **07/28/2015** Seq No: **6333520**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dinitrotoluene	2947	330	3333		88.4	56.9	120				
2-Chlorophenol	2928	330	3333		87.8	51	120				
4-Chloro-3-methylphenol	3556	330	3333		107	54	120				
4-Nitrophenol	2628	1700	3333		78.9	40.7	120				
Acenaphthene	3148	330	3333		94.4	57.9	120				
N-Nitrosodi-n-propylamine	3755	330	3333		113	56.5	124				
Pentachlorophenol	1820	1700	3333		54.6	41.8	120				
Phenol	2956	330	3333		88.7	50.1	120				
Pyrene	3611	330	3333		108	59.4	120				
Surr: 2,4,6-Tribromophenol	2777	0	3333		83.3	41	128				
Surr: 2-Fluorobiphenyl	1568	0	1667		94.1	47	120				
Surr: 2-Fluorophenol	2929	0	3333		87.9	38.3	120				
Surr: 4-Terphenyl-d14	1744	0	1667		105	51.4	125				
Surr: Nitrobenzene-d5	1680	0	1667		101	40.1	120				
Surr: Phenol-d5	3202	0	3333		96.1	40.3	120				

Sample ID: **1507J82-001BMS** Client ID: Units: **ug/Kg-dry** Prep Date: **07/28/2015** Run No: **296855**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210655** Analysis Date: **07/28/2015** Seq No: **6333522**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	3124	400	4084		76.5	53	120				
1,4-Dichlorobenzene	3052	400	4084		74.7	40	120				
2,4-Dinitrotoluene	3068	400	4084		75.1	41.7	120				
2-Chlorophenol	3236	400	4084		79.2	42.9	120				
4-Chloro-3-methylphenol	3895	400	4084		95.4	41.1	120				
4-Nitrophenol	2686	2100	4084		65.8	32	120				
Acenaphthene	3374	400	4084		82.6	51.5	120				
N-Nitrosodi-n-propylamine	4175	400	4084		102	50.2	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507L89

ANALYTICAL QC SUMMARY REPORT

BatchID: 210655

Sample ID: **1507J82-001BMS** Client ID:
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/Kg-dry** Prep Date: **07/28/2015** Run No: **296855**
BatchID: **210655** Analysis Date: **07/28/2015** Seq No: **6333522**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Pentachlorophenol	3725	2100	4084	555.8	77.6	38.4	120				
Phenol	3311	400	4084		81.1	41.5	120				
Pyrene	3874	400	4084		94.9	45.2	120				
Surr: 2,4,6-Tribromophenol	3139	0	4084		76.9	41	128				
Surr: 2-Fluorobiphenyl	1715	0	2042		84.0	47	120				
Surr: 2-Fluorophenol	3193	0	4084		78.2	38.3	120				
Surr: 4-Terphenyl-d14	1833	0	2042		89.8	51.4	125				
Surr: Nitrobenzene-d5	1801	0	2042		88.2	40.1	120				
Surr: Phenol-d5	3529	0	4084		86.4	40.3	120				

Sample ID: **1507J82-001BMSD** Client ID:
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/Kg-dry** Prep Date: **07/28/2015** Run No: **296855**
BatchID: **210655** Analysis Date: **07/28/2015** Seq No: **6333523**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	3024	400	4084		74.0	53	120	3124	3.27	25.5	
1,4-Dichlorobenzene	2902	400	4084		71.1	40	120	3052	5.05	26	
2,4-Dinitrotoluene	3061	400	4084		74.9	41.7	120	3068	0.240	33.1	
2-Chlorophenol	3085	400	4084		75.5	42.9	120	3236	4.78	30.7	
4-Chloro-3-methylphenol	3681	400	4084		90.1	41.1	120	3895	5.67	40.5	
4-Nitrophenol	2825	2100	4084		69.2	32	120	2686	5.07	37.9	
Acenaphthene	3296	400	4084		80.7	51.5	120	3374	2.35	26.3	
N-Nitrosodi-n-propylamine	4126	400	4084		101	50.2	120	4175	1.18	34.9	
Pentachlorophenol	3196	2100	4084	555.8	64.6	38.4	120	3725	15.3	35.9	
Phenol	3213	400	4084		78.7	41.5	120	3311	3.03	37.4	
Pyrene	3881	400	4084		95.0	45.2	120	3874	0.169	35	
Surr: 2,4,6-Tribromophenol	3018	0	4084		73.9	41	128	3139	0	0	
Surr: 2-Fluorobiphenyl	1639	0	2042		80.2	47	120	1715	0	0	
Surr: 2-Fluorophenol	3025	0	4084		74.1	38.3	120	3193	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507L89

ANALYTICAL QC SUMMARY REPORT

BatchID: 210655

Sample ID: **1507J82-001BMSD** Client ID:
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/Kg-dry** Prep Date: **07/28/2015** Run No: **296855**
BatchID: **210655** Analysis Date: **07/28/2015** Seq No: **6333523**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 4-Terphenyl-d14	1823	0	2042		89.3	51.4	125	1833	0	0	
Surr: Nitrobenzene-d5	1708	0	2042		83.6	40.1	120	1801	0	0	
Surr: Phenol-d5	3473	0	4084		85.0	40.3	120	3529	0	0	

Qualifiers:

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BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

AES

August 06, 2015

Nic Vrey
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: AGLC-Macon Remediation

Dear Nic Vrey: Order No: 1507O94

Analytical Environmental Services, Inc. received 6 samples on 7/30/2015 10:25:00 AM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/15.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

Revision 8/6/2015

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1507094

Date: 7/29/15 Page 1 of 1

COMPANY:	ADDRESS:
ERM	3203 Windy Hill Rd Suite 1500w ATL GA 30339
PHONE:	FAX:
SAMPLED BY: K. Spevacek / J. Mullooly	SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	Benzo(a)anthracene	PRESERVATION (See codes) H	REMARKS	No # of Containers
1	SCS-52-(2'-6')-20150729-01	7/29	0800	X		SO	X	X		1
2	SCS-53-(2'-6')-20150729-01	7/29	0805	X		SO	X	X		1
3	SCS-54-(2'-6')-20150729-01	7/29	0810	X		SO	X	X		1
4	SCS-55-(2'-6')-20150729-01	7/29	0815	X		SO	X	X		1
5	SCS-56-(2'-6')-20150729-01	7/29	0820	X		SO	X	X		1
6	SCS-57-(2'-6')-20150729-01	7/29	0825	X		SO	X	X		1
7										
8										
9										
10										
11										
12										
13										
14										

ANALYSIS REQUESTED

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:	7/29/15	1:	7/30/15 10:25
2:		2:	
3:		3:	

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
CLIENT (FedEx) UPS MAIL COURIER
GREYHOUND OTHER_____

PROJECT INFORMATION
PROJECT NAME: AGL Macon Remediation
PROJECT #: 0176740
SITE ADDRESS:
SEND REPORT TO: Nic.Viney@erm.com
INVOICE TO:
(IF DIFFERENT FROM ABOVE)
QUOTE #:_____ PO#:_____

RECEIPT
Total # of Containers

Turnaround Time Request
○ Standard 5 Business Days
○ 2 Business Day Rush
○ Next Business Day Rush
○ Same Day Rush (auth req.)
⊗ Other 3 DAY

STATE PROGRAM (if any): _____
E-mail? Y / N; Fax? Y / N
DATA PACKAGE: I II III IV

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.
SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water
PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Client: ERM-Southeast
Project: AGLC-Macon Remediation
Lab ID: 1507O94

Case Narrative

Revision:

The sample IDs were reported as follows per Nic Vrey via email 8/6/2015:

SCS-52-9W-(2'-6')-20150729-01
SCS-53-9W-(2'-6')-20150729-01
SCS-54-9W-(2'-6')-20150729-01
SCS-55-9W-(2'-6')-20150729-01
SCS-56-9W-(2'-6')-20150729-01
SCS-57-9W-(2'-6')-20150729-01

Analytical Environmental Services, Inc **Date:** 6-Aug-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-52-9W-(2'-6')-20150729-01
Project Name:	AGLC-Macon Remediation	**Collection Date:**	7/29/2015 8:00:00 AM
Lab ID:	1507O94-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL-SEMIVOLATILE ORGANICS SW8270D				**(SW3550C)**				
Benz(a)anthracene	BRL	380		ug/Kg-dry	210833	1	07/31/2015 18:22	YH
Surr: 2,4,6-Tribromophenol	90.5	41-128		%REC	210833	1	07/31/2015 18:22	YH
Surr: 2-Fluorobiphenyl	80.3	47-120		%REC	210833	1	07/31/2015 18:22	YH
Surr: 2-Fluorophenol	70	38.3-120		%REC	210833	1	07/31/2015 18:22	YH
Surr: 4-Terphenyl-d14	87.5	51.4-125		%REC	210833	1	07/31/2015 18:22	YH
Surr: Nitrobenzene-d5	74.6	40.1-120		%REC	210833	1	07/31/2015 18:22	YH
Surr: Phenol-d5	80.2	40.3-120		%REC	210833	1	07/31/2015 18:22	YH
PERCENT MOISTURE D2216								
Percent Moisture	13.1	0		wt%	R297251	1	08/04/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 6-Aug-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-53-9W-(2'-6')-20150729-01
Project Name:	AGLC-Macon Remediation	**Collection Date:**	7/29/2015 8:05:00 AM
Lab ID:	1507O94-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL-SEMIVOLATILE ORGANICS SW8270D				**(SW3550C)**				
Benz(a)anthracene	BRL	400		ug/Kg-dry	210833	1	07/31/2015 18:49	YH
Surr: 2,4,6-Tribromophenol	87.8	41-128		%REC	210833	1	07/31/2015 18:49	YH
Surr: 2-Fluorobiphenyl	78.6	47-120		%REC	210833	1	07/31/2015 18:49	YH
Surr: 2-Fluorophenol	64.2	38.3-120		%REC	210833	1	07/31/2015 18:49	YH
Surr: 4-Terphenyl-d14	82.3	51.4-125		%REC	210833	1	07/31/2015 18:49	YH
Surr: Nitrobenzene-d5	70.3	40.1-120		%REC	210833	1	07/31/2015 18:49	YH
Surr: Phenol-d5	77.1	40.3-120		%REC	210833	1	07/31/2015 18:49	YH
PERCENT MOISTURE D2216								
Percent Moisture	17.3	0		wt%	R297251	1	08/04/2015 10:00	PF

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 6-Aug-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-54-9W-(2'-6')-20150729-01
Project Name:	AGLC-Macon Remediation	**Collection Date:**	7/29/2015 8:10:00 AM
Lab ID:	1507O94-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL-SEMIVOLATILE ORGANICS SW8270D				**(SW3550C)**				
Benz(a)anthracene	460	360		ug/Kg-dry	210833	1	07/31/2015 19:16	YH
Surr: 2,4,6-Tribromophenol	104	41-128		%REC	210833	1	07/31/2015 19:16	YH
Surr: 2-Fluorobiphenyl	90.3	47-120		%REC	210833	1	07/31/2015 19:16	YH
Surr: 2-Fluorophenol	73.3	38.3-120		%REC	210833	1	07/31/2015 19:16	YH
Surr: 4-Terphenyl-d14	96.1	51.4-125		%REC	210833	1	07/31/2015 19:16	YH
Surr: Nitrobenzene-d5	83.5	40.1-120		%REC	210833	1	07/31/2015 19:16	YH
Surr: Phenol-d5	85.8	40.3-120		%REC	210833	1	07/31/2015 19:16	YH
PERCENT MOISTURE D2216								
Percent Moisture	8.50	0		wt%	R297251	1	08/04/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 6-Aug-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-55-9W-(2'-6')-20150729-01
Project Name:	AGLC-Macon Remediation	**Collection Date:**	7/29/2015 8:15:00 AM
Lab ID:	1507O94-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL-SEMIVOLATILE ORGANICS SW8270D				**(SW3550C)**				
Benz(a)anthracene	930	380		ug/Kg-dry	210833	1	07/31/2015 19:43	YH
Surr: 2,4,6-Tribromophenol	98.4	41-128		%REC	210833	1	07/31/2015 19:43	YH
Surr: 2-Fluorobiphenyl	89.4	47-120		%REC	210833	1	07/31/2015 19:43	YH
Surr: 2-Fluorophenol	65.8	38.3-120		%REC	210833	1	07/31/2015 19:43	YH
Surr: 4-Terphenyl-d14	86.8	51.4-125		%REC	210833	1	07/31/2015 19:43	YH
Surr: Nitrobenzene-d5	80.7	40.1-120		%REC	210833	1	07/31/2015 19:43	YH
Surr: Phenol-d5	80.8	40.3-120		%REC	210833	1	07/31/2015 19:43	YH
PERCENT MOISTURE D2216								
Percent Moisture	13.3	0		wt%	R297251	1	08/04/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 6-Aug-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-56-9W-(2'-6')-20150729-01
Project Name:	AGLC-Macon Remediation	**Collection Date:**	7/29/2015 8:20:00 AM
Lab ID:	1507O94-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL-SEMIVOLATILE ORGANICS SW8270D (SW3550C)								
Benz(a)anthracene	BRL	350		ug/Kg-dry	210833	1	07/31/2015 20:08	YH
Surr: 2,4,6-Tribromophenol	95	41-128		%REC	210833	1	07/31/2015 20:08	YH
Surr: 2-Fluorobiphenyl	82.3	47-120		%REC	210833	1	07/31/2015 20:08	YH
Surr: 2-Fluorophenol	66.6	38.3-120		%REC	210833	1	07/31/2015 20:08	YH
Surr: 4-Terphenyl-d14	90.2	51.4-125		%REC	210833	1	07/31/2015 20:08	YH
Surr: Nitrobenzene-d5	75.2	40.1-120		%REC	210833	1	07/31/2015 20:08	YH
Surr: Phenol-d5	80.4	40.3-120		%REC	210833	1	07/31/2015 20:08	YH
PERCENT MOISTURE D2216								
Percent Moisture	4.94	0		wt%	R297251	1	08/04/2015 10:00	PF

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 6-Aug-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-57-9W-(2'-6')-20150729-01
Project Name:	AGLC-Macon Remediation	**Collection Date:**	7/29/2015 8:25:00 AM
Lab ID:	1507O94-006	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL-SEMIVOLATILE ORGANICS SW8270D (SW3550C)								
Benz(a)anthracene	BRL	340		ug/Kg-dry	210833	1	07/31/2015 17:05	YH
Surr: 2,4,6-Tribromophenol	91.4	41-128		%REC	210833	1	07/31/2015 17:05	YH
Surr: 2-Fluorobiphenyl	80.8	47-120		%REC	210833	1	07/31/2015 17:05	YH
Surr: 2-Fluorophenol	68.4	38.3-120		%REC	210833	1	07/31/2015 17:05	YH
Surr: 4-Terphenyl-d14	87.4	51.4-125		%REC	210833	1	07/31/2015 17:05	YH
Surr: Nitrobenzene-d5	74.2	40.1-120		%REC	210833	1	07/31/2015 17:05	YH
Surr: Phenol-d5	78.4	40.3-120		%REC	210833	1	07/31/2015 17:05	YH
PERCENT MOISTURE D2216								
Percent Moisture	4.10	0		wt%	R297251	1	08/04/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM Work Order Number 1504074

Checklist completed by [signature] 4/30/15
Signature Date

Carrier name: FedEx ✓ UPS __ Courier __ Client __ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 4.0 Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted ✓ Yes __ No __

Water - pH acceptable upon receipt? Yes __ No __ Not Applicable ✓

Adjusted? _____ Checked by _____

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

Client: ERM-Southeast
Project Name: AGLC-Macon Remediation
Workorder: 1507O94

ANALYTICAL QC SUMMARY REPORT

BatchID: 210833

Sample ID: **MB-210833** Client ID: Units: **ug/Kg** Prep Date: **07/31/2015** Run No: **297096**
SampleType: **MBLK** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **210833** Analysis Date: **07/31/2015** Seq No: **6339472**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1´-Biphenyl	BRL	330									
2,4,5-Trichlorophenol	BRL	1700									
2,4,6-Trichlorophenol	BRL	330									
2,4-Dichlorophenol	BRL	330									
2,4-Dimethylphenol	BRL	330									
2,4-Dinitrophenol	BRL	1700									
2,4-Dinitrotoluene	BRL	330									
2,6-Dinitrotoluene	BRL	330									
2-Chloronaphthalene	BRL	330									
2-Chlorophenol	BRL	330									
2-Methylnaphthalene	BRL	330									
2-Methylphenol	BRL	330									
2-Nitroaniline	BRL	1700									
2-Nitrophenol	BRL	330									
3,3´-Dichlorobenzidine	BRL	670									
3-Nitroaniline	BRL	1700									
4,6-Dinitro-2-methylphenol	BRL	1700									
4-Bromophenyl phenyl ether	BRL	330									
4-Chloro-3-methylphenol	BRL	330									
4-Chloroaniline	BRL	330									
4-Chlorophenyl phenyl ether	BRL	330									
4-Methylphenol	BRL	330									
4-Nitroaniline	BRL	1700									
4-Nitrophenol	BRL	1700									
Acenaphthene	BRL	330									
Acenaphthylene	BRL	330									
Acetophenone	BRL	330									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGLC-Macon Remediation
Workorder: 1507O94

ANALYTICAL QC SUMMARY REPORT

BatchID: 210833

Sample ID: **MB-210833** Client ID: Units: **ug/Kg** Prep Date: **07/31/2015** Run No: **297096**
SampleType: **MBLK** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **210833** Analysis Date: **07/31/2015** Seq No: **6339472**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Anthracene	BRL	330									
Atrazine	BRL	330									
Benz(a)anthracene	BRL	330									
Benzaldehyde	BRL	330									
Benzo(a)pyrene	BRL	330									
Benzo(b)fluoranthene	BRL	330									
Benzo(g,h,i)perylene	BRL	330									
Benzo(k)fluoranthene	BRL	330									
Bis(2-chloroethoxy)methane	BRL	330									
Bis(2-chloroethyl)ether	BRL	330									
Bis(2-chloroisopropyl)ether	BRL	330									
Bis(2-ethylhexyl)phthalate	BRL	330									
Butyl benzyl phthalate	BRL	330									
Caprolactam	BRL	330									
Carbazole	BRL	330									
Chrysene	BRL	330									
Di-n-butyl phthalate	BRL	330									
Di-n-octyl phthalate	BRL	330									
Dibenz(a,h)anthracene	BRL	330									
Dibenzofuran	BRL	330									
Diethyl phthalate	BRL	330									
Dimethyl phthalate	BRL	330									
Fluoranthene	BRL	330									
Fluorene	BRL	330									
Hexachlorobenzene	BRL	330									
Hexachlorobutadiene	BRL	330									
Hexachlorocyclopentadiene	BRL	660									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGLC-Macon Remediation
Workorder: 1507O94

ANALYTICAL QC SUMMARY REPORT

BatchID: 210833

Sample ID: **MB-210833** Client ID: Units: **ug/Kg** Prep Date: **07/31/2015** Run No: **297096**
SampleType: **MBLK** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **210833** Analysis Date: **07/31/2015** Seq No: **6339472**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Hexachloroethane	BRL	330									
Indeno(1,2,3-cd)pyrene	BRL	330									
Isophorone	BRL	330									
N-Nitrosodi-n-propylamine	BRL	330									
N-Nitrosodiphenylamine	BRL	330									
Naphthalene	BRL	330									
Nitrobenzene	BRL	330									
Pentachlorophenol	BRL	1700									
Phenanthrene	BRL	330									
Phenol	BRL	330									
Pyrene	BRL	330									
Surr: 2,4,6-Tribromophenol	3318	0	3333		99.5	41	128				
Surr: 2-Fluorobiphenyl	1509	0	1667		90.5	47	120				
Surr: 2-Fluorophenol	2591	0	3333		77.7	38.3	120				
Surr: 4-Terphenyl-d14	1586	0	1667		95.2	51.4	125				
Surr: Nitrobenzene-d5	1416	0	1667		84.9	40.1	120				
Surr: Phenol-d5	2874	0	3333		86.2	40.3	120				

Sample ID: **LCS-210833** Client ID: Units: **ug/Kg** Prep Date: **07/31/2015** Run No: **297096**
SampleType: **LCS** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **210833** Analysis Date: **07/31/2015** Seq No: **6339473**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dinitrotoluene	3177	330	3333		95.3	56.9	120				
2-Chlorophenol	2823	330	3333		84.7	51	120				
4-Chloro-3-methylphenol	3065	330	3333		91.9	54	120				
4-Nitrophenol	3014	1700	3333		90.4	40.7	120				
Acenaphthene	3031	330	3333		90.9	57.9	120				
N-Nitrosodi-n-propylamine	3168	330	3333		95.0	56.5	124				

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: ERM-Southeast
Project Name: AGLC-Macon Remediation
Workorder: 1507O94

ANALYTICAL QC SUMMARY REPORT

BatchID: 210833

Sample ID: **LCS-210833** Client ID: Units: **ug/Kg** Prep Date: **07/31/2015** Run No: **297096**
SampleType: **LCS** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **210833** Analysis Date: **07/31/2015** Seq No: **6339473**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Pentachlorophenol	2621	1700	3333		78.6	41.8	120				
Phenol	2640	330	3333		79.2	50.1	120				
Pyrene	3606	330	3333		108	59.4	120				
Surr: 2,4,6-Tribromophenol	3619	0	3333		109	41	128				
Surr: 2-Fluorobiphenyl	1537	0	1667		92.2	47	120				
Surr: 2-Fluorophenol	2519	0	3333		75.6	38.3	120				
Surr: 4-Terphenyl-d14	1774	0	1667		106	51.4	125				
Surr: Nitrobenzene-d5	1441	0	1667		86.4	40.1	120				
Surr: Phenol-d5	2690	0	3333		80.7	40.3	120				

Sample ID: **1507O94-006AMS** Client ID: **SCS-57-9W-(2'-6')-20150729-01** Units: **ug/Kg-dry** Prep Date: **07/31/2015** Run No: **297096**
SampleType: **MS** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **210833** Analysis Date: **07/31/2015** Seq No: **6339475**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dinitrotoluene	2903	340	3476		83.5	41.7	120				
2-Chlorophenol	2447	340	3476		70.4	42.9	120				
4-Chloro-3-methylphenol	2857	340	3476		82.2	41.1	120				
4-Nitrophenol	2620	1800	3476		75.4	32	120				
Acenaphthene	2791	340	3476		80.3	51.5	120				
N-Nitrosodi-n-propylamine	2818	340	3476		81.1	50.2	120				
Pentachlorophenol	2085	1800	3476		60.0	38.4	120				
Phenol	2362	340	3476		68.0	41.5	120				
Pyrene	3299	340	3476		94.9	45.2	120				
Surr: 2,4,6-Tribromophenol	3400	0	3476		97.8	41	128				
Surr: 2-Fluorobiphenyl	1415	0	1738		81.4	47	120				
Surr: 2-Fluorophenol	2262	0	3476		65.1	38.3	120				
Surr: 4-Terphenyl-d14	1568	0	1738		90.2	51.4	125				
Surr: Nitrobenzene-d5	1313	0	1738		75.6	40.1	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGLC-Macon Remediation
Workorder: 1507O94

ANALYTICAL QC SUMMARY REPORT

BatchID: 210833

Sample ID: **1507O94-006AMS** Client ID: **SCS-57-9W-(2'-6')-20150729-01** Units: **ug/Kg-dry** Prep Date: **07/31/2015** Run No: **297096**
SampleType: **MS** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **210833** Analysis Date: **07/31/2015** Seq No: **6339475**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: Phenol-d5	2440	0	3476		70.2	40.3	120				

Sample ID: **1507O94-006AMSD** Client ID: **SCS-57-9W-(2'-6')-20150729-01** Units: **ug/Kg-dry** Prep Date: **07/31/2015** Run No: **297096**
SampleType: **MSD** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **210833** Analysis Date: **07/31/2015** Seq No: **6339476**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dinitrotoluene	3037	340	3476		87.4	41.7	120	2903	4.49	33.1	
2-Chlorophenol	2635	340	3476		75.8	42.9	120	2447	7.40	30.7	
4-Chloro-3-methylphenol	3010	340	3476		86.6	41.1	120	2857	5.21	40.5	
4-Nitrophenol	2714	1800	3476		78.1	32	120	2620	3.52	37.9	
Acenaphthene	2978	340	3476		85.7	51.5	120	2791	6.48	26.3	
N-Nitrosodi-n-propylamine	3020	340	3476		86.9	50.2	120	2818	6.92	34.9	
Pentachlorophenol	2104	1800	3476		60.5	38.4	120	2085	0.929	35.9	
Phenol	2462	340	3476		70.8	41.5	120	2362	4.15	37.4	
Pyrene	3354	340	3476		96.5	45.2	120	3299	1.63	35	
Surr: 2,4,6-Tribromophenol	3544	0	3476		102	41	128	3400	0	0	
Surr: 2-Fluorobiphenyl	1520	0	1738		87.5	47	120	1415	0	0	
Surr: 2-Fluorophenol	2323	0	3476		66.8	38.3	120	2262	0	0	
Surr: 4-Terphenyl-d14	1645	0	1738		94.7	51.4	125	1568	0	0	
Surr: Nitrobenzene-d5	1405	0	1738		80.8	40.1	120	1313	0	0	
Surr: Phenol-d5	2592	0	3476		74.6	40.3	120	2440	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

August 18, 2015

Nic Vrey
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: AGL Macon Remediation

Dear Nic Vrey: Order No: 1508330

Analytical Environmental Services, Inc. received 5 samples on August 6, 2015 10:40 am for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/15.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC

3080 Presidential Drive, Atlanta GA 30340-3704
TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1508330

Date: 8/5/15 Page 1 of 1

COMPANY: ERM

ADDRESS: 3200 Windy Hill Rd SE Ste 1500w Atlanta, GA 30339

PHONE: 678-486-7700

FAX:

SAMPLED BY: JM/WV

SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	8260B (Benzene)	8260B (VOCs)	8270C (SVOCs)	6010B (Metals)	9012A (Cyanide)	7470A (Mercury)	REMARKS	No # of Containers
1	SCS-58-12W-(6-10')-20150805-01	8/5/15	0805	X		SO	X						SCS-58, 59 +	4
2	SCS-59-12W-(6-10')-20150805-01		0810	X		SO	X						DUP-06;	4
3	DUP-06-20150805-01		—	X		SO	X						-Benzene Only	4
4	TB-07-20150805-01		—			W		X						2
5	EB-09-20150805-01		—			W		X	X	X	X	X	TB-07 + EB-09	5
6													- Full COI	
7													List	
8														
9														
10														
11														
12														
13														
14														

PRESERVATION (See codes)

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:	8/5/15 12:00pm	1:	8/6/15 10.40
2:		2:	
3:		3:	

PROJECT INFORMATION

PROJECT NAME: AGL Macon Remediation

PROJECT #: 0176740

SITE ADDRESS: Macon, GA

SEND REPORT TO: Nic.Vret@ERM.com

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: PO#:

RECEIPT

Total # of Containers: 19

Turnaround Time Request

- ○ Standard 5 Business Days
- ○ 2 Business Day Rush
- ○ Next Business Day Rush
- ○ Same Day Rush (auth req.)
- ⊗ Other 3 Day TAT

STATE PROGRAM (if any):

E-mail? Y / N; Fax? Y / N

DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD

OUT / / VIA:

IN / / VIA:

CLIENT FedEx UPS MAIL COURIER

GREYHOUND OTHER

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Client: ERM-Southeast
Project: AGL Macon Remediation
Lab ID: 1508330

Case Narrative

Samples 1508330-005A collection times were taken from the containers.

Sample 1508330-005 requests cyanide on the coc but no container was received in the lab. A portion of the 1L amber was preserved and used for the analysis.

Volatile Organic Compounds Analysis by Method 8260B:

Percent recovery for the internal standard compound 1,4-Dichlorobenzene-d4 on sample 1508330-001A was outside control limits biased low due to suspected matrix interference. All other internal standard recoveries were within control limits.

Analytical Environmental Services, Inc **Date:** 18-Aug-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-58-12W-(6-10)-20150805-0
Project Name:	AGL Macon Remediation	**Collection Date:**	8/5/2015 8:05:00 AM
Lab ID:	1508330-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5035)								
Benzene	BRL	3.5		ug/Kg-dry	211156	1	08/06/2015 22:10	MD
Surr: 4-Bromofluorobenzene	70	70-128		%REC	211156	1	08/06/2015 22:10	MD
Surr: Dibromofluoromethane	92.9	78.2-128		%REC	211156	1	08/06/2015 22:10	MD
Surr: Toluene-d8	92.4	76.5-116		%REC	211156	1	08/06/2015 22:10	MD
PERCENT MOISTURE D2216								
Percent Moisture	19.2	0		wt%	R297702	1	08/11/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 18-Aug-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-59-12W-(6-10)-20150805-0
Project Name:	AGL Macon Remediation	**Collection Date:**	8/5/2015 8:10:00 AM
Lab ID:	1508330-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5035)								
Benzene	BRL	4.0		ug/Kg-dry	211156	1	08/06/2015 22:33	MD
Surr: 4-Bromofluorobenzene	85.6	70-128		%REC	211156	1	08/06/2015 22:33	MD
Surr: Dibromofluoromethane	95	78.2-128		%REC	211156	1	08/06/2015 22:33	MD
Surr: Toluene-d8	92.8	76.5-116		%REC	211156	1	08/06/2015 22:33	MD
PERCENT MOISTURE D2216								
Percent Moisture	16.4	0		wt%	R297702	1	08/11/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 18-Aug-15

Client:	ERM-Southeast	**Client Sample ID:**	DUP-06-20150805-01
Project Name:	AGL Macon Remediation	**Collection Date:**	8/5/2015
Lab ID:	1508330-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5035)								
Benzene	BRL	3.4		ug/Kg-dry	211203	1	08/07/2015 17:40	MD
Surr: 4-Bromofluorobenzene	79.6	70-128		%REC	211203	1	08/07/2015 17:40	MD
Surr: Dibromofluoromethane	91.2	78.2-128		%REC	211203	1	08/07/2015 17:40	MD
Surr: Toluene-d8	97	76.5-116		%REC	211203	1	08/07/2015 17:40	MD
PERCENT MOISTURE D2216								
Percent Moisture	20.4	0		wt%	R297702	1	08/11/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 18-Aug-15

Client:	ERM-Southeast	**Client Sample ID:**	TB-07-20150805-01
Project Name:	AGL Macon Remediation	**Collection Date:**	8/5/2015
Lab ID:	1508330-004	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	211099	1	08/07/2015 13:39	NP
Carbon disulfide	BRL	5.0		ug/L	211099	1	08/07/2015 13:39	NP
Ethylbenzene	BRL	5.0		ug/L	211099	1	08/07/2015 13:39	NP
Toluene	BRL	5.0		ug/L	211099	1	08/07/2015 13:39	NP
Xylenes, Total	BRL	5.0		ug/L	211099	1	08/07/2015 13:39	NP
Surr: 4-Bromofluorobenzene	78.4	70.6-123		%REC	211099	1	08/07/2015 13:39	NP
Surr: Dibromofluoromethane	105	78.7-124		%REC	211099	1	08/07/2015 13:39	NP
Surr: Toluene-d8	101	81.3-120		%REC	211099	1	08/07/2015 13:39	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 18-Aug-15

Client:	ERM-Southeast	**Client Sample ID:**	EB-09-20150805-01
Project Name:	AGL Macon Remediation	**Collection Date:**	8/5/2015 10:40:00 AM
Lab ID:	1508330-005	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	211099	1	08/07/2015 14:03	NP
Carbon disulfide	BRL	5.0		ug/L	211099	1	08/07/2015 14:03	NP
Ethylbenzene	BRL	5.0		ug/L	211099	1	08/07/2015 14:03	NP
Toluene	BRL	5.0		ug/L	211099	1	08/07/2015 14:03	NP
Xylenes, Total	BRL	5.0		ug/L	211099	1	08/07/2015 14:03	NP
Surr: 4-Bromofluorobenzene	80	70.6-123		%REC	211099	1	08/07/2015 14:03	NP
Surr: Dibromofluoromethane	103	78.7-124		%REC	211099	1	08/07/2015 14:03	NP
Surr: Toluene-d8	98.3	81.3-120		%REC	211099	1	08/07/2015 14:03	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	211207	1	08/10/2015 17:54	YH
Acenaphthylene	BRL	1.0		ug/L	211207	1	08/10/2015 17:54	YH
Acenaphthene	BRL	0.50		ug/L	211207	1	08/10/2015 17:54	YH
Fluorene	BRL	0.10		ug/L	211207	1	08/10/2015 17:54	YH
Phenanthrene	BRL	0.050		ug/L	211207	1	08/10/2015 17:54	YH
Anthracene	BRL	0.050		ug/L	211207	1	08/10/2015 17:54	YH
Fluoranthene	BRL	0.10		ug/L	211207	1	08/10/2015 17:54	YH
Pyrene	BRL	0.050		ug/L	211207	1	08/10/2015 17:54	YH
Benz(a)anthracene	BRL	0.050		ug/L	211207	1	08/10/2015 17:54	YH
Chrysene	BRL	0.050		ug/L	211207	1	08/10/2015 17:54	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	211207	1	08/10/2015 17:54	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	211207	1	08/10/2015 17:54	YH
Benzo(a)pyrene	BRL	0.050		ug/L	211207	1	08/10/2015 17:54	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	211207	1	08/10/2015 17:54	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	211207	1	08/10/2015 17:54	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	211207	1	08/10/2015 17:54	YH
Surr: 4-Terphenyl-d14	112	55.4-136		%REC	211207	1	08/10/2015 17:54	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	211207	1	08/11/2015 15:31	YH
2-Methylphenol	BRL	10		ug/L	211207	1	08/11/2015 15:31	YH
3,4-Methylphenol	BRL	10		ug/L	211207	1	08/11/2015 15:31	YH
Phenol	BRL	10		ug/L	211207	1	08/11/2015 15:31	YH
Surr: 2,4,6-Tribromophenol	103	52-133		%REC	211207	1	08/11/2015 15:31	YH
Surr: 2-Fluorobiphenyl	97	50-121		%REC	211207	1	08/11/2015 15:31	YH
Surr: 2-Fluorophenol	72.2	27.5-120		%REC	211207	1	08/11/2015 15:31	YH
Surr: 4-Terphenyl-d14	108	46.3-137		%REC	211207	1	08/11/2015 15:31	YH
Surr: Nitrobenzene-d5	94.9	41.2-121		%REC	211207	1	08/11/2015 15:31	YH
Surr: Phenol-d5	59.7	14.3-120		%REC	211207	1	08/11/2015 15:31	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 18-Aug-15

Client:	ERM-Southeast	**Client Sample ID:**	EB-09-20150805-01
Project Name:	AGL Macon Remediation	**Collection Date:**	8/5/2015 10:40:00 AM
Lab ID:	1508330-005	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	211169	1	08/07/2015 14:51	JW
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	BRL	0.010		mg/L	211171	1	08/07/2015 11:00	PF
METALS, TOTAL SW6010C				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	211085	1	08/07/2015 11:47	TA
Arsenic	BRL	0.0500		mg/L	211085	1	08/07/2015 11:47	TA
Barium	BRL	0.0200		mg/L	211085	1	08/07/2015 11:47	TA
Beryllium	BRL	0.0100		mg/L	211085	1	08/07/2015 11:47	TA
Cadmium	BRL	0.0050		mg/L	211085	1	08/07/2015 11:47	TA
Chromium	BRL	0.0100		mg/L	211085	1	08/07/2015 11:47	TA
Copper	BRL	0.0100		mg/L	211085	1	08/07/2015 11:47	TA
Lead	BRL	0.0100		mg/L	211085	1	08/07/2015 11:47	TA
Nickel	BRL	0.0200		mg/L	211085	1	08/07/2015 11:47	TA
Zinc	0.139	0.0200		mg/L	211085	1	08/07/2015 11:47	TA

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM Work Order Number 1508330

Checklist completed by Aaron B 8/6/15
Signature Date

Carrier name: FedEx ✓ UPS __ Courier __ Client __ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 3.2 Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes __ No ✓

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by JB

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

AES, Inc.
3080 Presidential Drive
Atlanta GA 30340

pH Adjustment Sheet

AES Sample ID number	Test Requested	pH as Received	Required pH	Preservative Required	Lot # of Preservative	Amount Added mL or Pellets*	Final pH	Tech's Initials	Date	Time
150833-005D	9014	6	12	NAOH	21898	mL 5 Pellets	12	JB	8/6/15	12:37
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
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						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				

* Number of Pellets when adding NAOH

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1508330

ANALYTICAL QC SUMMARY REPORT

BatchID: 211085

Sample ID: **MB-211085** Client ID: Units: **mg/L** Prep Date: **08/05/2015** Run No: **297460**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **211085** Analysis Date: **08/06/2015** Seq No: **6347796**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	0.0200									
Arsenic	BRL	0.0500									
Barium	BRL	0.0200									
Beryllium	BRL	0.0100									
Cadmium	BRL	0.0050									
Chromium	BRL	0.0100									
Copper	BRL	0.0100									
Lead	BRL	0.0100									
Nickel	BRL	0.0200									
Zinc	BRL	0.0200									

Sample ID: **LCS-211085** Client ID: Units: **mg/L** Prep Date: **08/05/2015** Run No: **297460**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **211085** Analysis Date: **08/06/2015** Seq No: **6347797**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	0.9880	0.0200	1.000		98.8	80	120				
Arsenic	0.9785	0.0500	1.000		97.8	80	120				
Barium	0.9955	0.0200	1.000		99.6	80	120				
Beryllium	0.9725	0.0100	1.000		97.2	80	120				
Cadmium	0.9891	0.0050	1.000		98.9	80	120				
Chromium	0.9900	0.0100	1.000		99.0	80	120				
Copper	0.9857	0.0100	1.000		98.6	80	120				
Lead	0.9922	0.0100	1.000		99.2	80	120				
Nickel	0.9979	0.0200	1.000		99.8	80	120				
Zinc	0.9856	0.0200	1.000		98.6	80	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1508330

ANALYTICAL QC SUMMARY REPORT

BatchID: 211085

Sample ID: **1508151-003AMS** Client ID:
SampleType: **MS** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/L** Prep Date: **08/05/2015** Run No: **297460**
BatchID: **211085** Analysis Date: **08/06/2015** Seq No: **6347799**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	0.9770	0.0200	1.000		97.7	75	125				
Arsenic	0.9669	0.0500	1.000		96.7	75	125				
Barium	1.054	0.0200	1.000	0.07272	98.1	75	125				
Beryllium	0.9721	0.0100	1.000		97.2	75	125				
Cadmium	0.9862	0.0050	1.000	0.0004500	98.6	75	125				
Chromium	0.9789	0.0100	1.000	0.001280	97.8	75	125				
Copper	1.096	0.0100	1.000	0.1074	98.9	75	125				
Lead	0.9896	0.0100	1.000	0.01122	97.8	75	125				
Nickel	0.9914	0.0200	1.000	0.01408	97.7	75	125				
Zinc	1.086	0.0200	1.000	0.1090	97.7	75	125				

Sample ID: **1508151-003AMSD** Client ID:
SampleType: **MSD** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/L** Prep Date: **08/05/2015** Run No: **297460**
BatchID: **211085** Analysis Date: **08/06/2015** Seq No: **6347800**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	0.9633	0.0200	1.000		96.3	75	125	0.9770	1.41	20	
Arsenic	0.9595	0.0500	1.000		96.0	75	125	0.9669	0.763	20	
Barium	1.046	0.0200	1.000	0.07272	97.3	75	125	1.054	0.753	20	
Beryllium	0.9778	0.0100	1.000		97.8	75	125	0.9721	0.590	20	
Cadmium	0.9770	0.0050	1.000	0.0004500	97.7	75	125	0.9862	0.929	20	
Chromium	0.9694	0.0100	1.000	0.001280	96.8	75	125	0.9789	0.968	20	
Copper	1.088	0.0100	1.000	0.1074	98.1	75	125	1.096	0.714	20	
Lead	0.9796	0.0100	1.000	0.01122	96.8	75	125	0.9896	1.01	20	
Nickel	0.9852	0.0200	1.000	0.01408	97.1	75	125	0.9914	0.619	20	
Zinc	1.071	0.0200	1.000	0.1090	96.2	75	125	1.086	1.39	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1508330

ANALYTICAL QC SUMMARY REPORT

BatchID: 211099

Sample ID: **MB-211099** Client ID: Units: **ug/L** Prep Date: **08/05/2015** Run No: **297350**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **211099** Analysis Date: **08/05/2015** Seq No: **6344809**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	5.0									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	38.89	0	50.00		77.8	70.6	123				
Surr: Dibromofluoromethane	52.80	0	50.00		106	78.7	124				
Surr: Toluene-d8	50.67	0	50.00		101	81.3	120				

Sample ID: **LCS-211099** Client ID: Units: **ug/L** Prep Date: **08/05/2015** Run No: **297350**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **211099** Analysis Date: **08/05/2015** Seq No: **6344808**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	49.52	5.0	50.00		99.0	72.8	128				
Toluene	52.31	5.0	50.00		105	74.9	127				
Surr: 4-Bromofluorobenzene	38.15	0	50.00		76.3	70.6	123				
Surr: Dibromofluoromethane	52.91	0	50.00		106	78.7	124				
Surr: Toluene-d8	48.54	0	50.00		97.1	81.3	120				

Sample ID: **1507Q56-025AMS** Client ID: Units: **ug/L** Prep Date: **08/05/2015** Run No: **297350**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **211099** Analysis Date: **08/05/2015** Seq No: **6344817**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	10870	500	5000	5524	107	70	135				
Toluene	5102	500	5000		102	70.5	137				
Surr: 4-Bromofluorobenzene	4013	0	5000		80.3	70.6	123				
Surr: Dibromofluoromethane	5013	0	5000		100	78.7	124				
Surr: Toluene-d8	4948	0	5000		99.0	81.3	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1508330

ANALYTICAL QC SUMMARY REPORT

BatchID: 211099

Sample ID: **1507Q56-025AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/L** Prep Date: **08/05/2015** Run No: **297350**
BatchID: **211099** Analysis Date: **08/05/2015** Seq No: **6344822**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	10640	500	5000	5524	102	70	135	10870	2.12	20	
Toluene	5006	500	5000		100	70.5	137	5102	1.90	20	
Surr: 4-Bromofluorobenzene	3886	0	5000		77.7	70.6	123	4013	0	0	
Surr: Dibromofluoromethane	4951	0	5000		99.0	78.7	124	5013	0	0	
Surr: Toluene-d8	4903	0	5000		98.1	81.3	120	4948	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1508330

ANALYTICAL QC SUMMARY REPORT

BatchID: 211156

Sample ID: **MB-211156** Client ID: Units: **ug/Kg** Prep Date: **08/06/2015** Run No: **297400**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **211156** Analysis Date: **08/06/2015** Seq No: **6348832**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Surr: 4-Bromofluorobenzene	39.67	0	50.00		79.3	70	128				
Surr: Dibromofluoromethane	48.69	0	50.00		97.4	78.2	128				
Surr: Toluene-d8	49.13	0	50.00		98.3	76.5	116				

Sample ID: **LCS-211156** Client ID: Units: **ug/Kg** Prep Date: **08/06/2015** Run No: **297400**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **211156** Analysis Date: **08/06/2015** Seq No: **6348833**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	48.23	5.0	50.00		96.5	72.3	130				
Surr: 4-Bromofluorobenzene	40.90	0	50.00		81.8	70	128				
Surr: Dibromofluoromethane	46.71	0	50.00		93.4	78.2	128				
Surr: Toluene-d8	46.40	0	50.00		92.8	76.5	116				

Sample ID: **1508082-001AMS** Client ID: Units: **ug/Kg-dry** Prep Date: **08/06/2015** Run No: **297400**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **211156** Analysis Date: **08/06/2015** Seq No: **6348834**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	74.83	7.3	72.54		103	70.4	130				
Surr: 4-Bromofluorobenzene	61.05	0	72.54		84.2	70	128				
Surr: Dibromofluoromethane	71.32	0	72.54		98.3	78.2	128				
Surr: Toluene-d8	69.70	0	72.54		96.1	76.5	116				

Sample ID: **1508082-001AMSD** Client ID: Units: **ug/Kg-dry** Prep Date: **08/06/2015** Run No: **297400**
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **211156** Analysis Date: **08/06/2015** Seq No: **6348835**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	68.29	7.3	72.54		94.1	70.4	130	74.83	9.14	16.9	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1508330

ANALYTICAL QC SUMMARY REPORT

BatchID: 211156

Sample ID: **1508082-001AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/Kg-dry** Prep Date: **08/06/2015** Run No: **297400**
BatchID: **211156** Analysis Date: **08/06/2015** Seq No: **6348835**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 4-Bromofluorobenzene	59.87	0	72.54		82.5	70	128	61.05	0	0	
Surr: Dibromofluoromethane	65.98	0	72.54		91.0	78.2	128	71.32	0	0	
Surr: Toluene-d8	67.52	0	72.54		93.1	76.5	116	69.70	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1508330

ANALYTICAL QC SUMMARY REPORT

BatchID: 211169

Sample ID: **MB-211169**	Client ID:					Units: **mg/L**		Prep Date: **08/07/2015**		Run No: **297519**	
SampleType: **MBLK**	TestCode: **Mercury, Total SW7470A**					BatchID: **211169**		Analysis Date: **08/07/2015**		Seq No: **6349226**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.00020									

Sample ID: **LCS-211169**	Client ID:					Units: **mg/L**		Prep Date: **08/07/2015**		Run No: **297519**	
SampleType: **LCS**	TestCode: **Mercury, Total SW7470A**					BatchID: **211169**		Analysis Date: **08/07/2015**		Seq No: **6349228**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.004964	0.00020	0.0050		99.3	80	120				

Sample ID: **1508186-001BMS**	Client ID:					Units: **mg/L**		Prep Date: **08/07/2015**		Run No: **297519**	
SampleType: **MS**	TestCode: **Mercury, Total SW7470A**					BatchID: **211169**		Analysis Date: **08/07/2015**		Seq No: **6349232**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.003051	0.00020	0.0050		61.0	70	130				S

Sample ID: **1508186-001BMSD**	Client ID:					Units: **mg/L**		Prep Date: **08/07/2015**		Run No: **297519**	
SampleType: **MSD**	TestCode: **Mercury, Total SW7470A**					BatchID: **211169**		Analysis Date: **08/07/2015**		Seq No: **6349234**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.002925	0.00020	0.0050		58.5	70	130	0.003051	4.21	20	S

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1508330

ANALYTICAL QC SUMMARY REPORT

BatchID: 211171

Sample ID: **MB-211171**	Client ID:				Units: **mg/L**		Prep Date: **08/07/2015**		Run No: **297474**
SampleType: **MBLK**	TestCode: **Cyanide SW9014**				BatchID: **211171**		Analysis Date: **08/07/2015**		Seq No: **6347967**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	0.010									

Sample ID: **LCS-211171**	Client ID:				Units: **mg/L**		Prep Date: **08/07/2015**		Run No: **297474**
SampleType: **LCS**	TestCode: **Cyanide SW9014**				BatchID: **211171**		Analysis Date: **08/07/2015**		Seq No: **6347968**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2324	0.010	0.2500		93.0	85	115				

Sample ID: **1507O95-006DMS**	Client ID:				Units: **mg/L**		Prep Date: **08/07/2015**		Run No: **297474**
SampleType: **MS**	TestCode: **Cyanide SW9014**				BatchID: **211171**		Analysis Date: **08/07/2015**		Seq No: **6347982**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2430	0.010	0.2500		97.2	70	130				

Sample ID: **1507O95-006DMSD**	Client ID:				Units: **mg/L**		Prep Date: **08/07/2015**		Run No: **297474**
SampleType: **MSD**	TestCode: **Cyanide SW9014**				BatchID: **211171**		Analysis Date: **08/07/2015**		Seq No: **6347983**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2439	0.010	0.2500		97.6	70	130	0.2430	0.370	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1508330

ANALYTICAL QC SUMMARY REPORT

BatchID: 211203

Sample ID: **MB-211203** Client ID: Units: **ug/Kg** Prep Date: **08/07/2015** Run No: **297525**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **211203** Analysis Date: **08/07/2015** Seq No: **6351342**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Surr: 4-Bromofluorobenzene	42.24	0	50.00		84.5	70	128				
Surr: Dibromofluoromethane	49.27	0	50.00		98.5	78.2	128				
Surr: Toluene-d8	47.54	0	50.00		95.1	76.5	116				

Sample ID: **LCS-211203** Client ID: Units: **ug/Kg** Prep Date: **08/07/2015** Run No: **297525**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **211203** Analysis Date: **08/07/2015** Seq No: **6351343**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	49.31	5.0	50.00		98.6	72.3	130				
Surr: 4-Bromofluorobenzene	38.29	0	50.00		76.6	70	128				
Surr: Dibromofluoromethane	46.66	0	50.00		93.3	78.2	128				
Surr: Toluene-d8	48.54	0	50.00		97.1	76.5	116				

Sample ID: **1508330-003AMS** Client ID: **DUP-06-20150805-01** Units: **ug/Kg-dry** Prep Date: **08/07/2015** Run No: **297525**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **211203** Analysis Date: **08/07/2015** Seq No: **6351347**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	61.56	6.3	62.80		98.0	70.4	130				
Surr: 4-Bromofluorobenzene	48.04	0	62.80		76.5	70	128				
Surr: Dibromofluoromethane	57.72	0	62.80		91.9	78.2	128				
Surr: Toluene-d8	61.73	0	62.80		98.3	76.5	116				

Sample ID: **1508330-003AMSD** Client ID: **DUP-06-20150805-01** Units: **ug/Kg-dry** Prep Date: **08/07/2015** Run No: **297525**
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **211203** Analysis Date: **08/07/2015** Seq No: **6351348**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	61.29	6.3	62.80		97.6	70.4	130	61.56	0.429	16.9	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1508330

ANALYTICAL QC SUMMARY REPORT

BatchID: 211203

Sample ID: **1508330-003AMSD** Client ID: **DUP-06-20150805-01** Units: **ug/Kg-dry** Prep Date: **08/07/2015** Run No: **297525**
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **211203** Analysis Date: **08/07/2015** Seq No: **6351348**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 4-Bromofluorobenzene	48.12	0	62.80		76.6	70	128	48.04	0	0	
Surr: Dibromofluoromethane	57.69	0	62.80		91.9	78.2	128	57.72	0	0	
Surr: Toluene-d8	61.56	0	62.80		98.0	76.5	116	61.73	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1508330

ANALYTICAL QC SUMMARY REPORT

BatchID: 211207

Sample ID: **MB-211207** Client ID: Units: **ug/L** Prep Date: **08/10/2015** Run No: **297600**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **211207** Analysis Date: **08/10/2015** Seq No: **6351183**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	10									
2-Methylphenol	BRL	10									
3,4-Methylphenol	BRL	10									
Phenol	BRL	10									
Surr: 2,4,6-Tribromophenol	92.13	0	100.0		92.1	52	133				
Surr: 2-Fluorobiphenyl	41.74	0	50.00		83.5	50	121				
Surr: 2-Fluorophenol	50.23	0	100.0		50.2	27.5	120				
Surr: 4-Terphenyl-d14	47.66	0	50.00		95.3	46.3	137				
Surr: Nitrobenzene-d5	38.01	0	50.00		76.0	41.2	121				
Surr: Phenol-d5	34.90	0	100.0		34.9	14.3	120				

Sample ID: **MB-211207** Client ID: Units: **ug/L** Prep Date: **08/10/2015** Run No: **297610**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **211207** Analysis Date: **08/10/2015** Seq No: **6352580**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	0.50									
Acenaphthylene	BRL	1.0									
Anthracene	BRL	0.050									
Benz(a)anthracene	BRL	0.050									
Benzo(a)pyrene	BRL	0.050									
Benzo(b)fluoranthene	BRL	0.10									
Benzo(g,h,i)perylene	BRL	0.10									
Benzo(k)fluoranthene	BRL	0.050									
Chrysene	BRL	0.050									
Dibenz(a,h)anthracene	BRL	0.10									
Fluoranthene	BRL	0.10									
Fluorene	BRL	0.10									
Indeno(1,2,3-cd)pyrene	BRL	0.050									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1508330

ANALYTICAL QC SUMMARY REPORT

BatchID: 211207

Sample ID: **MB-211207** Client ID: Units: **ug/L** Prep Date: **08/10/2015** Run No: **297610**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **211207** Analysis Date: **08/10/2015** Seq No: **6352580**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Naphthalene	BRL	0.50									
Phenanthrene	BRL	0.050									
Pyrene	BRL	0.050									
Surr: 4-Terphenyl-d14	51.36	0	50.00		103	55.4	136				

Sample ID: **LCS-211207** Client ID: Units: **ug/L** Prep Date: **08/10/2015** Run No: **297600**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **211207** Analysis Date: **08/10/2015** Seq No: **6351184**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	37.28	10	100.0		37.3	25.6	120				
Surr: 2,4,6-Tribromophenol	113.2	0	100.0		113	52	133				
Surr: 2-Fluorobiphenyl	51.70	0	50.00		103	50	121				
Surr: 2-Fluorophenol	51.52	0	100.0		51.5	27.5	120				
Surr: 4-Terphenyl-d14	57.43	0	50.00		115	46.3	137				
Surr: Nitrobenzene-d5	50.52	0	50.00		101	41.2	121				
Surr: Phenol-d5	34.88	0	100.0		34.9	14.3	120				

Sample ID: **1508446-027BMS** Client ID: Units: **ug/L** Prep Date: **08/10/2015** Run No: **297600**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **211207** Analysis Date: **08/10/2015** Seq No: **6352937**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	46.11	10	100.0		46.1	31	120				
Surr: 2,4,6-Tribromophenol	101.6	0	100.0		102	52	133				
Surr: 2-Fluorobiphenyl	47.54	0	50.00		95.1	50	121				
Surr: 2-Fluorophenol	59.32	0	100.0		59.3	27.5	120				
Surr: 4-Terphenyl-d14	49.78	0	50.00		99.6	46.3	137				
Surr: Nitrobenzene-d5	45.16	0	50.00		90.3	41.2	121				
Surr: Phenol-d5	45.80	0	100.0		45.8	14.3	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1508330

ANALYTICAL QC SUMMARY REPORT

BatchID: 211207

Sample ID: **1508446-027BMSD** Client ID:
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/L** Prep Date: **08/10/2015** Run No: **297600**
BatchID: **211207** Analysis Date: **08/10/2015** Seq No: **6352938**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	40.83	10	100.0		40.8	31	120	46.11	12.1	31.9	
Surr: 2,4,6-Tribromophenol	86.09	0	100.0		86.1	52	133	101.6	0	0	
Surr: 2-Fluorobiphenyl	37.62	0	50.00		75.2	50	121	47.54	0	0	
Surr: 2-Fluorophenol	55.58	0	100.0		55.6	27.5	120	59.32	0	0	
Surr: 4-Terphenyl-d14	45.70	0	50.00		91.4	46.3	137	49.78	0	0	
Surr: Nitrobenzene-d5	34.63	0	50.00		69.3	41.2	121	45.16	0	0	
Surr: Phenol-d5	41.54	0	100.0		41.5	14.3	120	45.80	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

September 29, 2015

Nic Vrey
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: AGL Macon Remediation

Dear Nic Vrey: Order No: 1509H68

Analytical Environmental Services, Inc. received 6 samples on September 22, 2015 10:05 am for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1509H68

Date: 9/21/15 Page 1 of 1

COMPANY: ERM

ADDRESS: 3200 Windy Hill Rd ATL GA 30339

PHONE:

FAX:

SAMPLED BY: KS; DP

SIGNATURE:

ANALYSIS REQUESTED

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	Arsenic	Chromium	Benzo(a)anthracene	REMARKS	No # of Containers
							PRESERVATION (See codes) H		H		
1	SCS-60-9W-(2'-6')-20150918-01	9/18/15	1500	X		S	X	X	X		2
2	SCS-61-9W-(2'-6')-20150918-01	9/18/15	1505	X		S	X	X	X		2
3	SCS-62-9W-(2'-6')-20150918-01	9/18/15	1510	X		S	X	X	X		2
4	SCS-63-9W-(2'-6')-20150918-01	9/18/15	1700	X		S	X	X	X		2
5	SCS-64-9W-(2'-6')-20150918-01	9/18/15	1705	X		S	X	X	X		2
6	SCS-65-9W-(2'-6')-20150918-01	9/18/15	1710	X		S	X	X	X		2
7											
8											
9											
10											
11											
12											
13											
14											

RELINQUISHED BY / DATE/TIME

1: Ken Grant 9/21/15 1620

2:

3:

RECEIVED BY / DATE/TIME

1: Keary Rodgers (FedEx) 9/22/15 10:05

2:

3:

PROJECT INFORMATION

PROJECT NAME: AGL Macon Remediation

PROJECT #: 0176740

SITE ADDRESS:

SEND REPORT TO: M.c.Vrey@erm.com

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: PO#:

RECEIPT

Total # of Containers: 12

Turnaround Time Request
- Standard 5 Business Days
- 2 Business Day Rush
- Next Business Day Rush
- Same Day Rush (auth req.)
- Other 3DAY TAT

STATE PROGRAM (if any):

E-mail? Y / N; Fax? Y / N

DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD

OUT / / VIA:

IN / / VIA:

CLIENT (FedEx) UPS MAIL COURIER

GREYHOUND OTHER

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc **Date:** 29-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-60-9W-(2'-6')-20150918-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/18/2015 3:00:00 PM
Lab ID:	1509H68-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	6.5	1.9		ug/Kg-dry	213278	1	09/23/2015 13:50	YH
Surr: 4-Terphenyl-d14	96	42-124		%REC	213278	1	09/23/2015 13:50	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	BRL	5.27		mg/Kg-dry	213262	1	09/22/2015 19:25	IO
Chromium	17.5	2.63		mg/Kg-dry	213262	1	09/22/2015 19:25	IO
PERCENT MOISTURE D2216								
Percent Moisture	11.9	0		wt%	R300732	1	09/25/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 29-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-61-9W-(2'-6')-20150918-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/18/2015 3:05:00 PM
Lab ID:	1509H68-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	2.3	2.0		ug/Kg-dry	213278	1	09/23/2015 14:17	YH
Surr: 4-Terphenyl-d14	86.8	42-124		%REC	213278	1	09/23/2015 14:17	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	BRL	5.02		mg/Kg-dry	213262	1	09/22/2015 19:28	IO
Chromium	15.4	2.51		mg/Kg-dry	213262	1	09/22/2015 19:28	IO
PERCENT MOISTURE D2216								
Percent Moisture	16.1	0		wt%	R300732	1	09/25/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 29-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-62-9W-(2'-6')-20150918-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/18/2015 3:10:00 PM
Lab ID:	1509H68-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	BRL	2.4		ug/Kg-dry	213278	1	09/23/2015 14:45	YH
Surr: 4-Terphenyl-d14	91.9	42-124		%REC	213278	1	09/23/2015 14:45	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	BRL	6.41		mg/Kg-dry	213262	1	09/22/2015 19:32	IO
Chromium	19.4	3.21		mg/Kg-dry	213262	1	09/22/2015 19:32	IO
PERCENT MOISTURE D2216								
Percent Moisture	30.4	0		wt%	R300732	1	09/25/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 29-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-63-9W-(2'-6')-20150918-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/18/2015 5:00:00 PM
Lab ID:	1509H68-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	BRL	1.9		ug/Kg-dry	213278	1	09/23/2015 15:12	YH
Surr: 4-Terphenyl-d14	94.6	42-124		%REC	213278	1	09/23/2015 15:12	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	BRL	5.27		mg/Kg-dry	213262	1	09/22/2015 19:36	IO
Chromium	8.80	2.63		mg/Kg-dry	213262	1	09/22/2015 19:36	IO
PERCENT MOISTURE D2216								
Percent Moisture	8.27	0		wt%	R300732	1	09/25/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 29-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-64-9W-(2'-6')-20150918-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/18/2015 5:05:00 PM
Lab ID:	1509H68-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	BRL	2.2		ug/Kg-dry	213278	1	09/23/2015 15:40	YH
Surr: 4-Terphenyl-d14	96.4	42-124		%REC	213278	1	09/23/2015 15:40	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	BRL	5.89		mg/Kg-dry	213262	1	09/22/2015 19:40	IO
Chromium	9.80	2.94		mg/Kg-dry	213262	1	09/22/2015 19:40	IO
PERCENT MOISTURE D2216								
Percent Moisture	22.9	0		wt%	R300732	1	09/25/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 29-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-65-9W-(2'-6')-20150918-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/18/2015 5:10:00 PM
Lab ID:	1509H68-006	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	48	1.9		ug/Kg-dry	213278	1	09/23/2015 16:07	YH
Surr: 4-Terphenyl-d14	87	42-124		%REC	213278	1	09/23/2015 16:07	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	BRL	5.49		mg/Kg-dry	213262	1	09/22/2015 19:44	IO
Chromium	19.3	2.75		mg/Kg-dry	213262	1	09/22/2015 19:44	IO
PERCENT MOISTURE D2216								
Percent Moisture	12.7	0		wt%	R300732	1	09/25/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM Work Order Number 1509H68

Checklist completed by _____ 9/22/15
Signature Date

Carrier name: FedEx ✓ UPS __ Courier __ Client __ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 3.4 Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted ✓ Yes __ No __

Water - pH acceptable upon receipt? Yes __ No __ Not Applicable ✓

Adjusted? _____ Checked by _____

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509H68

ANALYTICAL QC SUMMARY REPORT

BatchID: 213262

Sample ID: **MB-213262**	Client ID:			Units: **mg/Kg**	Prep Date: **09/22/2015**	Run No: **300521**
SampleType: **MBLK**	TestCode: **METALS, TOTAL**	**SW6010C**		BatchID: **213262**	Analysis Date: **09/22/2015**	Seq No: **6421648**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	BRL	5.00									
Chromium	BRL	2.50									

Sample ID: **LCS-213262**	Client ID:			Units: **mg/Kg**	Prep Date: **09/22/2015**	Run No: **300521**
SampleType: **LCS**	TestCode: **METALS, TOTAL**	**SW6010C**		BatchID: **213262**	Analysis Date: **09/22/2015**	Seq No: **6421650**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	47.52	5.00	50.00		95.0	80	120				
Chromium	48.84	2.50	50.00	0.09805	97.5	80	120				

Sample ID: **1509H07-003AMS**	Client ID:			Units: **mg/Kg-dry**	Prep Date: **09/22/2015**	Run No: **300521**
SampleType: **MS**	TestCode: **METALS, TOTAL**	**SW6010C**		BatchID: **213262**	Analysis Date: **09/22/2015**	Seq No: **6421654**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	93.36	9.95	99.46		93.9	75	125				
Chromium	96.49	4.97	99.46	5.697	91.3	75	125				

Sample ID: **1509H07-003AMSD**	Client ID:			Units: **mg/Kg-dry**	Prep Date: **09/22/2015**	Run No: **300521**
SampleType: **MSD**	TestCode: **METALS, TOTAL**	**SW6010C**		BatchID: **213262**	Analysis Date: **09/22/2015**	Seq No: **6421656**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	96.00	9.95	99.49		96.5	75	125	93.36	2.79	20	
Chromium	99.64	4.97	99.49	5.697	94.4	75	125	96.49	3.21	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509H68

ANALYTICAL QC SUMMARY REPORT

BatchID: 213278

Sample ID: **MB-213278**	Client ID:			Units: **ug/Kg**	Prep Date: **09/22/2015**	Run No: **300537**
SampleType: **MBLK**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons**	**SW8270D**		BatchID: **213278**	Analysis Date: **09/23/2015**	Seq No: **6421993**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	BRL	1.7									
Surr: 4-Terphenyl-d14	68.05	0	66.67		102	42	124				

Sample ID: **LCS-213278**	Client ID:			Units: **ug/Kg**	Prep Date: **09/22/2015**	Run No: **300537**
SampleType: **LCS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons**	**SW8270D**		BatchID: **213278**	Analysis Date: **09/23/2015**	Seq No: **6421994**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	76.33	1.7	66.70		114	56.7	124				
Surr: 4-Terphenyl-d14	65.81	0	66.70		98.7	42	124				

Sample ID: **1509G94-001AMS**	Client ID:			Units: **ug/Kg-dry**	Prep Date: **09/22/2015**	Run No: **300537**
SampleType: **MS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons**	**SW8270D**		BatchID: **213278**	Analysis Date: **09/23/2015**	Seq No: **6422125**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	107.1	6.1	79.85	67.51	49.5	44.9	136				
Surr: 4-Terphenyl-d14	75.45	0	79.85		94.5	42	124				

Sample ID: **1509G94-001AMSD**	Client ID:			Units: **ug/Kg-dry**	Prep Date: **09/22/2015**	Run No: **300537**
SampleType: **MSD**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons**	**SW8270D**		BatchID: **213278**	Analysis Date: **09/23/2015**	Seq No: **6422126**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	112.5	6.1	79.85	67.51	56.3	44.9	136	107.1	4.95	33.8	
Surr: 4-Terphenyl-d14	73.15	0	79.85		91.6	42	124	75.45	0	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

October 02, 2015

Nic Vrey
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: AGL Macon Remediation

Dear Nic Vrey: Order No: 1509M23

Analytical Environmental Services, Inc. received 12 samples on 9/25/2015 10:25:00 AM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1509M23

Date: 9/24/15 Page 1 of 1

COMPANY: ERM	ADDRESS: 3200 Windy Hill Rd Suite 1500w ATL GA 30339
PHONE:	FAX:
SAMPLED BY: ES/DP	SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	Benzene	Benzo(a)anthracene	VOC's (8260B)-COH only	SVOC's (8270C) COH only	Inorganics (6010B)	Total Cyanide (9012A)	Mercury (7470A)	REMARKS	No # of Containers
1	P1SS-1-20150922-01	9/22/15	1500		X	S			X	X	X	X	X		6
2	P1SS-2-20150922-01		1505		X				X	X	X	X	X		6
3	P1SS-3-20150922-01		1510		X				X	X	X	X	X		6
4	P1SS-4-20150922-01		1515		X				X	X	X	X	X		6
5	P1SS-5-20150922-01		1520		X				X	X	X	X	X		6
6	SCS-66-12W-(6'-10')-20150923-01	9/23/15	1645	X			X								4
7	SCS-67-13W-(6'-10')-20150923-01		1050	X				X							1
8	SCS-68-13W-(6'-10')-20150923-01		1055	X				X							1
9	SSS-38-20150923-01		1810		X				X	X	X	X	X		6
10	SSS-39-20150923-01		1820		X				X	X	X	X	X		6
11	P1SS-6-20150923-01		1800		X				X	X	X	X	X		6
12	TB-10-20150924-01					W			X						2
13															
14															

PRESERVATION (See codes)

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:	9/24	1:	9/25/15 10:05
2:	1715	2:	
3:		3:	

SPECIAL INSTRUCTIONS/COMMENTS: See AGL Macon COI List

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
CLIENT (FedEx) UPS MAIL COURIER
GREYHOUND OTHER_____

PROJECT INFORMATION
PROJECT NAME: AGL Macon Remediation
PROJECT #: 0176740
SITE ADDRESS: 224 Walnut St Macon GA 31201
SEND REPORT TO: Nic.Vreg@erm.com
INVOICE TO: (IF DIFFERENT FROM ABOVE)
QUOTE #:_____ PO#:_____

RECEIPT
Total # of Containers

Turnaround Time Request
- Standard 5 Business Days
- 2 Business Day Rush
- Next Business Day Rush
- Same Day Rush (auth req.)
- X Other 3 DAY TAT

STATE PROGRAM (if any): _____
E-mail? Y / N; Fax? Y / N
DATA PACKAGE: I II III IV

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc

Date: 2-Oct-15

Client: ERM-Southeast
Project: AGL Macon Remediation
Lab ID: 1509M23

Case Narrative

Volatile Organic Compounds Analysis by Method 8260B:

Percent recovery for the internal standard compound 1,4-Dichlorobenzene-d4 on sample 1509M23-003 A was outside control limits biased low due to suspected matrix interference. All other internal standard recoveries were within control limits.

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	P1SS-1-20150922-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/22/2015 3:00:00 PM
Lab ID:	1509M23-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	8.8		ug/Kg-dry	213553	1	09/28/2015 18:13	CG
Benzene	BRL	4.4		ug/Kg-dry	213553	1	09/28/2015 18:13	CG
Toluene	BRL	4.4		ug/Kg-dry	213553	1	09/28/2015 18:13	CG
Ethylbenzene	BRL	4.4		ug/Kg-dry	213553	1	09/28/2015 18:13	CG
Xylenes, Total	BRL	4.4		ug/Kg-dry	213553	1	09/28/2015 18:13	CG
Surr: 4-Bromofluorobenzene	83.2	70-128		%REC	213553	1	09/28/2015 18:13	CG
Surr: Dibromofluoromethane	107	78.2-128		%REC	213553	1	09/28/2015 18:13	CG
Surr: Toluene-d8	100	76.5-116		%REC	213553	1	09/28/2015 18:13	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.110		mg/Kg-dry	213559	1	09/29/2015 13:17	CC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	20		ug/Kg-dry	213474	1	09/28/2015 21:28	YH
Acenaphthylene	75	38		ug/Kg-dry	213474	1	09/28/2015 21:28	YH
Anthracene	82	2.0		ug/Kg-dry	213474	1	09/28/2015 21:28	YH
Benz(a)anthracene	380	20		ug/Kg-dry	213474	10	09/29/2015 17:22	YH
Benzo(a)pyrene	360	2.0		ug/Kg-dry	213474	1	09/28/2015 21:28	YH
Benzo(b)fluoranthene	470	38		ug/Kg-dry	213474	10	09/29/2015 17:22	YH
Benzo(g,h,i)perylene	280	3.8		ug/Kg-dry	213474	1	09/28/2015 21:28	YH
Benzo(k)fluoranthene	170	2.0		ug/Kg-dry	213474	1	09/28/2015 21:28	YH
Chrysene	340	20		ug/Kg-dry	213474	10	09/29/2015 17:22	YH
Dibenz(a,h)anthracene	47	3.8		ug/Kg-dry	213474	1	09/28/2015 21:28	YH
Fluoranthene	660	38		ug/Kg-dry	213474	10	09/29/2015 17:22	YH
Fluorene	23	3.8		ug/Kg-dry	213474	1	09/28/2015 21:28	YH
Indeno(1,2,3-cd)pyrene	220	2.0		ug/Kg-dry	213474	1	09/28/2015 21:28	YH
Naphthalene	41	20		ug/Kg-dry	213474	1	09/28/2015 21:28	YH
Phenanthrene	340	2.0		ug/Kg-dry	213474	1	09/28/2015 21:28	YH
Pyrene	670	20		ug/Kg-dry	213474	10	09/29/2015 17:22	YH
Surr: 4-Terphenyl-d14	80	42-124		%REC	213474	1	09/28/2015 21:28	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	380		ug/Kg-dry	213628	1	09/30/2015 13:16	YH
2-Methylphenol	BRL	380		ug/Kg-dry	213628	1	09/30/2015 13:16	YH
3,4-Methylphenol	BRL	380		ug/Kg-dry	213628	1	09/30/2015 13:16	YH
Phenol	BRL	380		ug/Kg-dry	213628	1	09/30/2015 13:16	YH
Surr: 2,4,6-Tribromophenol	99.2	41-128		%REC	213628	1	09/30/2015 13:16	YH
Surr: 2-Fluorobiphenyl	92.1	47-120		%REC	213628	1	09/30/2015 13:16	YH
Surr: 2-Fluorophenol	80.2	38.3-120		%REC	213628	1	09/30/2015 13:16	YH
Surr: 4-Terphenyl-d14	97.3	51.4-125		%REC	213628	1	09/30/2015 13:16	YH
Surr: Nitrobenzene-d5	85.5	40.1-120		%REC	213628	1	09/30/2015 13:16	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	P1SS-1-20150922-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/22/2015 3:00:00 PM
Lab ID:	1509M23-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	87.2	40.3-120		%REC	213628	1	09/30/2015 13:16	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.15		mg/Kg-dry	213725	1	09/30/2015 16:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.58		mg/Kg-dry	213514	1	09/30/2015 12:49	TA
Arsenic	BRL	5.58		mg/Kg-dry	213514	1	09/30/2015 12:49	TA
Barium	38.7	5.58		mg/Kg-dry	213514	1	09/30/2015 12:49	TA
Beryllium	BRL	2.79		mg/Kg-dry	213514	1	09/30/2015 12:49	TA
Cadmium	BRL	2.79		mg/Kg-dry	213514	1	09/30/2015 12:49	TA
Chromium	14.6	2.79		mg/Kg-dry	213514	1	09/30/2015 12:49	TA
Copper	13.8	2.79		mg/Kg-dry	213514	1	09/30/2015 12:49	TA
Lead	26.0	5.58		mg/Kg-dry	213514	1	09/30/2015 12:49	TA
Nickel	BRL	5.58		mg/Kg-dry	213514	1	09/30/2015 12:49	TA
Zinc	19.5	5.58		mg/Kg-dry	213514	1	09/30/2015 12:49	TA
PERCENT MOISTURE D2216								
Percent Moisture	13.1	0		wt%	R301062	1	09/30/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	P1SS-2-20150922-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/22/2015 3:05:00 PM
Lab ID:	1509M23-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	7.3		ug/Kg-dry	213553	1	09/28/2015 18:36	CG
Benzene	BRL	3.6		ug/Kg-dry	213553	1	09/28/2015 18:36	CG
Toluene	BRL	3.6		ug/Kg-dry	213553	1	09/28/2015 18:36	CG
Ethylbenzene	BRL	3.6		ug/Kg-dry	213553	1	09/28/2015 18:36	CG
Xylenes, Total	BRL	3.6		ug/Kg-dry	213553	1	09/28/2015 18:36	CG
Surr: 4-Bromofluorobenzene	81.8	70-128		%REC	213553	1	09/28/2015 18:36	CG
Surr: Dibromofluoromethane	107	78.2-128		%REC	213553	1	09/28/2015 18:36	CG
Surr: Toluene-d8	100	76.5-116		%REC	213553	1	09/28/2015 18:36	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.113		mg/Kg-dry	213559	1	09/29/2015 13:20	CC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	21	19		ug/Kg-dry	213474	1	09/28/2015 21:55	YH
Acenaphthylene	95	37		ug/Kg-dry	213474	1	09/28/2015 21:55	YH
Anthracene	96	1.9		ug/Kg-dry	213474	1	09/28/2015 21:55	YH
Benz(a)anthracene	460	19		ug/Kg-dry	213474	10	09/29/2015 17:49	YH
Benzo(a)pyrene	350	1.9		ug/Kg-dry	213474	1	09/28/2015 21:55	YH
Benzo(b)fluoranthene	560	37		ug/Kg-dry	213474	10	09/29/2015 17:49	YH
Benzo(g,h,i)perylene	290	3.7		ug/Kg-dry	213474	1	09/28/2015 21:55	YH
Benzo(k)fluoranthene	160	1.9		ug/Kg-dry	213474	1	09/28/2015 21:55	YH
Chrysene	450	19		ug/Kg-dry	213474	10	09/29/2015 17:49	YH
Dibenz(a,h)anthracene	58	3.7		ug/Kg-dry	213474	1	09/28/2015 21:55	YH
Fluoranthene	770	37		ug/Kg-dry	213474	10	09/29/2015 17:49	YH
Fluorene	27	3.7		ug/Kg-dry	213474	1	09/28/2015 21:55	YH
Indeno(1,2,3-cd)pyrene	240	1.9		ug/Kg-dry	213474	1	09/28/2015 21:55	YH
Naphthalene	40	19		ug/Kg-dry	213474	1	09/28/2015 21:55	YH
Phenanthrene	420	19		ug/Kg-dry	213474	10	09/29/2015 17:49	YH
Pyrene	830	19		ug/Kg-dry	213474	10	09/29/2015 17:49	YH
Surr: 4-Terphenyl-d14	81.9	42-124		%REC	213474	1	09/28/2015 21:55	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	370		ug/Kg-dry	213628	1	09/30/2015 13:42	YH
2-Methylphenol	BRL	370		ug/Kg-dry	213628	1	09/30/2015 13:42	YH
3,4-Methylphenol	BRL	370		ug/Kg-dry	213628	1	09/30/2015 13:42	YH
Phenol	BRL	370		ug/Kg-dry	213628	1	09/30/2015 13:42	YH
Surr: 2,4,6-Tribromophenol	103	41-128		%REC	213628	1	09/30/2015 13:42	YH
Surr: 2-Fluorobiphenyl	96.1	47-120		%REC	213628	1	09/30/2015 13:42	YH
Surr: 2-Fluorophenol	83.6	38.3-120		%REC	213628	1	09/30/2015 13:42	YH
Surr: 4-Terphenyl-d14	99.9	51.4-125		%REC	213628	1	09/30/2015 13:42	YH
Surr: Nitrobenzene-d5	90.3	40.1-120		%REC	213628	1	09/30/2015 13:42	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	P1SS-2-20150922-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/22/2015 3:05:00 PM
Lab ID:	1509M23-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	90.4	40.3-120		%REC	213628	1	09/30/2015 13:42	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.14		mg/Kg-dry	213725	1	09/30/2015 16:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.16		mg/Kg-dry	213514	1	09/30/2015 12:51	TA
Arsenic	BRL	5.16		mg/Kg-dry	213514	1	09/30/2015 12:51	TA
Barium	30.5	5.16		mg/Kg-dry	213514	1	09/30/2015 12:51	TA
Beryllium	BRL	2.58		mg/Kg-dry	213514	1	09/30/2015 12:51	TA
Cadmium	BRL	2.58		mg/Kg-dry	213514	1	09/30/2015 12:51	TA
Chromium	16.4	2.58		mg/Kg-dry	213514	1	09/30/2015 12:51	TA
Copper	11.4	2.58		mg/Kg-dry	213514	1	09/30/2015 12:51	TA
Lead	23.8	5.16		mg/Kg-dry	213514	1	09/30/2015 12:51	TA
Nickel	BRL	5.16		mg/Kg-dry	213514	1	09/30/2015 12:51	TA
Zinc	19.0	5.16		mg/Kg-dry	213514	1	09/30/2015 12:51	TA
PERCENT MOISTURE D2216								
Percent Moisture	11.9	0		wt%	R301062	1	09/30/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	P1SS-3-20150922-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/22/2015 3:10:00 PM
Lab ID:	1509M23-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	9.5		ug/Kg-dry	213553	1	09/28/2015 19:00	CG
Benzene	BRL	4.7		ug/Kg-dry	213553	1	09/28/2015 19:00	CG
Toluene	BRL	4.7		ug/Kg-dry	213553	1	09/28/2015 19:00	CG
Ethylbenzene	BRL	4.7		ug/Kg-dry	213553	1	09/28/2015 19:00	CG
Xylenes, Total	BRL	4.7		ug/Kg-dry	213553	1	09/28/2015 19:00	CG
Surr: 4-Bromofluorobenzene	80	70-128		%REC	213553	1	09/28/2015 19:00	CG
Surr: Dibromofluoromethane	102	78.2-128		%REC	213553	1	09/28/2015 19:00	CG
Surr: Toluene-d8	98.7	76.5-116		%REC	213553	1	09/28/2015 19:00	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.110		mg/Kg-dry	213559	1	09/29/2015 13:22	CC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	32	20		ug/Kg-dry	213474	1	09/28/2015 22:22	YH
Acenaphthylene	150	39		ug/Kg-dry	213474	1	09/28/2015 22:22	YH
Anthracene	140	2.0		ug/Kg-dry	213474	1	09/28/2015 22:22	YH
Benz(a)anthracene	460	20		ug/Kg-dry	213474	10	09/29/2015 18:18	YH
Benzo(a)pyrene	320	20		ug/Kg-dry	213474	10	09/29/2015 18:18	YH
Benzo(b)fluoranthene	470	39		ug/Kg-dry	213474	10	09/29/2015 18:18	YH
Benzo(g,h,i)perylene	290	3.9		ug/Kg-dry	213474	1	09/28/2015 22:22	YH
Benzo(k)fluoranthene	180	2.0		ug/Kg-dry	213474	1	09/28/2015 22:22	YH
Chrysene	400	20		ug/Kg-dry	213474	10	09/29/2015 18:18	YH
Dibenz(a,h)anthracene	67	3.9		ug/Kg-dry	213474	1	09/28/2015 22:22	YH
Fluoranthene	810	39		ug/Kg-dry	213474	10	09/29/2015 18:18	YH
Fluorene	43	3.9		ug/Kg-dry	213474	1	09/28/2015 22:22	YH
Indeno(1,2,3-cd)pyrene	260	2.0		ug/Kg-dry	213474	1	09/28/2015 22:22	YH
Naphthalene	50	20		ug/Kg-dry	213474	1	09/28/2015 22:22	YH
Phenanthrene	560	20		ug/Kg-dry	213474	10	09/29/2015 18:18	YH
Pyrene	830	20		ug/Kg-dry	213474	10	09/29/2015 18:18	YH
Surr: 4-Terphenyl-d14	82.2	42-124		%REC	213474	1	09/28/2015 22:22	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	390		ug/Kg-dry	213628	1	09/30/2015 14:09	YH
2-Methylphenol	BRL	390		ug/Kg-dry	213628	1	09/30/2015 14:09	YH
3,4-Methylphenol	BRL	390		ug/Kg-dry	213628	1	09/30/2015 14:09	YH
Phenol	BRL	390		ug/Kg-dry	213628	1	09/30/2015 14:09	YH
Surr: 2,4,6-Tribromophenol	92.8	41-128		%REC	213628	1	09/30/2015 14:09	YH
Surr: 2-Fluorobiphenyl	86.1	47-120		%REC	213628	1	09/30/2015 14:09	YH
Surr: 2-Fluorophenol	82.2	38.3-120		%REC	213628	1	09/30/2015 14:09	YH
Surr: 4-Terphenyl-d14	90.7	51.4-125		%REC	213628	1	09/30/2015 14:09	YH
Surr: Nitrobenzene-d5	85.7	40.1-120		%REC	213628	1	09/30/2015 14:09	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	P1SS-3-20150922-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/22/2015 3:10:00 PM
Lab ID:	1509M23-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	89.3	40.3-120		%REC	213628	1	09/30/2015 14:09	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.18		mg/Kg-dry	213725	1	09/30/2015 16:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.68		mg/Kg-dry	213514	1	09/30/2015 12:54	TA
Arsenic	BRL	5.68		mg/Kg-dry	213514	1	09/30/2015 12:54	TA
Barium	31.9	5.68		mg/Kg-dry	213514	1	09/30/2015 12:54	TA
Beryllium	BRL	2.84		mg/Kg-dry	213514	1	09/30/2015 12:54	TA
Cadmium	BRL	2.84		mg/Kg-dry	213514	1	09/30/2015 12:54	TA
Chromium	26.3	2.84		mg/Kg-dry	213514	1	09/30/2015 12:54	TA
Copper	9.60	2.84		mg/Kg-dry	213514	1	09/30/2015 12:54	TA
Lead	20.1	5.68		mg/Kg-dry	213514	1	09/30/2015 12:54	TA
Nickel	BRL	5.68		mg/Kg-dry	213514	1	09/30/2015 12:54	TA
Zinc	16.4	5.68		mg/Kg-dry	213514	1	09/30/2015 12:54	TA
PERCENT MOISTURE D2216								
Percent Moisture	15.0	0		wt%	R301062	1	09/30/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	P1SS-4-20150922-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/22/2015 3:15:00 PM
Lab ID:	1509M23-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	9.0		ug/Kg-dry	213553	1	09/28/2015 19:24	CG
Benzene	BRL	4.5		ug/Kg-dry	213553	1	09/28/2015 19:24	CG
Toluene	BRL	4.5		ug/Kg-dry	213553	1	09/28/2015 19:24	CG
Ethylbenzene	BRL	4.5		ug/Kg-dry	213553	1	09/28/2015 19:24	CG
Xylenes, Total	9.7	4.5		ug/Kg-dry	213553	1	09/28/2015 19:24	CG
Surr: 4-Bromofluorobenzene	79.4	70-128		%REC	213553	1	09/28/2015 19:24	CG
Surr: Dibromofluoromethane	102	78.2-128		%REC	213553	1	09/28/2015 19:24	CG
Surr: Toluene-d8	99.2	76.5-116		%REC	213553	1	09/28/2015 19:24	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.112		mg/Kg-dry	213559	1	09/29/2015 13:28	CC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	33	19		ug/Kg-dry	213474	1	09/28/2015 22:49	YH
Acenaphthylene	170	38		ug/Kg-dry	213474	1	09/28/2015 22:49	YH
Anthracene	140	1.9		ug/Kg-dry	213474	1	09/28/2015 22:49	YH
Benz(a)anthracene	800	19		ug/Kg-dry	213474	10	09/29/2015 18:45	YH
Benzo(a)pyrene	540	19		ug/Kg-dry	213474	10	09/29/2015 18:45	YH
Benzo(b)fluoranthene	860	38		ug/Kg-dry	213474	10	09/29/2015 18:45	YH
Benzo(g,h,i)perylene	400	38		ug/Kg-dry	213474	10	09/29/2015 18:45	YH
Benzo(k)fluoranthene	260	1.9		ug/Kg-dry	213474	1	09/28/2015 22:49	YH
Chrysene	650	19		ug/Kg-dry	213474	10	09/29/2015 18:45	YH
Dibenz(a,h)anthracene	99	3.8		ug/Kg-dry	213474	1	09/28/2015 22:49	YH
Fluoranthene	1300	38		ug/Kg-dry	213474	10	09/29/2015 18:45	YH
Fluorene	42	3.8		ug/Kg-dry	213474	1	09/28/2015 22:49	YH
Indeno(1,2,3-cd)pyrene	300	19		ug/Kg-dry	213474	10	09/29/2015 18:45	YH
Naphthalene	67	19		ug/Kg-dry	213474	1	09/28/2015 22:49	YH
Phenanthrene	590	19		ug/Kg-dry	213474	10	09/29/2015 18:45	YH
Pyrene	1400	19		ug/Kg-dry	213474	10	09/29/2015 18:45	YH
Surr: 4-Terphenyl-d14	81.9	42-124		%REC	213474	1	09/28/2015 22:49	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	380		ug/Kg-dry	213628	1	09/30/2015 14:36	YH
2-Methylphenol	BRL	380		ug/Kg-dry	213628	1	09/30/2015 14:36	YH
3,4-Methylphenol	BRL	380		ug/Kg-dry	213628	1	09/30/2015 14:36	YH
Phenol	BRL	380		ug/Kg-dry	213628	1	09/30/2015 14:36	YH
Surr: 2,4,6-Tribromophenol	87.7	41-128		%REC	213628	1	09/30/2015 14:36	YH
Surr: 2-Fluorobiphenyl	88	47-120		%REC	213628	1	09/30/2015 14:36	YH
Surr: 2-Fluorophenol	68.6	38.3-120		%REC	213628	1	09/30/2015 14:36	YH
Surr: 4-Terphenyl-d14	90.3	51.4-125		%REC	213628	1	09/30/2015 14:36	YH
Surr: Nitrobenzene-d5	82.8	40.1-120		%REC	213628	1	09/30/2015 14:36	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	P1SS-4-20150922-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/22/2015 3:15:00 PM
Lab ID:	1509M23-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	78.4	40.3-120		%REC	213628	1	09/30/2015 14:36	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.15		mg/Kg-dry	213725	1	09/30/2015 16:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.26		mg/Kg-dry	213514	1	09/30/2015 12:57	TA
Arsenic	BRL	5.26		mg/Kg-dry	213514	1	09/30/2015 12:57	TA
Barium	28.0	5.26		mg/Kg-dry	213514	1	09/30/2015 12:57	TA
Beryllium	BRL	2.63		mg/Kg-dry	213514	1	09/30/2015 12:57	TA
Cadmium	BRL	2.63		mg/Kg-dry	213514	1	09/30/2015 12:57	TA
Chromium	17.6	2.63		mg/Kg-dry	213514	1	09/30/2015 12:57	TA
Copper	9.43	2.63		mg/Kg-dry	213514	1	09/30/2015 12:57	TA
Lead	18.2	5.26		mg/Kg-dry	213514	1	09/30/2015 12:57	TA
Nickel	BRL	5.26		mg/Kg-dry	213514	1	09/30/2015 12:57	TA
Zinc	13.5	5.26		mg/Kg-dry	213514	1	09/30/2015 12:57	TA
PERCENT MOISTURE D2216								
Percent Moisture	12.8	0		wt%	R301062	1	09/30/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	P1SS-5-20150922-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/22/2015 3:20:00 PM
Lab ID:	1509M23-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	6.5		ug/Kg-dry	213553	1	09/28/2015 19:48	CG
Benzene	350	300		ug/Kg-dry	213639	100	09/29/2015 20:46	NH
Toluene	6200	370		ug/Kg-dry	213639	100	09/29/2015 20:46	NH
Ethylbenzene	2500	370		ug/Kg-dry	213639	100	09/29/2015 20:46	NH
Xylenes, Total	22000	370		ug/Kg-dry	213639	100	09/29/2015 20:46	NH
Surr: 4-Bromofluorobenzene	104	70-128		%REC	213553	1	09/28/2015 19:48	CG
Surr: 4-Bromofluorobenzene	109	70-128		%REC	213639	100	09/29/2015 20:46	NH
Surr: Dibromofluoromethane	99.4	78.2-128		%REC	213553	1	09/28/2015 19:48	CG
Surr: Dibromofluoromethane	95	78.2-128		%REC	213639	100	09/29/2015 20:46	NH
Surr: Toluene-d8	93.2	76.5-116		%REC	213553	1	09/28/2015 19:48	CG
Surr: Toluene-d8	87.4	76.5-116		%REC	213639	100	09/29/2015 20:46	NH
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.125		mg/Kg-dry	213559	1	09/29/2015 13:31	CC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	4400	2100		ug/Kg-dry	213474	100	09/29/2015 15:02	YH
Acenaphthylene	4500	4100		ug/Kg-dry	213474	100	09/29/2015 15:02	YH
Anthracene	2400	21		ug/Kg-dry	213474	10	09/29/2015 19:13	YH
Benz(a)anthracene	2100	21		ug/Kg-dry	213474	10	09/29/2015 19:13	YH
Benzo(a)pyrene	860	21		ug/Kg-dry	213474	10	09/29/2015 19:13	YH
Benzo(b)fluoranthene	850	41		ug/Kg-dry	213474	10	09/29/2015 19:13	YH
Benzo(g,h,i)perylene	190	4.1		ug/Kg-dry	213474	1	09/28/2015 23:16	YH
Benzo(k)fluoranthene	210	2.1		ug/Kg-dry	213474	1	09/28/2015 23:16	YH
Chrysene	1600	21		ug/Kg-dry	213474	10	09/29/2015 19:13	YH
Dibenz(a,h)anthracene	100	4.1		ug/Kg-dry	213474	1	09/28/2015 23:16	YH
Fluoranthene	3100	41		ug/Kg-dry	213474	10	09/29/2015 19:13	YH
Fluorene	3600	410		ug/Kg-dry	213474	100	09/29/2015 15:02	YH
Indeno(1,2,3-cd)pyrene	210	2.1		ug/Kg-dry	213474	1	09/28/2015 23:16	YH
Naphthalene	11000	2100		ug/Kg-dry	213474	100	09/29/2015 15:02	YH
Phenanthrene	18000	210		ug/Kg-dry	213474	100	09/29/2015 15:02	YH
Pyrene	3800	21		ug/Kg-dry	213474	10	09/29/2015 19:13	YH
Surr: 4-Terphenyl-d14	89.1	42-124		%REC	213474	1	09/28/2015 23:16	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	410		ug/Kg-dry	213628	1	09/30/2015 16:53	YH
2-Methylphenol	BRL	410		ug/Kg-dry	213628	1	09/30/2015 16:53	YH
3,4-Methylphenol	BRL	410		ug/Kg-dry	213628	1	09/30/2015 16:53	YH
Phenol	BRL	410		ug/Kg-dry	213628	1	09/30/2015 16:53	YH
Surr: 2,4,6-Tribromophenol	115	41-128		%REC	213628	1	09/30/2015 16:53	YH
Surr: 2-Fluorobiphenyl	95.6	47-120		%REC	213628	1	09/30/2015 16:53	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	P1SS-5-20150922-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/22/2015 3:20:00 PM
Lab ID:	1509M23-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: 2-Fluorophenol	85.2	38.3-120		%REC	213628	1	09/30/2015 16:53	YH
Surr: 4-Terphenyl-d14	103	51.4-125		%REC	213628	1	09/30/2015 16:53	YH
Surr: Nitrobenzene-d5	98.6	40.1-120		%REC	213628	1	09/30/2015 16:53	YH
Surr: Phenol-d5	94	40.3-120		%REC	213628	1	09/30/2015 16:53	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.26		mg/Kg-dry	213725	1	09/30/2015 16:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.61		mg/Kg-dry	213514	1	09/30/2015 13:00	TA
Arsenic	BRL	5.61		mg/Kg-dry	213514	1	09/30/2015 13:00	TA
Barium	41.8	5.61		mg/Kg-dry	213514	1	09/30/2015 13:00	TA
Beryllium	BRL	2.80		mg/Kg-dry	213514	1	09/30/2015 13:00	TA
Cadmium	BRL	2.80		mg/Kg-dry	213514	1	09/30/2015 13:00	TA
Chromium	27.0	2.80		mg/Kg-dry	213514	1	09/30/2015 13:00	TA
Copper	17.6	2.80		mg/Kg-dry	213514	1	09/30/2015 13:00	TA
Lead	13.1	5.61		mg/Kg-dry	213514	1	09/30/2015 13:00	TA
Nickel	BRL	5.61		mg/Kg-dry	213514	2	09/30/2015 18:12	TA
Zinc	9.25	5.61		mg/Kg-dry	213514	1	09/30/2015 13:00	TA
PERCENT MOISTURE D2216								
Percent Moisture	20.4	0		wt%	R301062	1	09/30/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-66-12W-(6'-10')-20150923-(
Project Name:	AGL Macon Remediation	**Collection Date:**	9/23/2015 10:45:00 AM
Lab ID:	1509M23-006	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5035)								
Benzene	BRL	3.2		ug/Kg-dry	213553	1	09/28/2015 20:12	CG
Surr: 4-Bromofluorobenzene	83.4	70-128		%REC	213553	1	09/28/2015 20:12	CG
Surr: Dibromofluoromethane	99.1	78.2-128		%REC	213553	1	09/28/2015 20:12	CG
Surr: Toluene-d8	96.3	76.5-116		%REC	213553	1	09/28/2015 20:12	CG
PERCENT MOISTURE D2216								
Percent Moisture	9.83	0		wt%	R301062	1	09/30/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-67-13W-(6'-10')-20150923-(
Project Name:	AGL Macon Remediation	**Collection Date:**	9/23/2015 10:50:00 AM
Lab ID:	1509M23-007	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	10	2.3		ug/Kg-dry	213474	1	09/28/2015 23:44	YH
Surr: 4-Terphenyl-d14	76.4	42-124		%REC	213474	1	09/28/2015 23:44	YH
PERCENT MOISTURE D2216								
Percent Moisture	26.2	0		wt%	R301062	1	09/30/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-68-13W-(6'-10')-20150923-(
Project Name:	AGL Macon Remediation	**Collection Date:**	9/23/2015 10:55:00 AM
Lab ID:	1509M23-008	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3550C)								
Benz(a)anthracene	12	2.1		ug/Kg-dry	213474	1	09/29/2015 00:11	YH
Surr: 4-Terphenyl-d14	80.6	42-124		%REC	213474	1	09/29/2015 00:11	YH
PERCENT MOISTURE D2216								
Percent Moisture	18.8	0		wt%	R301062	1	09/30/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-38-20150923-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/23/2015 6:10:00 PM
Lab ID:	1509M23-009	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	8.5		ug/Kg-dry	213553	1	09/28/2015 20:35	CG
Benzene	BRL	4.2		ug/Kg-dry	213553	1	09/28/2015 20:35	CG
Toluene	BRL	4.2		ug/Kg-dry	213553	1	09/28/2015 20:35	CG
Ethylbenzene	140	4.2		ug/Kg-dry	213553	1	09/28/2015 20:35	CG
Xylenes, Total	130	4.2		ug/Kg-dry	213553	1	09/28/2015 20:35	CG
Surr: 4-Bromofluorobenzene	81.1	70-128		%REC	213553	1	09/28/2015 20:35	CG
Surr: Dibromofluoromethane	102	78.2-128		%REC	213553	1	09/28/2015 20:35	CG
Surr: Toluene-d8	97.6	76.5-116		%REC	213553	1	09/28/2015 20:35	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.107		mg/Kg-dry	213559	1	09/29/2015 13:33	CC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	86	19		ug/Kg-dry	213474	1	09/29/2015 00:39	YH
Acenaphthylene	120	36		ug/Kg-dry	213474	1	09/29/2015 00:39	YH
Anthracene	160	1.9		ug/Kg-dry	213474	1	09/29/2015 00:39	YH
Benz(a)anthracene	430	19		ug/Kg-dry	213474	10	09/29/2015 19:41	YH
Benzo(a)pyrene	250	1.9		ug/Kg-dry	213474	1	09/29/2015 00:39	YH
Benzo(b)fluoranthene	330	36		ug/Kg-dry	213474	10	09/29/2015 19:41	YH
Benzo(g,h,i)perylene	110	3.6		ug/Kg-dry	213474	1	09/29/2015 00:39	YH
Benzo(k)fluoranthene	100	1.9		ug/Kg-dry	213474	1	09/29/2015 00:39	YH
Chrysene	410	19		ug/Kg-dry	213474	10	09/29/2015 19:41	YH
Dibenz(a,h)anthracene	38	3.6		ug/Kg-dry	213474	1	09/29/2015 00:39	YH
Fluoranthene	760	36		ug/Kg-dry	213474	10	09/29/2015 19:41	YH
Fluorene	93	3.6		ug/Kg-dry	213474	1	09/29/2015 00:39	YH
Indeno(1,2,3-cd)pyrene	120	1.9		ug/Kg-dry	213474	1	09/29/2015 00:39	YH
Naphthalene	120	19		ug/Kg-dry	213474	1	09/29/2015 00:39	YH
Phenanthrene	610	19		ug/Kg-dry	213474	10	09/29/2015 19:41	YH
Pyrene	870	19		ug/Kg-dry	213474	10	09/29/2015 19:41	YH
Surr: 4-Terphenyl-d14	86.3	42-124		%REC	213474	1	09/29/2015 00:39	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	360		ug/Kg-dry	213628	1	09/30/2015 15:33	YH
2-Methylphenol	BRL	360		ug/Kg-dry	213628	1	09/30/2015 15:33	YH
3,4-Methylphenol	BRL	360		ug/Kg-dry	213628	1	09/30/2015 15:33	YH
Phenol	BRL	360		ug/Kg-dry	213628	1	09/30/2015 15:33	YH
Surr: 2,4,6-Tribromophenol	88.3	41-128		%REC	213628	1	09/30/2015 15:33	YH
Surr: 2-Fluorobiphenyl	93.8	47-120		%REC	213628	1	09/30/2015 15:33	YH
Surr: 2-Fluorophenol	76.3	38.3-120		%REC	213628	1	09/30/2015 15:33	YH
Surr: 4-Terphenyl-d14	98.5	51.4-125		%REC	213628	1	09/30/2015 15:33	YH
Surr: Nitrobenzene-d5	91.8	40.1-120		%REC	213628	1	09/30/2015 15:33	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-38-20150923-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/23/2015 6:10:00 PM
Lab ID:	1509M23-009	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	85.6	40.3-120		%REC	213628	1	09/30/2015 15:33	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.10		mg/Kg-dry	213725	1	09/30/2015 16:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.04		mg/Kg-dry	213514	1	09/30/2015 13:03	TA
Arsenic	BRL	5.04		mg/Kg-dry	213514	1	09/30/2015 13:03	TA
Barium	33.2	5.04		mg/Kg-dry	213514	1	09/30/2015 13:03	TA
Beryllium	BRL	2.52		mg/Kg-dry	213514	1	09/30/2015 13:03	TA
Cadmium	BRL	2.52		mg/Kg-dry	213514	1	09/30/2015 13:03	TA
Chromium	16.0	2.52		mg/Kg-dry	213514	1	09/30/2015 13:03	TA
Copper	7.95	2.52		mg/Kg-dry	213514	1	09/30/2015 13:03	TA
Lead	11.2	5.04		mg/Kg-dry	213514	1	09/30/2015 13:03	TA
Nickel	BRL	5.04		mg/Kg-dry	213514	1	09/30/2015 13:03	TA
Zinc	8.24	5.04		mg/Kg-dry	213514	1	09/30/2015 13:03	TA
PERCENT MOISTURE D2216								
Percent Moisture	8.69	0		wt%	R301062	1	09/30/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-39-20150923-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/23/2015 6:20:00 PM
Lab ID:	1509M23-010	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	6.2		ug/Kg-dry	213553	1	09/29/2015 19:26	CG
Benzene	BRL	3.1		ug/Kg-dry	213553	1	09/29/2015 19:26	CG
Toluene	BRL	3.1		ug/Kg-dry	213553	1	09/29/2015 19:26	CG
Ethylbenzene	BRL	3.1		ug/Kg-dry	213553	1	09/29/2015 19:26	CG
Xylenes, Total	BRL	3.1		ug/Kg-dry	213553	1	09/29/2015 19:26	CG
Surr: 4-Bromofluorobenzene	81.3	70-128		%REC	213553	1	09/29/2015 19:26	CG
Surr: Dibromofluoromethane	104	78.2-128		%REC	213553	1	09/29/2015 19:26	CG
Surr: Toluene-d8	99.3	76.5-116		%REC	213553	1	09/29/2015 19:26	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.104		mg/Kg-dry	213559	1	09/29/2015 13:35	CC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	21		ug/Kg-dry	213474	1	09/29/2015 01:07	YH
Acenaphthylene	58	40		ug/Kg-dry	213474	1	09/29/2015 01:07	YH
Anthracene	60	2.1		ug/Kg-dry	213474	1	09/29/2015 01:07	YH
Benz(a)anthracene	260	2.1		ug/Kg-dry	213474	1	09/29/2015 01:07	YH
Benzo(a)pyrene	140	2.1		ug/Kg-dry	213474	1	09/29/2015 01:07	YH
Benzo(b)fluoranthene	230	4.0		ug/Kg-dry	213474	1	09/29/2015 01:07	YH
Benzo(g,h,i)perylene	75	4.0		ug/Kg-dry	213474	1	09/29/2015 01:07	YH
Benzo(k)fluoranthene	59	2.1		ug/Kg-dry	213474	1	09/29/2015 01:07	YH
Chrysene	210	2.1		ug/Kg-dry	213474	1	09/29/2015 01:07	YH
Dibenz(a,h)anthracene	23	4.0		ug/Kg-dry	213474	1	09/29/2015 01:07	YH
Fluoranthene	310	4.0		ug/Kg-dry	213474	1	09/29/2015 01:07	YH
Fluorene	23	4.0		ug/Kg-dry	213474	1	09/29/2015 01:07	YH
Indeno(1,2,3-cd)pyrene	75	2.1		ug/Kg-dry	213474	1	09/29/2015 01:07	YH
Naphthalene	BRL	21		ug/Kg-dry	213474	1	09/29/2015 01:07	YH
Phenanthrene	250	2.1		ug/Kg-dry	213474	1	09/29/2015 01:07	YH
Pyrene	390	2.1		ug/Kg-dry	213474	1	09/29/2015 01:07	YH
Surr: 4-Terphenyl-d14	80.3	42-124		%REC	213474	1	09/29/2015 01:07	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	400		ug/Kg-dry	213628	1	09/30/2015 16:00	YH
2-Methylphenol	BRL	400		ug/Kg-dry	213628	1	09/30/2015 16:00	YH
3,4-Methylphenol	BRL	400		ug/Kg-dry	213628	1	09/30/2015 16:00	YH
Phenol	BRL	400		ug/Kg-dry	213628	1	09/30/2015 16:00	YH
Surr: 2,4,6-Tribromophenol	101	41-128		%REC	213628	1	09/30/2015 16:00	YH
Surr: 2-Fluorobiphenyl	91.8	47-120		%REC	213628	1	09/30/2015 16:00	YH
Surr: 2-Fluorophenol	80.6	38.3-120		%REC	213628	1	09/30/2015 16:00	YH
Surr: 4-Terphenyl-d14	96.3	51.4-125		%REC	213628	1	09/30/2015 16:00	YH
Surr: Nitrobenzene-d5	91.9	40.1-120		%REC	213628	1	09/30/2015 16:00	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-39-20150923-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/23/2015 6:20:00 PM
Lab ID:	1509M23-010	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	87.9	40.3-120		%REC	213628	1	09/30/2015 16:00	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.22		mg/Kg-dry	213725	1	09/30/2015 16:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.80		mg/Kg-dry	213514	1	09/30/2015 13:06	TA
Arsenic	BRL	5.80		mg/Kg-dry	213514	1	09/30/2015 13:06	TA
Barium	33.0	5.80		mg/Kg-dry	213514	1	09/30/2015 13:06	TA
Beryllium	BRL	2.90		mg/Kg-dry	213514	1	09/30/2015 13:06	TA
Cadmium	BRL	2.90		mg/Kg-dry	213514	1	09/30/2015 13:06	TA
Chromium	16.9	2.90		mg/Kg-dry	213514	1	09/30/2015 13:06	TA
Copper	9.64	2.90		mg/Kg-dry	213514	1	09/30/2015 13:06	TA
Lead	13.5	5.80		mg/Kg-dry	213514	1	09/30/2015 13:06	TA
Nickel	BRL	5.80		mg/Kg-dry	213514	1	09/30/2015 13:06	TA
Zinc	11.1	5.80		mg/Kg-dry	213514	1	09/30/2015 13:06	TA
PERCENT MOISTURE D2216								
Percent Moisture	17.8	0		wt%	R301062	1	09/30/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	P1SS-6-20150923-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/23/2015 6:00:00 PM
Lab ID:	1509M23-011	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	7.8		ug/Kg-dry	213553	1	09/28/2015 21:23	CG
Benzene	BRL	3.9		ug/Kg-dry	213553	1	09/28/2015 21:23	CG
Toluene	BRL	3.9		ug/Kg-dry	213553	1	09/28/2015 21:23	CG
Ethylbenzene	BRL	3.9		ug/Kg-dry	213553	1	09/28/2015 21:23	CG
Xylenes, Total	13	3.9		ug/Kg-dry	213553	1	09/28/2015 21:23	CG
Surr: 4-Bromofluorobenzene	94.3	70-128		%REC	213553	1	09/28/2015 21:23	CG
Surr: Dibromofluoromethane	98	78.2-128		%REC	213553	1	09/28/2015 21:23	CG
Surr: Toluene-d8	96.1	76.5-116		%REC	213553	1	09/28/2015 21:23	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.114		mg/Kg-dry	213559	1	09/29/2015 13:37	CC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	110	21		ug/Kg-dry	213474	1	09/29/2015 01:34	YH
Acenaphthylene	250	41		ug/Kg-dry	213474	1	09/29/2015 01:34	YH
Anthracene	140	2.1		ug/Kg-dry	213474	1	09/29/2015 01:34	YH
Benz(a)anthracene	610	21		ug/Kg-dry	213474	10	09/29/2015 20:08	YH
Benzo(a)pyrene	390	21		ug/Kg-dry	213474	10	09/29/2015 20:08	YH
Benzo(b)fluoranthene	440	41		ug/Kg-dry	213474	10	09/29/2015 20:08	YH
Benzo(g,h,i)perylene	140	4.1		ug/Kg-dry	213474	1	09/29/2015 01:34	YH
Benzo(k)fluoranthene	140	2.1		ug/Kg-dry	213474	1	09/29/2015 01:34	YH
Chrysene	460	21		ug/Kg-dry	213474	10	09/29/2015 20:08	YH
Dibenz(a,h)anthracene	72	4.1		ug/Kg-dry	213474	1	09/29/2015 01:34	YH
Fluoranthene	510	41		ug/Kg-dry	213474	10	09/29/2015 20:08	YH
Fluorene	120	4.1		ug/Kg-dry	213474	1	09/29/2015 01:34	YH
Indeno(1,2,3-cd)pyrene	170	2.1		ug/Kg-dry	213474	1	09/29/2015 01:34	YH
Naphthalene	70	21		ug/Kg-dry	213474	1	09/29/2015 01:34	YH
Phenanthrene	440	21		ug/Kg-dry	213474	10	09/29/2015 20:08	YH
Pyrene	860	21		ug/Kg-dry	213474	10	09/29/2015 20:08	YH
Surr: 4-Terphenyl-d14	84	42-124		%REC	213474	1	09/29/2015 01:34	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	410		ug/Kg-dry	213628	1	09/30/2015 16:26	YH
2-Methylphenol	BRL	410		ug/Kg-dry	213628	1	09/30/2015 16:26	YH
3,4-Methylphenol	BRL	410		ug/Kg-dry	213628	1	09/30/2015 16:26	YH
Phenol	BRL	410		ug/Kg-dry	213628	1	09/30/2015 16:26	YH
Surr: 2,4,6-Tribromophenol	111	41-128		%REC	213628	1	09/30/2015 16:26	YH
Surr: 2-Fluorobiphenyl	95.4	47-120		%REC	213628	1	09/30/2015 16:26	YH
Surr: 2-Fluorophenol	84.8	38.3-120		%REC	213628	1	09/30/2015 16:26	YH
Surr: 4-Terphenyl-d14	105	51.4-125		%REC	213628	1	09/30/2015 16:26	YH
Surr: Nitrobenzene-d5	95.2	40.1-120		%REC	213628	1	09/30/2015 16:26	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	P1SS-6-20150923-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/23/2015 6:00:00 PM
Lab ID:	1509M23-011	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	95.9	40.3-120		%REC	213628	1	09/30/2015 16:26	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.23		mg/Kg-dry	213725	1	09/30/2015 16:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.97		mg/Kg-dry	213514	1	09/30/2015 13:09	TA
Arsenic	BRL	5.97		mg/Kg-dry	213514	1	09/30/2015 13:09	TA
Barium	41.5	5.97		mg/Kg-dry	213514	1	09/30/2015 13:09	TA
Beryllium	BRL	2.98		mg/Kg-dry	213514	1	09/30/2015 13:09	TA
Cadmium	BRL	2.98		mg/Kg-dry	213514	1	09/30/2015 13:09	TA
Chromium	23.2	2.98		mg/Kg-dry	213514	1	09/30/2015 13:09	TA
Copper	12.1	2.98		mg/Kg-dry	213514	1	09/30/2015 13:09	TA
Lead	11.5	5.97		mg/Kg-dry	213514	1	09/30/2015 13:09	TA
Nickel	BRL	5.97		mg/Kg-dry	213514	1	09/30/2015 13:09	TA
Zinc	11.3	5.97		mg/Kg-dry	213514	1	09/30/2015 13:09	TA
PERCENT MOISTURE D2216								
Percent Moisture	19.0	0		wt%	R301062	1	09/30/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	TB-10-20150924-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/25/2015
Lab ID:	1509M23-012	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	213556	1	09/29/2015 20:50	CH
Carbon disulfide	BRL	5.0		ug/L	213556	1	09/29/2015 20:50	CH
Ethylbenzene	BRL	5.0		ug/L	213556	1	09/29/2015 20:50	CH
Toluene	BRL	5.0		ug/L	213556	1	09/29/2015 20:50	CH
Xylenes, Total	BRL	5.0		ug/L	213556	1	09/29/2015 20:50	CH
Surr: 4-Bromofluorobenzene	78.7	70.6-123		%REC	213556	1	09/29/2015 20:50	CH
Surr: Dibromofluoromethane	92.5	78.7-124		%REC	213556	1	09/29/2015 20:50	CH
Surr: Toluene-d8	101	81.3-120		%REC	213556	1	09/29/2015 20:50	CH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM Work Order Number 1509M23

Checklist completed by _____ 9/25/15
Signature Date

Carrier name: FedEx ✓ UPS __ Courier __ Client __ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 3.1° Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by _____

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213514

Sample ID: **MB-213514** Client ID: Units: **mg/Kg** Prep Date: **09/28/2015** Run No: **301017**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **213514** Analysis Date: **09/30/2015** Seq No: **6433815**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	5.00									
Arsenic	BRL	5.00									
Barium	BRL	5.00									
Beryllium	BRL	2.50									
Cadmium	BRL	2.50									
Chromium	BRL	2.50									
Copper	BRL	2.50									
Lead	BRL	5.00									
Nickel	BRL	5.00									
Zinc	BRL	5.00									

Sample ID: **LCS-213514** Client ID: Units: **mg/Kg** Prep Date: **09/28/2015** Run No: **301017**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **213514** Analysis Date: **09/30/2015** Seq No: **6433816**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	49.63	5.00	50.00	0.2980	98.7	80	120				
Arsenic	47.84	5.00	50.00		95.7	80	120				
Barium	52.94	5.00	50.00		106	80	120				
Beryllium	52.85	2.50	50.00		106	80	120				
Cadmium	49.89	2.50	50.00		99.8	80	120				
Chromium	53.44	2.50	50.00	0.06350	107	80	120				
Copper	53.61	2.50	50.00		107	80	120				
Lead	51.30	5.00	50.00		103	80	120				
Nickel	51.29	5.00	50.00		103	80	120				
Zinc	50.62	5.00	50.00	1.630	98.0	80	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213514

Sample ID: **1509N47-001AMS** Client ID:
SampleType: **MS** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/Kg-dry** Prep Date: **09/28/2015** Run No: **301017**
BatchID: **213514** Analysis Date: **09/30/2015** Seq No: **6433818**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	37.12	5.36	53.62	0.3573	68.6	75	125				S
Arsenic	51.73	5.36	53.62	2.617	91.6	75	125				
Barium	105.5	5.36	53.62	39.80	123	75	125				
Beryllium	55.63	2.68	53.62	0.3181	103	75	125				
Cadmium	53.52	2.68	53.62	0.05150	99.7	75	125				
Chromium	63.57	2.68	53.62	6.382	107	75	125				
Copper	66.11	2.68	53.62	4.992	114	75	125				
Lead	66.39	5.36	53.62	8.392	108	75	125				
Nickel	49.21	5.36	53.62	2.730	86.7	75	125				
Zinc	93.54	5.36	53.62	23.31	131	75	125				S

Sample ID: **1509N47-001AMSD** Client ID:
SampleType: **MSD** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/Kg-dry** Prep Date: **09/28/2015** Run No: **301017**
BatchID: **213514** Analysis Date: **09/30/2015** Seq No: **6433819**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	36.72	5.37	53.65	0.3573	67.8	75	125	37.12	1.09	20	S
Arsenic	51.49	5.37	53.65	2.617	91.1	75	125	51.73	0.466	20	
Barium	103.7	5.37	53.65	39.80	119	75	125	105.5	1.69	20	
Beryllium	55.21	2.68	53.65	0.3181	102	75	125	55.63	0.765	20	
Cadmium	52.89	2.68	53.65	0.05150	98.5	75	125	53.52	1.17	20	
Chromium	64.63	2.68	53.65	6.382	109	75	125	63.57	1.65	20	
Copper	64.88	2.68	53.65	4.992	112	75	125	66.11	1.87	20	
Lead	77.26	5.37	53.65	8.392	128	75	125	66.39	15.1	20	S
Nickel	58.16	5.37	53.65	2.730	103	75	125	49.21	16.7	20	
Zinc	90.92	5.37	53.65	23.31	126	75	125	93.54	2.84	20	S

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213553

Sample ID: **MB-213553** Client ID: Units: **ug/Kg** Prep Date: **09/28/2015** Run No: **300780**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **213553** Analysis Date: **09/28/2015** Seq No: **6430173**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	10									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	42.97	0	50.00		85.9	70	128				
Surr: Dibromofluoromethane	50.75	0	50.00		102	78.2	128				
Surr: Toluene-d8	50.46	0	50.00		101	76.5	116				

Sample ID: **LCS-213553** Client ID: Units: **ug/Kg** Prep Date: **09/28/2015** Run No: **300780**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **213553** Analysis Date: **09/28/2015** Seq No: **6430163**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	47.47	5.0	50.00		94.9	72.3	130				
Toluene	48.30	5.0	50.00		96.6	71.1	130				
Surr: 4-Bromofluorobenzene	44.23	0	50.00		88.5	70	128				
Surr: Dibromofluoromethane	49.91	0	50.00		99.8	78.2	128				
Surr: Toluene-d8	48.96	0	50.00		97.9	76.5	116				

Sample ID: **1509M23-001AMS** Client ID: **P1SS-1-20150922-01** Units: **ug/Kg-dry** Prep Date: **09/28/2015** Run No: **300780**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **213553** Analysis Date: **09/28/2015** Seq No: **6430165**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	50.70	5.8	57.52		88.1	70.4	130				
Toluene	50.86	5.8	57.52		88.4	70.4	130				
Surr: 4-Bromofluorobenzene	46.43	0	57.52		80.7	70	128				
Surr: Dibromofluoromethane	57.36	0	57.52		99.7	78.2	128				
Surr: Toluene-d8	57.13	0	57.52		99.3	76.5	116				

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213553

Sample ID: **1509M23-001AMSD** Client ID: **P1SS-1-20150922-01** Units: **ug/Kg-dry** Prep Date: **09/28/2015** Run No: **300780**
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **213553** Analysis Date: **09/28/2015** Seq No: **6430170**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	51.62	5.8	57.52		89.7	70.4	130	50.70	1.80	16.9	
Toluene	49.31	5.8	57.52		85.7	70.4	130	50.86	3.10	16.6	
Surr: 4-Bromofluorobenzene	50.57	0	57.52		87.9	70	128	46.43	0	0	
Surr: Dibromofluoromethane	57.96	0	57.52		101	78.2	128	57.36	0	0	
Surr: Toluene-d8	56.14	0	57.52		97.6	76.5	116	57.13	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213559

Sample ID: **MB-213559**	Client ID:			Units: **mg/Kg**	Prep Date: **09/29/2015**	Run No: **300908**
SampleType: **MBLK**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **213559**	Analysis Date: **09/29/2015**	Seq No: **6430948**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.100									

Sample ID: **LCS-213559**	Client ID:			Units: **mg/Kg**	Prep Date: **09/29/2015**	Run No: **300908**
SampleType: **LCS**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **213559**	Analysis Date: **09/29/2015**	Seq No: **6430949**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.3615	0.100	0.4000		90.4	80	120				

Sample ID: **1509L13-001DMS**	Client ID:			Units: **mg/Kg-dry**	Prep Date: **09/29/2015**	Run No: **300908**
SampleType: **MS**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **213559**	Analysis Date: **09/29/2015**	Seq No: **6430951**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.4288	0.116	0.4646		92.3	70	130				

Sample ID: **1509L13-001DMSD**	Client ID:			Units: **mg/Kg-dry**	Prep Date: **09/29/2015**	Run No: **300908**
SampleType: **MSD**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **213559**	Analysis Date: **09/29/2015**	Seq No: **6430952**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.4096	0.117	0.4664		87.8	70	130	0.4288	4.59	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213628

Sample ID: **MB-213628** Client ID: Units: **ug/Kg** Prep Date: **09/30/2015** Run No: **301031**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **213628** Analysis Date: **09/30/2015** Seq No: **6434016**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	330									
2-Methylphenol	BRL	330									
3,4-Methylphenol	BRL	330									
Phenol	BRL	330									
Surr: 2,4,6-Tribromophenol	3221	0	3333		96.6	41	128				
Surr: 2-Fluorobiphenyl	1488	0	1667		89.3	47	120				
Surr: 2-Fluorophenol	2764	0	3333		82.9	38.3	120				
Surr: 4-Terphenyl-d14	1576	0	1667		94.6	51.4	125				
Surr: Nitrobenzene-d5	1482	0	1667		88.9	40.1	120				
Surr: Phenol-d5	2930	0	3333		87.9	40.3	120				

Sample ID: **LCS-213628** Client ID: Units: **ug/Kg** Prep Date: **09/30/2015** Run No: **301031**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **213628** Analysis Date: **09/30/2015** Seq No: **6434017**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2849	330	3333		85.5	50.1	120				
Surr: 2,4,6-Tribromophenol	3420	0	3333		103	41	128				
Surr: 2-Fluorobiphenyl	1633	0	1667		98.0	47	120				
Surr: 2-Fluorophenol	2832	0	3333		85.0	38.3	120				
Surr: 4-Terphenyl-d14	1702	0	1667		102	51.4	125				
Surr: Nitrobenzene-d5	1518	0	1667		91.1	40.1	120				
Surr: Phenol-d5	3078	0	3333		92.3	40.3	120				

Sample ID: **1509N67-008CMS** Client ID: Units: **ug/Kg-dry** Prep Date: **09/30/2015** Run No: **301031**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **213628** Analysis Date: **09/30/2015** Seq No: **6436054**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	3512	420	4196		83.7	41.5	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213628

Sample ID: **1509N67-008CMS** Client ID:
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/Kg-dry** Prep Date: **09/30/2015** Run No: **301031**
BatchID: **213628** Analysis Date: **09/30/2015** Seq No: **6436054**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 2,4,6-Tribromophenol	4357	0	4196		104	41	128				
Surr: 2-Fluorobiphenyl	2055	0	2098		98.0	47	120				
Surr: 2-Fluorophenol	3577	0	4196		85.3	38.3	120				
Surr: 4-Terphenyl-d14	2139	0	2098		102	51.4	125				
Surr: Nitrobenzene-d5	2016	0	2098		96.1	40.1	120				
Surr: Phenol-d5	3868	0	4196		92.2	40.3	120				

Sample ID: **1509N67-008CMSD** Client ID:
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/Kg-dry** Prep Date: **09/30/2015** Run No: **301031**
BatchID: **213628** Analysis Date: **09/30/2015** Seq No: **6436055**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	3320	420	4196		79.1	41.5	120	3512	5.61	37.4	
Surr: 2,4,6-Tribromophenol	4064	0	4196		96.9	41	128	4357	0	0	
Surr: 2-Fluorobiphenyl	1861	0	2098		88.7	47	120	2055	0	0	
Surr: 2-Fluorophenol	3294	0	4196		78.5	38.3	120	3577	0	0	
Surr: 4-Terphenyl-d14	2161	0	2098		103	51.4	125	2139	0	0	
Surr: Nitrobenzene-d5	1759	0	2098		83.9	40.1	120	2016	0	0	
Surr: Phenol-d5	3631	0	4196		86.5	40.3	120	3868	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213639

Sample ID: **MB-213639** Client ID: Units: **ug/Kg** Prep Date: **09/29/2015** Run No: **300929**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **213639** Analysis Date: **09/29/2015** Seq No: **6433306**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	250									
Carbon disulfide	BRL	500									
Ethylbenzene	BRL	250									
Toluene	BRL	250									
Xylenes, Total	BRL	250									
Surr: 4-Bromofluorobenzene	2270	0	2500		90.8	70	128				
Surr: Dibromofluoromethane	2548	0	2500		102	78.2	128				
Surr: Toluene-d8	2342	0	2500		93.7	76.5	116				

Sample ID: **LCS-213639** Client ID: Units: **ug/Kg** Prep Date: **09/29/2015** Run No: **300929**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **213639** Analysis Date: **09/29/2015** Seq No: **6433305**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	2755	250	2500		110	72.3	130				
Toluene	2732	250	2500		109	71.1	130				
Surr: 4-Bromofluorobenzene	2742	0	2500		110	70	128				
Surr: Dibromofluoromethane	2481	0	2500		99.2	78.2	128				
Surr: Toluene-d8	2319	0	2500		92.8	76.5	116				

Sample ID: **1509I96-005AMS** Client ID: Units: **ug/Kg-dry** Prep Date: **09/29/2015** Run No: **301024**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **213639** Analysis Date: **09/30/2015** Seq No: **6434197**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	2626	240	2407		109	70.4	130				
Toluene	2540	240	2407		106	70.4	130				
Surr: 4-Bromofluorobenzene	2607	0	2407		108	70	128				
Surr: Dibromofluoromethane	2365	0	2407		98.3	78.2	128				
Surr: Toluene-d8	2176	0	2407		90.4	76.5	116				

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213639

Sample ID: **1509I96-005AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/Kg-dry** Prep Date: **09/29/2015** Run No: **301024**
BatchID: **213639** Analysis Date: **09/30/2015** Seq No: **6434198**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	2611	240	2407		108	70.4	130	2626	0.570	16.9	
Toluene	2462	240	2407		102	70.4	130	2540	3.12	16.6	
Surr: 4-Bromofluorobenzene	2605	0	2407		108	70	128	2607	0	0	
Surr: Dibromofluoromethane	2340	0	2407		97.2	78.2	128	2365	0	0	
Surr: Toluene-d8	2217	0	2407		92.1	76.5	116	2176	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213725

Sample ID: **MB-213725**	Client ID:				Units: **mg/Kg**		Prep Date: **09/30/2015**		Run No: **301073**
SampleType: **MBLK**	TestCode: **Cyanide, Total SW9014**				BatchID: **213725**		Analysis Date: **09/30/2015**		Seq No: **6434945**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	1.00									

Sample ID: **LCS-213725**	Client ID:				Units: **mg/Kg**		Prep Date: **09/30/2015**		Run No: **301073**
SampleType: **LCS**	TestCode: **Cyanide, Total SW9014**				BatchID: **213725**		Analysis Date: **09/30/2015**		Seq No: **6434946**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	12.41	1.00	12.50		99.3	85	115				

Sample ID: **1509M23-001CMS**	Client ID: **P1SS-1-20150922-01**				Units: **mg/Kg-dry**		Prep Date: **09/30/2015**		Run No: **301073**
SampleType: **MS**	TestCode: **Cyanide, Total SW9014**				BatchID: **213725**		Analysis Date: **09/30/2015**		Seq No: **6434956**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	11.97	1.15	14.38	1.070	75.8	70	130				

Sample ID: **1509M23-001CMSD**	Client ID: **P1SS-1-20150922-01**				Units: **mg/Kg-dry**		Prep Date: **09/30/2015**		Run No: **301073**
SampleType: **MSD**	TestCode: **Cyanide, Total SW9014**				BatchID: **213725**		Analysis Date: **09/30/2015**		Seq No: **6434957**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	11.74	1.15	14.38	1.070	74.2	70	130	11.97	1.94	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213474

Sample ID: **MB-213474**	Client ID:		Units: **ug/Kg**	Prep Date: **09/28/2015**	Run No: **300878**
SampleType: **MBLK**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **213474**	Analysis Date: **09/28/2015**	Seq No: **6430167**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	17									
Acenaphthylene	BRL	33									
Anthracene	BRL	1.7									
Benz(a)anthracene	BRL	1.7									
Benzo(a)pyrene	BRL	1.7									
Benzo(b)fluoranthene	BRL	3.3									
Benzo(g,h,i)perylene	BRL	3.3									
Benzo(k)fluoranthene	BRL	1.7									
Chrysene	BRL	1.7									
Dibenz(a,h)anthracene	BRL	3.3									
Fluoranthene	BRL	3.3									
Fluorene	BRL	3.3									
Indeno(1,2,3-cd)pyrene	BRL	1.7									
Naphthalene	BRL	17									
Phenanthrene	BRL	1.7									
Pyrene	BRL	1.7									
Surr: 4-Terphenyl-d14	69.62	0	66.67		104	42	124				

Sample ID: **LCS-213474**	Client ID:		Units: **ug/Kg**	Prep Date: **09/28/2015**	Run No: **300878**
SampleType: **LCS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **213474**	Analysis Date: **09/28/2015**	Seq No: **6430168**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	62.81	17	66.70		94.2	61.2	120				
Acenaphthylene	59.57	33	66.70		89.3	60.1	120				
Anthracene	59.63	1.7	66.70		89.4	58.4	120				
Benz(a)anthracene	63.87	1.7	66.70		95.8	56.7	124				
Benzo(a)pyrene	59.92	1.7	66.70		89.8	57.5	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213474

Sample ID: **LCS-213474** Client ID: Units: **ug/Kg** Prep Date: **09/28/2015** Run No: **300878**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **213474** Analysis Date: **09/28/2015** Seq No: **6430168**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(b)fluoranthene	59.00	3.3	66.70		88.5	60.9	118				
Benzo(g,h,i)perylene	53.94	3.3	66.70		80.9	50.7	125				
Benzo(k)fluoranthene	62.79	1.7	66.70		94.1	53	125				
Chrysene	67.73	1.7	66.70		102	61.2	120				
Dibenz(a,h)anthracene	47.96	3.3	66.70		71.9	48	125				
Fluoranthene	66.28	3.3	66.70		99.4	64.9	121				
Fluorene	60.96	3.3	66.70		91.4	62.1	120				
Indeno(1,2,3-cd)pyrene	51.60	1.7	66.70		77.4	56	121				
Naphthalene	60.71	17	66.70		91.0	57.4	120				
Phenanthrene	63.49	1.7	66.70		95.2	63.3	120				
Pyrene	66.15	1.7	66.70		99.2	61.2	120				
Surr: 4-Terphenyl-d14	60.74	0	66.70		91.1	42	124				

Sample ID: **1509I32-001AMS** Client ID: Units: **ug/Kg-dry** Prep Date: **09/28/2015** Run No: **300961**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **213474** Analysis Date: **09/29/2015** Seq No: **6432657**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	73.54	24	92.34		79.6	45.8	120				
Acenaphthylene	73.03	46	92.34		79.1	50.6	120				
Anthracene	73.70	2.4	92.34		79.8	42.4	125				
Benz(a)anthracene	160.0	2.4	92.34	50.26	119	44.9	136				
Benzo(a)pyrene	149.0	2.4	92.34	69.55	86.1	40.3	123				
Benzo(b)fluoranthene	259.1	4.6	92.34	164.6	102	37	128				
Benzo(g,h,i)perylene	137.4	4.6	92.34	62.64	80.9	41.1	137				
Benzo(k)fluoranthene	131.6	2.4	92.34	61.40	76.1	37.7	126				
Chrysene	190.4	2.4	92.34	115.0	81.7	43	120				
Dibenz(a,h)anthracene	77.03	4.6	92.34	14.28	68.0	42.6	130				
Fluoranthene	244.7	4.6	92.34	156.7	95.2	44.4	133				

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213474

Sample ID: **1509I32-001AMS** Client ID:
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**
Units: **ug/Kg-dry** Prep Date: **09/28/2015** Run No: **300961**
BatchID: **213474** Analysis Date: **09/29/2015** Seq No: **6432657**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Fluorene	74.45	4.6	92.34		80.6	42.5	119				
Indeno(1,2,3-cd)pyrene	120.9	2.4	92.34	47.74	79.2	41.7	135				
Naphthalene	71.50	24	92.34		77.4	42.5	120				
Phenanthrene	105.2	2.4	92.34	26.36	85.4	44.1	120				
Pyrene	199.9	2.4	92.34	119.4	87.3	41.5	120				
Surr: 4-Terphenyl-d14	69.41	0	92.34		75.2	42	124				

Sample ID: **1509I32-001AMSD** Client ID:
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**
Units: **ug/Kg-dry** Prep Date: **09/28/2015** Run No: **300961**
BatchID: **213474** Analysis Date: **09/29/2015** Seq No: **6432658**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	66.52	24	92.34		72.0	45.8	120	73.61	10.1	38.4	
Acenaphthylene	66.79	46	92.34		72.3	50.6	120	74.18	10.5	37.8	
Anthracene	63.09	2.4	92.34		68.3	42.4	125	72.65	14.1	49.7	
Benz(a)anthracene	134.8	2.4	92.34	50.26	91.5	44.9	136	163.2	19.1	33.8	
Benzo(a)pyrene	132.7	2.4	92.34	69.55	68.4	40.3	123	150.5	12.6	40.2	
Benzo(b)fluoranthene	246.9	4.6	92.34	164.6	89.1	37	128	265.1	7.10	36.5	
Benzo(g,h,i)perylene	127.2	4.6	92.34	62.64	69.9	41.1	137	121.6	4.43	39.3	
Benzo(k)fluoranthene	121.5	2.4	92.34	61.40	65.1	37.7	126	102.4	17.1	35	
Chrysene	176.0	2.4	92.34	115.0	66.1	43	120	187.5	6.33	28.6	
Dibenz(a,h)anthracene	65.76	4.6	92.34	14.28	55.8	42.6	130	79.01	18.3	44.6	
Fluoranthene	229.5	4.6	92.34	156.7	78.8	44.4	133	236.5	3.01	33.2	
Fluorene	68.33	4.6	92.34		74.0	42.5	119	73.30	7.03	35.4	
Indeno(1,2,3-cd)pyrene	122.7	2.4	92.34	47.74	81.2	41.7	135	116.4	5.29	37.3	
Naphthalene	64.14	24	92.34		69.5	42.5	120	68.88	7.13	39.4	
Phenanthrene	100.3	2.4	92.34	26.36	80.1	44.1	120	102.3	1.95	37	
Pyrene	187.4	2.4	92.34	119.4	73.6	41.5	120	202.4	7.73	33.1	
Surr: 4-Terphenyl-d14	64.19	0	92.34		69.5	42	124	69.57	0	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213556

Sample ID: **MB-213556** Client ID: Units: **ug/L** Prep Date: **09/26/2015** Run No: **300802**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **213556** Analysis Date: **09/26/2015** Seq No: **6429108**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	BRL	5.0									
1,1,1-Trichloroethane	BRL	5.0									
1,1,2,2-Tetrachloroethane	BRL	5.0									
1,1,2-Trichloroethane	BRL	5.0									
1,1-Dichloroethane	BRL	5.0									
1,1-Dichloroethene	BRL	5.0									
1,1-Dichloropropene	BRL	5.0									
1,2,3-Trichlorobenzene	BRL	5.0									
1,2,3-Trichloropropane	BRL	5.0									
1,2,4-Trichlorobenzene	BRL	5.0									
1,2,4-Trimethylbenzene	BRL	5.0									
1,2-Dibromo-3-chloropropane	BRL	5.0									
1,2-Dibromoethane	BRL	5.0									
1,2-Dichlorobenzene	BRL	5.0									
1,2-Dichloroethane	BRL	5.0									
1,2-Dichloroethene, Total	BRL	5.0									
1,2-Dichloropropane	BRL	5.0									
1,3,5-Trimethylbenzene	BRL	5.0									
1,3-Dichlorobenzene	BRL	5.0									
1,3-Dichloropropane	BRL	5.0									
1,4-Dichlorobenzene	BRL	5.0									
2,2-Dichloropropane	BRL	5.0									
2-Butanone	BRL	50									
2-Chloroethyl vinyl ether	BRL	5.0									
2-Chlorotoluene	BRL	5.0									
2-Hexanone	BRL	10									
4-Chlorotoluene	BRL	5.0									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213556

Sample ID: **MB-213556** Client ID: Units: **ug/L** Prep Date: **09/26/2015** Run No: **300802**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **213556** Analysis Date: **09/26/2015** Seq No: **6429108**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
4-Isopropyltoluene	BRL	5.0									
4-Methyl-2-pentanone	BRL	10									
Acetone	BRL	50									
Acrolein	BRL	20									
Acrylonitrile	BRL	5.0									
Benzene	BRL	5.0									
Bromobenzene	BRL	5.0									
Bromochloromethane	BRL	5.0									
Bromodichloromethane	BRL	5.0									
Bromoform	BRL	5.0									
Bromomethane	BRL	5.0									
Carbon disulfide	BRL	5.0									
Carbon tetrachloride	BRL	5.0									
Chlorobenzene	BRL	5.0									
Chloroethane	BRL	10									
Chloroform	BRL	5.0									
Chloromethane	BRL	10									
cis-1,2-Dichloroethene	BRL	5.0									
cis-1,3-Dichloropropene	BRL	5.0									
Cyclohexane	BRL	5.0									
Dibromochloromethane	BRL	5.0									
Dibromomethane	BRL	5.0									
Dichlorodifluoromethane	BRL	10									
Ethylbenzene	BRL	5.0									
Freon-113	BRL	10									
Hexachlorobutadiene	BRL	5.0									
Iodomethane	BRL	10									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213556

Sample ID: **MB-213556** Client ID: Units: **ug/L** Prep Date: **09/26/2015** Run No: **300802**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **213556** Analysis Date: **09/26/2015** Seq No: **6429108**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Isopropylbenzene	BRL	5.0									
m,p-Xylene	BRL	5.0									
Methyl acetate	BRL	5.0									
Methyl tert-butyl ether	BRL	5.0									
Methylcyclohexane	BRL	5.0									
Methylene chloride	BRL	5.0									
n-Butylbenzene	BRL	5.0									
n-Propylbenzene	BRL	5.0									
Naphthalene	BRL	5.0									
o-Xylene	BRL	5.0									
sec-Butylbenzene	BRL	5.0									
Styrene	BRL	5.0									
tert-Butylbenzene	BRL	5.0									
Tetrachloroethene	BRL	5.0									
Toluene	BRL	5.0									
trans-1,2-Dichloroethene	BRL	5.0									
trans-1,3-Dichloropropene	BRL	5.0									
trans-1,4-Dichloro-2-butene	BRL	10									
Trichloroethene	BRL	5.0									
Trichlorofluoromethane	BRL	5.0									
Vinyl acetate	BRL	10									
Vinyl chloride	BRL	2.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	44.32	0	50.00		88.6	70.6	123				
Surr: Dibromofluoromethane	48.36	0	50.00		96.7	78.7	124				
Surr: Toluene-d8	44.00	0	50.00		88.0	81.3	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213556

Sample ID: **MB-213556**	Client ID:		Units: **ug/L**	Prep Date: **09/26/2015**	Run No: **300982**
SampleType: **MBLK**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **213556**	Analysis Date: **09/29/2015**	Seq No: **6432612**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
tert-Butyl Alcohol	BRL	100									
Surr: 4-Bromofluorobenzene	46.87	0	50.00		93.7	70.6	123				
Surr: Dibromofluoromethane	52.86	0	50.00		106	78.7	124				
Surr: Toluene-d8	53.26	0	50.00		107	81.3	120				

Sample ID: **LCS-213556**	Client ID:		Units: **ug/L**	Prep Date: **09/26/2015**	Run No: **300802**
SampleType: **LCS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **213556**	Analysis Date: **09/26/2015**	Seq No: **6429107**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	37.97	5.0	50.00		75.9	64.2	137				
Benzene	45.51	5.0	50.00		91.0	72.8	128				
Chlorobenzene	53.99	5.0	50.00		108	72.3	126				
Toluene	46.07	5.0	50.00		92.1	74.9	127				
Trichloroethene	46.65	5.0	50.00		93.3	70.5	134				
Surr: 4-Bromofluorobenzene	43.77	0	50.00		87.5	70.6	123				
Surr: Dibromofluoromethane	47.84	0	50.00		95.7	78.7	124				
Surr: Toluene-d8	43.38	0	50.00		86.8	81.3	120				

Sample ID: **1509J85-028AMS**	Client ID:		Units: **ug/L**	Prep Date: **09/26/2015**	Run No: **300828**
SampleType: **MS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **213556**	Analysis Date: **09/28/2015**	Seq No: **6431018**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	1962	250	2500	103.5	74.3	60.5	156				
Benzene	1936	250	2500		77.5	70	135				
Chlorobenzene	1972	250	2500		78.9	70.5	132				
Toluene	1992	250	2500		79.7	70.5	137				
Trichloroethene	2018	250	2500		80.7	71.8	139				
Surr: 4-Bromofluorobenzene	2469	0	2500		98.8	70.6	123				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213556

Sample ID: **1509J85-028AMS**	Client ID:		Units: **ug/L**	Prep Date: **09/26/2015**	Run No: **300828**
SampleType: **MS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **213556**	Analysis Date: **09/28/2015**	Seq No: **6431018**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: Dibromofluoromethane	2308	0	2500		92.3	78.7	124				
Surr: Toluene-d8	2490	0	2500		99.6	81.3	120				

Sample ID: **1509J85-028AMSD**	Client ID:		Units: **ug/L**	Prep Date: **09/26/2015**	Run No: **300828**
SampleType: **MSD**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **213556**	Analysis Date: **09/28/2015**	Seq No: **6431019**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	2104	250	2500	103.5	80.0	60.5	156	1962	6.99	20	
Benzene	2042	250	2500		81.7	70	135	1936	5.28	20	
Chlorobenzene	2078	250	2500		83.1	70.5	132	1972	5.21	20	
Toluene	2138	250	2500		85.5	70.5	137	1992	7.07	20	
Trichloroethene	2122	250	2500		84.9	71.8	139	2018	5.02	20	
Surr: 4-Bromofluorobenzene	2414	0	2500		96.5	70.6	123	2469	0	0	
Surr: Dibromofluoromethane	2343	0	2500		93.7	78.7	124	2308	0	0	
Surr: Toluene-d8	2467	0	2500		98.7	81.3	120	2490	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

December 01, 2015

Nic Vrey
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: AGL Macon

Dear Nic Vrey: Order No: 1511O46

Analytical Environmental Services, Inc. received 13 samples on 11/25/2015 9:50:00 AM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1511046

Date: 11/24/15 Page 1 of 1

COMPANY: ERM

ADDRESS: 3200 Windy Hill Rd Suite 1500W ATL GA 30339

PHONE:

FAX:

SAMPLED BY: KS, DP

SIGNATURE:

ANALYSIS REQUESTED

PRESERVATION (See codes)

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	Arsenic	Chromium	REMARKS	No # of Containers
1	SCS-69-10W-(2'-6')-20151123-01	11/23		X		S	X	X		1
2	SCS-70-10W-(2'-6')-20151123-01									1
3	SCS-71-10W-(2'-6')-20151123-01									1
4	SCS-72-10W-(2'-6')-20151123-01									1
5	SCS-73-10W-(2'-6')-20151123-01									1
6	SCS-74-10W(2'-6')-20151123-01									1
7	SCS-75-10W-(2'-6')-20151123-01									1
8	SCS-76-10F-6'-20151123-01									1
9	SCS-77-10F-6'-20151123-01									1
10	SCS-78-10F-6'-20151123-01									1
11	SCS-79-10F-6'-20151123-01									1
12	Dup-09-20151123-01	↓		↓		↓	↓	↓		1
13	EB-12-20151123-01	↓		↓		W	↓	↓		1
14										

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:	11/25/15	1:	
2: ~~KS~~	11/25 0950	2:	
3:		3: Nadia Gh	11/25/15 9:50AM

PROJECT INFORMATION

PROJECT NAME: AGL Macon

PROJECT #: 0176240

SITE ADDRESS: 224 Walnut St

SEND REPORT TO: Nic.Frey@erm.com

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: PO#:

RECEIPT

Total # of Containers:

Turnaround Time Request

- ○ Standard 5 Business Days
- ○ 2 Business Day Rush
- ○ Next Business Day Rush
- ○ Same Day Rush (auth req.)
- ⊗ Other 3 DAY TAT

STATE PROGRAM (if any):

E-mail? Y / N; Fax? Y / N

DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD

OUT / / VIA:

IN / / VIA:

(CLIENT) FedEx UPS MAIL COURIER

GREYHOUND OTHER

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc **Date:** 4-Dec-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-69-Low-(2'-6')-20151123-01
Project Name:	AGL Macon	**Collection Date:**	11/23/2015
Lab ID:	1511O46-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	37.2	5.22		mg/Kg-dry	216444	1	11/27/2015 14:17	IO
Chromium	6.82	2.61		mg/Kg-dry	216444	1	11/27/2015 14:17	IO
PERCENT MOISTURE D2216								
Percent Moisture	8.58	0		wt%	R305512	1	12/01/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 4-Dec-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-70-Low-(2'-6')-20151123-01
Project Name:	AGL Macon	**Collection Date:**	11/23/2015
Lab ID:	1511O46-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, TOTAL SW6010C (SW3050B)								
Arsenic	12.2	5.36		mg/Kg-dry	216444	1	11/27/2015 14:43	IO
Chromium	16.1	2.68		mg/Kg-dry	216444	1	11/27/2015 14:43	IO
PERCENT MOISTURE D2216								
Percent Moisture	14.4	0		wt%	R305512	1	12/01/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 4-Dec-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-71-Low-(2'-6')-20151123-01
Project Name:	AGL Macon	**Collection Date:**	11/23/2015
Lab ID:	1511O46-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, TOTAL SW6010C (SW3050B)								
Arsenic	15.8	5.42		mg/Kg-dry	216444	1	11/27/2015 14:47	IO
Chromium	19.2	2.71		mg/Kg-dry	216444	1	11/27/2015 14:47	IO
PERCENT MOISTURE D2216								
Percent Moisture	11.2	0		wt%	R305512	1	12/01/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 4-Dec-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-72-Low-(2'-6')-20151123-01
Project Name:	AGL Macon	**Collection Date:**	11/23/2015
Lab ID:	1511O46-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, TOTAL SW6010C (SW3050B)								
Arsenic	BRL	5.74		mg/Kg-dry	216444	1	11/27/2015 14:51	IO
Chromium	23.1	2.87		mg/Kg-dry	216444	1	11/27/2015 14:51	IO
PERCENT MOISTURE D2216								
Percent Moisture	15.3	0		wt%	R305512	1	12/01/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 4-Dec-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-73-Low-(2'-6')-20151123-01
Project Name:	AGL Macon	**Collection Date:**	11/23/2015
Lab ID:	1511O46-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, TOTAL SW6010C (SW3050B)								
Arsenic	8.64	5.54		mg/Kg-dry	216444	1	11/27/2015 14:55	IO
Chromium	12.3	2.77		mg/Kg-dry	216444	1	11/27/2015 14:55	IO
PERCENT MOISTURE D2216								
Percent Moisture	14.5	0		wt%	R305512	1	12/01/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 4-Dec-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-74-Low-(2'-6')-20151123-01
Project Name:	AGL Macon	**Collection Date:**	11/23/2015
Lab ID:	1511O46-006	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, TOTAL SW6010C (SW3050B)								
Arsenic	9.75	5.86		mg/Kg-dry	216444	1	11/27/2015 15:00	IO
Chromium	20.1	2.93		mg/Kg-dry	216444	1	11/27/2015 15:00	IO
PERCENT MOISTURE D2216								
Percent Moisture	16.1	0		wt%	R305512	1	12/01/2015 10:00	PF

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 4-Dec-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-75-Low-(2'-6')-20151123-01
Project Name:	AGL Macon	**Collection Date:**	11/23/2015
Lab ID:	1511O46-007	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, TOTAL SW6010C (SW3050B)								
Arsenic	BRL	5.21		mg/Kg-dry	216444	1	11/27/2015 15:04	IO
Chromium	7.87	2.60		mg/Kg-dry	216444	1	11/27/2015 15:04	IO
PERCENT MOISTURE D2216								
Percent Moisture	7.21	0		wt%	R305512	1	12/01/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 4-Dec-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-76-10F-6'-20151123-01
Project Name:	AGL Macon	**Collection Date:**	11/23/2015
Lab ID:	1511O46-008	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, TOTAL SW6010C (SW3050B)								
Arsenic	BRL	5.66		mg/Kg-dry	216444	1	11/27/2015 15:08	IO
Chromium	35.5	2.83		mg/Kg-dry	216444	1	11/27/2015 15:08	IO
PERCENT MOISTURE D2216								
Percent Moisture	13.4	0		wt%	R305512	1	12/01/2015 10:00	PF

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 4-Dec-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-77-10F-6'-20151123-01
Project Name:	AGL Macon	**Collection Date:**	11/23/2015
Lab ID:	1511O46-009	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, TOTAL SW6010C (SW3050B)								
Arsenic	BRL	5.65		mg/Kg-dry	216444	1	11/27/2015 15:11	IO
Chromium	44.6	2.82		mg/Kg-dry	216444	1	11/27/2015 15:11	IO
PERCENT MOISTURE D2216								
Percent Moisture	15.5	0		wt%	R305512	1	12/01/2015 10:00	PF

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 4-Dec-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-78-10F-6'-20151123-01
Project Name:	AGL Macon	**Collection Date:**	11/23/2015
Lab ID:	1511O46-010	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, TOTAL SW6010C (SW3050B)								
Arsenic	BRL	5.38		mg/Kg-dry	216444	1	11/27/2015 15:15	IO
Chromium	26.1	2.69		mg/Kg-dry	216444	1	11/27/2015 15:15	IO
PERCENT MOISTURE D2216								
Percent Moisture	12.5	0		wt%	R305512	1	12/01/2015 10:00	PF

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 4-Dec-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-79-10F-6'-20151123-01
Project Name:	AGL Macon	**Collection Date:**	11/23/2015
Lab ID:	1511O46-011	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, TOTAL SW6010C (SW3050B)								
Arsenic	BRL	5.49		mg/Kg-dry	216444	1	11/27/2015 15:19	IO
Chromium	25.5	2.74		mg/Kg-dry	216444	1	11/27/2015 15:19	IO
PERCENT MOISTURE D2216								
Percent Moisture	13.1	0		wt%	R305512	1	12/01/2015 10:00	PF

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 4-Dec-15

Client:	ERM-Southeast	**Client Sample ID:**	DUP-09-20151123-01
Project Name:	AGL Macon	**Collection Date:**	11/23/2015
Lab ID:	1511O46-012	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, TOTAL SW6010C (SW3050B)								
Arsenic	BRL	5.59		mg/Kg-dry	216444	1	11/27/2015 15:29	IO
Chromium	38.4	2.80		mg/Kg-dry	216444	1	11/27/2015 15:29	IO
PERCENT MOISTURE D2216								
Percent Moisture	13.7	0		wt%	R305512	1	12/01/2015 10:00	PF

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 4-Dec-15

Client:	ERM-Southeast	**Client Sample ID:**	EB-12-20151123-01
Project Name:	AGL Macon	**Collection Date:**	11/23/2015
Lab ID:	1511O46-013	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, TOTAL SW6010C (SW3010A)								
Arsenic	BRL	0.0500		mg/L	216410	1	11/30/2015 20:25	IO
Chromium	BRL	0.0100		mg/L	216410	1	11/30/2015 20:25	IO

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client FRM Work Order Number 1511046

Checklist completed by [signature] 11/25/15
Signature Date

Carrier name: FedEx __ UPS __ Courier __ Client ✓ US Mail __ Other _____

Shipping container/cooler in good condition?	Yes ✓	No __	Not Present __
Custody seals intact on shipping container/cooler?	Yes __	No __	Not Present ✓
Custody seals intact on sample bottles?	Yes __	No __	Not Present ✓
Container/Temp Blank temperature in compliance? (4°C±2)*	Yes ✓	No __	

Cooler #1 3.2 Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present?	Yes ✓	No __
Chain of custody signed when relinquished and received?	Yes ✓	No __
Chain of custody agrees with sample labels?	Yes ✓	No __
Samples in proper container/bottle?	Yes ✓	No __
Sample containers intact?	Yes ✓	No __
Sufficient sample volume for indicated test?	Yes ✓	No __
All samples received within holding time?	Yes ✓	No __
Was TAT marked on the COC?	Yes ✓	No __
Proceed with Standard TAT as per project history?	Yes __	No __ Not Applicable ✓
Water - VOA vials have zero headspace?	No VOA vials submitted ✓	Yes __ No __
Water - pH acceptable upon receipt?	Yes __	No __ Not Applicable ✓

Adjusted? _____ Checked by _____

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1511O46

ANALYTICAL QC SUMMARY REPORT

BatchID: 216410

Sample ID: **MB-216410**	Client ID:			Units: **mg/L**	Prep Date: **11/27/2015**	Run No: **305423**
SampleType: **MBLK**	TestCode: **METALS, TOTAL**	**SW6010C**		BatchID: **216410**	Analysis Date: **11/30/2015**	Seq No: **6545084**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	BRL	0.0500									
Chromium	BRL	0.0100									

Sample ID: **LCS-216410**	Client ID:			Units: **mg/L**	Prep Date: **11/27/2015**	Run No: **305423**
SampleType: **LCS**	TestCode: **METALS, TOTAL**	**SW6010C**		BatchID: **216410**	Analysis Date: **11/30/2015**	Seq No: **6545085**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	1.032	0.0500	1.000		103	80	120				
Chromium	1.028	0.0100	1.000		103	80	120				

Sample ID: **1511L79-002AMS**	Client ID:			Units: **mg/L**	Prep Date: **11/27/2015**	Run No: **305423**
SampleType: **MS**	TestCode: **METALS, TOTAL**	**SW6010C**		BatchID: **216410**	Analysis Date: **11/30/2015**	Seq No: **6545087**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	1.023	0.0500	1.000	0.004084	102	75	125				
Chromium	1.023	0.0100	1.000	0.001075	102	75	125				

Sample ID: **1511L79-002AMSD**	Client ID:			Units: **mg/L**	Prep Date: **11/27/2015**	Run No: **305423**
SampleType: **MSD**	TestCode: **METALS, TOTAL**	**SW6010C**		BatchID: **216410**	Analysis Date: **11/30/2015**	Seq No: **6545090**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	1.010	0.0500	1.000	0.004084	101	75	125	1.023	1.23	20	
Chromium	1.014	0.0100	1.000	0.001075	101	75	125	1.023	0.882	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1511O46

ANALYTICAL QC SUMMARY REPORT

BatchID: 216444

Sample ID: **MB-216444**	Client ID:			Units: **mg/Kg**	Prep Date: **11/27/2015**	Run No: **305320**
SampleType: **MBLK**	TestCode: **METALS, TOTAL** **SW6010C**			BatchID: **216444**	Analysis Date: **11/27/2015**	Seq No: **6541063**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	BRL	5.00									
Chromium	BRL	2.50									

Sample ID: **LCS-216444**	Client ID:			Units: **mg/Kg**	Prep Date: **11/27/2015**	Run No: **305320**
SampleType: **LCS**	TestCode: **METALS, TOTAL** **SW6010C**			BatchID: **216444**	Analysis Date: **11/27/2015**	Seq No: **6541064**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	48.12	5.00	50.00		96.2	80	120				
Chromium	50.32	2.50	50.00	0.07992	100	80	120				

Sample ID: **1511O46-001AMS**	Client ID: **SCS-69-Low-(2'-6')-20151123-01**			Units: **mg/Kg-dry**	Prep Date: **11/27/2015**	Run No: **305320**
SampleType: **MS**	TestCode: **METALS, TOTAL** **SW6010C**			BatchID: **216444**	Analysis Date: **11/27/2015**	Seq No: **6541066**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	84.36	5.22	52.16	37.20	90.4	75	125				
Chromium	63.02	2.61	52.16	6.818	108	75	125				

Sample ID: **1511O46-001AMSD**	Client ID: **SCS-69-Low-(2'-6')-20151123-01**			Units: **mg/Kg-dry**	Prep Date: **11/27/2015**	Run No: **305320**
SampleType: **MSD**	TestCode: **METALS, TOTAL** **SW6010C**			BatchID: **216444**	Analysis Date: **11/27/2015**	Seq No: **6541067**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	81.95	5.22	52.19	37.20	85.8	75	125	84.36	2.90	20	
Chromium	62.04	2.61	52.19	6.818	106	75	125	63.02	1.56	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

December 17, 2015

Nic Vrey
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: AGL Macon

Dear Nic Vrey: Order No: 1512C45

Analytical Environmental Services, Inc. received 3 samples on 12/14/2015 7:45:00 AM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1512C45

Date: 12/12/15 Page 1 of 1

COMPANY: ERM

ADDRESS:

PHONE:

FAX:

SAMPLED BY:

SIGNATURE:

ANALYSIS REQUESTED: Benzo(a)anthracene

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	PRESERVATION (See codes)	REMARKS	No # of Containers
1	SCS-80-14W-(8'-10')-20151212-01	12/12	1030	X		S	X		
2	SCS-81-14W-(8'-10')-20151212-01	12/12	1035	X		S	X		
3	EB-13-20151212-01	12/12	1040			W	X		
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:	12/18/15	1:	
2:	1800	2:	12/14/15 7:45
3:			

PROJECT INFORMATION

PROJECT NAME: AEL Macon

PROJECT #: 0176746

SITE ADDRESS: 224 Walnut St.

SEND REPORT TO: Nic.Vray@erm.com

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: PO#:

RECEIPT

Total # of Containers

Turnaround Time Request

- Standard 5 Business Days
- 2 Business Day Rush
- Next Business Day Rush
- Same Day Rush (auth req.)
- X Other 3 DAY

STATE PROGRAM (if any):

E-mail? Y / N; Fax? Y / N

DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD

OUT / / VIA:

IN / / VIA:

CLIENT FedEx UPS MAIL COURIER

GREYHOUND OTHER

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc **Date:** 17-Dec-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-80-14W-(6'-10')-20151212-(
Project Name:	AGL Macon	**Collection Date:**	12/12/2015 10:30:00 AM
Lab ID:	1512C45-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	7.1	1.9		ug/Kg-dry	217064	1	12/15/2015 11:05	YH
Surr: 4-Terphenyl-d14	87.2	42-124		%REC	217064	1	12/15/2015 11:05	YH
PERCENT MOISTURE D2216								
Percent Moisture	8.57	0		wt%	R306617	1	12/17/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 17-Dec-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-81-14W-(6'-10')-20151212-(
Project Name:	AGL Macon	**Collection Date:**	12/12/2015 10:35:00 AM
Lab ID:	1512C45-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3550C)								
Benz(a)anthracene	5.4	1.9		ug/Kg-dry	217064	1	12/15/2015 11:31	YH
Surr: 4-Terphenyl-d14	91.3	42-124		%REC	217064	1	12/15/2015 11:31	YH
PERCENT MOISTURE D2216								
Percent Moisture	10.5	0		wt%	R306617	1	12/17/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 17-Dec-15

Client:	ERM-Southeast	**Client Sample ID:**	EB-13-20151212-01
Project Name:	AGL Macon	**Collection Date:**	12/12/2015 10:40:00 AM
Lab ID:	1512C45-003	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons	**SW8270D**				**(SW3510C)**			
Benz(a)anthracene	BRL	0.050		ug/L	217069	1	12/15/2015 17:14	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	217069	1	12/15/2015 17:14	YH
Surr: 4-Terphenyl-d14	128	55.4-136		%REC	217069	1	12/15/2015 17:14	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM Work Order Number 1512C45

Checklist completed by _____ 12/14/15
Signature Date

Carrier name: FedEx __ UPS __ Courier __ Client ✓ US Mail __ Other _____

Shipping container/cooler in good condition?	Yes ✓	No __	Not Present __
Custody seals intact on shipping container/cooler?	Yes __	No __	Not Present ✓
Custody seals intact on sample bottles?	Yes __	No __	Not Present ✓
Container/Temp Blank temperature in compliance? (0°≤6°C)*	Yes ✓	No __	

Cooler #1 3.4 Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present?	Yes ✓	No __
Chain of custody signed when relinquished and received?	Yes ✓	No __
Chain of custody agrees with sample labels?	Yes ✓	No __
Samples in proper container/bottle?	Yes ✓	No __
Sample containers intact?	Yes ✓	No __
Sufficient sample volume for indicated test?	Yes ✓	No __
All samples received within holding time?	Yes ✓	No __
Was TAT marked on the COC?	Yes ✓	No __
Proceed with Standard TAT as per project history?	Yes __	No __ Not Applicable ✓
Water - VOA vials have zero headspace?	No VOA vials submitted ✓	Yes __ No __
Water - pH acceptable upon receipt?	Yes ✓	No __ Not Applicable __

Adjusted? _____ Checked by AD

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Analytical Environmental Services, Inc

Date: 17-Dec-15

Client: ERM-Southeast
Project Name: AGL Macon
Lab Order: 1512C45

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1512C45-001A	SCS-80-14W-(6'-10')-2015121	12/12/2015 10:30:00AM	Soil	Polynuclear Aromatic Hydrocarbons		12/14/2015 3:30:00PM	12/15/2015
1512C45-001A	SCS-80-14W-(6'-10')-2015121	12/12/2015 10:30:00AM	Soil	PERCENT MOISTURE			12/17/2015
1512C45-002A	SCS-81-14W-(6'-10')-2015121	12/12/2015 10:35:00AM	Soil	Polynuclear Aromatic Hydrocarbons		12/14/2015 3:30:00PM	12/15/2015
1512C45-002A	SCS-81-14W-(6'-10')-2015121	12/12/2015 10:35:00AM	Soil	PERCENT MOISTURE			12/17/2015
1512C45-003A	EB-13-20151212-01	12/12/2015 10:40:00AM	Aqueous	Polynuclear Aromatic Hydrocarbons		12/14/2015 4:00:00PM	12/15/2015

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1512C45

ANALYTICAL QC SUMMARY REPORT

BatchID: 217064

Sample ID: **MB-217064**	Client ID:			Units: **ug/Kg**	Prep Date: **12/14/2015**	Run No: **306305**
SampleType: **MBLK**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons**	**SW8270D**		BatchID: **217064**	Analysis Date: **12/14/2015**	Seq No: **6567354**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	BRL	1.7									
Surr: 4-Terphenyl-d14	61.66	0	66.67		92.5	42	124				

Sample ID: **LCS-217064**	Client ID:			Units: **ug/Kg**	Prep Date: **12/14/2015**	Run No: **306305**
SampleType: **LCS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons**	**SW8270D**		BatchID: **217064**	Analysis Date: **12/14/2015**	Seq No: **6567355**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	64.61	1.7	66.70		96.9	56.7	124				
Surr: 4-Terphenyl-d14	61.21	0	66.70		91.8	42	124				

Sample ID: **1512B34-001CMS**	Client ID:			Units: **ug/Kg-dry**	Prep Date: **12/14/2015**	Run No: **306417**
SampleType: **MS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons**	**SW8270D**		BatchID: **217064**	Analysis Date: **12/15/2015**	Seq No: **6570455**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	389.6	22	85.70	282.3	125	44.9	136				
Surr: 4-Terphenyl-d14	87.60	0	85.70		102	42	124				

Sample ID: **1512B34-001CMSD**	Client ID:			Units: **ug/Kg-dry**	Prep Date: **12/14/2015**	Run No: **306417**
SampleType: **MSD**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons**	**SW8270D**		BatchID: **217064**	Analysis Date: **12/15/2015**	Seq No: **6570456**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	308.8	22	85.70	282.3	31.0	44.9	136	389.6	23.1	33.8	S
Surr: 4-Terphenyl-d14	78.20	0	85.70		91.3	42	124	87.60	0	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1512C45

ANALYTICAL QC SUMMARY REPORT

BatchID: 217069

Sample ID: **MB-217069** Client ID: Units: **ug/L** Prep Date: **12/14/2015** Run No: **306416**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D** BatchID: **217069** Analysis Date: **12/15/2015** Seq No: **6570448**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	BRL	0.050									
Benzo(g,h,i)perylene	BRL	0.10									
Surr: 4-Terphenyl-d14	2.150	0	2.000		108	55.4	136				

Sample ID: **LCS-217069** Client ID: Units: **ug/L** Prep Date: **12/14/2015** Run No: **306416**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D** BatchID: **217069** Analysis Date: **12/15/2015** Seq No: **6570449**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	2.219	0.050	2.000		111	60.6	137				
Benzo(g,h,i)perylene	1.906	0.10	2.000		95.3	49.9	137				
Surr: 4-Terphenyl-d14	2.253	0	2.000		113	55.4	136				

Sample ID: **1512B24-004BMS** Client ID: Units: **ug/L** Prep Date: **12/14/2015** Run No: **306416**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D** BatchID: **217069** Analysis Date: **12/15/2015** Seq No: **6573331**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	1.846	0.050	2.000		92.3	50.3	143				
Benzo(g,h,i)perylene	1.325	0.10	2.000		66.3	40.2	122				
Surr: 4-Terphenyl-d14	1.935	0	2.000		96.7	55.4	136				

Sample ID: **1512B24-004BMSD** Client ID: Units: **ug/L** Prep Date: **12/14/2015** Run No: **306416**
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D** BatchID: **217069** Analysis Date: **12/15/2015** Seq No: **6573332**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	1.704	0.050	2.000		85.2	50.3	143	1.846	8.03	26.8	
Benzo(g,h,i)perylene	0.8790	0.10	2.000		44.0	40.2	122	1.325	40.5	26.2	R
Surr: 4-Terphenyl-d14	2.678	0	2.000		134	55.4	136	1.935	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

December 24, 2015

Nic Vrey
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: AGL Macon

Dear Nic Vrey: Order No: 1512E55

Analytical Environmental Services, Inc. received 8 samples on December 16, 2015 10:50 am for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1512E55

Date: 12/15/15 Page 1 of 1

COMPANY: ERM

ADDRESS: 3200 Windy Hill Rd Suite 1500W ATL GA 30339

PHONE:

FAX:

SAMPLED BY: KS/DF

SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	Arsenic	REMARKS	No # of Containers
1	SCS-82-SW-(0'-2')-20151214-01	12/14	1130	X		S	X		
2	SCS-83-SW-(0'-2')-20151214-01		1135	X		S	X		
3	SCS-84-SW-(0'-2')-20151214-01		1140	X		S	X		
4	SCS-85-SW-(0'-2')-20151214-01		1145	X		S	X		
5	SCS-86-SW-(0'-2')-20151214-01		1150	X		S	X		
6	SCS-87-SF-20151214-01		1155	X		S	X		
7	SCS-88-SF-20151214-01		1200	X		S	X		
8	Dup-10-20151214-01		—			S	X		
9									
10									
11									
12									
13									
14									

ANALYSIS REQUESTED

PRESERVATION (See codes)

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY / DATE/TIME
1: 12/15/15 1730

RECEIVED BY / DATE/TIME
1: 12/16/15 10:50

2:

3:

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
CLIENT (FedEx) UPS MAIL COURIER
GREYHOUND OTHER

PROJECT INFORMATION
PROJECT NAME: AGL Macon
PROJECT #: 0176740
SITE ADDRESS: 224 Walnut St Macon GA
SEND REPORT TO: N.C.Vrey@erm.com
INVOICE TO: (IF DIFFERENT FROM ABOVE)
QUOTE #: PO#:

RECEIPT
Total # of Containers

Turnaround Time Request
Standard 5 Business Days
2 Business Day Rush
Next Business Day Rush
Same Day Rush (auth req.)
X Other 3 DAY

STATE PROGRAM (if any):
E-mail? Y / N; Fax? Y / N
DATA PACKAGE: I II III IV

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc **Date:** 24-Dec-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-82-SW-(0'-2')-20151214-01
Project Name:	AGL Macon	**Collection Date:**	12/14/2015 11:30:00 AM
Lab ID:	1512E55-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, TOTAL SW6010C (SW3050B)								
Arsenic	11.7	5.26		mg/Kg-dry	217292	1	12/17/2015 16:47	IO
PERCENT MOISTURE D2216								
Percent Moisture	6.14	0		wt%	R306778	1	12/21/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 24-Dec-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-83-SW-(0'-2')-20151214-01
Project Name:	AGL Macon	**Collection Date:**	12/14/2015 11:35:00 AM
Lab ID:	1512E55-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, TOTAL SW6010C (SW3050B)								
Arsenic	BRL	4.79		mg/Kg-dry	217292	1	12/17/2015 16:51	IO
PERCENT MOISTURE D2216								
Percent Moisture	9.09	0		wt%	R306778	1	12/21/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 24-Dec-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-84-SW-(0'-2')-20151214-01
Project Name:	AGL Macon	**Collection Date:**	12/14/2015 11:40:00 AM
Lab ID:	1512E55-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, TOTAL SW6010C (SW3050B)								
Arsenic	93.9	5.61		mg/Kg-dry	217292	1	12/17/2015 16:55	IO
PERCENT MOISTURE D2216								
Percent Moisture	14.3	0		wt%	R306778	1	12/21/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 24-Dec-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-85-SW-(0'-2')-20151214-01
Project Name:	AGL Macon	**Collection Date:**	12/14/2015 11:45:00 AM
Lab ID:	1512E55-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, TOTAL SW6010C (SW3050B)								
Arsenic	BRL	4.91		mg/Kg-dry	217292	1	12/17/2015 17:00	IO
PERCENT MOISTURE D2216								
Percent Moisture	7.26	0		wt%	R306778	1	12/21/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 24-Dec-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-86-SW-(0'-2')-20151214-01
Project Name:	AGL Macon	**Collection Date:**	12/14/2015 11:50:00 AM
Lab ID:	1512E55-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, TOTAL SW6010C (SW3050B)								
Arsenic	BRL	5.34		mg/Kg-dry	217292	1	12/17/2015 17:06	IO
PERCENT MOISTURE D2216								
Percent Moisture	8.42	0		wt%	R306778	1	12/21/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 24-Dec-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-87-SF-20151214-01
Project Name:	AGL Macon	**Collection Date:**	12/14/2015 11:55:00 AM
Lab ID:	1512E55-006	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, TOTAL SW6010C (SW3050B)								
Arsenic	BRL	5.42		mg/Kg-dry	217292	1	12/17/2015 17:11	IO
PERCENT MOISTURE D2216								
Percent Moisture	10.2	0		wt%	R306778	1	12/21/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 24-Dec-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-88-SF-20151214-01
Project Name:	AGL Macon	**Collection Date:**	12/14/2015 12:00:00 PM
Lab ID:	1512E55-007	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, TOTAL SW6010C (SW3050B)								
Arsenic	BRL	5.06		mg/Kg-dry	217292	1	12/17/2015 17:15	IO
PERCENT MOISTURE D2216								
Percent Moisture	11.1	0		wt%	R306778	1	12/21/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 24-Dec-15

Client:	ERM-Southeast	**Client Sample ID:**	DUP-10-20151214-01
Project Name:	AGL Macon	**Collection Date:**	12/14/2015
Lab ID:	1512E55-008	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, TOTAL SW6010C (SW3050B)								
Arsenic	BRL	5.45		mg/Kg-dry	217292	1	12/17/2015 17:28	IO
PERCENT MOISTURE D2216								
Percent Moisture	8.50	0		wt%	R306778	1	12/21/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client FRM Work Order Number 1512155

Checklist completed by _____ 12/16/15
Signature Date

Carrier name: FedEx ✓ UPS __ Courier __ Client __ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 3.5 Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted ✓ Yes __ No __

Water - pH acceptable upon receipt? Yes __ No __ Not Applicable ✓

Adjusted? _____ Checked by _____

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1512E55

ANALYTICAL QC SUMMARY REPORT

BatchID: 217292

Sample ID: **MB-217292**	Client ID:			Units: **mg/Kg**	Prep Date: **12/16/2015**	Run No: **306614**
SampleType: **MBLK**	TestCode: **METALS, TOTAL** **SW6010C**			BatchID: **217292**	Analysis Date: **12/17/2015**	Seq No: **6575327**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	BRL	5.00									

Sample ID: **LCS-217292**	Client ID:			Units: **mg/Kg**	Prep Date: **12/16/2015**	Run No: **306614**
SampleType: **LCS**	TestCode: **METALS, TOTAL** **SW6010C**			BatchID: **217292**	Analysis Date: **12/17/2015**	Seq No: **6575329**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	48.14	5.00	50.00		96.3	80	120				

Sample ID: **1512F13-001AMS**	Client ID:			Units: **mg/Kg-dry**	Prep Date: **12/16/2015**	Run No: **306614**
SampleType: **MS**	TestCode: **METALS, TOTAL** **SW6010C**			BatchID: **217292**	Analysis Date: **12/17/2015**	Seq No: **6575333**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	49.73	5.70	56.96	1.987	83.8	75	125				

Sample ID: **1512F13-001AMSD**	Client ID:			Units: **mg/Kg-dry**	Prep Date: **12/16/2015**	Run No: **306614**
SampleType: **MSD**	TestCode: **METALS, TOTAL** **SW6010C**			BatchID: **217292**	Analysis Date: **12/17/2015**	Seq No: **6575335**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	50.51	5.70	56.98	1.987	85.2	75	125	49.73	1.55	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

February 25, 2016

Nic Vrey
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: AGL Macon

Dear Nic Vrey: Order No: 1601E03

Analytical Environmental Services, Inc. received 7 samples on January 20, 2016 8:56 am for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC

3080 Presidential Drive, Atlanta GA 30340-3704
TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1601E03

Date: 1/19/16 Page 1 of 1

COMPANY: ERM

ADDRESS: 3200 Windy Hill Rd SE 1500W

PHONE: 678-486-2700

FAX:

SAMPLED BY: K.S.

SIGNATURE:

ANALYSIS REQUESTED

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	PRESERVATION (See codes)	TAT	SVOCs	Metals	Cyanide	Mercury	VOCs	VOCs	VOCs	REMARKS	No # of Containers
1	SCS-96-6'SW-(3')-20160119-01	1/19/16	1630	x	x	So		1	1	1	1	1	2	1			
2	SCS-97-6'NE-(2')-20160119-01		1635	x	x			1	1	1	1	1	2	1			
3	SCS-98-6'SE-(3')-20160119-01		1640	x	x			1	1	1	1	1	2	1			
4	SCS-99-6'NW-(2')-20160119-01		1645	x	x			1	1	1	1	1	2	1			
5	SCS-100-6'FI-(2)-20160119-01		1650	x	x			1	1	1	1	1	2	1			
6	DUP-11-20160119-01			x	x			1	1	1	1	1	2	1			
7	TB-18-20160119-01	1/19/16				W									3		
8																	
9																	
10																	
11																	
12																	
13																	
14																	

RELINQUISHED BY / DATE/TIME

1: Myles Ryers 1-20-11 0855

2:

3:

RECEIVED BY / DATE/TIME

1: 1/20/16 0856

2:

3:

PROJECT INFORMATION

PROJECT NAME: MAGI Macon

PROJECT #: 0176740

SITE ADDRESS:

SEND REPORT TO: Nic.Vrey@erm.com

INVOICE TO: Mark.Fler@erm.com
(IF DIFFERENT FROM ABOVE)

QUOTE #: PO#:

RECEIPT

Total # of Containers

Turnaround Time Request
- ○ Standard 5 Business Days
- ○ 2 Business Day Rush
- ○ Next Business Day Rush
- ○ Same Day Rush **(auth req.)**
- ⊗ Other 3 day

STATE PROGRAM (if any):

E-mail? Y / N; Fax? Y / N

DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD

OUT / / VIA:

IN / / VIA:

CLIENT FedEx UPS MAIL COURIER

GREYHOUND OTHER

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.
SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Client: ERM-Southeast
Project: AGL Macon
Lab ID: 1601E03

Case Narrative

Sample Receiving Nonconformance:

Sample information on the Chain of Custody did not match that on the sample bottle labels for sample 1601E03-001A. The vials for this sample were not labeled with the sample ID. Samples were matched based on the jars they were packaged with. Samples were logged in using the information on the COC.

Volatile Organic Compounds Analysis by Method 8260B:

Percent recovery for the internal standard compound 1,4-Dichlorobenzene-d4 on sample 1601E03-001A was outside control limits biased low due to suspected matrix interference. All other internal standard recoveries were within control limits.

Analytical Environmental Services, Inc **Date:** 25-Feb-16

Client:	ERM-Southeast	**Client Sample ID:**	SCS-96-6THSW-(3')-20160119-0
Project Name:	AGL Macon	**Collection Date:**	1/19/2016 4:30:00 PM
Lab ID:	1601E03-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	7.7		ug/Kg-dry	218761	1	01/22/2016 01:44	CG
Benzene	BRL	3.8		ug/Kg-dry	218761	1	01/22/2016 01:44	CG
Toluene	BRL	3.8		ug/Kg-dry	218761	1	01/22/2016 01:44	CG
Ethylbenzene	BRL	3.8		ug/Kg-dry	218761	1	01/22/2016 01:44	CG
Xylenes, Total	BRL	3.8		ug/Kg-dry	218761	1	01/22/2016 01:44	CG
Surr: 4-Bromofluorobenzene	83.5	70-128		%REC	218761	1	01/22/2016 01:44	CG
Surr: Dibromofluoromethane	108	78.2-128		%REC	218761	1	01/22/2016 01:44	CG
Surr: Toluene-d8	97.4	76.5-116		%REC	218761	1	01/22/2016 01:44	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	0.645	0.115		mg/Kg-dry	218783	1	01/22/2016 14:34	MC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	31	22		ug/Kg-dry	218702	1	01/21/2016 10:28	YH
Acenaphthylene	120	43		ug/Kg-dry	218702	1	01/21/2016 10:28	YH
Anthracene	250	2.2		ug/Kg-dry	218702	1	01/21/2016 10:28	YH
Benz(a)anthracene	2000	22		ug/Kg-dry	218702	10	01/21/2016 16:19	YH
Benzo(a)pyrene	1700	22		ug/Kg-dry	218702	10	01/21/2016 16:19	YH
Benzo(b)fluoranthene	2600	43		ug/Kg-dry	218702	10	01/21/2016 16:19	YH
Benzo(g,h,i)perylene	1300	43		ug/Kg-dry	218702	10	01/21/2016 16:19	YH
Benzo(k)fluoranthene	680	22		ug/Kg-dry	218702	10	01/21/2016 16:19	YH
Chrysene	1500	22		ug/Kg-dry	218702	10	01/21/2016 16:19	YH
Dibenz(a,h)anthracene	220	4.3		ug/Kg-dry	218702	1	01/21/2016 10:28	YH
Fluoranthene	3500	43		ug/Kg-dry	218702	10	01/21/2016 16:19	YH
Fluorene	120	4.3		ug/Kg-dry	218702	1	01/21/2016 10:28	YH
Indeno(1,2,3-cd)pyrene	1200	22		ug/Kg-dry	218702	10	01/21/2016 16:19	YH
Naphthalene	390	22		ug/Kg-dry	218702	1	01/21/2016 10:28	YH
Phenanthrene	1100	22		ug/Kg-dry	218702	10	01/21/2016 16:19	YH
Pyrene	3100	22		ug/Kg-dry	218702	10	01/21/2016 16:19	YH
Surr: 4-Terphenyl-d14	82.2	47.1-121		%REC	218702	1	01/21/2016 10:28	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	430		ug/Kg-dry	218570	1	01/21/2016 14:14	YH
2-Methylphenol	BRL	430		ug/Kg-dry	218570	1	01/21/2016 14:14	YH
3,4-Methylphenol	BRL	430		ug/Kg-dry	218570	1	01/21/2016 14:14	YH
Phenol	BRL	430		ug/Kg-dry	218570	1	01/21/2016 14:14	YH
Surr: 2,4,6-Tribromophenol	95.6	42.4-130		%REC	218570	1	01/21/2016 14:14	YH
Surr: 2-Fluorobiphenyl	86.3	51.5-120		%REC	218570	1	01/21/2016 14:14	YH
Surr: 2-Fluorophenol	74.8	41.1-120		%REC	218570	1	01/21/2016 14:14	YH
Surr: 4-Terphenyl-d14	83.5	52.7-117		%REC	218570	1	01/21/2016 14:14	YH
Surr: Nitrobenzene-d5	77.9	41.4-120		%REC	218570	1	01/21/2016 14:14	YH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Feb-16

Client:	ERM-Southeast	**Client Sample ID:**	SCS-96-6THSW-(3')-20160119-0
Project Name:	AGL Macon	**Collection Date:**	1/19/2016 4:30:00 PM
Lab ID:	1601E03-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D					**(SW3550C)**			
Surr: Phenol-d5	80.6	47.6-120		%REC	218570	1	01/21/2016 14:14	YH
Cyanide, Total SW9014					**(SW9010C)**			
Cyanide, Total	BRL	1.29		mg/Kg-dry	218753	1	01/21/2016 11:30	PF
METALS, TOTAL SW6010D					**(SW3050B)**			
Antimony	BRL	6.07		mg/Kg-dry	218719	1	01/21/2016 15:23	IO
Arsenic	20.2	6.07		mg/Kg-dry	218719	1	01/21/2016 15:23	IO
Barium	91.8	6.07		mg/Kg-dry	218719	1	01/21/2016 15:23	IO
Beryllium	BRL	3.03		mg/Kg-dry	218719	1	01/21/2016 15:23	IO
Cadmium	BRL	3.03		mg/Kg-dry	218719	1	01/21/2016 15:23	IO
Chromium	32.2	3.03		mg/Kg-dry	218719	1	01/21/2016 15:23	IO
Copper	33.4	3.03		mg/Kg-dry	218719	1	01/21/2016 15:23	IO
Lead	62.7	6.07		mg/Kg-dry	218719	1	01/21/2016 15:23	IO
Nickel	9.85	6.07		mg/Kg-dry	218719	1	01/21/2016 15:23	IO
Zinc	42.2	6.07		mg/Kg-dry	218719	1	01/21/2016 15:23	IO
PERCENT MOISTURE D2216								
Percent Moisture	22.4	0		wt%	R308734	1	01/21/2016 09:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Feb-16

Client:	ERM-Southeast	**Client Sample ID:**	SCS-97-6THNE-(2')-20160119-0
Project Name:	AGL Macon	**Collection Date:**	1/19/2016 4:35:00 PM
Lab ID:	1601E03-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	7.2		ug/Kg-dry	218761	1	01/22/2016 02:54	CG
Benzene	BRL	3.6		ug/Kg-dry	218761	1	01/22/2016 02:54	CG
Toluene	BRL	3.6		ug/Kg-dry	218761	1	01/22/2016 02:54	CG
Ethylbenzene	BRL	3.6		ug/Kg-dry	218761	1	01/22/2016 02:54	CG
Xylenes, Total	BRL	3.6		ug/Kg-dry	218761	1	01/22/2016 02:54	CG
Surr: 4-Bromofluorobenzene	97.1	70-128		%REC	218761	1	01/22/2016 02:54	CG
Surr: Dibromofluoromethane	104	78.2-128		%REC	218761	1	01/22/2016 02:54	CG
Surr: Toluene-d8	97.1	76.5-116		%REC	218761	1	01/22/2016 02:54	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.0995		mg/Kg-dry	218783	1	01/22/2016 14:37	MC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	150	19		ug/Kg-dry	218702	1	01/21/2016 10:54	YH
Acenaphthylene	110	37		ug/Kg-dry	218702	1	01/21/2016 10:54	YH
Anthracene	110	1.9		ug/Kg-dry	218702	1	01/21/2016 10:54	YH
Benz(a)anthracene	500	19		ug/Kg-dry	218702	10	01/21/2016 16:46	YH
Benzo(a)pyrene	370	19		ug/Kg-dry	218702	10	01/21/2016 16:46	YH
Benzo(b)fluoranthene	660	37		ug/Kg-dry	218702	10	01/21/2016 16:46	YH
Benzo(g,h,i)perylene	360	37		ug/Kg-dry	218702	10	01/21/2016 16:46	YH
Benzo(k)fluoranthene	160	1.9		ug/Kg-dry	218702	1	01/21/2016 10:54	YH
Chrysene	400	19		ug/Kg-dry	218702	10	01/21/2016 16:46	YH
Dibenz(a,h)anthracene	88	3.7		ug/Kg-dry	218702	1	01/21/2016 10:54	YH
Fluoranthene	940	37		ug/Kg-dry	218702	10	01/21/2016 16:46	YH
Fluorene	75	3.7		ug/Kg-dry	218702	1	01/21/2016 10:54	YH
Indeno(1,2,3-cd)pyrene	340	1.9		ug/Kg-dry	218702	1	01/21/2016 10:54	YH
Naphthalene	86	19		ug/Kg-dry	218702	1	01/21/2016 10:54	YH
Phenanthrene	290	1.9		ug/Kg-dry	218702	1	01/21/2016 10:54	YH
Pyrene	880	19		ug/Kg-dry	218702	10	01/21/2016 16:46	YH
Surr: 4-Terphenyl-d14	80.9	47.1-121		%REC	218702	1	01/21/2016 10:54	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	370		ug/Kg-dry	218570	1	01/21/2016 14:41	YH
2-Methylphenol	BRL	370		ug/Kg-dry	218570	1	01/21/2016 14:41	YH
3,4-Methylphenol	BRL	370		ug/Kg-dry	218570	1	01/21/2016 14:41	YH
Phenol	BRL	370		ug/Kg-dry	218570	1	01/21/2016 14:41	YH
Surr: 2,4,6-Tribromophenol	91.2	42.4-130		%REC	218570	1	01/21/2016 14:41	YH
Surr: 2-Fluorobiphenyl	82.5	51.5-120		%REC	218570	1	01/21/2016 14:41	YH
Surr: 2-Fluorophenol	74.2	41.1-120		%REC	218570	1	01/21/2016 14:41	YH
Surr: 4-Terphenyl-d14	83.5	52.7-117		%REC	218570	1	01/21/2016 14:41	YH
Surr: Nitrobenzene-d5	76.9	41.4-120		%REC	218570	1	01/21/2016 14:41	YH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Feb-16

Client:	ERM-Southeast	**Client Sample ID:**	SCS-97-6THNE-(2')-20160119-0
Project Name:	AGL Macon	**Collection Date:**	1/19/2016 4:35:00 PM
Lab ID:	1601E03-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	79.2	47.6-120		%REC	218570	1	01/21/2016 14:41	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.12		mg/Kg-dry	218753	1	01/21/2016 11:30	PF
METALS, TOTAL SW6010D				**(SW3050B)**				
Antimony	BRL	4.85		mg/Kg-dry	218719	1	01/21/2016 15:27	IO
Arsenic	BRL	4.85		mg/Kg-dry	218719	1	01/21/2016 15:27	IO
Barium	37.9	4.85		mg/Kg-dry	218719	1	01/21/2016 15:27	IO
Beryllium	BRL	2.43		mg/Kg-dry	218719	1	01/21/2016 15:27	IO
Cadmium	BRL	2.43		mg/Kg-dry	218719	1	01/21/2016 15:27	IO
Chromium	15.6	2.43		mg/Kg-dry	218719	1	01/21/2016 15:27	IO
Copper	9.99	2.43		mg/Kg-dry	218719	1	01/21/2016 15:27	IO
Lead	21.9	4.85		mg/Kg-dry	218719	1	01/21/2016 15:27	IO
Nickel	BRL	4.85		mg/Kg-dry	218719	1	01/21/2016 15:27	IO
Zinc	12.5	4.85		mg/Kg-dry	218719	1	01/21/2016 15:27	IO
PERCENT MOISTURE D2216								
Percent Moisture	10.7	0		wt%	R308734	1	01/21/2016 09:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Feb-16

Client:	ERM-Southeast	**Client Sample ID:**	SCS-98-6THSE-(3')-20160119-01
Project Name:	AGL Macon	**Collection Date:**	1/19/2016 4:40:00 PM
Lab ID:	1601E03-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	6.3		ug/Kg-dry	218761	1	01/22/2016 02:07	CG
Benzene	BRL	3.2		ug/Kg-dry	218761	1	01/22/2016 02:07	CG
Toluene	BRL	3.2		ug/Kg-dry	218761	1	01/22/2016 02:07	CG
Ethylbenzene	BRL	3.2		ug/Kg-dry	218761	1	01/22/2016 02:07	CG
Xylenes, Total	BRL	3.2		ug/Kg-dry	218761	1	01/22/2016 02:07	CG
Surr: 4-Bromofluorobenzene	95	70-128		%REC	218761	1	01/22/2016 02:07	CG
Surr: Dibromofluoromethane	103	78.2-128		%REC	218761	1	01/22/2016 02:07	CG
Surr: Toluene-d8	96.7	76.5-116		%REC	218761	1	01/22/2016 02:07	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	0.113	0.103		mg/Kg-dry	218783	1	01/22/2016 14:26	MC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	19		ug/Kg-dry	218702	1	01/21/2016 11:21	YH
Acenaphthylene	BRL	37		ug/Kg-dry	218702	1	01/21/2016 11:21	YH
Anthracene	31	1.9		ug/Kg-dry	218702	1	01/21/2016 11:21	YH
Benz(a)anthracene	240	1.9		ug/Kg-dry	218702	1	01/21/2016 11:21	YH
Benzo(a)pyrene	180	1.9		ug/Kg-dry	218702	1	01/21/2016 11:21	YH
Benzo(b)fluoranthene	360	3.7		ug/Kg-dry	218702	1	01/21/2016 11:21	YH
Benzo(g,h,i)perylene	170	3.7		ug/Kg-dry	218702	1	01/21/2016 11:21	YH
Benzo(k)fluoranthene	86	1.9		ug/Kg-dry	218702	1	01/21/2016 11:21	YH
Chrysene	190	1.9		ug/Kg-dry	218702	1	01/21/2016 11:21	YH
Dibenz(a,h)anthracene	43	3.7		ug/Kg-dry	218702	1	01/21/2016 11:21	YH
Fluoranthene	370	3.7		ug/Kg-dry	218702	1	01/21/2016 11:21	YH
Fluorene	5.6	3.7		ug/Kg-dry	218702	1	01/21/2016 11:21	YH
Indeno(1,2,3-cd)pyrene	170	1.9		ug/Kg-dry	218702	1	01/21/2016 11:21	YH
Naphthalene	80	19		ug/Kg-dry	218702	1	01/21/2016 11:21	YH
Phenanthrene	120	1.9		ug/Kg-dry	218702	1	01/21/2016 11:21	YH
Pyrene	320	1.9		ug/Kg-dry	218702	1	01/21/2016 11:21	YH
Surr: 4-Terphenyl-d14	80.6	47.1-121		%REC	218702	1	01/21/2016 11:21	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	370		ug/Kg-dry	218570	1	01/21/2016 15:07	YH
2-Methylphenol	BRL	370		ug/Kg-dry	218570	1	01/21/2016 15:07	YH
3,4-Methylphenol	BRL	370		ug/Kg-dry	218570	1	01/21/2016 15:07	YH
Phenol	BRL	370		ug/Kg-dry	218570	1	01/21/2016 15:07	YH
Surr: 2,4,6-Tribromophenol	97.8	42.4-130		%REC	218570	1	01/21/2016 15:07	YH
Surr: 2-Fluorobiphenyl	87.2	51.5-120		%REC	218570	1	01/21/2016 15:07	YH
Surr: 2-Fluorophenol	76	41.1-120		%REC	218570	1	01/21/2016 15:07	YH
Surr: 4-Terphenyl-d14	88.9	52.7-117		%REC	218570	1	01/21/2016 15:07	YH
Surr: Nitrobenzene-d5	79.4	41.4-120		%REC	218570	1	01/21/2016 15:07	YH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Feb-16

Client:	ERM-Southeast	**Client Sample ID:**	SCS-98-6THSE-(3')-20160119-01
Project Name:	AGL Macon	**Collection Date:**	1/19/2016 4:40:00 PM
Lab ID:	1601E03-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D					**(SW3550C)**			
Surr: Phenol-d5	81.4	47.6-120		%REC	218570	1	01/21/2016 15:07	YH
Cyanide, Total SW9014					**(SW9010C)**			
Cyanide, Total	BRL	1.13		mg/Kg-dry	218753	1	01/21/2016 11:30	PF
METALS, TOTAL SW6010D					**(SW3050B)**			
Antimony	BRL	5.58		mg/Kg-dry	218719	1	01/21/2016 14:13	IO
Arsenic	BRL	5.58		mg/Kg-dry	218719	1	01/21/2016 14:13	IO
Barium	84.8	5.58		mg/Kg-dry	218719	1	01/21/2016 14:13	IO
Beryllium	BRL	2.79		mg/Kg-dry	218719	1	01/21/2016 14:13	IO
Cadmium	BRL	2.79		mg/Kg-dry	218719	1	01/21/2016 14:13	IO
Chromium	9.81	2.79		mg/Kg-dry	218719	1	01/21/2016 14:13	IO
Copper	11.2	2.79		mg/Kg-dry	218719	1	01/21/2016 14:13	IO
Lead	30.8	5.58		mg/Kg-dry	218719	1	01/21/2016 14:13	IO
Nickel	BRL	5.58		mg/Kg-dry	218719	1	01/21/2016 14:13	IO
Zinc	5.94	5.58		mg/Kg-dry	218719	1	01/21/2016 14:13	IO
PERCENT MOISTURE D2216								
Percent Moisture	11.6	0		wt%	R308734	1	01/21/2016 09:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Feb-16

Client:	ERM-Southeast	**Client Sample ID:**	SCS-99-6THNW-(2')-20160119-(
Project Name:	AGL Macon	**Collection Date:**	1/19/2016 4:45:00 PM
Lab ID:	1601E03-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	6.5		ug/Kg-dry	218761	1	01/22/2016 11:20	CG
Benzene	BRL	3.3		ug/Kg-dry	218761	1	01/22/2016 11:20	CG
Toluene	BRL	3.3		ug/Kg-dry	218761	1	01/22/2016 11:20	CG
Ethylbenzene	BRL	3.3		ug/Kg-dry	218761	1	01/22/2016 11:20	CG
Xylenes, Total	BRL	3.3		ug/Kg-dry	218761	1	01/22/2016 11:20	CG
Surr: 4-Bromofluorobenzene	91.4	70-128		%REC	218761	1	01/22/2016 11:20	CG
Surr: Dibromofluoromethane	104	78.2-128		%REC	218761	1	01/22/2016 11:20	CG
Surr: Toluene-d8	97.3	76.5-116		%REC	218761	1	01/22/2016 11:20	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.0981		mg/Kg-dry	218783	1	01/22/2016 14:39	MC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	19		ug/Kg-dry	218702	1	01/21/2016 11:48	YH
Acenaphthylene	51	37		ug/Kg-dry	218702	1	01/21/2016 11:48	YH
Anthracene	37	1.9		ug/Kg-dry	218702	1	01/21/2016 11:48	YH
Benz(a)anthracene	360	19		ug/Kg-dry	218702	10	01/21/2016 17:13	YH
Benzo(a)pyrene	370	19		ug/Kg-dry	218702	10	01/21/2016 17:13	YH
Benzo(b)fluoranthene	620	37		ug/Kg-dry	218702	10	01/21/2016 17:13	YH
Benzo(g,h,i)perylene	400	37		ug/Kg-dry	218702	10	01/21/2016 17:13	YH
Benzo(k)fluoranthene	160	1.9		ug/Kg-dry	218702	1	01/21/2016 11:48	YH
Chrysene	310	1.9		ug/Kg-dry	218702	1	01/21/2016 11:48	YH
Dibenz(a,h)anthracene	90	3.7		ug/Kg-dry	218702	1	01/21/2016 11:48	YH
Fluoranthene	380	37		ug/Kg-dry	218702	10	01/21/2016 17:13	YH
Fluorene	18	3.7		ug/Kg-dry	218702	1	01/21/2016 11:48	YH
Indeno(1,2,3-cd)pyrene	340	1.9		ug/Kg-dry	218702	1	01/21/2016 11:48	YH
Naphthalene	34	19		ug/Kg-dry	218702	1	01/21/2016 11:48	YH
Phenanthrene	140	1.9		ug/Kg-dry	218702	1	01/21/2016 11:48	YH
Pyrene	350	19		ug/Kg-dry	218702	10	01/21/2016 17:13	YH
Surr: 4-Terphenyl-d14	78.2	47.1-121		%REC	218702	1	01/21/2016 11:48	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	370		ug/Kg-dry	218570	1	01/21/2016 15:35	YH
2-Methylphenol	BRL	370		ug/Kg-dry	218570	1	01/21/2016 15:35	YH
3,4-Methylphenol	BRL	370		ug/Kg-dry	218570	1	01/21/2016 15:35	YH
Phenol	BRL	370		ug/Kg-dry	218570	1	01/21/2016 15:35	YH
Surr: 2,4,6-Tribromophenol	89.8	42.4-130		%REC	218570	1	01/21/2016 15:35	YH
Surr: 2-Fluorobiphenyl	78.2	51.5-120		%REC	218570	1	01/21/2016 15:35	YH
Surr: 2-Fluorophenol	71.2	41.1-120		%REC	218570	1	01/21/2016 15:35	YH
Surr: 4-Terphenyl-d14	82.4	52.7-117		%REC	218570	1	01/21/2016 15:35	YH
Surr: Nitrobenzene-d5	71.4	41.4-120		%REC	218570	1	01/21/2016 15:35	YH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Feb-16

Client:	ERM-Southeast	**Client Sample ID:**	SCS-99-6THNW-(2')-20160119-(
Project Name:	AGL Macon	**Collection Date:**	1/19/2016 4:45:00 PM
Lab ID:	1601E03-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	76.5	47.6-120		%REC	218570	1	01/21/2016 15:35	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.13		mg/Kg-dry	218753	1	01/21/2016 11:30	PF
METALS, TOTAL SW6010D				**(SW3050B)**				
Antimony	BRL	5.01		mg/Kg-dry	218719	1	01/21/2016 15:31	IO
Arsenic	BRL	5.01		mg/Kg-dry	218719	1	01/21/2016 15:31	IO
Barium	28.9	5.01		mg/Kg-dry	218719	1	01/21/2016 15:31	IO
Beryllium	BRL	2.50		mg/Kg-dry	218719	1	01/21/2016 15:31	IO
Cadmium	BRL	2.50		mg/Kg-dry	218719	1	01/21/2016 15:31	IO
Chromium	11.0	2.50		mg/Kg-dry	218719	1	01/21/2016 15:31	IO
Copper	12.4	2.50		mg/Kg-dry	218719	1	01/21/2016 15:31	IO
Lead	18.4	5.01		mg/Kg-dry	218719	1	01/21/2016 15:31	IO
Nickel	BRL	5.01		mg/Kg-dry	218719	1	01/21/2016 15:31	IO
Zinc	10.4	5.01		mg/Kg-dry	218719	1	01/21/2016 15:31	IO
PERCENT MOISTURE D2216								
Percent Moisture	11.4	0		wt%	R308734	1	01/21/2016 09:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Feb-16

Client:	ERM-Southeast	**Client Sample ID:**	SCS-100-6THFI-(2')-20160119-0
Project Name:	AGL Macon	**Collection Date:**	1/19/2016 4:50:00 PM
Lab ID:	1601E03-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	7.6		ug/Kg-dry	218761	1	01/22/2016 03:18	CG
Benzene	BRL	3.8		ug/Kg-dry	218761	1	01/22/2016 03:18	CG
Toluene	BRL	3.8		ug/Kg-dry	218761	1	01/22/2016 03:18	CG
Ethylbenzene	BRL	3.8		ug/Kg-dry	218761	1	01/22/2016 03:18	CG
Xylenes, Total	7.1	3.8		ug/Kg-dry	218761	1	01/22/2016 03:18	CG
Surr: 4-Bromofluorobenzene	95.5	70-128		%REC	218761	1	01/22/2016 03:18	CG
Surr: Dibromofluoromethane	103	78.2-128		%REC	218761	1	01/22/2016 03:18	CG
Surr: Toluene-d8	97.7	76.5-116		%REC	218761	1	01/22/2016 03:18	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	0.118	0.0993		mg/Kg-dry	218783	1	01/22/2016 14:45	MC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	330	19		ug/Kg-dry	218702	1	01/21/2016 12:16	YH
Acenaphthylene	270	38		ug/Kg-dry	218702	1	01/21/2016 12:16	YH
Anthracene	860	19		ug/Kg-dry	218702	10	01/21/2016 17:39	YH
Benz(a)anthracene	3500	19		ug/Kg-dry	218702	10	01/21/2016 17:39	YH
Benzo(a)pyrene	2900	19		ug/Kg-dry	218702	10	01/21/2016 17:39	YH
Benzo(b)fluoranthene	3700	380		ug/Kg-dry	218702	100	01/21/2016 18:31	YH
Benzo(g,h,i)perylene	2000	38		ug/Kg-dry	218702	10	01/21/2016 17:39	YH
Benzo(k)fluoranthene	1000	19		ug/Kg-dry	218702	10	01/21/2016 17:39	YH
Chrysene	2600	19		ug/Kg-dry	218702	10	01/21/2016 17:39	YH
Dibenz(a,h)anthracene	470	38		ug/Kg-dry	218702	10	01/21/2016 17:39	YH
Fluoranthene	5600	380		ug/Kg-dry	218702	100	01/21/2016 18:31	YH
Fluorene	630	38		ug/Kg-dry	218702	10	01/21/2016 17:39	YH
Indeno(1,2,3-cd)pyrene	1800	19		ug/Kg-dry	218702	10	01/21/2016 17:39	YH
Naphthalene	2200	190		ug/Kg-dry	218702	10	01/21/2016 17:39	YH
Phenanthrene	3300	19		ug/Kg-dry	218702	10	01/21/2016 17:39	YH
Pyrene	4500	190		ug/Kg-dry	218702	100	01/21/2016 18:31	YH
Surr: 4-Terphenyl-d14	63.8	47.1-121		%REC	218702	10	01/21/2016 17:39	YH
Surr: 4-Terphenyl-d14	87.2	47.1-121		%REC	218702	1	01/21/2016 12:16	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	380		ug/Kg-dry	218570	1	01/21/2016 16:01	YH
2-Methylphenol	BRL	380		ug/Kg-dry	218570	1	01/21/2016 16:01	YH
3,4-Methylphenol	BRL	380		ug/Kg-dry	218570	1	01/21/2016 16:01	YH
Phenol	BRL	380		ug/Kg-dry	218570	1	01/21/2016 16:01	YH
Surr: 2,4,6-Tribromophenol	93.7	42.4-130		%REC	218570	1	01/21/2016 16:01	YH
Surr: 2-Fluorobiphenyl	88.9	51.5-120		%REC	218570	1	01/21/2016 16:01	YH
Surr: 2-Fluorophenol	80.8	41.1-120		%REC	218570	1	01/21/2016 16:01	YH
Surr: 4-Terphenyl-d14	90.4	52.7-117		%REC	218570	1	01/21/2016 16:01	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Feb-16

Client:	ERM-Southeast	**Client Sample ID:**	SCS-100-6THFI-(2')-20160119-0
Project Name:	AGL Macon	**Collection Date:**	1/19/2016 4:50:00 PM
Lab ID:	1601E03-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D					**(SW3550C)**			
Surr: Nitrobenzene-d5	83.7	41.4-120		%REC	218570	1	01/21/2016 16:01	YH
Surr: Phenol-d5	85.6	47.6-120		%REC	218570	1	01/21/2016 16:01	YH
Cyanide, Total SW9014					**(SW9010C)**			
Cyanide, Total	1.88	1.14		mg/Kg-dry	218753	1	01/21/2016 11:30	PF
METALS, TOTAL SW6010D					**(SW3050B)**			
Antimony	BRL	5.32		mg/Kg-dry	218719	1	01/21/2016 15:34	IO
Arsenic	BRL	5.32		mg/Kg-dry	218719	1	01/21/2016 15:34	IO
Barium	56.3	5.32		mg/Kg-dry	218719	1	01/21/2016 15:34	IO
Beryllium	BRL	2.66		mg/Kg-dry	218719	1	01/21/2016 15:34	IO
Cadmium	BRL	2.66		mg/Kg-dry	218719	1	01/21/2016 15:34	IO
Chromium	11.4	2.66		mg/Kg-dry	218719	1	01/21/2016 15:34	IO
Copper	19.0	2.66		mg/Kg-dry	218719	1	01/21/2016 15:34	IO
Lead	49.9	5.32		mg/Kg-dry	218719	1	01/21/2016 15:34	IO
Nickel	BRL	5.32		mg/Kg-dry	218719	1	01/21/2016 15:34	IO
Zinc	12.0	5.32		mg/Kg-dry	218719	1	01/21/2016 15:34	IO
PERCENT MOISTURE D2216								
Percent Moisture	12.4	0		wt%	R308734	1	01/21/2016 09:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Feb-16

Client:	ERM-Southeast	**Client Sample ID:**	DUP-11-20160119-01
Project Name:	AGL Macon	**Collection Date:**	1/19/2016
Lab ID:	1601E03-006	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	8.2		ug/Kg-dry	218761	1	01/22/2016 03:42	CG
Benzene	BRL	4.1		ug/Kg-dry	218761	1	01/22/2016 03:42	CG
Toluene	BRL	4.1		ug/Kg-dry	218761	1	01/22/2016 03:42	CG
Ethylbenzene	BRL	4.1		ug/Kg-dry	218761	1	01/22/2016 03:42	CG
Xylenes, Total	10.0	4.1		ug/Kg-dry	218761	1	01/22/2016 03:42	CG
Surr: 4-Bromofluorobenzene	95.1	70-128		%REC	218761	1	01/22/2016 03:42	CG
Surr: Dibromofluoromethane	104	78.2-128		%REC	218761	1	01/22/2016 03:42	CG
Surr: Toluene-d8	98.1	76.5-116		%REC	218761	1	01/22/2016 03:42	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.0959		mg/Kg-dry	218783	1	01/22/2016 14:48	MC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	980	190		ug/Kg-dry	218702	10	01/21/2016 18:05	YH
Acenaphthylene	540	380		ug/Kg-dry	218702	10	01/21/2016 18:05	YH
Anthracene	2100	19		ug/Kg-dry	218702	10	01/21/2016 18:05	YH
Benz(a)anthracene	6400	190		ug/Kg-dry	218702	100	01/21/2016 18:58	YH
Benzo(a)pyrene	5100	190		ug/Kg-dry	218702	100	01/21/2016 18:58	YH
Benzo(b)fluoranthene	8600	380		ug/Kg-dry	218702	100	01/21/2016 18:58	YH
Benzo(g,h,i)perylene	4200	380		ug/Kg-dry	218702	100	01/21/2016 18:58	YH
Benzo(k)fluoranthene	2200	19		ug/Kg-dry	218702	10	01/21/2016 18:05	YH
Chrysene	5300	190		ug/Kg-dry	218702	100	01/21/2016 18:58	YH
Dibenz(a,h)anthracene	1100	38		ug/Kg-dry	218702	10	01/21/2016 18:05	YH
Fluoranthene	13000	380		ug/Kg-dry	218702	100	01/21/2016 18:58	YH
Fluorene	1700	38		ug/Kg-dry	218702	10	01/21/2016 18:05	YH
Indeno(1,2,3-cd)pyrene	3600	190		ug/Kg-dry	218702	100	01/21/2016 18:58	YH
Naphthalene	5100	1900		ug/Kg-dry	218702	100	01/21/2016 18:58	YH
Phenanthrene	7900	190		ug/Kg-dry	218702	100	01/21/2016 18:58	YH
Pyrene	11000	190		ug/Kg-dry	218702	100	01/21/2016 18:58	YH
Surr: 4-Terphenyl-d14	91	47.1-121		%REC	218702	1	01/21/2016 12:42	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	380		ug/Kg-dry	218570	1	01/21/2016 16:27	YH
2-Methylphenol	BRL	380		ug/Kg-dry	218570	1	01/21/2016 16:27	YH
3,4-Methylphenol	BRL	380		ug/Kg-dry	218570	1	01/21/2016 16:27	YH
Phenol	BRL	380		ug/Kg-dry	218570	1	01/21/2016 16:27	YH
Surr: 2,4,6-Tribromophenol	87.3	42.4-130		%REC	218570	1	01/21/2016 16:27	YH
Surr: 2-Fluorobiphenyl	83.9	51.5-120		%REC	218570	1	01/21/2016 16:27	YH
Surr: 2-Fluorophenol	76.3	41.1-120		%REC	218570	1	01/21/2016 16:27	YH
Surr: 4-Terphenyl-d14	85.7	52.7-117		%REC	218570	1	01/21/2016 16:27	YH
Surr: Nitrobenzene-d5	80.1	41.4-120		%REC	218570	1	01/21/2016 16:27	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Feb-16

Client:	ERM-Southeast	**Client Sample ID:**	DUP-11-20160119-01
Project Name:	AGL Macon	**Collection Date:**	1/19/2016
Lab ID:	1601E03-006	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	83	47.6-120		%REC	218570	1	01/21/2016 16:27	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.14		mg/Kg-dry	218753	1	01/21/2016 11:30	PF
METALS, TOTAL SW6010D				**(SW3050B)**				
Antimony	BRL	4.21		mg/Kg-dry	218719	1	01/21/2016 15:43	IO
Arsenic	BRL	4.21		mg/Kg-dry	218719	1	01/21/2016 15:43	IO
Barium	37.3	4.21		mg/Kg-dry	218719	1	01/21/2016 15:43	IO
Beryllium	BRL	2.11		mg/Kg-dry	218719	1	01/21/2016 15:43	IO
Cadmium	BRL	2.11		mg/Kg-dry	218719	1	01/21/2016 15:43	IO
Chromium	22.6	2.11		mg/Kg-dry	218719	1	01/21/2016 15:43	IO
Copper	13.2	2.11		mg/Kg-dry	218719	1	01/21/2016 15:43	IO
Lead	21.2	4.21		mg/Kg-dry	218719	1	01/21/2016 15:43	IO
Nickel	BRL	4.21		mg/Kg-dry	218719	1	01/21/2016 15:43	IO
Zinc	9.06	4.21		mg/Kg-dry	218719	1	01/21/2016 15:43	IO
PERCENT MOISTURE D2216								
Percent Moisture	12.2	0		wt%	R308734	1	01/21/2016 09:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Feb-16

Client:	ERM-Southeast	**Client Sample ID:**	TB-18-20160119-01
Project Name:	AGL Macon	**Collection Date:**	1/19/2016
Lab ID:	1601E03-007	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	218810	1	01/22/2016 11:21	NP
Carbon disulfide	BRL	5.0		ug/L	218810	1	01/22/2016 11:21	NP
Ethylbenzene	BRL	5.0		ug/L	218810	1	01/22/2016 11:21	NP
Toluene	BRL	5.0		ug/L	218810	1	01/22/2016 11:21	NP
Xylenes, Total	BRL	5.0		ug/L	218810	1	01/22/2016 11:21	NP
Surr: 4-Bromofluorobenzene	95.1	70.7-125		%REC	218810	1	01/22/2016 11:21	NP
Surr: Dibromofluoromethane	110	82.2-120		%REC	218810	1	01/22/2016 11:21	NP
Surr: Toluene-d8	95.5	81.8-120		%REC	218810	1	01/22/2016 11:21	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM Work Order Number 1601E03

Checklist completed by _____ 1/20/16
Signature Date

Carrier name: FedEx __ UPS __ Courier __ Client ✓ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 4.5 Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes __ No ✓

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by _____

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1601E03

ANALYTICAL QC SUMMARY REPORT

BatchID: 218570

Sample ID: **MB-218570** Client ID: Units: **ug/Kg** Prep Date: **01/21/2016** Run No: **308789**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **218570** Analysis Date: **01/21/2016** Seq No: **6627523**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	330									
2-Methylphenol	BRL	330									
3,4-Methylphenol	BRL	330									
Phenol	BRL	330									
Surr: 2,4,6-Tribromophenol	2852	0	3333		85.6	42.4	130				
Surr: 2-Fluorobiphenyl	1287	0	1667		77.2	51.5	120				
Surr: 2-Fluorophenol	2176	0	3333		65.3	41.1	120				
Surr: 4-Terphenyl-d14	1446	0	1667		86.7	52.7	117				
Surr: Nitrobenzene-d5	1122	0	1667		67.3	41.4	120				
Surr: Phenol-d5	2391	0	3333		71.7	47.6	120				

Sample ID: **LCS-218570** Client ID: Units: **ug/Kg** Prep Date: **01/21/2016** Run No: **308789**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **218570** Analysis Date: **01/21/2016** Seq No: **6627524**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2036	330	3333		61.1	52.8	120				
Surr: 2,4,6-Tribromophenol	2920	0	3333		87.6	42.4	130				
Surr: 2-Fluorobiphenyl	1289	0	1667		77.4	51.5	120				
Surr: 2-Fluorophenol	2190	0	3333		65.7	41.1	120				
Surr: 4-Terphenyl-d14	1417	0	1667		85.0	52.7	117				
Surr: Nitrobenzene-d5	1128	0	1667		67.7	41.4	120				
Surr: Phenol-d5	2476	0	3333		74.3	47.6	120				

Sample ID: **1601D57-003DMS** Client ID: Units: **ug/Kg-dry** Prep Date: **01/21/2016** Run No: **308789**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **218570** Analysis Date: **01/21/2016** Seq No: **6628680**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2410	380	3842		62.7	45.4	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1601E03

ANALYTICAL QC SUMMARY REPORT

BatchID: 218570

Sample ID: **1601D57-003DMS** Client ID: Units: **ug/Kg-dry** Prep Date: **01/21/2016** Run No: **308789**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **218570** Analysis Date: **01/21/2016** Seq No: **6628680**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 2,4,6-Tribromophenol	3278	0	3842		85.3	42.4	130				
Surr: 2-Fluorobiphenyl	1407	0	1921		73.2	51.5	120				
Surr: 2-Fluorophenol	2595	0	3841		67.5	41.1	120				
Surr: 4-Terphenyl-d14	1532	0	1921		79.8	52.7	117				
Surr: Nitrobenzene-d5	1305	0	1921		68.0	41.4	120				
Surr: Phenol-d5	2875	0	3842		74.8	47.6	120				

Sample ID: **1601D57-003DMSD** Client ID: Units: **ug/Kg-dry** Prep Date: **01/21/2016** Run No: **308789**
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **218570** Analysis Date: **01/21/2016** Seq No: **6628681**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2562	380	3842		66.7	45.4	120	2410	6.13	20.7	
Surr: 2,4,6-Tribromophenol	3497	0	3842		91.0	42.4	130	3278	0	0	
Surr: 2-Fluorobiphenyl	1525	0	1921		79.4	51.5	120	1407	0	0	
Surr: 2-Fluorophenol	2754	0	3841		71.7	41.1	120	2595	0	0	
Surr: 4-Terphenyl-d14	1603	0	1921		83.5	52.7	117	1532	0	0	
Surr: Nitrobenzene-d5	1430	0	1921		74.5	41.4	120	1305	0	0	
Surr: Phenol-d5	3111	0	3842		81.0	47.6	120	2875	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1601E03

ANALYTICAL QC SUMMARY REPORT

BatchID: 218702

Sample ID: **MB-218702**	Client ID:		Units: **ug/Kg**	Prep Date: **01/20/2016**	Run No: **308799**
SampleType: **MBLK**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**		BatchID: **218702**	Analysis Date: **01/21/2016**	Seq No: **6627606**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	17									
Acenaphthylene	BRL	33									
Anthracene	BRL	1.7									
Benz(a)anthracene	BRL	1.7									
Benzo(a)pyrene	BRL	1.7									
Benzo(b)fluoranthene	BRL	3.3									
Benzo(g,h,i)perylene	BRL	3.3									
Benzo(k)fluoranthene	BRL	1.7									
Chrysene	BRL	1.7									
Dibenz(a,h)anthracene	BRL	3.3									
Fluoranthene	BRL	3.3									
Fluorene	BRL	3.3									
Indeno(1,2,3-cd)pyrene	BRL	1.7									
Naphthalene	BRL	17									
Phenanthrene	BRL	1.7									
Pyrene	BRL	1.7									
Surr: 4-Terphenyl-d14	54.44	0	66.70		81.6	47.1	121				

Sample ID: **LCS-218702**	Client ID:		Units: **ug/Kg**	Prep Date: **01/20/2016**	Run No: **308799**
SampleType: **LCS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**		BatchID: **218702**	Analysis Date: **01/21/2016**	Seq No: **6627795**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	50.52	17	66.70		75.7	60.1	120				
Acenaphthylene	46.19	33	66.70		69.3	58	120				
Anthracene	51.70	1.7	66.70		77.5	58.5	120				
Benz(a)anthracene	59.74	1.7	66.70		89.6	60.2	132				
Benzo(a)pyrene	53.75	1.7	66.70		80.6	54.6	120				
Benzo(b)fluoranthene	48.64	3.3	66.70		72.9	62.2	125				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1601E03

ANALYTICAL QC SUMMARY REPORT

BatchID: 218702

Sample ID: **LCS-218702** Client ID: Units: **ug/Kg** Prep Date: **01/20/2016** Run No: **308799**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **218702** Analysis Date: **01/21/2016** Seq No: **6627795**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(g,h,i)perylene	54.24	3.3	66.70		81.3	58.6	119				
Benzo(k)fluoranthene	59.03	1.7	66.70		88.5	61.4	118				
Chrysene	62.00	1.7	66.70		92.9	67.9	120				
Dibenz(a,h)anthracene	52.78	3.3	66.70		79.1	52.1	125				
Fluoranthene	57.59	3.3	66.70		86.3	68.2	118				
Fluorene	54.90	3.3	66.70		82.3	63.5	120				
Indeno(1,2,3-cd)pyrene	53.68	1.7	66.70		80.5	56.4	123				
Naphthalene	45.18	17	66.70		67.7	59	120				
Phenanthrene	51.56	1.7	66.70		77.3	63.3	120				
Pyrene	62.27	1.7	66.70		93.4	61.1	123				
Surr: 4-Terphenyl-d14	50.57	0	66.70		75.8	47.1	121				

Sample ID: **1601E04-005AMS** Client ID: Units: **ug/Kg-dry** Prep Date: **01/20/2016** Run No: **308799**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **218702** Analysis Date: **01/21/2016** Seq No: **6628692**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	78.97	20	79.67	15.71	79.4	52.9	120				
Acenaphthylene	88.69	39	79.67	24.97	80.0	49.7	120				
Anthracene	95.09	2.0	79.67	27.35	85.0	44.8	120				
Benz(a)anthracene	150.2	2.0	79.67	72.12	98.0	66.6	139				
Benzo(a)pyrene	107.0	2.0	79.67	44.58	78.3	46.8	120				
Benzo(b)fluoranthene	103.8	3.9	79.67	44.50	74.5	57.2	132				
Benzo(g,h,i)perylene	81.63	3.9	79.67	19.47	78.0	43.3	122				
Benzo(k)fluoranthene	81.22	2.0	79.67	18.55	78.7	42.9	120				
Chrysene	126.7	2.0	79.67	62.31	80.8	49.2	117				
Dibenz(a,h)anthracene	61.49	3.9	79.67	3.905	72.3	42.4	119				
Fluoranthene	208.2	3.9	79.67	137.6	88.6	55.5	127				
Fluorene	90.51	3.9	79.67	16.43	93.0	46.8	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1601E03

ANALYTICAL QC SUMMARY REPORT

BatchID: 218702

Sample ID: **1601E04-005AMS** Client ID:
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**
Units: **ug/Kg-dry** Prep Date: **01/20/2016** Run No: **308799**
BatchID: **218702** Analysis Date: **01/21/2016** Seq No: **6628692**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Indeno(1,2,3-cd)pyrene	5.978	2.0	79.67	4.730	1.57	43.9	125				S
Naphthalene	64.26	20	79.67	5.359	73.9	49.2	120				
Phenanthrene	200.2	2.0	79.67	120.5	100	50.6	120				
Pyrene	218.7	2.0	79.67	152.8	82.8	49.3	126				
Surr: 4-Terphenyl-d14	63.17	0	79.67		79.3	47.1	121				

Sample ID: **1601E04-005AMSD** Client ID:
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**
Units: **ug/Kg-dry** Prep Date: **01/20/2016** Run No: **308799**
BatchID: **218702** Analysis Date: **01/21/2016** Seq No: **6628693**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	86.53	20	79.67	15.71	88.9	52.9	120	78.97	9.13	20	
Acenaphthylene	99.30	39	79.67	24.97	93.3	49.7	120	88.69	11.3	20	
Anthracene	101.7	2.0	79.67	27.35	93.4	44.8	120	95.09	6.75	32.1	
Benz(a)anthracene	178.1	2.0	79.67	72.12	133	66.6	139	150.2	17.0	35.3	
Benzo(a)pyrene	121.3	2.0	79.67	44.58	96.3	46.8	120	107.0	12.6	31.9	
Benzo(b)fluoranthene	122.1	3.9	79.67	44.50	97.3	57.2	132	103.8	16.1	35.6	
Benzo(g,h,i)perylene	89.54	3.9	79.67	19.47	87.9	43.3	122	81.63	9.24	30.8	
Benzo(k)fluoranthene	85.27	2.0	79.67	18.55	83.7	42.9	120	81.22	4.86	30.5	
Chrysene	151.2	2.0	79.67	62.31	112	49.2	117	126.7	17.6	23.9	
Dibenz(a,h)anthracene	62.70	3.9	79.67	3.905	73.8	42.4	119	61.49	1.94	29.1	
Fluoranthene	242.2	3.9	79.67	137.6	131	55.5	127	208.2	15.1	29.9	S
Fluorene	95.06	3.9	79.67	16.43	98.7	46.8	120	90.51	4.91	28.4	
Indeno(1,2,3-cd)pyrene	82.31	2.0	79.67	4.730	97.4	43.9	125	5.978	173	27.8	R
Naphthalene	65.22	20	79.67	5.359	75.1	49.2	120	64.26	1.49	19.1	
Phenanthrene	217.9	2.0	79.67	120.5	122	50.6	120	200.2	8.46	28.9	S
Pyrene	269.5	2.0	79.67	152.8	146	49.3	126	218.7	20.8	39.7	S
Surr: 4-Terphenyl-d14	62.29	0	79.67		78.2	47.1	121	63.17	0	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1601E03

ANALYTICAL QC SUMMARY REPORT

BatchID: 218719

Sample ID: **MB-218719** Client ID: Units: **mg/Kg** Prep Date: **01/21/2016** Run No: **308787**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **218719** Analysis Date: **01/21/2016** Seq No: **6628028**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	0.250									
Arsenic	BRL	2.50									
Barium	BRL	0.500									
Beryllium	BRL	0.0500									
Cadmium	BRL	0.0500									
Chromium	BRL	1.00									
Copper	BRL	0.100									
Lead	BRL	0.0500									
Nickel	BRL	0.250									
Zinc	BRL	0.500									

Sample ID: **LCS-218719** Client ID: Units: **mg/Kg** Prep Date: **01/21/2016** Run No: **308787**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **218719** Analysis Date: **01/21/2016** Seq No: **6628029**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	48.98	5.00	50.00		98.0	80	120				
Arsenic	48.38	5.00	50.00		96.8	80	120				
Barium	52.08	5.00	50.00		104	80	120				
Beryllium	51.74	2.50	50.00		103	80	120				
Cadmium	50.68	2.50	50.00		101	80	120				
Chromium	51.57	2.50	50.00	0.08967	103	80	120				
Copper	51.70	2.50	50.00		103	80	120				
Lead	50.51	5.00	50.00		101	80	120				
Nickel	50.49	5.00	50.00		101	80	120				
Zinc	50.49	5.00	50.00		101	80	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1601E03

ANALYTICAL QC SUMMARY REPORT

BatchID: 218719

Sample ID: **1601E03-003CMS** Client ID: **SCS-98-6THSE-(3')-20160119-01** Units: **mg/Kg-dry** Prep Date: **01/21/2016** Run No: **308787**
SampleType: **MS** TestCode: **METALS, TOTAL SW6010C** BatchID: **218719** Analysis Date: **01/21/2016** Seq No: **6628031**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	44.24	5.59	55.85		79.2	75	125				
Arsenic	54.82	5.59	55.85	2.523	93.6	75	125				
Barium	130.8	5.59	55.85	84.82	82.2	75	125				
Beryllium	57.50	2.79	55.85	0.09777	103	75	125				
Cadmium	56.20	2.79	55.85		101	75	125				
Chromium	67.94	2.79	55.85	9.813	104	75	125				
Copper	70.93	2.79	55.85	11.24	107	75	125				
Lead	81.33	5.59	55.85	30.75	90.6	75	125				
Nickel	56.63	5.59	55.85	1.512	98.7	75	125				
Zinc	65.89	5.59	55.85	5.939	107	75	125				

Sample ID: **1601E03-003CMSD** Client ID: **SCS-98-6THSE-(3')-20160119-01** Units: **mg/Kg-dry** Prep Date: **01/21/2016** Run No: **308787**
SampleType: **MSD** TestCode: **METALS, TOTAL SW6010C** BatchID: **218719** Analysis Date: **01/21/2016** Seq No: **6628032**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	43.49	5.58	55.85		77.9	75	125	44.24	1.72	20	
Arsenic	54.48	5.58	55.85	2.523	93.0	75	125	54.82	0.613	20	
Barium	137.5	5.58	55.85	84.82	94.3	75	125	130.8	5.00	20	
Beryllium	57.09	2.79	55.85	0.09777	102	75	125	57.50	0.708	20	
Cadmium	56.05	2.79	55.85		100	75	125	56.20	0.281	20	
Chromium	66.51	2.79	55.85	9.813	102	75	125	67.94	2.13	20	
Copper	66.60	2.79	55.85	11.24	99.1	75	125	70.93	6.29	20	
Lead	83.22	5.58	55.85	30.75	94.0	75	125	81.33	2.30	20	
Nickel	57.78	5.58	55.85	1.512	101	75	125	56.63	2.01	20	
Zinc	64.36	5.58	55.85	5.939	105	75	125	65.89	2.34	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1601E03

ANALYTICAL QC SUMMARY REPORT

BatchID: 218753

Sample ID: **MB-218753**	Client ID:			Units: **mg/Kg**	Prep Date: **01/20/2016**	Run No: **308744**
SampleType: **MBLK**	TestCode: **Cyanide, Total SW9014**			BatchID: **218753**	Analysis Date: **01/21/2016**	Seq No: **6626682**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	1.00									

Sample ID: **LCS-218753**	Client ID:			Units: **mg/Kg**	Prep Date: **01/20/2016**	Run No: **308744**
SampleType: **LCS**	TestCode: **Cyanide, Total SW9014**			BatchID: **218753**	Analysis Date: **01/21/2016**	Seq No: **6626683**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	12.42	1.00	12.50		99.4	85	115				

Sample ID: **1601E03-001DMS**	Client ID: **SCS-96-6THSW-(3')-20160119-01**			Units: **mg/Kg-dry**	Prep Date: **01/20/2016**	Run No: **308744**
SampleType: **MS**	TestCode: **Cyanide, Total SW9014**			BatchID: **218753**	Analysis Date: **01/21/2016**	Seq No: **6626702**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	13.93	1.29	16.10		86.5	70	130				

Sample ID: **1601E03-001DMSD**	Client ID: **SCS-96-6THSW-(3')-20160119-01**			Units: **mg/Kg-dry**	Prep Date: **01/20/2016**	Run No: **308744**
SampleType: **MSD**	TestCode: **Cyanide, Total SW9014**			BatchID: **218753**	Analysis Date: **01/21/2016**	Seq No: **6626708**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	13.79	1.29	16.10		85.6	70	130	13.93	0.976	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1601E03

ANALYTICAL QC SUMMARY REPORT

BatchID: 218761

Sample ID: **MB-218761**	Client ID:		Units: **ug/Kg**	Prep Date: **01/21/2016**	Run No: **308759**
SampleType: **MBLK**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **218761**	Analysis Date: **01/21/2016**	Seq No: **6627381**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	10									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	48.51	0	50.00		97.0	70	128				
Surr: Dibromofluoromethane	50.77	0	50.00		102	78.2	128				
Surr: Toluene-d8	48.57	0	50.00		97.1	76.5	116				

Sample ID: **LCS-218761**	Client ID:		Units: **ug/Kg**	Prep Date: **01/21/2016**	Run No: **308759**
SampleType: **LCS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **218761**	Analysis Date: **01/21/2016**	Seq No: **6627377**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	48.41	5.0	50.00		96.8	72.3	130				
Toluene	49.34	5.0	50.00		98.7	71.1	130				
Surr: 4-Bromofluorobenzene	47.10	0	50.00		94.2	70	128				
Surr: Dibromofluoromethane	48.43	0	50.00		96.9	78.2	128				
Surr: Toluene-d8	46.82	0	50.00		93.6	76.5	116				

Sample ID: **1601E02-001AMS**	Client ID:		Units: **ug/Kg-dry**	Prep Date: **01/21/2016**	Run No: **308759**
SampleType: **MS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **218761**	Analysis Date: **01/21/2016**	Seq No: **6627378**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	58.61	6.1	60.61		96.7	70.4	130				
Toluene	57.64	6.1	60.61		95.1	70.4	130				
Surr: 4-Bromofluorobenzene	58.31	0	60.61		96.2	70	128				
Surr: Dibromofluoromethane	61.58	0	60.61		102	78.2	128				
Surr: Toluene-d8	58.49	0	60.61		96.5	76.5	116				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1601E03

ANALYTICAL QC SUMMARY REPORT

BatchID: 218761

Sample ID: **1601E02-001AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/Kg-dry** Prep Date: **01/21/2016** Run No: **308759**
BatchID: **218761** Analysis Date: **01/21/2016** Seq No: **6627379**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	57.79	6.1	60.61		95.3	70.4	130	58.61	1.42	16.9	
Toluene	56.65	6.1	60.61		93.5	70.4	130	57.64	1.74	16.6	
Surr: 4-Bromofluorobenzene	56.87	0	60.61		93.8	70	128	58.31	0	0	
Surr: Dibromofluoromethane	59.26	0	60.61		97.8	78.2	128	61.58	0	0	
Surr: Toluene-d8	57.54	0	60.61		94.9	76.5	116	58.49	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1601E03

ANALYTICAL QC SUMMARY REPORT

BatchID: 218783

Sample ID: **MB-218783**	Client ID:			Units: **mg/Kg**	Prep Date: **01/22/2016**	Run No: **308858**
SampleType: **MBLK**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **218783**	Analysis Date: **01/22/2016**	Seq No: **6630087**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.100									

Sample ID: **LCS-218783**	Client ID:			Units: **mg/Kg**	Prep Date: **01/22/2016**	Run No: **308858**
SampleType: **LCS**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **218783**	Analysis Date: **01/22/2016**	Seq No: **6630088**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.3802	0.100	0.4000		95.0	80	120				

Sample ID: **1601E03-003CMS**	Client ID: **SCS-98-6THSE-(3')-20160119-01**			Units: **mg/Kg-dry**	Prep Date: **01/22/2016**	Run No: **308858**
SampleType: **MS**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **218783**	Analysis Date: **01/22/2016**	Seq No: **6630090**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.5030	0.104	0.4157	0.1129	93.8	70	130				

Sample ID: **1601E03-003CMSD**	Client ID: **SCS-98-6THSE-(3')-20160119-01**			Units: **mg/Kg-dry**	Prep Date: **01/22/2016**	Run No: **308858**
SampleType: **MSD**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **218783**	Analysis Date: **01/22/2016**	Seq No: **6630091**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.5755	0.103	0.4119	0.1129	112	70	130	0.5030	13.4	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1601E03

ANALYTICAL QC SUMMARY REPORT

BatchID: 218810

Sample ID: **MB-218810** Client ID: Units: **ug/L** Prep Date: **01/21/2016** Run No: **308825**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **218810** Analysis Date: **01/21/2016** Seq No: **6628575**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	5.0									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	47.81	0	50.00		95.6	70.7	125				
Surr: Dibromofluoromethane	57.61	0	50.00		115	82.2	120				
Surr: Toluene-d8	49.64	0	50.00		99.3	81.8	120				

Sample ID: **LCS-218810** Client ID: Units: **ug/L** Prep Date: **01/21/2016** Run No: **308825**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **218810** Analysis Date: **01/21/2016** Seq No: **6628574**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	53.05	5.0	50.00		106	74.9	123				
Toluene	58.49	5.0	50.00		117	75	124				
Surr: 4-Bromofluorobenzene	46.32	0	50.00		92.6	70.7	125				
Surr: Dibromofluoromethane	54.93	0	50.00		110	82.2	120				
Surr: Toluene-d8	48.82	0	50.00		97.6	81.8	120				

Sample ID: **1601D17-004AMS** Client ID: Units: **ug/L** Prep Date: **01/21/2016** Run No: **308825**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **218810** Analysis Date: **01/22/2016** Seq No: **6628582**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	549.5	50	500.0	38.30	102	70.1	132				
Toluene	1233	50	500.0	680.6	110	70.1	133				
Surr: 4-Bromofluorobenzene	507.4	0	500.0		101	70.7	125				
Surr: Dibromofluoromethane	532.6	0	500.0		107	82.2	120				
Surr: Toluene-d8	501.1	0	500.0		100	81.8	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1601E03

ANALYTICAL QC SUMMARY REPORT

BatchID: 218810

Sample ID: **1601D17-004AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/L** Prep Date: **01/21/2016** Run No: **308825**
BatchID: **218810** Analysis Date: **01/22/2016** Seq No: **6628583**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	547.4	50	500.0	38.30	102	70.1	132	549.5	0.383	20	
Toluene	1217	50	500.0	680.6	107	70.1	133	1233	1.28	20	
Surr: 4-Bromofluorobenzene	517.6	0	500.0		104	70.7	125	507.4	0	0	
Surr: Dibromofluoromethane	524.7	0	500.0		105	82.2	120	532.6	0	0	
Surr: Toluene-d8	493.4	0	500.0		98.7	81.8	120	501.1	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

January 22, 2016

Nic Vrey
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: AGL Macon

Dear Nic Vrey: Order No: 1601E04

Analytical Environmental Services, Inc. received 8 samples on 1/20/2016 8:56:00 AM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1601E04

Date: 1/19/16 Page 1 of 1

COMPANY: ERM	ADDRESS: 3200 Windy Hill Rd Suite 1500W ATL GA 30339
PHONE: 678.486.2700	FAX:
SAMPLED BY: KS	SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	Benzo(a)anthracene	Benzo(a)pyrene	Arsenic	No # of Containers	REMARKS
							PRESERVATION (See codes)				
1	SCS-89-2W-(0'-2')-20160119-01	1/19/16	1530		X	SO	X	X	X		
2	SCS-90-2W-(0'-2')-20160119-01	1/19/16	1535		X		X	X	X		
3	SCS-91-2W-(0'-2')-20160119-01		1605		X		X	X	X		
4	SCS-92-2W-(0'-2')-20160119-01		1600		X		X	X	X		
5	SCS-93-2W-(0'-2')-20160119-01		1555		X		X	X	X		
6	SCS-94-2W-(0'-2')-20160119-01		1550		X		X	X	X		
7	~~SCS-95-2W-(0'-2')-20160119-01~~				X		X	X	X		
8	SCS-95-9W-(2'-6')-20160119-01		1540		X		X				
9	SCS-45A-2W-(0-2')-20160119-01		1545				X	X	X		
10											
11											
12											
13											
14											

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: Myles Ryers	1-20-16/855	1:	1/20/16 8:55
2:		2:	
3:		3:	

PROJECT INFORMATION

PROJECT NAME: AGL Macon
PROJECT #: 0176740
SITE ADDRESS: 224 Walnut Street
SEND REPORT TO: Nic.Vrey@erm.com
INVOICE TO: Mark.Fleri@erm.com
(IF DIFFERENT FROM ABOVE)
QUOTE #: PO#:

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
(CLIENT) FedEx UPS MAIL COURIER
GREYHOUND OTHER

RECEIPT
Total # of Containers

Turnaround Time Request
- O Standard 5 Business Days
- O 2 Business Day Rush
- O Next Business Day Rush
- O Same Day Rush **(auth req.)**
- ⊘ Other 3 day

STATE PROGRAM (if any):
E-mail? Y / N; Fax? Y / N
DATA PACKAGE: I II III IV

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water
PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Client: ERM-Southeast
Project: AGL Macon
Lab ID: 1601E04

Case Narrative

Per Rob Rivera on 1/20/16, samples were analyzed on 2 day turnaround time.

Analytical Environmental Services, Inc **Date:** 22-Jan-16

Client:	ERM-Southeast	**Client Sample ID:**	SCS-89-2W-(0'-2')-20160119-01
Project Name:	AGL Macon	**Collection Date:**	1/19/2016 3:30:00 PM
Lab ID:	1601E04-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	360	1.9		ug/Kg-dry	218702	1	01/21/2016 13:10	YH
Benzo(a)pyrene	290	1.9		ug/Kg-dry	218702	1	01/21/2016 13:10	YH
Surr: 4-Terphenyl-d14	79	47.1-121		%REC	218702	1	01/21/2016 13:10	YH
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	BRL	5.20		mg/Kg-dry	218719	1	01/21/2016 14:50	IO
PERCENT MOISTURE D2216								
Percent Moisture	10.3	0		wt%	R308734	1	01/21/2016 09:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 22-Jan-16

Client:	ERM-Southeast	**Client Sample ID:**	SCS-90-2W-(0'-2')-20160119-01
Project Name:	AGL Macon	**Collection Date:**	1/19/2016 3:35:00 PM
Lab ID:	1601E04-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	940	19		ug/Kg-dry	218702	10	01/21/2016 19:26	YH
Benzo(a)pyrene	780	19		ug/Kg-dry	218702	10	01/21/2016 19:26	YH
Surr: 4-Terphenyl-d14	80.5	47.1-121		%REC	218702	1	01/21/2016 13:37	YH
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	BRL	4.46		mg/Kg-dry	218719	1	01/21/2016 14:54	IO
PERCENT MOISTURE D2216								
Percent Moisture	9.54	0		wt%	R308734	1	01/21/2016 09:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 22-Jan-16

Client:	ERM-Southeast	**Client Sample ID:**	SCS-91-2W-(0'-2')-20160119-01
Project Name:	AGL Macon	**Collection Date:**	1/19/2016 4:05:00 PM
Lab ID:	1601E04-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	250	2.1		ug/Kg-dry	218702	1	01/21/2016 14:03	YH
Benzo(a)pyrene	130	2.1		ug/Kg-dry	218702	1	01/21/2016 14:03	YH
Surr: 4-Terphenyl-d14	75.7	47.1-121		%REC	218702	1	01/21/2016 14:03	YH
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	BRL	5.48		mg/Kg-dry	218719	1	01/21/2016 14:58	IO
PERCENT MOISTURE D2216								
Percent Moisture	19.3	0		wt%	R308734	1	01/21/2016 09:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 22-Jan-16

Client:	ERM-Southeast	**Client Sample ID:**	SCS-92-2W-(0'-2')-20160119-01
Project Name:	AGL Macon	**Collection Date:**	1/19/2016 4:00:00 PM
Lab ID:	1601E04-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	370	2.0		ug/Kg-dry	218702	1	01/21/2016 14:30	YH
Benzo(a)pyrene	250	2.0		ug/Kg-dry	218702	1	01/21/2016 14:30	YH
Surr: 4-Terphenyl-d14	77.9	47.1-121		%REC	218702	1	01/21/2016 14:30	YH
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	BRL	4.23		mg/Kg-dry	218719	1	01/21/2016 15:02	IO
PERCENT MOISTURE D2216								
Percent Moisture	13.8	0		wt%	R308734	1	01/21/2016 09:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 22-Jan-16

Client:	ERM-Southeast	**Client Sample ID:**	SCS-93-2W-(0'-2')-20160119-01
Project Name:	AGL Macon	**Collection Date:**	1/19/2016 3:55:00 PM
Lab ID:	1601E04-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	72	2.0		ug/Kg-dry	218702	1	01/21/2016 16:56	YH
Benzo(a)pyrene	45	2.0		ug/Kg-dry	218702	1	01/21/2016 16:56	YH
Surr: 4-Terphenyl-d14	80.5	47.1-121		%REC	218702	1	01/21/2016 16:56	YH
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	BRL	3.98		mg/Kg-dry	218719	1	01/21/2016 15:05	IO
PERCENT MOISTURE D2216								
Percent Moisture	16.3	0		wt%	R308734	1	01/21/2016 09:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 22-Jan-16

Client:	ERM-Southeast	**Client Sample ID:**	SCS-94-2W-(0'-2')-20160119-01
Project Name:	AGL Macon	**Collection Date:**	1/19/2016 3:50:00 PM
Lab ID:	1601E04-006	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	1200	22		ug/Kg-dry	218702	10	01/21/2016 19:55	YH
Benzo(a)pyrene	590	22		ug/Kg-dry	218702	10	01/21/2016 19:55	YH
Surr: 4-Terphenyl-d14	77.7	47.1-121		%REC	218702	1	01/21/2016 14:58	YH
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	BRL	6.18		mg/Kg-dry	218719	1	01/21/2016 15:16	IO
PERCENT MOISTURE D2216								
Percent Moisture	22.5	0		wt%	R308734	1	01/21/2016 09:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 22-Jan-16

Client:	ERM-Southeast	**Client Sample ID:**	SCS-95-2W-(0'-2')-20160119-01
Project Name:	AGL Macon	**Collection Date:**	1/19/2016 3:40:00 PM
Lab ID:	1601E04-007	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	750	19		ug/Kg-dry	218702	10	01/21/2016 18:14	YH
Surr: 4-Terphenyl-d14	79.4	47.1-121		%REC	218702	1	01/21/2016 15:25	YH
PERCENT MOISTURE D2216								
Percent Moisture	9.73	0		wt%	R308734	1	01/21/2016 09:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 22-Jan-16

Client:	ERM-Southeast	**Client Sample ID:**	SCS-45A-2W-(0'-2')-20160119
Project Name:	AGL Macon	**Collection Date:**	1/19/2016 3:45:00 PM
Lab ID:	1601E04-008	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	320	2.0		ug/Kg-dry	218702	1	01/21/2016 15:52	YH
Benzo(a)pyrene	310	2.0		ug/Kg-dry	218702	1	01/21/2016 15:52	YH
Surr: 4-Terphenyl-d14	95.4	47.1-121		%REC	218702	1	01/21/2016 15:52	YH
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	BRL	5.72		mg/Kg-dry	218719	1	01/21/2016 15:19	IO
PERCENT MOISTURE D2216								
Percent Moisture	13.8	0		wt%	R308734	1	01/21/2016 09:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM Work Order Number 1601E04

Checklist completed by _____ 1/20/16
Signature Date

Carrier name: FedEx __ UPS __ Courier __ Client ✓ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 4.5 Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted ✓ Yes __ No __

Water - pH acceptable upon receipt? Yes __ No __ Not Applicable ✓

Adjusted? _____ Checked by _____

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1601E04

ANALYTICAL QC SUMMARY REPORT

BatchID: 218702

Sample ID: **MB-218702**	Client ID:		Units: **ug/Kg**	Prep Date: **01/20/2016**	Run No: **308799**
SampleType: **MBLK**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons**	**SW8270D**	BatchID: **218702**	Analysis Date: **01/21/2016**	Seq No: **6627606**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	BRL	1.7									
Benzo(a)pyrene	BRL	1.7									
Surr: 4-Terphenyl-d14	54.44	0	66.70		81.6	47.1	121				

Sample ID: **LCS-218702**	Client ID:		Units: **ug/Kg**	Prep Date: **01/20/2016**	Run No: **308799**
SampleType: **LCS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons**	**SW8270D**	BatchID: **218702**	Analysis Date: **01/21/2016**	Seq No: **6627795**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	59.74	1.7	66.70		89.6	60.2	132				
Benzo(a)pyrene	53.75	1.7	66.70		80.6	54.6	120				
Surr: 4-Terphenyl-d14	50.57	0	66.70		75.8	47.1	121				

Sample ID: **1601E04-005AMS**	Client ID: **SCS-93-2W-(0'-2')-20160119-01**		Units: **ug/Kg-dry**	Prep Date: **01/20/2016**	Run No: **308799**
SampleType: **MS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons**	**SW8270D**	BatchID: **218702**	Analysis Date: **01/21/2016**	Seq No: **6628692**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	150.2	2.0	79.67	72.12	98.0	66.6	139				
Benzo(a)pyrene	107.0	2.0	79.67	44.58	78.3	46.8	120				
Surr: 4-Terphenyl-d14	63.17	0	79.67		79.3	47.1	121				

Sample ID: **1601E04-005AMSD**	Client ID: **SCS-93-2W-(0'-2')-20160119-01**		Units: **ug/Kg-dry**	Prep Date: **01/20/2016**	Run No: **308799**
SampleType: **MSD**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons**	**SW8270D**	BatchID: **218702**	Analysis Date: **01/21/2016**	Seq No: **6628693**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	178.1	2.0	79.67	72.12	133	66.6	139	150.2	17.0	35.3	
Benzo(a)pyrene	121.3	2.0	79.67	44.58	96.3	46.8	120	107.0	12.6	31.9	
Surr: 4-Terphenyl-d14	62.29	0	79.67		78.2	47.1	121	63.17	0	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1601E04

ANALYTICAL QC SUMMARY REPORT

BatchID: 218719

Sample ID: **MB-218719**	Client ID:			Units: **mg/Kg**	Prep Date: **01/21/2016**	Run No: **308787**
SampleType: **MBLK**	TestCode: **METALS, TOTAL**	**SW6010C**		BatchID: **218719**	Analysis Date: **01/21/2016**	Seq No: **6628028**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	BRL	2.50									

Sample ID: **LCS-218719**	Client ID:			Units: **mg/Kg**	Prep Date: **01/21/2016**	Run No: **308787**
SampleType: **LCS**	TestCode: **METALS, TOTAL**	**SW6010C**		BatchID: **218719**	Analysis Date: **01/21/2016**	Seq No: **6628029**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	48.38	5.00	50.00		96.8	80	120				

Sample ID: **1601E03-003CMS**	Client ID:			Units: **mg/Kg-dry**	Prep Date: **01/21/2016**	Run No: **308787**
SampleType: **MS**	TestCode: **METALS, TOTAL**	**SW6010C**		BatchID: **218719**	Analysis Date: **01/21/2016**	Seq No: **6628031**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	54.82	5.59	55.85	2.523	93.6	75	125				

Sample ID: **1601E03-003CMSD**	Client ID:			Units: **mg/Kg-dry**	Prep Date: **01/21/2016**	Run No: **308787**
SampleType: **MSD**	TestCode: **METALS, TOTAL**	**SW6010C**		BatchID: **218719**	Analysis Date: **01/21/2016**	Seq No: **6628032**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	54.48	5.58	55.85	2.523	93.0	75	125	54.82	0.613	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

January 27, 2016

Nic Vrey
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: AGL Macon Remediation

Dear Nic Vrey: Order No: 1601I29

Analytical Environmental Services, Inc. received 1 samples on January 25, 2016 6:30 pm for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC

3080 Presidential Drive, Atlanta GA 30340-3704
TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1001129

Date: 1/25/16 Page 1 of 1

COMPANY:	ADDRESS:
ERM	3200 Windy Hill Rd Suite 1500w ATL GA 30339
PHONE:	FAX:
SAMPLED BY: K. Spevacek	SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	Arsenic	PRESERVATION (See codes)	REMARKS	No # of Containers
1	SCS-84A-SW-(0'-2')-20160125-01	1/25/16	1100	X		S	X			2
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:	1/25/16 1830	1:	1/25/16 6:30
2:		2:	
3:		3:	

PROJECT INFORMATION

PROJECT NAME: AGL Macon Remediation
PROJECT #: 0176740
SITE ADDRESS: 224 Walnut St. Macon GA 31210
SEND REPORT TO: Nic.Vrey@erm.com
INVOICE TO: (IF DIFFERENT FROM ABOVE)
QUOTE #: PO#:

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
CLIENT FedEx UPS MAIL COURIER
GREYHOUND OTHER

RECEIPT
Total # of Containers

Turnaround Time Request
- Standard 5 Business Days
- 2 Business Day Rush
- Next Business Day Rush
- Same Day Rush **(auth req.)**
- Other

STATE PROGRAM (if any):
E-mail? Y / N; Fax? Y / N
DATA PACKAGE: I II III IV

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc **Date:** 27-Jan-16

Client:	ERM-Southeast	**Client Sample ID:**	SCS-84A-5W-(0'-2')-20160125-0
Project Name:	AGL Macon Remediation	**Collection Date:**	1/25/2016 11:00:00 AM
Lab ID:	1601I29-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, TOTAL SW6010D (SW3050B)								
Arsenic	50.7	5.70		mg/Kg-dry	218895	1	01/26/2016 15:02	IO
PERCENT MOISTURE D2216								
Percent Moisture	14.7	0		wt%	R309169	1	01/27/2016 09:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client EAM Work Order Number 1001129

Checklist completed by _____ 11/25/10
Signature Date

Carrier name: FedEx __ UPS __ Courier __ Client ✓ US Mail __ Other _____

Shipping container/cooler in good condition?	Yes ✓	No __	Not Present __
Custody seals intact on shipping container/cooler?	Yes __	No __	Not Present ✓
Custody seals intact on sample bottles?	Yes __	No __	Not Present ✓
Container/Temp Blank temperature in compliance? (0°≤6°C)*	Yes ✓	No __	

Cooler #1 3.1 Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present?	Yes ✓	No __
Chain of custody signed when relinquished and received?	Yes ✓	No __
Chain of custody agrees with sample labels?	Yes ✓	No __
Samples in proper container/bottle?	Yes ✓	No __
Sample containers intact?	Yes ✓	No __
Sufficient sample volume for indicated test?	Yes ✓	No __
All samples received within holding time?	Yes ✓	No __
Was TAT marked on the COC?	Yes ✓	No __
Proceed with Standard TAT as per project history?	Yes __	No __ Not Applicable ✓
Water - VOA vials have zero headspace?	No VOA vials submitted ✓	Yes __ No __
Water - pH acceptable upon receipt?	Yes __	No __ Not Applicable ✓

Adjusted? _____ Checked by _____

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1601I29

ANALYTICAL QC SUMMARY REPORT

BatchID: 218895

Sample ID: **MB-218895**	Client ID:			Units: **mg/Kg**	Prep Date: **01/25/2016**	Run No: **309045**
SampleType: **MBLK**	TestCode: **METALS, TOTAL** **SW6010C**			BatchID: **218895**	Analysis Date: **01/26/2016**	Seq No: **6634153**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	BRL	5.00									

Sample ID: **LCS-218895**	Client ID:			Units: **mg/Kg**	Prep Date: **01/25/2016**	Run No: **309045**
SampleType: **LCS**	TestCode: **METALS, TOTAL** **SW6010C**			BatchID: **218895**	Analysis Date: **01/26/2016**	Seq No: **6634154**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	47.39	5.00	50.00		94.8	80	120				

Sample ID: **1601F57-001AMS**	Client ID:			Units: **mg/Kg-dry**	Prep Date: **01/25/2016**	Run No: **309045**
SampleType: **MS**	TestCode: **METALS, TOTAL** **SW6010C**			BatchID: **218895**	Analysis Date: **01/26/2016**	Seq No: **6634156**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	57.74	6.15	61.49	1.737	91.1	75	125				

Sample ID: **1601F57-001AMSD**	Client ID:			Units: **mg/Kg-dry**	Prep Date: **01/25/2016**	Run No: **309045**
SampleType: **MSD**	TestCode: **METALS, TOTAL** **SW6010C**			BatchID: **218895**	Analysis Date: **01/26/2016**	Seq No: **6634157**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	54.70	6.15	61.49	1.737	86.1	75	125	57.74	5.40	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

February 01, 2016

Nic Vrey
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: AGL Macon Remediation

Dear Nic Vrey: Order No: 1601K21

Analytical Environmental Services, Inc. received 5 samples on 1/27/2016 10:10:00 AM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1601K21

Date: 1/26/16 Page 1 of 1

COMPANY:	ADDRESS:
ERM	3200 Windy Hill Rd AIL GA 30339
PHONE:	FAX:
SAMPLED BY: K. Speracek	SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	8260B COT	8270C COT	6010B COT	PD124	7470A	No # of Containers	REMARKS
1	SC5-101-HolderW-West-20160126-01	1/26/16	1510	X		S	X	X	X	X	X	6	
2	SC5-102-Holder-W-East-20160126-01	1/26/16	1515	X		S						6	
3	HolderSand 1-20160126-01	1/26/16	1520		X	S						6	
4	HolderSand 2-20160126-01	1/26/16	1525		X	S						6	
5	TD-18-20160126-01					W						2	
6													
7													
8													
9													
10													
11													
12													
13													
14													

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:	1/26/16 1700	1:	1/27/16 1010
2:		2:	
3:		3:	

PROJECT INFORMATION

PROJECT NAME: AGL Macon Remediation
PROJECT #: 0176740
SITE ADDRESS: 324 Walnut St.
SEND REPORT TO: Nic.Vrey@erm.com
INVOICE TO: (IF DIFFERENT FROM ABOVE)
QUOTE #: PO#:

RECEIPT

Total # of Containers: 26

Turnaround Time Request
- ○ Standard 5 Business Days
- ○ 2 Business Day Rush
- ○ Next Business Day Rush
- ○ Same Day Rush (auth req.)
- ⊗ Other 3 DAY TAT

STATE PROGRAM (if any):
E-mail? Y / N; Fax? Y / N
DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS: See Macon COI List

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
CLIENT FedEx UPS MAIL COURIER
GREYHOUND OTHER

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.
SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water
PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc **Date:** 1-Feb-16

Client:	ERM-Southeast	**Client Sample ID:**	SCS-101-HOLDER-W-WEST-20
Project Name:	AGL Macon Remediation	**Collection Date:**	1/26/2016 3:10:00 PM
Lab ID:	1601K21-001	**Matrix:**	Solid

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	8.6		ug/Kg-dry	219075	1	01/28/2016 11:58	CG
Benzene	BRL	4.3		ug/Kg-dry	219075	1	01/28/2016 11:58	CG
Toluene	5.8	4.3		ug/Kg-dry	219075	1	01/28/2016 11:58	CG
Ethylbenzene	BRL	4.3		ug/Kg-dry	219075	1	01/28/2016 11:58	CG
Xylenes, Total	7.0	4.3		ug/Kg-dry	219075	1	01/28/2016 11:58	CG
Surr: 4-Bromofluorobenzene	97.3	70-128		%REC	219075	1	01/28/2016 11:58	CG
Surr: Dibromofluoromethane	102	78.2-128		%REC	219075	1	01/28/2016 11:58	CG
Surr: Toluene-d8	97.9	76.5-116		%REC	219075	1	01/28/2016 11:58	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.124		mg/Kg-dry	219113	1	01/29/2016 16:10	MC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	22		ug/Kg-dry	219043	1	01/28/2016 16:48	YH
Acenaphthylene	BRL	42		ug/Kg-dry	219043	1	01/28/2016 16:48	YH
Anthracene	4.6	2.2		ug/Kg-dry	219043	1	01/28/2016 16:48	YH
Benz(a)anthracene	30	2.2		ug/Kg-dry	219043	1	01/28/2016 16:48	YH
Benzo(a)pyrene	24	2.2		ug/Kg-dry	219043	1	01/28/2016 16:48	YH
Benzo(b)fluoranthene	35	4.2		ug/Kg-dry	219043	1	01/28/2016 16:48	YH
Benzo(g,h,i)perylene	15	4.2		ug/Kg-dry	219043	1	01/28/2016 16:48	YH
Benzo(k)fluoranthene	10.0	2.2		ug/Kg-dry	219043	1	01/28/2016 16:48	YH
Chrysene	26	2.2		ug/Kg-dry	219043	1	01/28/2016 16:48	YH
Dibenz(a,h)anthracene	BRL	4.2		ug/Kg-dry	219043	1	01/28/2016 16:48	YH
Fluoranthene	27	4.2		ug/Kg-dry	219043	1	01/28/2016 16:48	YH
Fluorene	BRL	4.2		ug/Kg-dry	219043	1	01/28/2016 16:48	YH
Indeno(1,2,3-cd)pyrene	13	2.2		ug/Kg-dry	219043	1	01/28/2016 16:48	YH
Naphthalene	BRL	22		ug/Kg-dry	219043	1	01/28/2016 16:48	YH
Phenanthrene	9.0	2.2		ug/Kg-dry	219043	1	01/28/2016 16:48	YH
Pyrene	40	2.2		ug/Kg-dry	219043	1	01/28/2016 16:48	YH
Surr: 4-Terphenyl-d14	68	47.1-121		%REC	219043	1	01/28/2016 16:48	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	420		ug/Kg-dry	219042	1	01/28/2016 15:46	YH
2-Methylphenol	BRL	420		ug/Kg-dry	219042	1	01/28/2016 15:46	YH
3,4-Methylphenol	BRL	420		ug/Kg-dry	219042	1	01/28/2016 15:46	YH
Phenol	BRL	420		ug/Kg-dry	219042	1	01/28/2016 15:46	YH
Surr: 2,4,6-Tribromophenol	110	42.4-130		%REC	219042	1	01/28/2016 15:46	YH
Surr: 2-Fluorobiphenyl	90.9	51.5-120		%REC	219042	1	01/28/2016 15:46	YH
Surr: 2-Fluorophenol	69.1	41.1-120		%REC	219042	1	01/28/2016 15:46	YH
Surr: 4-Terphenyl-d14	98.5	52.7-117		%REC	219042	1	01/28/2016 15:46	YH
Surr: Nitrobenzene-d5	82.5	41.4-120		%REC	219042	1	01/28/2016 15:46	YH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 1-Feb-16

Client:	ERM-Southeast	**Client Sample ID:**	SCS-101-HOLDER-W-WEST-20
Project Name:	AGL Macon Remediation	**Collection Date:**	1/26/2016 3:10:00 PM
Lab ID:	1601K21-001	**Matrix:**	Solid

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	77.2	47.6-120		%REC	219042	1	01/28/2016 15:46	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.28		mg/Kg-dry	219142	1	01/29/2016 11:20	PF
METALS, TOTAL SW6010D				**(SW3050B)**				
Antimony	BRL	5.31		mg/Kg-dry	218958	1	01/28/2016 20:21	IO
Arsenic	BRL	5.31		mg/Kg-dry	218958	1	01/28/2016 20:21	IO
Barium	15.9	5.31		mg/Kg-dry	218958	1	01/28/2016 20:21	IO
Beryllium	BRL	2.65		mg/Kg-dry	218958	1	01/28/2016 20:21	IO
Cadmium	BRL	2.65		mg/Kg-dry	218958	1	01/28/2016 20:21	IO
Chromium	9.65	2.65		mg/Kg-dry	218958	1	01/28/2016 20:21	IO
Copper	6.07	2.65		mg/Kg-dry	218958	1	01/28/2016 20:21	IO
Lead	7.07	5.31		mg/Kg-dry	218958	1	01/28/2016 20:21	IO
Nickel	BRL	5.31		mg/Kg-dry	218958	1	01/28/2016 20:21	IO
Zinc	5.88	5.31		mg/Kg-dry	218958	1	01/28/2016 20:21	IO
PERCENT MOISTURE D2216								
Percent Moisture	21.8	0		wt%	R309208	1	01/28/2016 08:30	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 1-Feb-16

Client:	ERM-Southeast	**Client Sample ID:**	SCS-102-HOLDER-W-EAST-20
Project Name:	AGL Macon Remediation	**Collection Date:**	1/26/2016 3:15:00 PM
Lab ID:	1601K21-002	**Matrix:**	Solid

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	6.5		ug/Kg-dry	219075	1	01/28/2016 12:22	CG
Benzene	BRL	3.2		ug/Kg-dry	219075	1	01/28/2016 12:22	CG
Toluene	BRL	3.2		ug/Kg-dry	219075	1	01/28/2016 12:22	CG
Ethylbenzene	BRL	3.2		ug/Kg-dry	219075	1	01/28/2016 12:22	CG
Xylenes, Total	BRL	3.2		ug/Kg-dry	219075	1	01/28/2016 12:22	CG
Surr: 4-Bromofluorobenzene	99.9	70-128		%REC	219075	1	01/28/2016 12:22	CG
Surr: Dibromofluoromethane	103	78.2-128		%REC	219075	1	01/28/2016 12:22	CG
Surr: Toluene-d8	96.4	76.5-116		%REC	219075	1	01/28/2016 12:22	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.109		mg/Kg-dry	219113	1	01/29/2016 16:12	MC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	21		ug/Kg-dry	219043	1	01/28/2016 17:15	YH
Acenaphthylene	BRL	40		ug/Kg-dry	219043	1	01/28/2016 17:15	YH
Anthracene	BRL	2.1		ug/Kg-dry	219043	1	01/28/2016 17:15	YH
Benz(a)anthracene	BRL	2.1		ug/Kg-dry	219043	1	01/28/2016 17:15	YH
Benzo(a)pyrene	BRL	2.1		ug/Kg-dry	219043	1	01/28/2016 17:15	YH
Benzo(b)fluoranthene	BRL	4.0		ug/Kg-dry	219043	1	01/28/2016 17:15	YH
Benzo(g,h,i)perylene	BRL	4.0		ug/Kg-dry	219043	1	01/28/2016 17:15	YH
Benzo(k)fluoranthene	BRL	2.1		ug/Kg-dry	219043	1	01/28/2016 17:15	YH
Chrysene	BRL	2.1		ug/Kg-dry	219043	1	01/28/2016 17:15	YH
Dibenz(a,h)anthracene	BRL	4.0		ug/Kg-dry	219043	1	01/28/2016 17:15	YH
Fluoranthene	BRL	4.0		ug/Kg-dry	219043	1	01/28/2016 17:15	YH
Fluorene	BRL	4.0		ug/Kg-dry	219043	1	01/28/2016 17:15	YH
Indeno(1,2,3-cd)pyrene	BRL	2.1		ug/Kg-dry	219043	1	01/28/2016 17:15	YH
Naphthalene	BRL	21		ug/Kg-dry	219043	1	01/28/2016 17:15	YH
Phenanthrene	BRL	2.1		ug/Kg-dry	219043	1	01/28/2016 17:15	YH
Pyrene	2.8	2.1		ug/Kg-dry	219043	1	01/28/2016 17:15	YH
Surr: 4-Terphenyl-d14	67.9	47.1-121		%REC	219043	1	01/28/2016 17:15	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	400		ug/Kg-dry	219042	1	01/28/2016 16:13	YH
2-Methylphenol	BRL	400		ug/Kg-dry	219042	1	01/28/2016 16:13	YH
3,4-Methylphenol	BRL	400		ug/Kg-dry	219042	1	01/28/2016 16:13	YH
Phenol	BRL	400		ug/Kg-dry	219042	1	01/28/2016 16:13	YH
Surr: 2,4,6-Tribromophenol	109	42.4-130		%REC	219042	1	01/28/2016 16:13	YH
Surr: 2-Fluorobiphenyl	98.3	51.5-120		%REC	219042	1	01/28/2016 16:13	YH
Surr: 2-Fluorophenol	70.7	41.1-120		%REC	219042	1	01/28/2016 16:13	YH
Surr: 4-Terphenyl-d14	96.3	52.7-117		%REC	219042	1	01/28/2016 16:13	YH
Surr: Nitrobenzene-d5	90.3	41.4-120		%REC	219042	1	01/28/2016 16:13	YH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 1-Feb-16

Client:	ERM-Southeast	**Client Sample ID:**	SCS-102-HOLDER-W-EAST-20
Project Name:	AGL Macon Remediation	**Collection Date:**	1/26/2016 3:15:00 PM
Lab ID:	1601K21-002	**Matrix:**	Solid

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	84.5	47.6-120		%REC	219042	1	01/28/2016 16:13	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.21		mg/Kg-dry	219142	1	01/29/2016 11:20	PF
METALS, TOTAL SW6010D				**(SW3050B)**				
Antimony	BRL	5.74		mg/Kg-dry	218958	1	01/28/2016 20:31	IO
Arsenic	BRL	5.74		mg/Kg-dry	218958	1	01/28/2016 20:31	IO
Barium	29.5	5.74		mg/Kg-dry	218958	1	01/28/2016 20:31	IO
Beryllium	BRL	2.87		mg/Kg-dry	218958	1	01/28/2016 20:31	IO
Cadmium	BRL	2.87		mg/Kg-dry	218958	1	01/28/2016 20:31	IO
Chromium	17.1	2.87		mg/Kg-dry	218958	1	01/28/2016 20:31	IO
Copper	18.5	2.87		mg/Kg-dry	218958	1	01/28/2016 20:31	IO
Lead	13.9	5.74		mg/Kg-dry	218958	1	01/28/2016 20:31	IO
Nickel	BRL	5.74		mg/Kg-dry	218958	1	01/28/2016 20:31	IO
Zinc	33.5	5.74		mg/Kg-dry	218958	1	01/28/2016 20:31	IO
PERCENT MOISTURE D2216								
Percent Moisture	17.3	0		wt%	R309208	1	01/28/2016 08:30	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 1-Feb-16

Client:	ERM-Southeast	**Client Sample ID:**	HOLDER SAND 1-20160126-01
Project Name:	AGL Macon Remediation	**Collection Date:**	1/26/2016 3:20:00 PM
Lab ID:	1601K21-003	**Matrix:**	Solid

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	8.3		ug/Kg-dry	219075	1	01/29/2016 11:34	CG
Benzene	BRL	4.2		ug/Kg-dry	219075	1	01/29/2016 11:34	CG
Toluene	BRL	4.2		ug/Kg-dry	219075	1	01/29/2016 11:34	CG
Ethylbenzene	BRL	4.2		ug/Kg-dry	219075	1	01/29/2016 11:34	CG
Xylenes, Total	BRL	4.2		ug/Kg-dry	219075	1	01/29/2016 11:34	CG
Surr: 4-Bromofluorobenzene	89.8	70-128		%REC	219075	1	01/29/2016 11:34	CG
Surr: Dibromofluoromethane	108	78.2-128		%REC	219075	1	01/29/2016 11:34	CG
Surr: Toluene-d8	92.3	76.5-116		%REC	219075	1	01/29/2016 11:34	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	0.169	0.121		mg/Kg-dry	219113	1	01/29/2016 16:14	MC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	21		ug/Kg-dry	219043	1	01/28/2016 17:42	YH
Acenaphthylene	BRL	41		ug/Kg-dry	219043	1	01/28/2016 17:42	YH
Anthracene	46	2.1		ug/Kg-dry	219043	1	01/28/2016 17:42	YH
Benz(a)anthracene	280	2.1		ug/Kg-dry	219043	1	01/28/2016 17:42	YH
Benzo(a)pyrene	200	2.1		ug/Kg-dry	219043	1	01/28/2016 17:42	YH
Benzo(b)fluoranthene	350	4.1		ug/Kg-dry	219043	1	01/28/2016 17:42	YH
Benzo(g,h,i)perylene	160	4.1		ug/Kg-dry	219043	1	01/28/2016 17:42	YH
Benzo(k)fluoranthene	91	2.1		ug/Kg-dry	219043	1	01/28/2016 17:42	YH
Chrysene	250	2.1		ug/Kg-dry	219043	1	01/28/2016 17:42	YH
Dibenz(a,h)anthracene	50	4.1		ug/Kg-dry	219043	1	01/28/2016 17:42	YH
Fluoranthene	360	41		ug/Kg-dry	219043	10	01/28/2016 19:26	YH
Fluorene	14	4.1		ug/Kg-dry	219043	1	01/28/2016 17:42	YH
Indeno(1,2,3-cd)pyrene	140	2.1		ug/Kg-dry	219043	1	01/28/2016 17:42	YH
Naphthalene	BRL	21		ug/Kg-dry	219043	1	01/28/2016 17:42	YH
Phenanthrene	320	2.1		ug/Kg-dry	219043	1	01/28/2016 17:42	YH
Pyrene	400	2.1		ug/Kg-dry	219043	1	01/28/2016 17:42	YH
Surr: 4-Terphenyl-d14	61.3	47.1-121		%REC	219043	1	01/28/2016 17:42	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	410		ug/Kg-dry	219042	1	01/28/2016 16:40	YH
2-Methylphenol	BRL	410		ug/Kg-dry	219042	1	01/28/2016 16:40	YH
3,4-Methylphenol	BRL	410		ug/Kg-dry	219042	1	01/28/2016 16:40	YH
Phenol	BRL	410		ug/Kg-dry	219042	1	01/28/2016 16:40	YH
Surr: 2,4,6-Tribromophenol	121	42.4-130		%REC	219042	1	01/28/2016 16:40	YH
Surr: 2-Fluorobiphenyl	107	51.5-120		%REC	219042	1	01/28/2016 16:40	YH
Surr: 2-Fluorophenol	75.4	41.1-120		%REC	219042	1	01/28/2016 16:40	YH
Surr: 4-Terphenyl-d14	103	52.7-117		%REC	219042	1	01/28/2016 16:40	YH
Surr: Nitrobenzene-d5	96	41.4-120		%REC	219042	1	01/28/2016 16:40	YH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 1-Feb-16

Client:	ERM-Southeast	**Client Sample ID:**	HOLDER SAND 1-20160126-01
Project Name:	AGL Macon Remediation	**Collection Date:**	1/26/2016 3:20:00 PM
Lab ID:	1601K21-003	**Matrix:**	Solid

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	86.6	47.6-120		%REC	219042	1	01/28/2016 16:40	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.25		mg/Kg-dry	219142	1	01/29/2016 11:20	PF
METALS, TOTAL SW6010D				**(SW3050B)**				
Antimony	BRL	5.15		mg/Kg-dry	218958	1	01/28/2016 20:35	IO
Arsenic	BRL	5.15		mg/Kg-dry	218958	1	01/28/2016 20:35	IO
Barium	27.0	5.15		mg/Kg-dry	218958	1	01/28/2016 20:35	IO
Beryllium	BRL	2.58		mg/Kg-dry	218958	1	01/28/2016 20:35	IO
Cadmium	BRL	2.58		mg/Kg-dry	218958	1	01/28/2016 20:35	IO
Chromium	5.47	2.58		mg/Kg-dry	218958	1	01/28/2016 20:35	IO
Copper	21.0	2.58		mg/Kg-dry	218958	1	01/28/2016 20:35	IO
Lead	40.1	5.15		mg/Kg-dry	218958	1	01/28/2016 20:35	IO
Nickel	BRL	5.15		mg/Kg-dry	218958	1	01/28/2016 20:35	IO
Zinc	17.2	5.15		mg/Kg-dry	218958	1	01/28/2016 20:35	IO
PERCENT MOISTURE D2216								
Percent Moisture	19.8	0		wt%	R309208	1	01/28/2016 08:30	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 1-Feb-16

Client:	ERM-Southeast	**Client Sample ID:**	HOLDER SAND 2-20160126-01
Project Name:	AGL Macon Remediation	**Collection Date:**	1/26/2016 3:25:00 PM
Lab ID:	1601K21-004	**Matrix:**	Solid

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	7.3		ug/Kg-dry	219075	1	01/28/2016 13:09	CG
Benzene	28	3.7		ug/Kg-dry	219075	1	01/28/2016 13:09	CG
Toluene	29	3.7		ug/Kg-dry	219075	1	01/28/2016 13:09	CG
Ethylbenzene	49	3.7		ug/Kg-dry	219075	1	01/28/2016 13:09	CG
Xylenes, Total	110	3.7		ug/Kg-dry	219075	1	01/28/2016 13:09	CG
Surr: 4-Bromofluorobenzene	97	70-128		%REC	219075	1	01/28/2016 13:09	CG
Surr: Dibromofluoromethane	106	78.2-128		%REC	219075	1	01/28/2016 13:09	CG
Surr: Toluene-d8	97.1	76.5-116		%REC	219075	1	01/28/2016 13:09	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.116		mg/Kg-dry	219113	1	01/29/2016 16:21	MC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	21		ug/Kg-dry	219043	1	01/28/2016 18:07	YH
Acenaphthylene	BRL	41		ug/Kg-dry	219043	1	01/28/2016 18:07	YH
Anthracene	14	2.1		ug/Kg-dry	219043	1	01/28/2016 18:07	YH
Benz(a)anthracene	92	2.1		ug/Kg-dry	219043	1	01/28/2016 18:07	YH
Benzo(a)pyrene	70	2.1		ug/Kg-dry	219043	1	01/28/2016 18:07	YH
Benzo(b)fluoranthene	120	4.1		ug/Kg-dry	219043	1	01/28/2016 18:07	YH
Benzo(g,h,i)perylene	48	4.1		ug/Kg-dry	219043	1	01/28/2016 18:07	YH
Benzo(k)fluoranthene	30	2.1		ug/Kg-dry	219043	1	01/28/2016 18:07	YH
Chrysene	97	2.1		ug/Kg-dry	219043	1	01/28/2016 18:07	YH
Dibenz(a,h)anthracene	21	4.1		ug/Kg-dry	219043	1	01/28/2016 18:07	YH
Fluoranthene	100	4.1		ug/Kg-dry	219043	1	01/28/2016 18:07	YH
Fluorene	6.5	4.1		ug/Kg-dry	219043	1	01/28/2016 18:07	YH
Indeno(1,2,3-cd)pyrene	47	2.1		ug/Kg-dry	219043	1	01/28/2016 18:07	YH
Naphthalene	29	21		ug/Kg-dry	219043	1	01/28/2016 18:07	YH
Phenanthrene	110	2.1		ug/Kg-dry	219043	1	01/28/2016 18:07	YH
Pyrene	120	2.1		ug/Kg-dry	219043	1	01/28/2016 18:07	YH
Surr: 4-Terphenyl-d14	69.3	47.1-121		%REC	219043	1	01/28/2016 18:07	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	410		ug/Kg-dry	219042	1	01/28/2016 17:09	YH
2-Methylphenol	BRL	410		ug/Kg-dry	219042	1	01/28/2016 17:09	YH
3,4-Methylphenol	BRL	410		ug/Kg-dry	219042	1	01/28/2016 17:09	YH
Phenol	BRL	410		ug/Kg-dry	219042	1	01/28/2016 17:09	YH
Surr: 2,4,6-Tribromophenol	121	42.4-130		%REC	219042	1	01/28/2016 17:09	YH
Surr: 2-Fluorobiphenyl	107	51.5-120		%REC	219042	1	01/28/2016 17:09	YH
Surr: 2-Fluorophenol	78.3	41.1-120		%REC	219042	1	01/28/2016 17:09	YH
Surr: 4-Terphenyl-d14	101	52.7-117		%REC	219042	1	01/28/2016 17:09	YH
Surr: Nitrobenzene-d5	96.6	41.4-120		%REC	219042	1	01/28/2016 17:09	YH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 1-Feb-16

Client:	ERM-Southeast	**Client Sample ID:**	HOLDER SAND 2-20160126-01
Project Name:	AGL Macon Remediation	**Collection Date:**	1/26/2016 3:25:00 PM
Lab ID:	1601K21-004	**Matrix:**	Solid

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	88.2	47.6-120		%REC	219042	1	01/28/2016 17:09	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.24		mg/Kg-dry	219142	1	01/29/2016 11:20	PF
METALS, TOTAL SW6010D				**(SW3050B)**				
Antimony	BRL	5.54		mg/Kg-dry	218958	1	01/28/2016 20:39	IO
Arsenic	14.8	5.54		mg/Kg-dry	218958	1	01/28/2016 20:39	IO
Barium	26.6	5.54		mg/Kg-dry	218958	1	01/28/2016 20:39	IO
Beryllium	BRL	2.77		mg/Kg-dry	218958	1	01/28/2016 20:39	IO
Cadmium	BRL	2.77		mg/Kg-dry	218958	1	01/28/2016 20:39	IO
Chromium	10.6	2.77		mg/Kg-dry	218958	1	01/28/2016 20:39	IO
Copper	13.6	2.77		mg/Kg-dry	218958	1	01/28/2016 20:39	IO
Lead	23.8	5.54		mg/Kg-dry	218958	1	01/28/2016 20:39	IO
Nickel	BRL	5.54		mg/Kg-dry	218958	1	01/28/2016 20:39	IO
Zinc	13.1	5.54		mg/Kg-dry	218958	1	01/28/2016 20:39	IO
PERCENT MOISTURE D2216								
Percent Moisture	19.6	0		wt%	R309208	1	01/28/2016 08:30	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 1-Feb-16

Client:	ERM-Southeast	**Client Sample ID:**	TB-18-20160126-01
Project Name:	AGL Macon Remediation	**Collection Date:**	1/27/2016
Lab ID:	1601K21-005	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	219059	1	01/28/2016 09:27	NP
Carbon disulfide	BRL	5.0		ug/L	219059	1	01/28/2016 09:27	NP
Ethylbenzene	BRL	5.0		ug/L	219059	1	01/28/2016 09:27	NP
Toluene	BRL	5.0		ug/L	219059	1	01/28/2016 09:27	NP
Xylenes, Total	BRL	5.0		ug/L	219059	1	01/28/2016 09:27	NP
Surr: 4-Bromofluorobenzene	93.3	70.7-125		%REC	219059	1	01/28/2016 09:27	NP
Surr: Dibromofluoromethane	111	82.2-120		%REC	219059	1	01/28/2016 09:27	NP
Surr: Toluene-d8	102	81.8-120		%REC	219059	1	01/28/2016 09:27	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM Work Order Number 1601K21

Checklist completed by Signature Date 1-27-16

Carrier name: FedEx ✓ UPS __ Courier __ Client __ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present __

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 2.9°C Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by _____

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1601K21

ANALYTICAL QC SUMMARY REPORT

BatchID: 218958

Sample ID: **MB-218958** Client ID: Units: **mg/Kg** Prep Date: **01/28/2016** Run No: **309297**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **218958** Analysis Date: **01/28/2016** Seq No: **6640019**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	5.00									
Arsenic	BRL	5.00									
Barium	BRL	5.00									
Beryllium	BRL	2.50									
Cadmium	BRL	2.50									
Chromium	BRL	2.50									
Copper	BRL	2.50									
Lead	BRL	5.00									
Nickel	BRL	5.00									
Zinc	BRL	5.00									

Sample ID: **LCS-218958** Client ID: Units: **mg/Kg** Prep Date: **01/28/2016** Run No: **309297**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **218958** Analysis Date: **01/28/2016** Seq No: **6640020**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	50.29	5.00	50.00		101	80	120				
Arsenic	49.43	5.00	50.00	0.2340	98.4	80	120				
Barium	50.35	5.00	50.00		101	80	120				
Beryllium	49.98	2.50	50.00		100.0	80	120				
Cadmium	49.11	2.50	50.00		98.2	80	120				
Chromium	50.65	2.50	50.00	0.09006	101	80	120				
Copper	49.87	2.50	50.00		99.7	80	120				
Lead	49.55	5.00	50.00		99.1	80	120				
Nickel	49.69	5.00	50.00		99.4	80	120				
Zinc	49.11	5.00	50.00		98.2	80	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1601K21

ANALYTICAL QC SUMMARY REPORT

BatchID: 218958

Sample ID: **1601K76-010AMS** Client ID:
SampleType: **MS** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/Kg-dry** Prep Date: **01/28/2016** Run No: **309297**
BatchID: **218958** Analysis Date: **01/28/2016** Seq No: **6640024**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	15.96	4.68	46.78	0.8182	32.4	75	125				S
Arsenic	41.82	4.68	46.78	3.357	82.2	75	125				
Barium	264.0	4.68	46.78	227.1	79.0	75	125				
Beryllium	42.12	2.34	46.78	1.433	87.0	75	125				
Cadmium	42.54	2.34	46.78	0.02019	90.9	75	125				
Chromium	141.0	2.34	46.78	102.6	82.2	75	125				
Copper	120.7	2.34	46.78	79.25	88.7	75	125				
Lead	51.48	4.68	46.78	15.42	77.1	75	125				
Nickel	83.75	4.68	46.78	45.39	82.0	75	125				
Zinc	124.2	4.68	46.78	86.23	81.2	75	125				

Sample ID: **1601K76-010AMSD** Client ID:
SampleType: **MSD** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/Kg-dry** Prep Date: **01/28/2016** Run No: **309297**
BatchID: **218958** Analysis Date: **01/28/2016** Seq No: **6640025**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	16.49	4.68	46.77	0.8182	33.5	75	125	15.96	3.22	20	S
Arsenic	42.13	4.68	46.77	3.357	82.9	75	125	41.82	0.738	20	
Barium	260.9	4.68	46.77	227.1	72.2	75	125	264.0	1.21	20	S
Beryllium	41.90	2.34	46.77	1.433	86.5	75	125	42.12	0.521	20	
Cadmium	42.24	2.34	46.77	0.02019	90.3	75	125	42.54	0.701	20	
Chromium	141.0	2.34	46.77	102.6	82.1	75	125	141.0	0.017	20	
Copper	140.6	2.34	46.77	79.25	131	75	125	120.7	15.2	20	S
Lead	52.03	4.68	46.77	15.42	78.3	75	125	51.48	1.06	20	
Nickel	83.98	4.68	46.77	45.39	82.5	75	125	83.75	0.273	20	
Zinc	131.9	4.68	46.77	86.23	97.6	75	125	124.2	5.96	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1601K21

ANALYTICAL QC SUMMARY REPORT

BatchID: 219042

Sample ID: **MB-219042** Client ID: Units: **ug/Kg** Prep Date: **01/28/2016** Run No: **309286**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **219042** Analysis Date: **01/28/2016** Seq No: **6639626**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	330									
2-Methylphenol	BRL	330									
3,4-Methylphenol	BRL	330									
Phenol	BRL	330									
Surr: 2,4,6-Tribromophenol	4107	0	3333		123	42.4	130				
Surr: 2-Fluorobiphenyl	1617	0	1667		97.0	51.5	120				
Surr: 2-Fluorophenol	2371	0	3333		71.1	41.1	120				
Surr: 4-Terphenyl-d14	1650	0	1667		99.0	52.7	117				
Surr: Nitrobenzene-d5	1478	0	1667		88.7	41.4	120				
Surr: Phenol-d5	2769	0	3333		83.1	47.6	120				

Sample ID: **LCS-219042** Client ID: Units: **ug/Kg** Prep Date: **01/28/2016** Run No: **309286**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **219042** Analysis Date: **01/28/2016** Seq No: **6639636**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2402	330	3333		72.0	52.8	120				
Surr: 2,4,6-Tribromophenol	4186	0	3333		126	42.4	130				
Surr: 2-Fluorobiphenyl	1852	0	1667		111	51.5	120				
Surr: 2-Fluorophenol	2709	0	3333		81.3	41.1	120				
Surr: 4-Terphenyl-d14	1823	0	1667		109	52.7	117				
Surr: Nitrobenzene-d5	1688	0	1667		101	41.4	120				
Surr: Phenol-d5	2881	0	3333		86.4	47.6	120				

Sample ID: **1601K21-004DMS** Client ID: **HOLDER SAND 2-20160126-01** Units: **ug/Kg-dry** Prep Date: **01/28/2016** Run No: **309286**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **219042** Analysis Date: **01/28/2016** Seq No: **6640638**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2973	410	4143		71.8	45.4	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1601K21

ANALYTICAL QC SUMMARY REPORT

BatchID: 219042

Sample ID: **1601K21-004DMS** Client ID: **HOLDER SAND 2-20160126-01** Units: **ug/Kg-dry** Prep Date: **01/28/2016** Run No: **309286**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **219042** Analysis Date: **01/28/2016** Seq No: **6640638**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 2,4,6-Tribromophenol	5108	0	4143		123	42.4	130				
Surr: 2-Fluorobiphenyl	2137	0	2072		103	51.5	120				
Surr: 2-Fluorophenol	3189	0	4143		77.0	41.1	120				
Surr: 4-Terphenyl-d14	2102	0	2072		101	52.7	117				
Surr: Nitrobenzene-d5	2043	0	2072		98.6	41.4	120				
Surr: Phenol-d5	3468	0	4143		83.7	47.6	120				

Sample ID: **1601K21-004DMSD** Client ID: **HOLDER SAND 2-20160126-01** Units: **ug/Kg-dry** Prep Date: **01/28/2016** Run No: **309286**
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **219042** Analysis Date: **01/28/2016** Seq No: **6640639**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2743	410	4143		66.2	45.4	120	2973	8.03	20.7	
Surr: 2,4,6-Tribromophenol	5029	0	4143		121	42.4	130	5108	0	0	
Surr: 2-Fluorobiphenyl	2068	0	2072		99.8	51.5	120	2137	0	0	
Surr: 2-Fluorophenol	2832	0	4143		68.3	41.1	120	3189	0	0	
Surr: 4-Terphenyl-d14	2023	0	2072		97.6	52.7	117	2102	0	0	
Surr: Nitrobenzene-d5	1937	0	2072		93.5	41.4	120	2043	0	0	
Surr: Phenol-d5	3264	0	4143		78.8	47.6	120	3468	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1601K21

ANALYTICAL QC SUMMARY REPORT

BatchID: 219043

Sample ID: **MB-219043**	Client ID:		Units: **ug/Kg**	Prep Date: **01/28/2016**	Run No: **309334**
SampleType: **MBLK**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**		BatchID: **219043**	Analysis Date: **01/28/2016**	Seq No: **6641055**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	17									
Acenaphthylene	BRL	33									
Anthracene	BRL	1.7									
Benz(a)anthracene	BRL	1.7									
Benzo(a)pyrene	BRL	1.7									
Benzo(b)fluoranthene	BRL	3.3									
Benzo(g,h,i)perylene	BRL	3.3									
Benzo(k)fluoranthene	BRL	1.7									
Chrysene	BRL	1.7									
Dibenz(a,h)anthracene	BRL	3.3									
Fluoranthene	BRL	3.3									
Fluorene	BRL	3.3									
Indeno(1,2,3-cd)pyrene	BRL	1.7									
Naphthalene	BRL	17									
Phenanthrene	BRL	1.7									
Pyrene	BRL	1.7									
Surr: 4-Terphenyl-d14	47.70	0	66.70		71.5	47.1	121				

Sample ID: **LCS-219043**	Client ID:		Units: **ug/Kg**	Prep Date: **01/28/2016**	Run No: **309334**
SampleType: **LCS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**		BatchID: **219043**	Analysis Date: **01/28/2016**	Seq No: **6641056**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	56.44	17	66.70		84.6	60.1	120				
Acenaphthylene	56.58	33	66.70		84.8	58	120				
Anthracene	46.75	1.7	66.70		70.1	58.5	120				
Benz(a)anthracene	61.93	1.7	66.70	0.6917	91.8	60.2	132				
Benzo(a)pyrene	48.77	1.7	66.70		73.1	54.6	120				
Benzo(b)fluoranthene	60.54	3.3	66.70		90.8	62.2	125				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1601K21

ANALYTICAL QC SUMMARY REPORT

BatchID: 219043

Sample ID: **LCS-219043** Client ID: Units: **ug/Kg** Prep Date: **01/28/2016** Run No: **309334**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **219043** Analysis Date: **01/28/2016** Seq No: **6641056**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(g,h,i)perylene	57.05	3.3	66.70		85.5	58.6	119				
Benzo(k)fluoranthene	50.97	1.7	66.70		76.4	61.4	118				
Chrysene	55.80	1.7	66.70		83.7	67.9	120				
Dibenz(a,h)anthracene	57.69	3.3	66.70		86.5	52.1	125				
Fluoranthene	59.57	3.3	66.70	0.4987	88.6	68.2	118				
Fluorene	58.63	3.3	66.70		87.9	63.5	120				
Indeno(1,2,3-cd)pyrene	58.46	1.7	66.70		87.6	56.4	123				
Naphthalene	53.52	17	66.70		80.2	59	120				
Phenanthrene	54.33	1.7	66.70		81.5	63.3	120				
Pyrene	59.46	1.7	66.70		89.1	61.1	123				
Surr: 4-Terphenyl-d14	50.19	0	66.70		75.2	47.1	121				

Sample ID: **1601K21-003DMS** Client ID: **HOLDER SAND 1-20160126-01** Units: **ug/Kg-dry** Prep Date: **01/28/2016** Run No: **309334**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **219043** Analysis Date: **01/28/2016** Seq No: **6641069**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	68.76	21	83.16	14.03	65.8	52.9	120				
Acenaphthylene	103.1	41	83.16	39.48	76.5	49.7	120				
Anthracene	91.05	2.1	83.16	46.25	53.9	44.8	120				
Benz(a)anthracene	300.5	2.1	83.16	280.3	24.3	66.6	139				S
Benzo(a)pyrene	220.3	2.1	83.16	196.1	29.1	46.8	120				S
Benzo(b)fluoranthene	370.4	4.1	83.16	346.6	28.6	57.2	132				S
Benzo(g,h,i)perylene	220.2	4.1	83.16	164.7	66.7	43.3	122				
Benzo(k)fluoranthene	107.9	2.1	83.16	90.51	20.9	42.9	120				S
Chrysene	240.9	2.1	83.16	251.9	-13.3	49.2	117				S
Dibenz(a,h)anthracene	103.8	4.1	83.16	49.56	65.2	42.4	119				
Fluoranthene	401.6	4.1	83.16	426.3	-29.7	55.5	127				S
Fluorene	71.45	4.1	83.16	14.00	69.1	46.8	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1601K21

ANALYTICAL QC SUMMARY REPORT

BatchID: 219043

Sample ID: **1601K21-003DMS** Client ID: **HOLDER SAND 1-20160126-01** Units: **ug/Kg-dry** Prep Date: **01/28/2016** Run No: **309334**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **219043** Analysis Date: **01/28/2016** Seq No: **6641069**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Indeno(1,2,3-cd)pyrene	193.3	2.1	83.16	137.3	67.4	43.9	125				
Naphthalene	67.95	21	83.16	14.98	63.7	49.2	120				
Phenanthrene	260.9	2.1	83.16	322.3	-73.8	50.6	120				S
Pyrene	380.1	2.1	83.16	395.1	-18.0	49.3	126				S
Surr: 4-Terphenyl-d14	52.56	0	83.16		63.2	47.1	121				

Sample ID: **1601K21-003DMSD** Client ID: **HOLDER SAND 1-20160126-01** Units: **ug/Kg-dry** Prep Date: **01/28/2016** Run No: **309334**
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **219043** Analysis Date: **01/28/2016** Seq No: **6641073**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	77.98	21	83.16	14.03	76.9	52.9	120	68.76	12.6	20	
Acenaphthylene	112.4	41	83.16	39.48	87.7	49.7	120	103.1	8.63	20	
Anthracene	106.1	2.1	83.16	46.25	72.0	44.8	120	91.05	15.3	32.1	
Benz(a)anthracene	348.9	2.1	83.16	280.3	82.5	66.6	139	300.5	14.9	35.3	
Benzo(a)pyrene	231.5	2.1	83.16	196.1	42.6	46.8	120	220.3	4.98	31.9	S
Benzo(b)fluoranthene	399.4	4.1	83.16	346.6	63.5	57.2	132	370.4	7.54	35.6	
Benzo(g,h,i)perylene	219.8	4.1	83.16	164.7	66.2	43.3	122	220.2	0.196	30.8	
Benzo(k)fluoranthene	119.8	2.1	83.16	90.51	35.2	42.9	120	107.9	10.4	30.5	S
Chrysene	285.5	2.1	83.16	251.9	40.4	49.2	117	240.9	17.0	23.9	S
Dibenz(a,h)anthracene	109.0	4.1	83.16	49.56	71.5	42.4	119	103.8	4.89	29.1	
Fluorene	80.46	4.1	83.16	14.00	79.9	46.8	120	71.45	11.9	28.4	
Indeno(1,2,3-cd)pyrene	196.2	2.1	83.16	137.3	70.8	43.9	125	193.3	1.45	27.8	
Naphthalene	70.11	21	83.16	14.98	66.3	49.2	120	67.95	3.14	19.1	
Phenanthrene	408.8	2.1	83.16	322.3	104	50.6	120	260.9	44.2	28.9	R
Surr: 4-Terphenyl-d14	54.35	0	83.16		65.4	47.1	121	52.56	0	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1601K21

ANALYTICAL QC SUMMARY REPORT

BatchID: 219043

Sample ID: **1601K21-003DMSD** Client ID: **HOLDER SAND 1-20160126-01** Units: **ug/Kg-dry** Prep Date: **01/28/2016** Run No: **309334**
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **219043** Analysis Date: **01/28/2016** Seq No: **6641077**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Fluoranthene	401.8	41	83.16	426.3	-29.4	55.5	127	401.6	0.063	29.9	S
Pyrene	366.3	21	83.16	395.1	-34.6	49.3	126	380.1	3.69	39.7	S

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1601K21

ANALYTICAL QC SUMMARY REPORT

BatchID: 219059

Sample ID: **MB-219059** Client ID: Units: **ug/L** Prep Date: **01/27/2016** Run No: **309123**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **219059** Analysis Date: **01/27/2016** Seq No: **6637822**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	5.0									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	47.30	0	50.00		94.6	70.7	125				
Surr: Dibromofluoromethane	57.87	0	50.00		116	82.2	120				
Surr: Toluene-d8	50.38	0	50.00		101	81.8	120				

Sample ID: **LCS-219059** Client ID: Units: **ug/L** Prep Date: **01/27/2016** Run No: **309123**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **219059** Analysis Date: **01/27/2016** Seq No: **6637821**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	48.54	5.0	50.00		97.1	74.9	123				
Toluene	52.07	5.0	50.00		104	75	124				
Surr: 4-Bromofluorobenzene	47.96	0	50.00		95.9	70.7	125				
Surr: Dibromofluoromethane	55.28	0	50.00		111	82.2	120				
Surr: Toluene-d8	48.42	0	50.00		96.8	81.8	120				

Sample ID: **1601J21-001AMS** Client ID: Units: **ug/L** Prep Date: **01/27/2016** Run No: **309123**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **219059** Analysis Date: **01/27/2016** Seq No: **6637826**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	50.56	5.0	50.00		101	70.1	132				
Toluene	53.28	5.0	50.00		107	70.1	133				
Surr: 4-Bromofluorobenzene	47.15	0	50.00		94.3	70.7	125				
Surr: Dibromofluoromethane	55.17	0	50.00		110	82.2	120				
Surr: Toluene-d8	47.12	0	50.00		94.2	81.8	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1601K21

ANALYTICAL QC SUMMARY REPORT

BatchID: 219059

Sample ID: **1601J21-001AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/L** Prep Date: **01/27/2016** Run No: **309123**
BatchID: **219059** Analysis Date: **01/27/2016** Seq No: **6637827**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	50.11	5.0	50.00		100	70.1	132	50.56	0.894	20	
Toluene	55.35	5.0	50.00		111	70.1	133	53.28	3.81	20	
Surr: 4-Bromofluorobenzene	47.08	0	50.00		94.2	70.7	125	47.15	0	0	
Surr: Dibromofluoromethane	55.10	0	50.00		110	82.2	120	55.17	0	0	
Surr: Toluene-d8	47.75	0	50.00		95.5	81.8	120	47.12	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1601K21

ANALYTICAL QC SUMMARY REPORT

BatchID: 219075

Sample ID: **MB-219075** Client ID: Units: **ug/Kg** Prep Date: **01/28/2016** Run No: **309240**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **219075** Analysis Date: **01/28/2016** Seq No: **6640323**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	10									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	50.08	0	50.00		100	70	128				
Surr: Dibromofluoromethane	50.68	0	50.00		101	78.2	128				
Surr: Toluene-d8	48.91	0	50.00		97.8	76.5	116				

Sample ID: **LCS-219075** Client ID: Units: **ug/Kg** Prep Date: **01/28/2016** Run No: **309240**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **219075** Analysis Date: **01/28/2016** Seq No: **6638637**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	48.51	5.0	50.00		97.0	72.3	130				
Toluene	49.14	5.0	50.00		98.3	71.1	130				
Surr: 4-Bromofluorobenzene	51.43	0	50.00		103	70	128				
Surr: Dibromofluoromethane	51.98	0	50.00		104	78.2	128				
Surr: Toluene-d8	47.96	0	50.00		95.9	76.5	116				

Sample ID: **1601K21-002AMS** Client ID: **SCS-102-HOLDER-W-EAST-20160126-01** Units: **ug/Kg-dry** Prep Date: **01/28/2016** Run No: **309240**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **219075** Analysis Date: **01/28/2016** Seq No: **6640321**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	56.57	6.0	60.49		93.5	70.4	130				
Toluene	57.84	6.0	60.49		95.6	70.4	130				
Surr: 4-Bromofluorobenzene	61.65	0	60.49		102	70	128				
Surr: Dibromofluoromethane	60.42	0	60.49		99.9	78.2	128				
Surr: Toluene-d8	58.40	0	60.49		96.5	76.5	116				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1601K21

ANALYTICAL QC SUMMARY REPORT

BatchID: 219075

Sample ID: **1601K21-002AMSD** Client ID: **SCS-102-HOLDER-W-EAST-20160126-01** Units: **ug/Kg-dry** Prep Date: **01/28/2016** Run No: **309240**
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **219075** Analysis Date: **01/28/2016** Seq No: **6640322**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	52.37	6.0	60.49		86.6	70.4	130	56.57	7.71	16.9	
Toluene	55.00	6.0	60.49		90.9	70.4	130	57.84	5.04	16.6	
Surr: 4-Bromofluorobenzene	59.55	0	60.49		98.4	70	128	61.65	0	0	
Surr: Dibromofluoromethane	60.67	0	60.49		100	78.2	128	60.42	0	0	
Surr: Toluene-d8	59.03	0	60.49		97.6	76.5	116	58.40	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1601K21

ANALYTICAL QC SUMMARY REPORT

BatchID: 219113

Sample ID: **MB-219113** Client ID: Units: **mg/Kg** Prep Date: **01/29/2016** Run No: **309390**
SampleType: **MBLK** TestCode: **TOTAL MERCURY SW7471B** BatchID: **219113** Analysis Date: **01/29/2016** Seq No: **6642397**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.100									

Sample ID: **LCS-219113** Client ID: Units: **mg/Kg** Prep Date: **01/29/2016** Run No: **309390**
SampleType: **LCS** TestCode: **TOTAL MERCURY SW7471B** BatchID: **219113** Analysis Date: **01/29/2016** Seq No: **6642398**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.4100	0.100	0.4000		102	80	120				

Sample ID: **1601K76-003AMS** Client ID: Units: **mg/Kg-dry** Prep Date: **01/29/2016** Run No: **309390**
SampleType: **MS** TestCode: **TOTAL MERCURY SW7471B** BatchID: **219113** Analysis Date: **01/29/2016** Seq No: **6642400**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.5310	0.121	0.4855	0.03377	102	70	130				

Sample ID: **1601K76-003AMSD** Client ID: Units: **mg/Kg-dry** Prep Date: **01/29/2016** Run No: **309390**
SampleType: **MSD** TestCode: **TOTAL MERCURY SW7471B** BatchID: **219113** Analysis Date: **01/29/2016** Seq No: **6642401**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.5148	0.123	0.4932	0.03377	97.5	70	130	0.5310	3.10	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1601K21

ANALYTICAL QC SUMMARY REPORT

BatchID: 219142

Sample ID: **MB-219142**	Client ID:			Units: **mg/Kg**	Prep Date: **01/29/2016**	Run No: **309350**
SampleType: **MBLK**	TestCode: **Cyanide, Total SW9014**			BatchID: **219142**	Analysis Date: **01/29/2016**	Seq No: **6641228**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	1.00									

Sample ID: **LCS-219142**	Client ID:			Units: **mg/Kg**	Prep Date: **01/29/2016**	Run No: **309350**
SampleType: **LCS**	TestCode: **Cyanide, Total SW9014**			BatchID: **219142**	Analysis Date: **01/29/2016**	Seq No: **6641229**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	12.42	1.00	12.50		99.4	85	115				

Sample ID: **1601K21-001BMS**	Client ID: **SCS-101-HOLDER-W-WEST-20160126-01**			Units: **mg/Kg**	Prep Date: **01/29/2016**	Run No: **309350**
SampleType: **MS**	TestCode: **Cyanide, Total SW9014**			BatchID: **219142**	Analysis Date: **01/29/2016**	Seq No: **6641248**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	11.16	1.00	12.50		89.2	70	130				

Sample ID: **1601K21-001BMSD**	Client ID: **SCS-101-HOLDER-W-WEST-20160126-01**			Units: **mg/Kg**	Prep Date: **01/29/2016**	Run No: **309350**
SampleType: **MSD**	TestCode: **Cyanide, Total SW9014**			BatchID: **219142**	Analysis Date: **01/29/2016**	Seq No: **6641249**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	11.35	1.00	12.50		90.8	70	130	11.16	1.73	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

AES

February 01, 2016

Nic Vrey
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: AGL Macon

Dear Nic Vrey: Order No: 1601M81

Analytical Environmental Services, Inc. received 1 samples on 1/29/2016 10:35:00 AM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1601M81

Date: 1/28/16 Page 1 of 1

COMPANY: ERM

ADDRESS: 3200 Windy Hill Rd 1500W ATL GA 30339

PHONE:

FAX:

SAMPLED BY: K. Spevacek

SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	Arsenic	No # of Containers
1	SCS-84B-SW-(0'-2')-20160128-9	1/28/16	1430	X		S	X	1
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								

ANALYSIS REQUESTED

PRESERVATION (See codes)

REMARKS

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:	1/28/16	1: Tampa Fedex	1/29/16 1035
2:		2:	
3:		3:	

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
CLIENT FedEx UPS MAIL COURIER
GREYHOUND OTHER

PROJECT INFORMATION

PROJECT NAME: AGL Macon

PROJECT #: 0176740

SITE ADDRESS: 224 Walnut St

SEND REPORT TO: Nic.Vrey@erm.com

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: PO#:

RECEIPT

Total # of Containers: 1

Turnaround Time Request
- ○ Standard 5 Business Days
- ○ 2 Business Day Rush
- ⊗ Next Business Day Rush
- ○ Same Day Rush **(auth req.)**
- ○ Other

STATE PROGRAM (if any):

E-mail? Y / N; Fax? Y / N

DATA PACKAGE: I II III IV

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.
SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc **Date:** 1-Feb-16

Client:	ERM-Southeast	**Client Sample ID:**	SCS-84B-SW-(0'-2')-20160128-0
Project Name:	AGL Macon	**Collection Date:**	1/28/2016 2:30:00 PM
Lab ID:	1601M81-001	**Matrix:**	Solid

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, TOTAL SW6010D					**(SW3050B)**			
Arsenic	BRL	5.67		mg/Kg-dry	219167	1	02/01/2016 13:23	IO
PERCENT MOISTURE D2216								
Percent Moisture	15.0	0		wt%	R309410	1	02/01/2016 09:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM-SE Work Order Number 1601M81

Checklist completed by [signature] 1/29/16
Signature Date

Carrier name: FedEx ✓ UPS __ Courier __ Client __ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 0.1 Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted ✓ Yes __ No __

Water - pH acceptable upon receipt? Yes __ No __ Not Applicable ✓

Adjusted? _____ Checked by _____

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1601M81

ANALYTICAL QC SUMMARY REPORT

BatchID: 219167

Sample ID: **MB-219167**	Client ID:			Units: **mg/Kg**	Prep Date: **01/30/2016**	Run No: **309449**
SampleType: **MBLK**	TestCode: **METALS, TOTAL** **SW6010C**			BatchID: **219167**	Analysis Date: **02/01/2016**	Seq No: **6643758**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	BRL	5.00									

Sample ID: **LCS-219167**	Client ID:			Units: **mg/Kg**	Prep Date: **01/30/2016**	Run No: **309449**
SampleType: **LCS**	TestCode: **METALS, TOTAL** **SW6010C**			BatchID: **219167**	Analysis Date: **02/01/2016**	Seq No: **6643759**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	47.97	5.00	50.00	0.1766	95.6	80	120				

Sample ID: **1601N29-001CMS**	Client ID:			Units: **mg/Kg-dry**	Prep Date: **01/30/2016**	Run No: **309449**
SampleType: **MS**	TestCode: **METALS, TOTAL** **SW6010C**			BatchID: **219167**	Analysis Date: **02/01/2016**	Seq No: **6643761**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	49.71	6.13	61.34	5.347	72.3	75	125				S

Sample ID: **1601N29-001CMSD**	Client ID:			Units: **mg/Kg-dry**	Prep Date: **01/30/2016**	Run No: **309449**
SampleType: **MSD**	TestCode: **METALS, TOTAL** **SW6010C**			BatchID: **219167**	Analysis Date: **02/01/2016**	Seq No: **6643762**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	48.04	6.13	61.34	5.347	69.6	75	125	49.71	3.42	20	S

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

May 02, 2016

Nic Vrey
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: AGL Macon

Dear Nic Vrey: Order No: 1601N80

Analytical Environmental Services, Inc. received 2 samples on January 30, 2016 11:40 am for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES's accreditations are as follows:
-NELAC/Florida State Laboratory ID E87582 for analysis of Non-Potable Water, Solid & Chemical Materials, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-NELAC/Louisiana Agency Interest No. 100818 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 07/01/15-06/30/16.
-NELAC/Texas Certificate No. T104704509-16-6 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 03/01/16-02/28/17.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1601N80

Date: 1/29/16 Page 1 of 1

COMPANY: ERM

ADDRESS: 3200 Windy Hill Rd 1500 W ATL GA 30339

PHONE:

FAX:

SAMPLED BY: K. Spevacek

SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	ANALYSIS REQUESTED: Benzene	PRESERVATION (See codes)	REMARKS	No # of Containers
1	SCS-103-12W-(6'-10')-20160129-01	1/29/16	0900	X		S	X			3
2										
3	TB18-20160129-01					W	X			2
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:		1: (FEDEX)	1/30/16 11:40
2:	1/29/16	2:	
3:	1700	3:	

PROJECT INFORMATION

PROJECT NAME: AGL Macon

PROJECT #: 0176740

SITE ADDRESS: 224 Walnut St.

SEND REPORT TO: Nic.Vrey@erm.com

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: PO#:

RECEIPT

Total # of Containers: 5

Turnaround Time Request

- ○ Standard 5 Business Days
- ○ 2 Business Day Rush
- ☒ Next Business Day Rush
- ○ Same Day Rush (auth req.)
- ○ Other

STATE PROGRAM (if any):

E-mail? Y / N; Fax? Y / N

DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS:

* SHIPMENT METHOD

OUT / / VIA:

IN / / VIA:

CLIENT FedEx UPS MAIL COURIER

GREYHOUND OTHER

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Client: ERM-Southeast
Project: AGL Macon
Lab ID: 1601N80

Case Narrative

Sample Receiving Nonconformance:

Insufficient sample volume was provided to allow for percent moisture determination for sample 1601N80-001.

Analytical Environmental Services, Inc **Date:** 2-May-16

Client:	ERM-Southeast	**Client Sample ID:**	SCS-103-12W-(6'-10')-20160129
Project Name:	AGL Macon	**Collection Date:**	1/29/2016 9:00:00 AM
Lab ID:	1601N80-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5035)								
Benzene	BRL	3.3		ug/Kg	219210	1	02/02/2016 11:20	CG
Surr: 4-Bromofluorobenzene	100	70-128		%REC	219210	1	02/02/2016 11:20	CG
Surr: Dibromofluoromethane	104	78.2-128		%REC	219210	1	02/02/2016 11:20	CG
Surr: Toluene-d8	99.2	76.5-116		%REC	219210	1	02/02/2016 11:20	CG

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-May-16

Client:	ERM-Southeast	**Client Sample ID:**	TB18-20160129-01
Project Name:	AGL Macon	**Collection Date:**	1/30/2016
Lab ID:	1601N80-002	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	219229	1	02/02/2016 14:19	JE
Surr: 4-Bromofluorobenzene	97.7	70.7-125		%REC	219229	1	02/02/2016 14:19	JE
Surr: Dibromofluoromethane	101	82.2-120		%REC	219229	1	02/02/2016 14:19	JE
Surr: Toluene-d8	101	81.8-120		%REC	219229	1	02/02/2016 14:19	JE

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM Work Order Number 1601N80

Checklist completed by [signature] 1/30/16
Signature Date

Carrier name: FedEx __ UPS __ Courier __ Client __ US Mail __ Other _____

Shipping container/cooler in good condition?	Yes ✓	No __	Not Present __
Custody seals intact on shipping container/cooler?	Yes __	No __	Not Present ✓
Custody seals intact on sample bottles?	Yes __	No __	Not Present ✓
Container/Temp Blank temperature in compliance? (0°≤6°C)*	Yes ✓	No __	

Cooler #1 0.1 Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present?	Yes ✓	No __
Chain of custody signed when relinquished and received?	Yes ✓	No __
Chain of custody agrees with sample labels?	Yes ✓	No __
Samples in proper container/bottle?	Yes ✓	No __
Sample containers intact?	Yes ✓	No __
Sufficient sample volume for indicated test?	Yes ✓	No __
All samples received within holding time?	Yes ✓	No __
Was TAT marked on the COC?	Yes ✓	No __
Proceed with Standard TAT as per project history?	Yes __	No __ Not Applicable ✓
Water - VOA vials have zero headspace?	No VOA vials submitted __	Yes ✓ No __
Water - pH acceptable upon receipt?	Yes ✓	No __ Not Applicable __

Adjusted? _____ Checked by _____

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1601N80

ANALYTICAL QC SUMMARY REPORT

BatchID: 219210

Sample ID: **MB-219210** Client ID: Units: **ug/Kg** Prep Date: **02/01/2016** Run No: **309445**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **219210** Analysis Date: **02/01/2016** Seq No: **6645210**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Surr: 4-Bromofluorobenzene	50.33	0	50.00		101	70	128				
Surr: Dibromofluoromethane	52.23	0	50.00		104	78.2	128				
Surr: Toluene-d8	48.26	0	50.00		96.5	76.5	116				

Sample ID: **LCS-219210** Client ID: Units: **ug/Kg** Prep Date: **02/01/2016** Run No: **309445**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **219210** Analysis Date: **02/01/2016** Seq No: **6645212**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	41.47	5.0	50.00		82.9	72.3	130				
Surr: 4-Bromofluorobenzene	49.86	0	50.00		99.7	70	128				
Surr: Dibromofluoromethane	52.59	0	50.00		105	78.2	128				
Surr: Toluene-d8	48.14	0	50.00		96.3	76.5	116				

Sample ID: **1601M42-001AMS** Client ID: Units: **ug/Kg-dry** Prep Date: **02/01/2016** Run No: **309445**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **219210** Analysis Date: **02/01/2016** Seq No: **6645233**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	54.07	5.7	56.62		95.5	70.4	130				
Surr: 4-Bromofluorobenzene	58.88	0	56.62		104	70	128				
Surr: Dibromofluoromethane	60.53	0	56.62		107	78.2	128				
Surr: Toluene-d8	55.61	0	56.62		98.2	76.5	116				

Sample ID: **1601M42-001AMSD** Client ID: Units: **ug/Kg-dry** Prep Date: **02/01/2016** Run No: **309445**
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **219210** Analysis Date: **02/01/2016** Seq No: **6645234**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	53.01	5.7	56.62		93.6	70.4	130	54.07	1.99	16.9	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1601N80

ANALYTICAL QC SUMMARY REPORT

BatchID: 219210

Sample ID: **1601M42-001AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/Kg-dry** Prep Date: **02/01/2016** Run No: **309445**
BatchID: **219210** Analysis Date: **02/01/2016** Seq No: **6645234**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 4-Bromofluorobenzene	57.05	0	56.62		101	70	128	58.88	0	0	
Surr: Dibromofluoromethane	58.71	0	56.62		104	78.2	128	60.53	0	0	
Surr: Toluene-d8	55.34	0	56.62		97.7	76.5	116	55.61	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1601N80

ANALYTICAL QC SUMMARY REPORT

BatchID: 219229

Sample ID: **MB-219229**	Client ID:		Units: **ug/L**	Prep Date: **02/01/2016**	Run No: **309468**
SampleType: **MBLK**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **219229**	Analysis Date: **02/01/2016**	Seq No: **6644431**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Surr: 4-Bromofluorobenzene	41.59	0	50.00		83.2	70.7	125				
Surr: Dibromofluoromethane	56.20	0	50.00		112	82.2	120				
Surr: Toluene-d8	49.87	0	50.00		99.7	81.8	120				

Sample ID: **LCS-219229**	Client ID:		Units: **ug/L**	Prep Date: **02/01/2016**	Run No: **309468**
SampleType: **LCS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **219229**	Analysis Date: **02/01/2016**	Seq No: **6644423**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	49.95	5.0	50.00		99.9	74.9	123				
Surr: 4-Bromofluorobenzene	43.98	0	50.00		88.0	70.7	125				
Surr: Dibromofluoromethane	53.49	0	50.00		107	82.2	120				
Surr: Toluene-d8	48.58	0	50.00		97.2	81.8	120				

Sample ID: **1601J19-012AMS**	Client ID:		Units: **ug/L**	Prep Date: **02/01/2016**	Run No: **309468**
SampleType: **MS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **219229**	Analysis Date: **02/02/2016**	Seq No: **6644878**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	49.51	5.0	50.00		99.0	70.1	132				
Surr: 4-Bromofluorobenzene	40.02	0	50.00		80.0	70.7	125				
Surr: Dibromofluoromethane	53.34	0	50.00		107	82.2	120				
Surr: Toluene-d8	49.06	0	50.00		98.1	81.8	120				

Sample ID: **1601J19-012AMSD**	Client ID:		Units: **ug/L**	Prep Date: **02/01/2016**	Run No: **309468**
SampleType: **MSD**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **219229**	Analysis Date: **02/02/2016**	Seq No: **6644879**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	45.71	5.0	50.00		91.4	70.1	132	49.51	7.98	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1601N80

ANALYTICAL QC SUMMARY REPORT

BatchID: 219229

Sample ID: **1601J19-012AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/L** Prep Date: **02/01/2016** Run No: **309468**
BatchID: **219229** Analysis Date: **02/02/2016** Seq No: **6644879**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 4-Bromofluorobenzene	41.98	0	50.00		84.0	70.7	125	40.02	0	0	
Surr: Dibromofluoromethane	52.49	0	50.00		105	82.2	120	53.34	0	0	
Surr: Toluene-d8	47.65	0	50.00		95.3	81.8	120	49.06	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

February 17, 2016

Nic Vrey
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: AGL Macon

Dear Nic Vrey: Order No: 1602D01

Analytical Environmental Services, Inc. received 7 samples on February 13, 2016 9:35 am for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1602D01

Date: 2/12/16 Page 1 of 1

COMPANY: ERM

ADDRESS: 3200 Windy Hill Rd Suite 1500W ATL GA 30339

PHONE:

FAX:

SAMPLED BY: K. Spevacek

SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Antimony	Arsenic	Lead	REMARKS	No # of Containers
1	SCS-1A-6F-(2')-20160212-01	2/12/16	1315	X		S	X	X	X					1
2	SCS-2A-6F-(2')-20160211-01	2/11/16	1630	X						X				1
3	SCS-3A-6F-(2')-20160212-01	2/12/16	1320	X			X	X	X					1
4	SCS-9A-6F-(2')-20160212-01		1325	X			X	X	X					1
5	SCS-12A-6F-(2')-20160212-01		1330	X				X	X	X	X	X		1
6	SCS-13A-6F-(2')-20160212-01		1335	X				X			X			1
7	SCS-17A-6W-(0'-2')-20160211-01	2/11/16	1635	X			X	X	X		X			1
8														
9														
10														
11														
12														
13														
14														

ANALYSIS REQUESTED

PRESERVATION (See codes)

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:	2/12/16 1700	1: FedEx (FEDEX)	2/13/16 9:35
2:		2:	
3:		3:	

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
CLIENT FedEx UPS MAIL COURIER
GREYHOUND OTHER

PROJECT INFORMATION
PROJECT NAME: AGL Macon
PROJECT #: 0176740
SITE ADDRESS: 224 Walnut St.
SEND REPORT TO: Nic.Vrey@erm.com
INVOICE TO: (IF DIFFERENT FROM ABOVE)
QUOTE #: PO#:

RECEIPT
Total # of Containers: 7

Turnaround Time Request
- X Standard 5 Business Days
- O 2 Business Day Rush
- O Next Business Day Rush
- O Same Day Rush (auth req.)
- O Other

STATE PROGRAM (if any):
E-mail? Y / N; Fax? Y / N
DATA PACKAGE: I II III IV

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.
SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water
PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc **Date:** 17-Feb-16

Client:	ERM-Southeast	**Client Sample ID:**	SCS-1A-6F-(2')-20160212-01
Project Name:	AGL Macon	**Collection Date:**	2/12/2016 1:15:00 PM
Lab ID:	1602D01-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	4.2	1.9		ug/Kg-dry	219817	1	02/16/2016 12:57	YH
Benzo(a)pyrene	3.9	1.9		ug/Kg-dry	219817	1	02/16/2016 12:57	YH
Benzo(b)fluoranthene	6.7	3.7		ug/Kg-dry	219817	1	02/16/2016 12:57	YH
Surr: 4-Terphenyl-d14	96.2	47.1-121		%REC	219817	1	02/16/2016 12:57	YH
PERCENT MOISTURE D2216								
Percent Moisture	11.8	0		wt%	R310442	1	02/15/2016 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 17-Feb-16

Client:	ERM-Southeast	**Client Sample ID:**	SCS-2A-6F-(2')-20160211-01
Project Name:	AGL Macon	**Collection Date:**	2/11/2016 4:30:00 PM
Lab ID:	1602D01-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, TOTAL SW6010D (SW3050B)								
Antimony	BRL	5.14		mg/Kg-dry	219811	1	05/15/2016 14:23	IO
PERCENT MOISTURE D2216								
Percent Moisture	10.5	0		wt%	R310442	1	02/15/2016 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 17-Feb-16

Client:	ERM-Southeast	**Client Sample ID:**	SCS-3A-6F-(2')-20160212-01
Project Name:	AGL Macon	**Collection Date:**	2/12/2016 1:20:00 PM
Lab ID:	1602D01-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3550C)								
Benz(a)anthracene	9.2	2.1		ug/Kg-dry	219817	1	02/16/2016 13:25	YH
Benzo(a)pyrene	9.6	2.1		ug/Kg-dry	219817	1	02/16/2016 13:25	YH
Benzo(b)fluoranthene	15	4.1		ug/Kg-dry	219817	1	02/16/2016 13:25	YH
Surr: 4-Terphenyl-d14	90.7	47.1-121		%REC	219817	1	02/16/2016 13:25	YH
PERCENT MOISTURE D2216								
Percent Moisture	19.2	0		wt%	R310442	1	02/15/2016 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 17-Feb-16

Client:	ERM-Southeast	**Client Sample ID:**	SCS-9A-6F-(2')-20160212-01
Project Name:	AGL Macon	**Collection Date:**	2/12/2016 1:25:00 PM
Lab ID:	1602D01-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3550C)								
Benz(a)anthracene	110	2.1		ug/Kg-dry	219817	1	02/16/2016 13:53	YH
Benzo(a)pyrene	94	2.1		ug/Kg-dry	219817	1	02/16/2016 13:53	YH
Benzo(b)fluoranthene	250	4.0		ug/Kg-dry	219817	1	02/16/2016 13:53	YH
Surr: 4-Terphenyl-d14	95.5	47.1-121		%REC	219817	1	02/16/2016 13:53	YH
PERCENT MOISTURE D2216								
Percent Moisture	17.1	0		wt%	R310442	1	02/15/2016 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 17-Feb-16

Client:	ERM-Southeast	**Client Sample ID:**	SCS-12A-6F-(2')-20160212-01
Project Name:	AGL Macon	**Collection Date:**	2/12/2016 1:30:00 PM
Lab ID:	1602D01-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benzo(a)pyrene	95	1.9		ug/Kg-dry	219817	1	02/16/2016 14:21	YH
Benzo(b)fluoranthene	210	3.7		ug/Kg-dry	219817	1	02/16/2016 14:21	YH
Surr: 4-Terphenyl-d14	84.2	47.1-121		%REC	219817	1	02/16/2016 14:21	YH
METALS, TOTAL SW6010D				**(SW3050B)**				
Antimony	BRL	5.52		mg/Kg-dry	219811	1	05/15/2016 15:02	IO
Arsenic	BRL	5.52		mg/Kg-dry	219811	1	05/15/2016 15:02	IO
Lead	7.13	5.52		mg/Kg-dry	219811	1	05/15/2016 15:02	IO
PERCENT MOISTURE D2216								
Percent Moisture	11.1	0		wt%	R310442	1	02/15/2016 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 17-Feb-16

Client:	ERM-Southeast	**Client Sample ID:**	SCS-13A-6F-(2')-20160212-01
Project Name:	AGL Macon	**Collection Date:**	2/12/2016 1:35:00 PM
Lab ID:	1602D01-006	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benzo(a)pyrene	BRL	1.9		ug/Kg-dry	219817	1	02/16/2016 14:49	YH
Surr: 4-Terphenyl-d14	100	47.1-121		%REC	219817	1	02/16/2016 14:49	YH
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	BRL	5.47		mg/Kg-dry	219811	1	05/15/2016 15:06	IO
PERCENT MOISTURE D2216								
Percent Moisture	12.8	0		wt%	R310442	1	02/15/2016 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 17-Feb-16

Client:	ERM-Southeast	**Client Sample ID:**	SCS-17A-6W-(0'-2')-20160211-0
Project Name:	AGL Macon	**Collection Date:**	2/11/2016 4:35:00 PM
Lab ID:	1602D01-007	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	15	1.9		ug/Kg-dry	219817	1	02/16/2016 15:17	YH
Benzo(a)pyrene	13	1.9		ug/Kg-dry	219817	1	02/16/2016 15:17	YH
Benzo(b)fluoranthene	29	3.7		ug/Kg-dry	219817	1	02/16/2016 15:17	YH
Surr: 4-Terphenyl-d14	93.9	47.1-121		%REC	219817	1	02/16/2016 15:17	YH
METALS, TOTAL SW6010D				**(SW3050B)**				
Arsenic	BRL	5.25		mg/Kg-dry	219811	1	05/15/2016 15:09	IO
PERCENT MOISTURE D2216								
Percent Moisture	10.0	0		wt%	R310442	1	02/15/2016 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client EKM Work Order Number 1402D01

Checklist completed by _____ 2/13/16
Signature Date

Carrier name: FedEx ✓ UPS __ Courier __ Client __ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 0.4 Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted ✓ Yes __ No __

Water - pH acceptable upon receipt? Yes __ No __ Not Applicable ✓

Adjusted? _____ Checked by _____

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1602D01

ANALYTICAL QC SUMMARY REPORT

BatchID: 219811

Sample ID: **MB-219811** Client ID: Units: **mg/Kg** Prep Date: **02/15/2016** Run No: **310456**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **219811** Analysis Date: **05/15/2016** Seq No: **6667849**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	5.00									
Arsenic	BRL	5.00									
Lead	BRL	5.00									

Sample ID: **LCS-219811** Client ID: Units: **mg/Kg** Prep Date: **02/15/2016** Run No: **310456**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **219811** Analysis Date: **05/15/2016** Seq No: **6667850**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	46.57	5.00	50.00		93.1	80	120				
Arsenic	47.82	5.00	50.00		95.6	80	120				
Lead	49.23	5.00	50.00		98.5	80	120				

Sample ID: **1602D01-002AMS** Client ID: **SCS-2A-6F-(2')-20160211-01** Units: **mg/Kg-dry** Prep Date: **02/15/2016** Run No: **310456**
SampleType: **MS** TestCode: **METALS, TOTAL SW6010C** BatchID: **219811** Analysis Date: **05/15/2016** Seq No: **6667854**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	33.71	5.14	51.43		65.5	75	125				S
Arsenic	47.03	5.14	51.43	1.580	88.4	75	125				
Lead	52.26	5.14	51.43	3.725	94.4	75	125				

Sample ID: **1602D01-002AMSD** Client ID: **SCS-2A-6F-(2')-20160211-01** Units: **mg/Kg-dry** Prep Date: **02/15/2016** Run No: **310456**
SampleType: **MSD** TestCode: **METALS, TOTAL SW6010C** BatchID: **219811** Analysis Date: **05/15/2016** Seq No: **6667855**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	36.13	5.14	51.36		70.3	75	125	33.71	6.92	20	S
Arsenic	47.16	5.14	51.36	1.580	88.7	75	125	47.03	0.274	20	
Lead	52.59	5.14	51.36	3.725	95.1	75	125	52.26	0.635	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1602D01

ANALYTICAL QC SUMMARY REPORT

BatchID: 219817

Sample ID: **MB-219817** Client ID: Units: **ug/Kg** Prep Date: **02/15/2016** Run No: **310561**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **219817** Analysis Date: **02/16/2016** Seq No: **6670001**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	BRL	1.7									
Benzo(a)pyrene	BRL	1.7									
Benzo(b)fluoranthene	BRL	3.3									
Surr: 4-Terphenyl-d14	69.00	0	66.70		103	47.1	121				

Sample ID: **LCS-219817** Client ID: Units: **ug/Kg** Prep Date: **02/15/2016** Run No: **310561**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **219817** Analysis Date: **02/16/2016** Seq No: **6671434**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	66.53	1.7	66.70		99.7	60.2	132				
Benzo(a)pyrene	54.56	1.7	66.70		81.8	54.6	120				
Benzo(b)fluoranthene	62.41	3.3	66.70		93.6	62.2	125				
Surr: 4-Terphenyl-d14	59.33	0	66.70		88.9	47.1	121				

Sample ID: **1602D01-003AMS** Client ID: **SCS-3A-6F-(2')-20160212-01** Units: **ug/Kg-dry** Prep Date: **02/15/2016** Run No: **310561**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **219817** Analysis Date: **02/16/2016** Seq No: **6671432**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	105.5	2.1	82.55	9.163	117	66.6	139				
Benzo(a)pyrene	75.59	2.1	82.55	9.569	80.0	46.8	120				
Benzo(b)fluoranthene	102.0	4.1	82.55	15.14	105	57.2	132				
Surr: 4-Terphenyl-d14	74.83	0	82.55		90.6	47.1	121				

Sample ID: **1602D01-003AMSD** Client ID: **SCS-3A-6F-(2')-20160212-01** Units: **ug/Kg-dry** Prep Date: **02/15/2016** Run No: **310561**
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **219817** Analysis Date: **02/16/2016** Seq No: **6671433**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	97.33	2.1	82.55	9.163	107	66.6	139	105.5	8.04	35.3	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1602D01

ANALYTICAL QC SUMMARY REPORT

BatchID: 219817

Sample ID: **1602D01-003AMSD** Client ID: **SCS-3A-6F-(2')-20160212-01** Units: **ug/Kg-dry** Prep Date: **02/15/2016** Run No: **310561**
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **219817** Analysis Date: **02/16/2016** Seq No: **6671433**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(a)pyrene	71.78	2.1	82.55	9.569	75.4	46.8	120	75.59	5.16	31.9	
Benzo(b)fluoranthene	93.01	4.1	82.55	15.14	94.3	57.2	132	102.0	9.18	35.6	
Surr: 4-Terphenyl-d14	72.07	0	82.55		87.3	47.1	121	74.83	0	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Treatability Report

Appendix A-4

May 21, 2016
Project No. 0176740
Corrective Action Completion Report

Environmental Resources Management
3200 Windy Hill Rd. Suite 1500W
Atlanta, GA 30339
(678) 486-2700

KEMRON ENVIRONMENTAL SERVICES

1359-A Ellsworth Industrial Boulevard • Atlanta, GA 30318 • TEL 404-636-0928 • FAX 404-636-7162

January 13, 2014

Mr. James Morrison
Environmental Resources Management
3200 Windy Hill Road SE, Suite 1500W
Atlanta, Georgia 30339

Re: Macon AGL In-Situ Stabilization Treatability Study
Macon AGL Site
KEMRON ATG Project #SH0487

Dear Mr. Morrison:

KEMRON Environmental Services, Inc. (KEMRON) is pleased to present this letter report summarizing the results of testing performed for Environmental Resources Management (ERM). The study was conducted on site materials sampled from the Macon AGL located in Macon, Georgia (the site). The objective of the study is to determine if in-situ stabilization technology will meet the following remediation objectives:

- a hydraulic conductivity less than 10^{-6} centimeters per second (cm/s);
- an unconfined compressive strength (UCS) greater than 50 pounds per square inch (psi);
- a relative mass loss less than 10 percent (%) when subjected to 12 wet/dry cycles; and
- the absence of liquid in the extruded UCS specimens.

Testing was conducted to evaluate selected reagents, reagent addition rates, and chemical and physical properties of the treated soils. The following sections of this report include information regarding the protocols followed during each phase of the study and the results of testing performed. Additionally, attachments include chain of custodies, chemical and physical datasheets, and mixture development sheets for the testing conducted.

Untreated Material Characterization

In May 2013, KEMRON received two shipments of materials from the site, one containing untreated material from the "low" concentration area and the other containing material from the "high" concentration area. Immediately following receipt of the site materials, KEMRON logged the material into its sample tracking database and placed the material in secure

refrigerated storage maintained at a temperature of approximately 4 degrees Celsius (^{o}C). Note that the shipment of untreated "low" material contained nine one-gallon bags. KEMRON was directed to composite the nine one-gallon bags into a single batch of untreated "low" material for the study. The Material Chain of Custody is included in **Attachment A**.

Prior to initiating the study, KEMRON homogenized the materials. Homogenization was performed by passing each site material through a sieve screen to remove all materials larger than 1/2-inch in diameter. The removal of oversized materials was performed in order to facilitate bench-scale evaluations of the site soils. Once screened, each material was gently mixed by hand using stainless steel utensils.

Following homogenization, KEMRON collected a representative aliquot of the untreated "low" material and a representative aliquot of the untreated "high" material for characterization testing. The establishment of the baseline characteristics of the untreated materials is important for ensuring that the materials are similar to what is expected at the site and for evaluating the effectiveness of stabilization treatment. The following physical characterization analyses were conducted on the aliquots of untreated soil in accordance with the referenced test methods:

PARAMETER	**METHOD**
Moisture Content	ASTM D2216
Bulk Unit Weight	ASTM D2937
Specific Gravity	ASTM D854
pH	EPA Method 9045

The results of the physical characterization analyses performed on the untreated "low" material and the untreated "high" material are summarized in **Table 1** below. The Untreated Physical Properties Datasheets are included in **Attachment B**.

Table 1
Untreated Physical Properties Datasheet

Testing Parameter	Test Method	Unit	Untreated Material Type	
			Low	High
Moisture Content	ASTM D2216			
ASTM Moisture Content		%	22.66	27.75
Percent Solids		%	81.53	78.30
Bulk Unit Weight	ASTM D7263	pcf	123.0	119.0
Specific Gravity	ASTM D854		2.69	2.69
pH	EPA Method 9045	s.u.	5.18	4.75

Notes
% = percent
pcf = pounds per cubic foot
s.u. - standard units

Data contained on this sheet shall not be disclosed without prior approval from KEMRON Environmental Services, Inc. (Proprietary)

Stabilization Evaluations

KEMRON understands that in-situ solidification is the preferred site remedy. Therefore, additives were incorporated into the untreated materials as a pumpable slurry to facilitate in-situ auger mixing. Mixture development was performed by introducing the reagent slurry into the site materials while mixing using a standard bench-top mixer. All reagents and water were added on a by-weight basis. For example, with a mixture containing a 10% addition of reagent and 8% water addition, 10 grams of reagent will be slurried with 8 grams of water and then blended with 100 grams of the site material.

Mixture designs applied to the site material were provided by ERM and include the addition of reagents including Type I Portland Cement (PC), LaFarge Ground Granulated Blast Furnace Slag (GGBFS) 120, and Bentonite. A complete summary of mixture designs is provided in **Table 2.** Mixture Development Datasheets are provided in **Attachment C**.

Table 2
Mixture Designs

KEMRON Sample Number	Untreated Material Type	Reagent Type and Identification Number(s)	Reagent Addition % by Wet Soil wt.	Water Addition % by Untreated wt.
0487-001	Low	Portland Cement #842/LaFarge GGBFS120 #948/Bentonite #807	1.5/4.5/0.5	16.7
0487-002	High	Portland Cement #842//LaFarge GGBFS120 #948Bentonite #807	1.5/4.5/0.5	16.7
0487-003	High	Portland Cement #842/LaFarge GGBFS120 #948/Bentonite #807	2.5/4.5/0.5	16.7
0487-004	High	Portland Cement #842/LaFarge GGBFS120 #948/Bentonite #807	2.5/3.5/0.5	16.7

Each initial screening mixture was prepared as batches using 3,000 grams of the site material to evaluate potential setting and physical properties of the treated materials via unconfined compressive strength (UCS), hydraulic conductivity, wet/dry durability, and liquid release testing. The testing results are discussed in the subsequent paragraphs. A summary of the

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testing results are also provided in **Tables 3, 4, 5, and 6** below and the Treated Physical Properties Datasheet in **Attachment D**.

UCS testing was performed at a 7 and 28 day curing interval in accordance with ASTM D2166. UCS testing was conducted by removing the cured sample specimen from the cylindrical mold. The weight and physical dimensions of the sample were determined and recorded on the appropriate data sheet. The specimen was then placed in the load frame and compressed at a rate of 1% strain per minute until the sample fails or 15% strain has been achieved. Throughout the testing, KEMRON documented the load at specific strain values. A representative aliquot of the post test specimen are then subjected to moisture content testing. UCS testing results are provided in **Table 3**.

Table 3
Summary of Unconfined Compressive Strength Testing

KEMRON Sample Number	Cure Days	Unconfined Compressive Strength			
		Moisture Content %	Bulk Density (lb/ft^3)	Dry Density (lb/ft^3)	UCS (lb/in^2)
0487-001	7	38.03	111.7	80.9	40.1
	28	39.43	109.8	78.8	66.8
0487-002	7	42.32	111.0	78.0	10.0
	28	40.57	108.4	77.7	31.7
0487-003	7	41.69	109.9	77.5	45.0
	28	42.08	108.2	76.2	87.90
0487-004	7	38.37	110.3	79.7	40.8
	28	36.43	110.7	81.1	58.2

Notes:
% = percent
lb/ft^3 = pounds per cubic feet
lb/ft^2 = pounds per square feet

Hydraulic conductivity testing was performed at a 28 day curing interval in accordance with ASTM D5084. Hydraulic conductivity testing was conducted by recording the weight and physical dimensions of the sample specimen. The specimen was then placed into a flexible wall permeameter with a 2 psi confining pressure applied to the water surrounding the specimen. This differential is utilized to ensure that the specimen integrity is not compromised. Testing was initiated by saturating the specimen with de-aired water. Saturation was accomplished over time by increasing the backpressure applied to the sample in increments of 10 psi until a 95% saturation value was achieved. Once saturated, the sample was then consolidated using a 10 psi confining pressure. That is, the pressure differential between the confining pressure, applied to the outside of the sample, was 10 psi higher than the backpressure applied to the specimen itself. The quantity of water forced out of the sample was recorded over time and plotted to ensure

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appropriate consolidation had been achieved. The results of the hydraulic conductivity testing are provided in **Table 4**.

Table 4
Summary of Hydraulic Conductivity Testing

KEMRON Sample Number	Cure Days	Hydraulic Conductivity (K) (cm/sec)			
		Moisture Content (%)	Bulk Density (lb/ft³)	Dry Density (lb/ft³)	K (cm/sec)
0487-001	7				
	28	38.7	110.9	80.0	< E-10
0487-002	7				
	28	37.6	113.0	82.2	9.30E-08
0487-003	7				
	28	40.3	110.6	78.8	2.70E-09
0487-004	7				
	28	38.7	110.2	79.5	4.00E-09

Notes:
% = percent
lb/ft^3 = pounds per cubic feet
cm/sec = centimeters per seconds

Wet / dry durability testing was performed at a 28 day curing interval in accordance with ASTM D4843. Wet / dry durability testing employs 12 cycles of wetting and drying of the sample to simulate long term weathering. This test was performed on a sample specimen measuring 2 inches in diameter by 4 inches in height. The specimen was placed in a beaker and dried for 24 hours at a temperature of 65 degrees Celsius (^oC) $\pm$ 5 ^oC. Following the drying period, the sample was removed from the oven and allowed to cool to room temperature. It was then covered with water to simulate saturation from rain and or surface water. After 24 hours the sample was removed from the water, and the leachate was filtered to remove any solid particles that may have come from the sample. The specimen was then weighed and measured to determine any physical change in the monolith, and the filter paper was then dried and the weight of the solids was recorded. A "control" sample was subjected to the same protocol as the sample specimen with one exception. Rather than placing the "control" specimen in a drying oven, it was placed into a humid environment at ambient temperature during the drying cycle. Calculations were performed following the 12^{th} full cycle in which the mass loss of the test sample is compared to that of the "control" sample. The results of the wet / dry durability testing are provided in **Table 5**.

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Table 5
Summary of Wet / Dry Durability Testing

KEMRON Sample Number	Cure Days	Relative mass loss %/Pass/Fail
0487-001	7	
	28	8.17/ Pass
0487-002	7	
	28	12.64/Fail *
0487-003	7	
	28	3.92/Pass
0487-004	7	
	28	39.23/Fail

Notes:
% = percent
*= Testing was stopped after 7 cycles due to excessive mass loss

A liquid release test was performed by placing the sample specimen in a device capable of simulating landfill overburden pressures. The specimen was placed between twin stainless steel screens and two stainless steel grids. An absorbent filter pad was placed on the side of each stainless steel grid opposite the sample specimen. A compressive force of 50 psi was applied to the top of the sample. The release of liquid in the sample was indicated by a visible wet spot on either of the filter papers. The results of the liquid release test are provided in **Table 6**.

Data contained on this sheet shall not be disclosed without prior approval from KEMRON Environmental Services, Inc. (Proprietary)

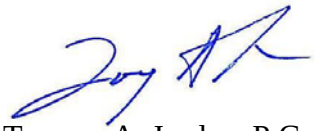
Table 6
Summary of Liquid Release Testing

KEMRON Sample Number	Cure Days	LRT (pass/fail)
0487-001	7	Pass
0487-002	7	Pass
0487-003	7	NT
0487-004	7	Pass

Notes:
LRT= Liquid Release Test
NT=Not Tested

KEMRON Environmental Services, Inc. is pleased to present ERM with this final letter report for the treatability study associated with the Macon AGL in Macon, Georgia. If you have any questions, or require additional information, please contact either of the undersigned.

Sincerely,
KEMRON Environmental Services, Inc.



Tommy A. Jordan, P.G.
Program Manager
tjordan@kermon.com

Attachments: Attachment A Chain of Custody
Attachment B Untreated Physical Properties Datasheet
Attachment C Mixture Development Datasheet
Attachment D Treated Physical Properties Datasheet

Data contained on this sheet shall not be disclosed without prior approval from KEMRON Environmental Services, Inc. (Proprietary)

ERM
MACON AGL
KEMRON PROJECT No. SH0487

Untreated Physical Properties Datasheet

TESTING PARAMETER	TEST METHOD	UNIT	SAMPLE ID	
			Low	High
Moisture Content	ASTM D2216			
ASTM Moisture Content		%	22.66	27.75
Percent Solids		%	81.53	78.30
Bulk Unit Weight	ASTM D7263	pcf	123.0	119.0
Specific Gravity	ASTM D854		2.69	2.69
pH	EPA 9045	s.u.	5.18	4.75

Notes
% = Percent
pcf = pounds per cubic foot
s.u. - Standard Units

ERM
MACON AGL
KEMRON PROJECT NO. SH0487

TREATED PHYSICAL PROPERTIES DATASHEET
Mixture Designs, UCS, and Permeability

KEMRON Sample Number	Untreated Material Type	Reagent Type and Identification Number(s)	Reagent Addition % by Wet Soil wt.	Water Addition % by Untreated wt.	Cure Days	LRT (pass/fail)	Unconfined Compressive Strength				Hydraulic Conductivity (K) (cm/sec)				Wet/Dry Durability
							Moisture Content %	Bulk Density (lb/ft^3)	Dry Density (lb/ft^3)	UCS (lb/in^2)	Moisture Content (%)	Bulk Density (lb/ft^3)	Dry Density (lb/ft^3)	K (cm/sec)	Relative mass loss %/Pass/Fail
0487-001	Low	Portland Cement #842/LaFarge GGBFS120 #948/Bentonite #807	1.5/4.5/0.5	16.7	7	Pass	38.03	111.7	80.9	40.1					
					28	Pass	39.43	109.8	78.8	66.8	38.7	110.9	80.0	< E-10	8.17/ Pass
0487-002	High	Portland Cement #842//LaFarge GGBFS120 #948Bentonite #807	1.5/4.5/0.5	16.7	7	Pass	42.32	111.0	78.0	10.0					
					28	Pass	40.57	108.4	77.7	31.7	37.6	113.0	82.2	9.30E-08	12.64/Fail *
0487-003	High	Portland Cement #842/LaFarge GGBFS120 #948/Bentonite #807	2.5/4.5/0.5	16.7	7	NT	41.69	109.9	77.5	45.0					
					28	Pass	42.08	108.2	76.2	87.9	40.3	110.6	78.8	2.70E-09	3.92/Pass
0487-004	High	Portland Cement #842/LaFarge GGBFS120 #948/Bentonite #807	2.5/3.5/0.5	16.7	7	Pass	38.37	110.3	79.7	40.8					
					28	Pass	36.43	110.7	81.1	58.2	38.7	110.2	79.5	4.00E-09	39.23/Fail

Notes:

% = percent
lb/ft^3 = pounds per cubic feet
lb/in^2 = pounds per square inch
cm/sec = centimeter per seconds
*= Testing was stopped after 7 cycles due to excessive mass loss
LRT= Liquid Release Test
NT=Not Tested
TIP = Test in Progress

ATTACHMENT A

UNTREATED MATERIAL CHAIN OF CUSTODY

CHAIN-OF-CUSTODY RECORD
TREATABILITY STUDIES

KEMRON ENVIRONMENTAL SERVICES

KEMRON ENVIRONMENTAL SERVICES, INC.
1359-A Ellsworth Industrial Boulevard
ATLANTA, GEORGIA 30318
(404) 636-0928 FAX (404) 636-7162
WWW.KEMRON.COM

CLIENT PROJECT NAME:	CLIENT PROJECT #:
ERM Macon ISS	

CLIENT CONTACT:	PROJECT MANAGER:
JAMES MORRISON	TOMMY JORDAN
PHONE#: 678-486-2700 EXT.	REPORT TO: KEMRON PHONE: (404)636-0928 ~~(978) 730-1241~~
EMAIL:	1359-A ELLSWORTH INDUS. BLVD, ATLANTA GA
SAMPLED BY: PRINTED NAME	SAMPLED BY: SIGNATURE

KEMRON JOB NUMBER	CLIENT SAMPLE ID	SAMPLE DATE/TIME	SAMPLE PRESERVATIVE (IF APPLICABLE)	# / SIZE CONTAINERS	ANALYSIS			
	GT-01 13-15'	5/16/13		1 gallon bag				
	GT-01 15-17'							
	GT-01 17-19							
	GT-01 19-21'							
	GT-01 21-23'							
	GT-01 23-25'							
	GT-01 25-27'							
	GT-01 27-29'							
	GT-02 13-15'							

SAMPLES RELINQUISHED BY:	DATE/ TIME	SAMPLES RECEIVED BY:	DATE/ TIME	COMMENTS/SPECIAL INSTRUCTIONS:
Jameeka Riley	5/20/13 1000			

ATTACHMENT B

UNTREATED MATERIAL CHARACTERIZATION DATASHEETS

MOISTURE CONTENT DETERMINATION

REPORT FORM
ASTM D 2216

PROJECT:	Macon AGL
PROJECT No.:	SH0487
SAMPLE No.:	High
TESTING DATE:	05/29/13
TESTED BY:	TAJ
TRACKING CODE:	9045

MOISTURE CONTENT (Dry & Wet Basis)					
1. MOISTURE TIN NO.	A		B		C	
2. WT MOISTURE TIN (tare weight)	1.2559	g	1.2561	g	1.2557	g
3. WT WET SOIL + TARE	22.7677	g	22.5507	g	21.0329	g
4. WT DRY SOIL + TARE	18.1158	g	17.5409	g	17.0905	g
5. WT WATER, Ww	4.6519	g	5.0098	g	3.9424	g
6. WT DRY SOIL, Ws	16.8599	g	16.2848	g	15.8348	g
7. ASTM MOISTURE CONTENT	27.59	%	30.76	%	24.90	%
8. PERCENT SOLIDS	78.38	%	76.47	%	80.07	%
9. AVERAGE ASTM MOISTURE CONTENT	27.75	%				
10. AVERAGE PERCENT SOLIDS	78.30	%				

MATERIAL pH

EPA METHOD 9045
DATA SHEET

PROJECT:	Macon AGL
PROJECT No.:	SH0487
TESTING DATE:	5/29/2013
TESTED BY:	TAJ/KMA
TRACKING CODE:	9045

KEMRON SAMPLE No.		MATERIAL pH
1.	High	4.75
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
	AVERAGE:	4.75

UNIT WEIGHT DETERMINATION

DATA SHEET
ASTM D7263

PROJECT:	Macon AGL
PROJECT No.:	SH0487
SAMPLE No.:	High
TESTING DATE:	5/29/2013
TESTED BY:	TAJ
TRACKING CODE:	9045

UNIT WEIGHT (DENSITY)		
1. SAMPLE NO.		
2. WT OF MOLD (tare weight)	18.15	g
3. WT OF MOLD + SOIL	410.83	g
4. WT OF WET SOIL, W	392.68	g
5. DIAMETER OF SPECIMEN, D	2.00	in
6. HEIGHT OF SPECIMEN, H	4.00	in
7. VOLUME OF SPECIMEN	12.57	in^3
8. BULK UNIT WEIGHT	119.0	pcf
9. BULK SPECIFIC GRAVITY	1.9	

MOISTURE CONTENT DETERMINATION

REPORT FORM
ASTM D 2216

PROJECT:	Macon AGL
PROJECT No.:	SH0487
SAMPLE No.:	Low
TESTING DATE:	05/29/13
TESTED BY:	TAJ
TRACKING CODE:	9044

MOISTURE CONTENT (Dry & Wet Basis)						
1. MOISTURE TIN NO.	A		B		C	
2. WT MOISTURE TIN (tare weight)	1.2945	g	1.2859	g	1.2943	g
3. WT WET SOIL + TARE	13.3690	g	24.2552	g	20.9740	g
4. WT DRY SOIL + TARE	11.0902	g	19.9577	g	17.4632	g
5. WT WATER, Ww	2.2788	g	4.2975	g	3.5108	g
6. WT DRY SOIL, Ws	9.7957	g	18.6718	g	16.1689	g
7. ASTM MOISTURE CONTENT	23.26	%	23.02	%	21.71	%
8. PERCENT SOLIDS	81.13	%	81.29	%	82.16	%
9. AVERAGE ASTM MOISTURE CONTENT	22.66	%				
10. AVERAGE PERCENT SOLIDS	81.53	%				

MATERIAL pH

EPA METHOD 9045
DATA SHEET

PROJECT:	Macon AGL
PROJECT No.:	SH0487
TESTING DATE:	5/29/2013
TESTED BY:	TAJ/KMA
TRACKING CODE:	9044

KEMRON SAMPLE No.		MATERIAL pH
1.	Low	5.18
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
	AVERAGE:	5.18

UNIT WEIGHT DETERMINATION

DATA SHEET
ASTM D7263

PROJECT:	Macon AGL
PROJECT No.:	SH0487
SAMPLE No.:	Low
TESTING DATE:	5/29/2013
TESTED BY:	TAJ
TRACKING CODE:	9044

UNIT WEIGHT (DENSITY)		
1. SAMPLE NO.		
2. WT OF MOLD (tare weight)	18.15	g
3. WT OF MOLD + SOIL	423.78	g
4. WT OF WET SOIL, W	405.63	g
5. DIAMETER OF SPECIMEN, D	2.00	in
6. HEIGHT OF SPECIMEN, H	4.00	in
7. VOLUME OF SPECIMEN	12.57	in^3
8. BULK UNIT WEIGHT	123.0	pcf
9. BULK SPECIFIC GRAVITY	2.0	

ATTACHMENT C

MIXTURE DEVELOPMENT DATASHEETS

MIX DEVELOPMENT DATA SHEET

PROJECT:	Macon AGL	MIX No.	
PROJECT No.:	SH0487		0487-001
MIXING DATE:	30-May-12	MIXED BY:	TNR/RPH

UNTREATED MATERIAL TYPE		Low
WEIGHT OF UNTREATED MATERIAL		3,000 g
REAGENT TYPE AND LOT NUMBER	ADDITION RATE	WEIGHT
Type I Portland Cement #842	1.50 %	45.0 g
LaFarge GGBFS 120 #948	4.50 %	135.0 g
Wyoming Bentonite #807	0.50 %	15.0 g
	%	0.0 g
	%	0.0 g
Water Addition	16.7 %	501.0 g

OBSERVATIONS / NOTES

Hydrating Bentonite day before (5/29) 85.44 g of water added
Mixture day 415.56 g of water added to Bentonite, Portland Cement, GGBF Slag mixture
Total water added 501.0 g
The Bentonite, Portland Cement, GGBF Slag and water slurry was added to the untreated soil

UCS @ 7 and 28 day
Liquid Release @ 7 and 28 day
Perm @ 28 day
Wet/Dry Durability @ 28 day

MONITORING ACTIVITIES

MONITORING ACTIVITIES	TIME PERIOD				
MAXIMUM PID (ppm)					
Notes / Observations:					

PENETROMETER ANALYSES

CURE TIME (Days)		2	5	7	
PENETROMETER (tons/ft^2)					

VOLUMETRIC EXPANSION — 7 days

INITIAL HEIGHT (in):	FINAL HEIGHT (in):	
VOLUMETRIC EXPANSION (%):		

VOLUMETRIC EXPANSION — 28 days

INITIAL HEIGHT (in):	FINAL HEIGHT (in):	
VOLUMETRIC EXPANSION (%):		

MIX DEVELOPMENT DATA SHEET

PROJECT:	Macon AGL	MIX No.	
PROJECT No.:	SH0487		0487-002
MIXING DATE:	30-May-13	MIXED BY:	TNR/RPH

UNTREATED MATERIAL TYPE		High
WEIGHT OF UNTREATED MATERIAL		3,000 g
REAGENT TYPE AND LOT NUMBER	ADDITION RATE	WEIGHT
Type I Portland Cement #842	1.50 %	45.0 g
LaFarge GGBFS 120 #948	4.50 %	135.0 g
Wyoming Bentonite #807	0.50 %	15.0 g
	%	0.0 g
	%	0.0 g
Water Addition	16.7 %	501.0 g

OBSERVATIONS / NOTES

Hydrating Bentonite day before (5/29) 87.83 g of water added
Mixture day 413.17 g of water added to Bentonite, Portland Cement, GGBF Slag mixture
Total water added 501.0 g
The Bentonite, Portland Cement, GGBF Slag and water slurry was added to the untreated soil

UCS @ 7 and 28 day
Liquid Release @ 7 and 28 day
Perm @ 28 day
Wet/Dry Durability @ 28 day

MONITORING ACTIVITIES

MONITORING ACTIVITIES	TIME PERIOD				
MAXIMUM PID (ppm)					
Notes / Observations:					

PENETROMETER ANALYSES

CURE TIME (Days)		2	5	7	
PENETROMETER (tons/ft^2)					

VOLUMETRIC EXPANSION — 7 days

INITIAL HEIGHT (in):	FINAL HEIGHT (in):	
VOLUMETRIC EXPANSION (%):		

VOLUMETRIC EXPANSION — 28 days

INITIAL HEIGHT (in):	FINAL HEIGHT (in):	
VOLUMETRIC EXPANSION (%):		

MIX DEVELOPMENT DATA SHEET

PROJECT:	Macon AGL	MIX No.	
PROJECT No.:	SH0487		0487-003
MIXING DATE:	3-Jul-13	MIXED BY:	TNR/RPH

UNTREATED MATERIAL TYPE		High
WEIGHT OF UNTREATED MATERIAL		1,600 g
REAGENT TYPE AND LOT NUMBER	ADDITION RATE	WEIGHT
Type I Portland Cement #842	2.50 %	40.0 g
LaFarge GGBFS 120 #948	4.50 %	72.0 g
Wyoming Bentonite #807	0.50 %	8.0 g
	%	0.0 g
	%	0.0 g
Water Addition	16.7 %	267.2 g

OBSERVATIONS / NOTES

Hydrating Bentonite day before (7/2) 24.0 g of water added
Mixture day 243.2 g of water added to Bentonite, Portland Cement, GGBF Slag mixture
Total water added 267.2 g
The Bentonite, Portland Cement, GGBF Slag and water slurry was added to the untreated soil

UCS @ 7 and 28 day
Liquid Release @ 7 and 28 day
Perm @ 28 day
Wet/Dry Durability @ 28 day

MONITORING ACTIVITIES

MONITORING ACTIVITIES	TIME PERIOD				
MAXIMUM PID (ppm)					
Notes / Observations:					

PENETROMETER ANALYSES

CURE TIME (Days)		2	5	7	
PENETROMETER (tons/ft^2)					

VOLUMETRIC EXPANSION — 7 days

INITIAL HEIGHT (in):	FINAL HEIGHT (in):	
VOLUMETRIC EXPANSION (%):		

VOLUMETRIC EXPANSION — 28 days

INITIAL HEIGHT (in):	FINAL HEIGHT (in):	
VOLUMETRIC EXPANSION (%):		

MIX DEVELOPMENT DATA SHEET

PROJECT:	Macon AGL	MIX No.	
PROJECT No.:	SH0487		0487-004
MIXING DATE:	23-Oct-13	MIXED BY:	TNR

UNTREATED MATERIAL TYPE		High
WEIGHT OF UNTREATED MATERIAL		2,800 g
REAGENT TYPE AND LOT NUMBER	ADDITION RATE	WEIGHT
Type I Portland Cement #842	2.50 %	70.0 g
LaFarge GGBFS 120 #948	3.50 %	98.0 g
Wyoming Bentonite #807	0.50 %	14.0 g
	%	0.0 g
	%	0.0 g
Water Addition	16.7 %	467.6 g

OBSERVATIONS / NOTES

Hydrating Bentonite day before (10/22) 42.0 g of water added
Mixture day 425.6 g of water added to Bentonite, Portland Cement, GGBF Slag mixture
Total water added 467.6 g
The Bentonite, Portland Cement, GGBF Slag and water slurry was added to the untreated soil

UCS @ 7 and 28 day
Liquid Release @ 7 and 28 day
Perm @ 28 day
Wet/Dry Durability @ 28 day

MONITORING ACTIVITIES

MONITORING ACTIVITIES	TIME PERIOD				
MAXIMUM PID (ppm)					
Notes / Observations:					

PENETROMETER ANALYSES

CURE TIME (Days)		2	5	7	
PENETROMETER (tons/ft^2)					

VOLUMETRIC EXPANSION — 7 days

INITIAL HEIGHT (in):	FINAL HEIGHT (in):	
VOLUMETRIC EXPANSION (%):		

VOLUMETRIC EXPANSION — 28 days

INITIAL HEIGHT (in):	FINAL HEIGHT (in):	
VOLUMETRIC EXPANSION (%):		

ATTACHMENT D

TREATED PHYSICAL PROPERTIES DATASHEETS

LIQUID RELEASE TESTING

SUMMARY OF RESULTS

PROJECT:	Macon Iss	TESTING DATE:	6/6/2013
PROJECT No.:	SH0487	TESTED BY:	RPH
SAMPLE No.:	0487-001 (7 day)	TRACKING CODE:	9041
TESTING METHOD:	EPA Method 9096		

TESTING PARAMETER AND RESULTS		
QUANTITY OF MATERIAL	353.50	**g**
LENGTH OF TEST	10.0	**min.**
RESULTS (PASS / FAIL) *	pass	

* In accordance with EPA Method 9096, if any liquid from the test material collects on the filters after 10 minutes of testing, the material is deemed to contain free liquids, and therefore has failed the liquid release test.

LIQUID RELEASE TESTING

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTING DATE:	6/27/13
PROJECT No.:	SH0487	TESTED BY:	RPH
SAMPLE No.:	0487-001 (28-day)	TRACKING CODE:	9119
TESTING METHOD:	EPA Method 9096		

TESTING PARAMETER AND RESULTS		
QUANTITY OF MATERIAL	357.00	**g**
LENGTH OF TEST	10.0	**min.**
RESULTS (PASS / FAIL) *	Pass	

* In accordance with EPA Method 9096, if any liquid from the test material collects on the filters after 10 minutes of testing, the material is deemed to contain free liquids, and therefore has failed the liquid release test.

UNCONFINED COMPRESSION TEST

ASTM D 2166

PROJECT:	Macon ISS		
PROJECT No.:	SH0487		
SAMPLE No.:	0497-001 (7 day)		
TESTING DATE:	6-Jun-13	LOADING RATE:	0.04 in./min.
TESTED BY:	TNR	TRACKING CODE:	9037

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	160.88	g
3. WT WET SOIL + TARE	322.35	g
4. WT DRY SOIL + TARE	277.86	g
5. WT WATER, Ww	44.49	g
6. WT DRY SOIL, Ws	116.98	g
7. MOISTURE CONTENT, W	**38.03**	**%**

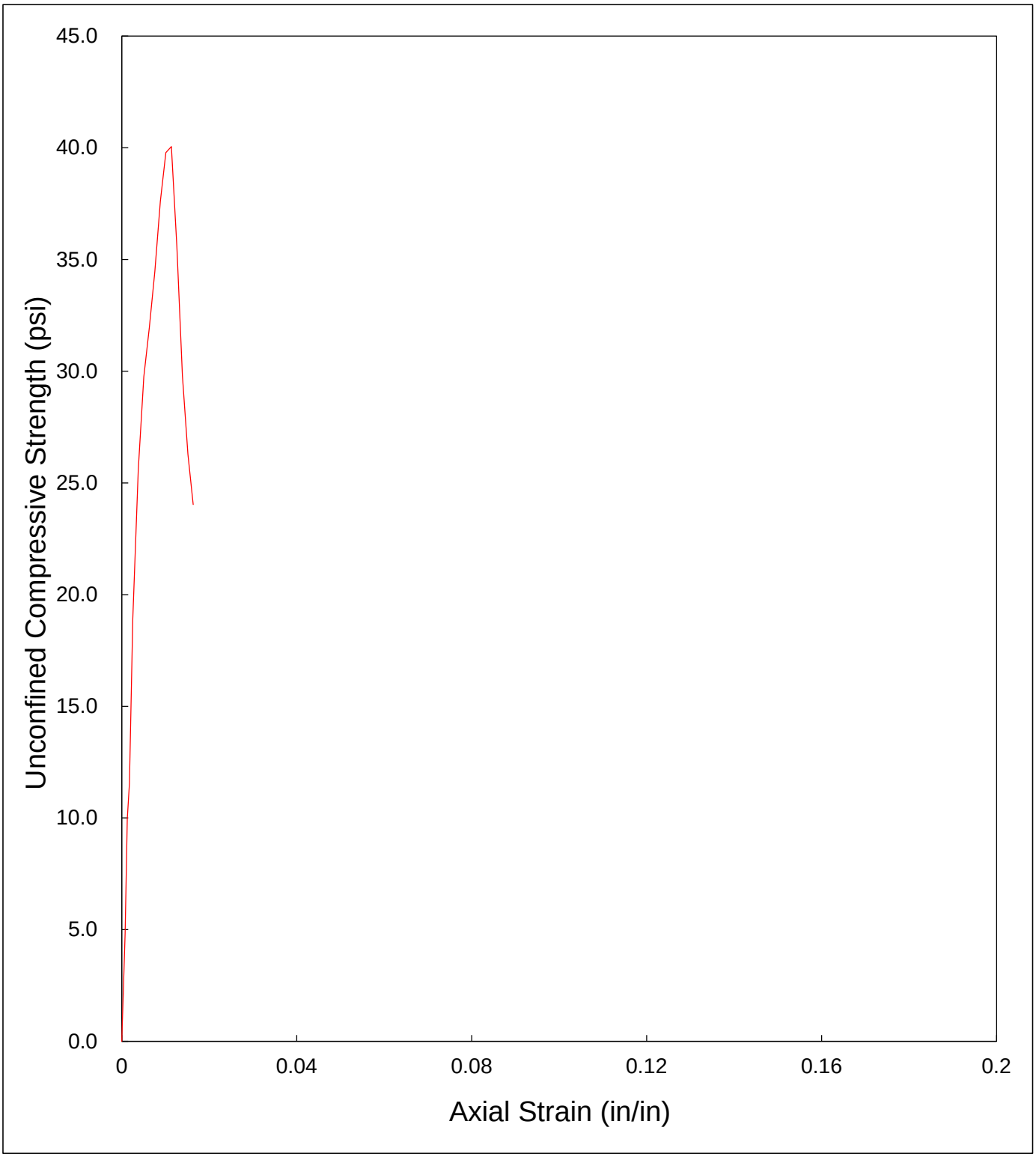
SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	1.99	in.	3.97	in.
No. 2	2.00	in.	3.97	in.
No. 3	1.98	in.	3.98	in.
Average	**1.99**	**in.**	**3.97**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***362.32***	***g***
Initial Area, Ao	3.11	in^2
Initial Volume, Vo	12.36	in^3
Initial Bulk Unit Weight,	111.7	lb/ft^3
Initial Dry Unit Weight	80.9	lb/ft^3
15 % Strain (0.15 Lo)	0.60	in.
UCS	40.1	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.110	0.0000	0.0
15	0.003	0.003	3.113	0.0008	4.8
31	0.005	0.005	3.114	0.0013	10.0
36	0.007	0.007	3.116	0.0018	11.6
59	0.010	0.010	3.118	0.0025	18.9
80	0.015	0.015	3.122	0.0038	25.6
93	0.020	0.020	3.126	0.0050	29.8
100	0.025	0.025	3.130	0.0063	31.9
108	0.030	0.030	3.134	0.0075	34.5
118	0.035	0.035	3.138	0.0088	37.6
125	0.040	0.040	3.142	0.0101	39.8
126	0.045	0.045	3.146	0.0113	40.1
112	0.050	0.050	3.150	0.0126	35.6
94	0.055	0.055	3.154	0.0138	29.8
83	0.060	0.060	3.158	0.0151	26.3
76	0.065	0.065	3.162	0.0164	24.0

UNCONFINED COMPRESSION TESTING

Sample No. 0497-001 (7 day)



UNCONFINED COMPRESSION TEST

ASTM D 2166
SUMMARY OF RESULTS

PROJECT:	Macon ISS		
PROJECT No.:	SH0487		
SAMPLE No.:	0497-001 (7 day)		
TESTING DATE:	6/6/2013	LOADING RATE:	0.04 in./min.
TESTED BY:	TNR	TRACKING CODE:	9037

TESTING PARAMETER AND RESULTS		
MOISTURE CONTENT	38.0	**%**
BULK UNIT WEIGHT	111.7	lb/ft^3
DRY UNIT WEIGHT	80.9	lb/ft^3
UCS *	40.1	lb/in^2

* UCS - UNCONFINED COMPRESSIVE STRENGTH

UNCONFINED COMPRESSION TEST

ASTM D 2166

PROJECT:	Macon ISS		
PROJECT No.:	SH0487		
SAMPLE No.:	0487-001 (28 day)		
TESTING DATE:	27-Jun-13	LOADING RATE:	0.04 in./min.
TESTED BY:	KMA	TRACKING CODE:	9119

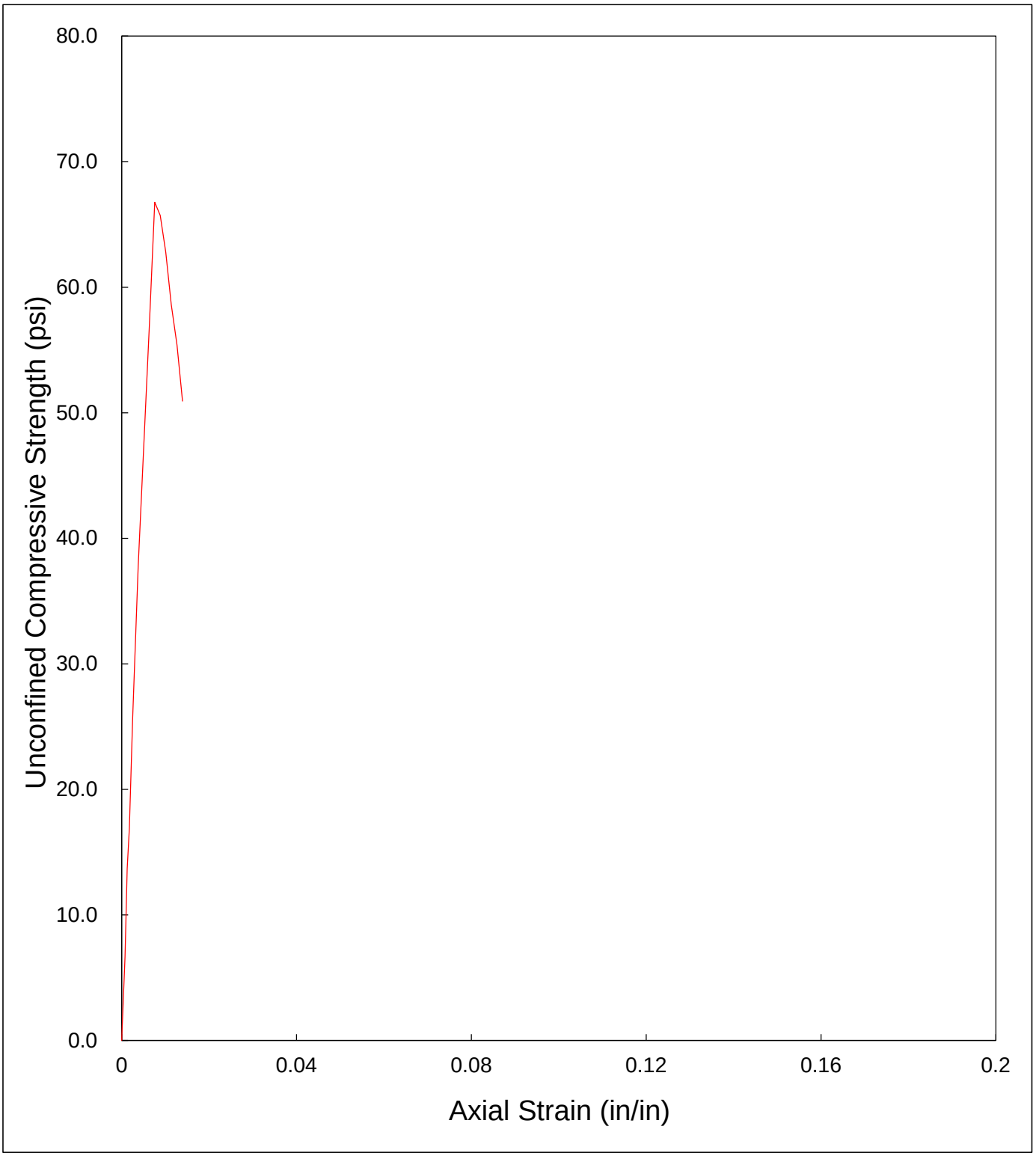
MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	167.30	g
3. WT WET SOIL + TARE	524.62	g
4. WT DRY SOIL + TARE	423.57	g
5. WT WATER, Ww	101.05	g
6. WT DRY SOIL, Ws	256.27	g
7. MOISTURE CONTENT, W	**39.43**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		*LENGTH*	
No. 1	2.01	in.	3.97	in.
No. 2	2.00	in.	3.96	in.
No. 3	1.99	in.	3.95	in.
Average	**2.00**	**in.**	**3.96**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***358.04***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.42	in^3
Initial Bulk Unit Weight,	109.8	lb/ft^3
Initial Dry Unit Weight	78.8	lb/ft^3
15 % Strain (0.15 Lo)	0.59	in.
UCS	66.8	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.137	0.0000	0.0
21	0.003	0.003	3.139	0.0008	6.7
43	0.005	0.005	3.141	0.0013	13.7
53	0.007	0.007	3.142	0.0018	16.9
81	0.010	0.010	3.145	0.0025	25.8
119	0.015	0.015	3.149	0.0038	37.8
149	0.020	0.020	3.153	0.0051	47.3
179	0.025	0.025	3.157	0.0063	56.7
211	0.030	0.030	3.161	0.0076	66.8
208	0.035	0.035	3.165	0.0088	65.7
199	0.040	0.040	3.169	0.0101	62.8
186	0.045	0.045	3.173	0.0114	58.6
176	0.050	0.050	3.177	0.0126	55.4
162	0.055	0.055	3.181	0.0139	50.9

UNCONFINED COMPRESSION TESTING
Sample No. 0487-001 (28 day)



UNCONFINED COMPRESSION TEST

ASTM D 2166
SUMMARY OF RESULTS

PROJECT:	Macon ISS		
PROJECT No.:	SH0487		
SAMPLE No.:	0487-001 (28 day)		
TESTING DATE:	6/27/2013	LOADING RATE:	0.04 in./min.
TESTED BY:	KMA	TRACKING CODE:	9119

TESTING PARAMETER AND RESULTS		
MOISTURE CONTENT	39.4	**%**
BULK UNIT WEIGHT	109.8	lb/ft^3
DRY UNIT WEIGHT	78.8	lb/ft^3
UCS *	66.8	lb/in^2

* UCS - UNCONFINED COMPRESSIVE STRENGTH

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon ISS	TESTED BY:	RJB
PROJECT No.:	SH0487	TRACKING CODE:	9119_PM
SAMPLE No.:	0487-001 (28 Day)	EQUIPMENT No.:	6A
TEST DATE:	7/9/13		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	221.25 ***g***
3. WT WET SOIL + TARE	368.11 ***g***	594.12 ***g***
4. WT DRY SOIL + TARE	265.40 ***g***	486.65 ***g***
5. WT WATER, Ww	102.71 g	107.47 g
6. WT DRY SOIL, Ws	265.40 g	265.40 g
7. MOISTURE CONTENT, W	38.70 %	40.49 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.01 in.***	***3.01 in.***	***1.77 in.***	***1.80 in.***
No. 2	***3.00 in.***	***3.00 in.***	***1.76 in.***	***1.82 in.***
No. 3	***3.01 in.***	***3.00 in.***	***1.81 in.***	***1.80 in.***
Average	3.01 in.	3.00 in.	1.78 in.	1.81 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***368.11 g***	***372.89 g***
Area, Ao	7.10 in^2	7.09 in^2
Volume, Vo	12.65 in^3	12.81 in^3
Bulk Unit Weight	110.9 lb/ft^3	110.9 lb/ft^3
Dry Unit Weight	80.0 lb/ft^3	79.0 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon ISS	TESTED BY:	RJB
PROJECT No.:	SH0487	TRACKING CODE:	9119_PM
SAMPLE No.:	0487-001 (28 Day)	EQUIPMENT No.:	6A
TEST DATE:	7/9/13		

			TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
TEST DATE	TIME (military)	TESTED BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
07/09/13	13 : 45	RJB	7.0	5.0	5.8				
07/09/13	14 : 15	RJB	17.0	15.0	15.9	12.6	10.0	6.8	0.68
07/09/13	11 : 5	RJB	27.0	25.0	25.8	24.1	10.0	8.2	0.82
07/09/13	12 : 25	RJB	37.0	35.0	35.8	34.9	10.0	9.1	0.91
07/09/13	13 : 45	RJB	47.0	45.0	46.1	45.4	10.0	9.6	0.96
07/11/13	15 : 0	RJB	57.0	55.0	*	56.0	10.0	9.9	0.99
07/11/13	15 : 1	RJB	47.0	45.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon ISS	TESTED BY:	RJB
PROJECT No.:	SH0487	TRACKING CODE:	9119_PM
SAMPLE No.:	0487-001 (28 Day)	EQUIPMENT No.:	6A
TEST DATE:	7/9/13		

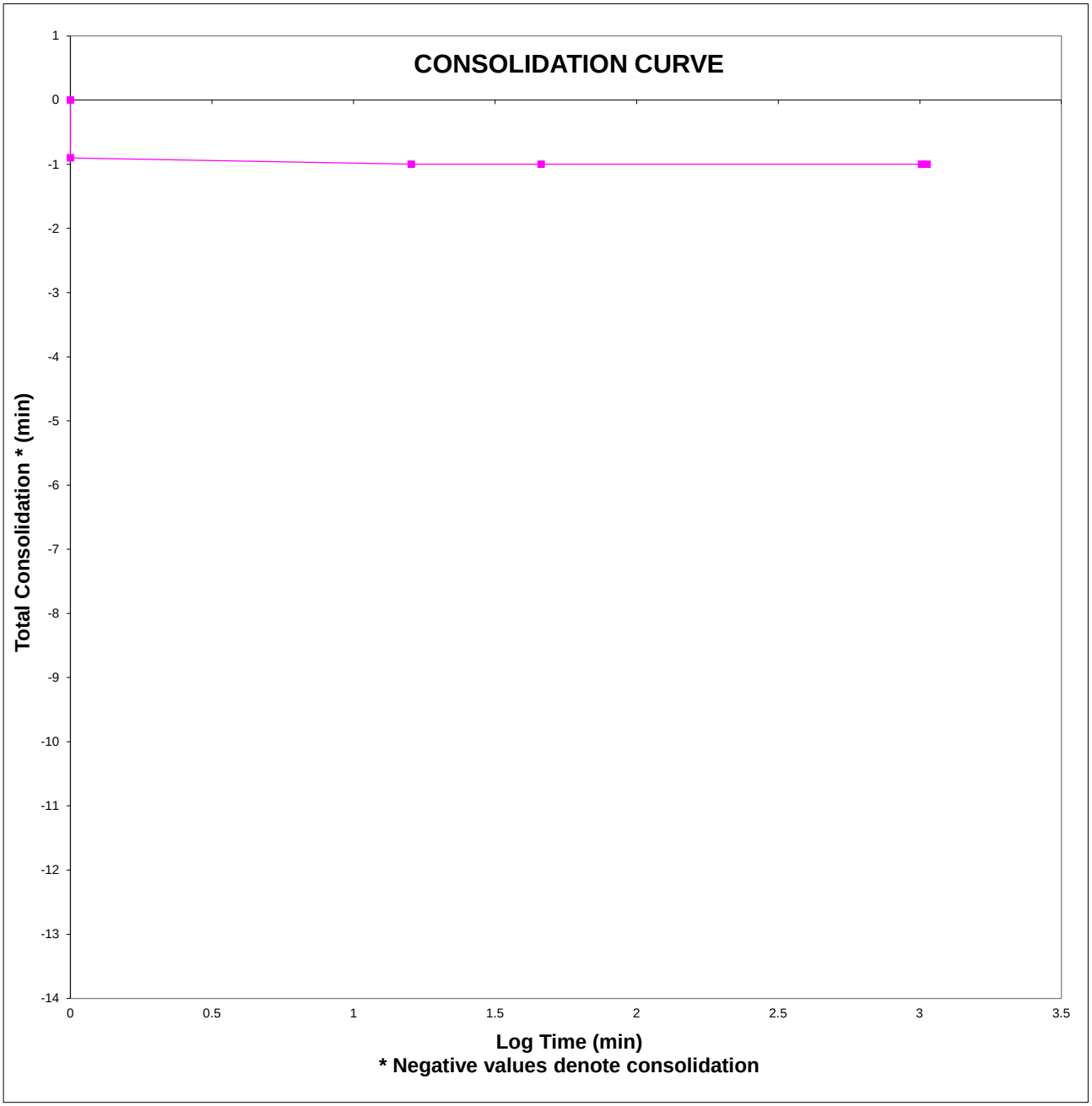
CELL PRESSURE: 55 psi **BACK PRESSURE:** 45 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
7 / 11 / 13	RJB	15 : 4	0	0	0	25.0	25.0	0.0
7 / 11 / 13	RJB	15 : 5	1	1	0.00	24.5	24.6	0.9
7 / 11 / 13	RJB	15 : 20	15	16	1.20	24.5	24.5	1.0
7 / 11 / 13	RJB	15 : 50	30	46	1.66	24.5	24.5	1.0
7 / 12 / 13	RJB	8 : 0	970	1016	3.01	24.5	24.5	1.0
7 / 12 / 13	RJB	8 : 45	45	1061	3.03	24.5	24.5	1.0

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon ISS	TESTED BY:	RJB
PROJECT No.:	SH0487	TRACKING CODE:	9119_PM
SAMPLE No.:	0487-001 (28 Day)	EQUIPMENT No.:	6A
TEST DATE:	7/9/13		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon ISS	TESTED BY:	RJB
PROJECT No.:	SH0487	TRACKING CODE:	9119_PM
SAMPLE No.:	0487-001 (28 Day)	EQUIPMENT No.:	6A
TEST DATE:	7/9/13		

			ELAPSED	HYDRAULIC HEAD (cm)			GAUGE PRESSURE (psi)		
DATE	TESTED BY	TIME (military)	TIME (minutes)	INFLUENT	EFFLUENT	TEMP. C°	CELL	INFLUENT	EFFLUENT
7 / 12 / 13	RJB	10 : 30	0	0.0	25.0	20.0	55.0	45.0	45.0
7 / 15 / 13	RJB	8 : 44	4214	0.2	24.8	20.0	55.0	45.0	45.0
7 / 15 / 13	RJB	8 : 46	RESET	0.0	25.0	20.0	55.0	45.0	43.0
7 / 22 / 13	RJB	7 : 45	10019	0.6	24.4	20.0	55.0	45.0	43.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon ISS	TESTED BY:	RJB
PROJECT No.:	SH0487	TRACKING CODE:	9119_PM
SAMPLE No.:	0487-001 (28 Day)	EQUIPMENT No.:	6A
TEST DATE:	7/9/13		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				5.526		
4214	0.2	0.2	1.00	5.438	3.15E-09	3.16E-09
RESET	-0.2	-0.2	1.00	36.625	#VALUE!	#VALUE!
10019	0.6	0.6	1.00	36.359	5.97E-10	6.00E-10

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon ISS	TESTED BY:	RJB
PROJECT No.:	SH0487	TRACKING CODE:	9119_PM
SAMPLE No.:	0487-001 (28 Day)	EQUIPMENT No.:	6A
TEST DATE:	7/9/13		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	110.9 lb/ft³	110.9 lb/ft³
DRY UNIT WEIGHT	80.0 lb/ft³	79.0 lb/ft³
MOISTURE CONTENT	38.7 %	40.5 %
PERMEABILITY @ 20°C	6.0E-10 cm/sec	

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon ISS	TESTED BY:	RJB
PROJECT No.:	SH0487	TRACKING CODE:	9119_PM
SAMPLE No.:	0487-001 (28 Day)	EQUIPMENT No.:	6A
TEST DATE:	7/9/13		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	110.9 lb/ft³	110.9 lb/ft³
DRY UNIT WEIGHT	80.0 lb/ft³	79.0 lb/ft³
MOISTURE CONTENT	38.7 %	40.5 %
PERMEABILITY @ 20°C	6.0E-10 cm/sec	

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon ISS	SAMPLE No. (Specimen No. 1):	0487-001
PROJECT No.:	SH0487	SAMPLE No. (Specimen No. 2)	0487-001C
START DATE:	7/15/2013	SAMPLE DESCRIPTION:	
TRACKING CODE:	9119		

TESTED BY: TNR

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	167.30	g		g
3. WT WET SOIL + TARE	524.62	g		g
4. WT DRY SOIL + TARE	423.57	g		g
5. WT WATER, Ww	101.05	g		g
6. WT DRY SOIL, Ws	256.27	g		g
7. MOISTURE CONTENT, W	39.43	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.00	in.	3.93	in.
No. 2	1.99	in.	3.98	in.
No. 3	1.99	in.	3.96	in.
Average	1.99	in.	3.96	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	362.95	g
Initial Dry Specimen WT, Wd	260.31	g
Initial Area, Ao	3.12	in^2
Initial Volume, Vo	12.33	in^3
Initial Bulk Unit Weight,	112.2	pcf
Initial Dry Unit Weight,	80.4	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNR

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	167.30	g		g
3. WT WET SOIL + TARE	524.62	g		g
4. WT DRY SOIL + TARE	423.57	g		g
5. WT WATER, Ww	101.05	g		g
6. WT DRY SOIL, Ws	256.27	g		g
7. MOISTURE CONTENT, W	39.43	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	4.01	in.
No. 2	2.00	in.	3.98	in.
No. 3	1.99	in.	3.98	in.
Average	1.99	in.	3.99	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	363.65	g
Initial Dry Specimen WT, Wd	260.81	g
Initial Area, Ao	3.12	in^2
Initial Volume, Vo	12.47	in^3
Initial Bulk Unit Weight,	111.1	pcf
Initial Dry Unit Weight,	79.7	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon ISS	INITIAL MOISTURE CONTENT	39.43	%
PROJECT No.:	SH0487	INITIAL VOLUME:	12.32	in³
SAMPLE No.:	0487-001	INITIAL TOTAL WEIGHT:	362.95	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	260.31	grams
TRACKING CODE:	9119			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	3.96	1.99	12.32		362.95					0.00
1	3.93	1.96	11.90	-3.35	348.86	1.35	3.33	1.98	0.76	0.76
2	3.87	1.96	11.62	-5.67	344.50	1.36	3.30	1.95	0.75	1.51
3	3.91	1.96	11.81	-4.15	342.20	1.34	2.96	1.62	0.62	2.13
4	3.89	1.89	10.85	-11.91	338.62	1.34	3.59	2.24	0.86	2.99
5	3.89	1.93	11.35	-7.89	337.26	1.37	2.89	1.52	0.58	3.58
6	3.90	1.96	11.75	-4.63	333.33	1.34	4.13	2.79	1.07	4.65
7	3.90	1.96	11.76	-4.49	332.10	1.35	3.86	2.51	0.97	5.61
8	3.83	1.95	11.48	-6.75	329.35	1.36	2.80	1.44	0.55	6.17
9	3.89	1.95	11.60	-5.81	328.23	1.36	2.21	0.86	0.33	6.50
10	3.90	1.89	10.98	-10.83	326.13	1.35	3.07	1.71	0.66	7.16
11	3.91	1.96	11.75	-4.58	321.50	1.35	3.28	1.93	0.74	7.90
12	3.85	1.96	11.58	-5.99	320.58	1.35	2.38	1.03	0.39	8.29

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon ISS	INITIAL MOISTURE CONTENT	39.43	%
PROJECT No.:	SH0487	INITIAL VOLUME:	12.46	in³
SAMPLE No.:	0487-001C	INITIAL TOTAL WEIGHT:	363.65	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	260.81	grams
TRACKING CODE:	9119			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	3.99	1.99	12.46		363.65					0.00
1	3.99	1.99	12.44	-0.21	365.49	1.36	1.40	0.04	0.01	0.01
2	3.99	1.99	12.47	0.01	366.13	1.36	1.56	0.20	0.08	0.09
3	3.99	2.00	12.58	0.93	366.43	1.32	1.34	0.03	0.01	0.10
4	3.99	2.00	12.52	0.48	367.23	1.34	1.35	0.01	0.00	0.11
5	3.99	2.00	12.56	0.77	367.47	1.37	1.38	0.01	0.00	0.11
6	3.99	2.00	12.54	0.62	367.27	1.34	1.35	0.00	0.00	0.11
7	3.98	2.00	12.48	0.14	367.05	1.35	1.35	0.01	0.00	0.11
8	3.99	2.00	12.51	0.34	367.57	1.35	1.36	0.01	0.00	0.12
9	3.99	2.00	12.56	0.80	367.30	1.35	1.35	0.00	0.00	0.12
10	3.98	2.00	12.46	-0.02	367.01	1.35	1.35	0.00	0.00	0.12
11	3.98	2.00	12.49	0.22	367.40	1.35	1.35	0.00	0.00	0.12
12	3.99	2.00	12.58	0.95	367.59	1.36	1.37	0.00	0.00	0.12

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon ISS	SAMPLE No. (Test):	0487-001
PROJECT No.:	SH0487	SAMPLE No. (Control):	0487-001C
START DATE:	7/15/2013	SAMPLE DESCRIPTION:	0
TRACKING CODE:	9119		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	112.2	pcf	111.1	pcf
2. DRY UNIT WEIGHT	80.4	pcf	79.7	pcf
3. MOISTURE CONTENT	39.43	%	39.43	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-11.9	%	-0.9	%
2. TOTAL MASS LOSS	8.29	%	0.12	%
3. RELATIVE MASS LOSS	8.17	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

LIQUID RELEASE TESTING

SUMMARY OF RESULTS

PROJECT:	Macon ISS	TESTING DATE:	6/6/2013
PROJECT No.:	SH0487	TESTED BY:	RPH
SAMPLE No.:	0487-002 (7 day)	TRACKING CODE:	9042
TESTING METHOD:	EPA Method 9096		

TESTING PARAMETER AND RESULTS		
QUANTITY OF MATERIAL	346.00	**g**
LENGTH OF TEST	10.0	**min.**
RESULTS (PASS / FAIL) *	pass	

* In accordance with EPA Method 9096, if any liquid from the test material collects on the filters after 10 minutes of testing, the material is deemed to contain free liquids, and therefore has failed the liquid release test.

LIQUID RELEASE TESTING

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTING DATE:	6/27/13
PROJECT No.:	SH0487	TESTED BY:	RPH
SAMPLE No.:	0487-002 (28-day)	TRACKING CODE:	9120
TESTING METHOD:	EPA Method 9096		

TESTING PARAMETER AND RESULTS		
QUANTITY OF MATERIAL	338.00	**g**
LENGTH OF TEST	10.0	**min.**
RESULTS (PASS / FAIL) *	Pass	

* In accordance with EPA Method 9096, if any liquid from the test material collects on the filters after 10 minutes of testing, the material is deemed to contain free liquids, and therefore has failed the liquid release test.

UNCONFINED COMPRESSION TEST

ASTM D 2166

PROJECT:	Macon ISS		
PROJECT No.:	SH0487		
SAMPLE No.:	0487-002 (7-day)		
TESTING DATE:	6-Jun-13	LOADING RATE:	0.04 in./min.
TESTED BY:	TNR	TRACKING CODE:	9038

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	169.73	g
3. WT WET SOIL + TARE	342.91	g
4. WT DRY SOIL + TARE	291.41	g
5. WT WATER, Ww	51.50	g
6. WT DRY SOIL, Ws	121.68	g
7. MOISTURE CONTENT, W	**42.32**	**%**

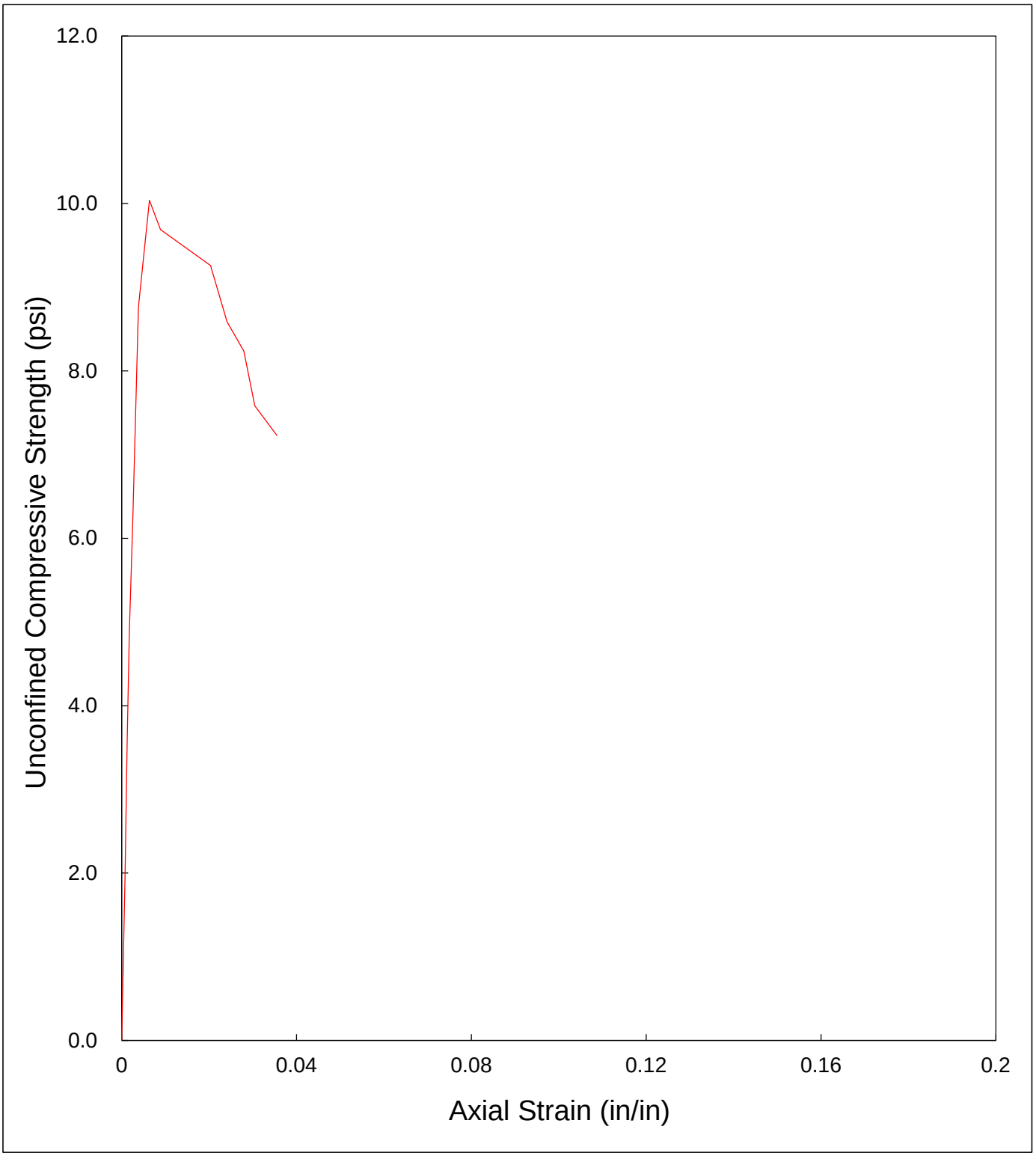
SOIL SPECIMEN DIMENSIONS				
	DIAMETER		*LENGTH*	
No. 1	1.98	in.	3.94	in.
No. 2	1.98	in.	3.94	in.
No. 3	1.97	in.	3.94	in.
Average	**1.98**	**in.**	**3.94**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***352.41***	***g***
Initial Area, Ao	3.07	in^2
Initial Volume, Vo	12.09	in^3
Initial Bulk Unit Weight,	111.0	lb/ft^3
Initial Dry Unit Weight	78.0	lb/ft^3
15 % Strain (0.15 Lo)	0.59	in.
UCS	10.0	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.069	0.0000	0.0
6	0.003	0.003	3.071	0.0008	2.0
11	0.005	0.005	3.073	0.0013	3.6
15	0.007	0.007	3.074	0.0018	4.9
19	0.010	0.010	3.077	0.0025	6.2
27	0.015	0.015	3.080	0.0038	8.8
29	0.020	0.020	3.084	0.0051	9.4
31	0.025	0.025	3.088	0.0063	10.0
30	0.035	0.035	3.096	0.0089	9.7
29	0.080	0.080	3.132	0.0203	9.3
27	0.095	0.095	3.145	0.0241	8.6
26	0.110	0.110	3.157	0.0279	8.2
25	0.115	0.115	3.161	0.0292	7.9
24	0.120	0.120	3.165	0.0305	7.6
23	0.140	0.140	3.182	0.0355	7.2

UNCONFINED COMPRESSION TESTING

Sample No. 0487-002 (7-day)



UNCONFINED COMPRESSION TEST

ASTM D 2166
SUMMARY OF RESULTS

PROJECT:	Macon ISS		
PROJECT No.:	SH0487		
SAMPLE No.:	0487-002 (7-day)		
TESTING DATE:	6/6/2013	LOADING RATE:	0.04 in./min.
TESTED BY:	TNR	TRACKING CODE:	9038

TESTING PARAMETER AND RESULTS		
MOISTURE CONTENT	42.3	**%**
BULK UNIT WEIGHT	111.0	lb/ft^3
DRY UNIT WEIGHT	78.0	lb/ft^3
UCS *	10.0	lb/in^2

* UCS - UNCONFINED COMPRESSIVE STRENGTH

UNCONFINED COMPRESSION TEST

ASTM D 2166

PROJECT:	Macon ISS		
PROJECT No.:	SH0487		
SAMPLE No.:	0487-002 (28 day)		
TESTING DATE:	27-Jun-13	LOADING RATE:	0.04 in./min.
TESTED BY:	KMA	TRACKING CODE:	9120

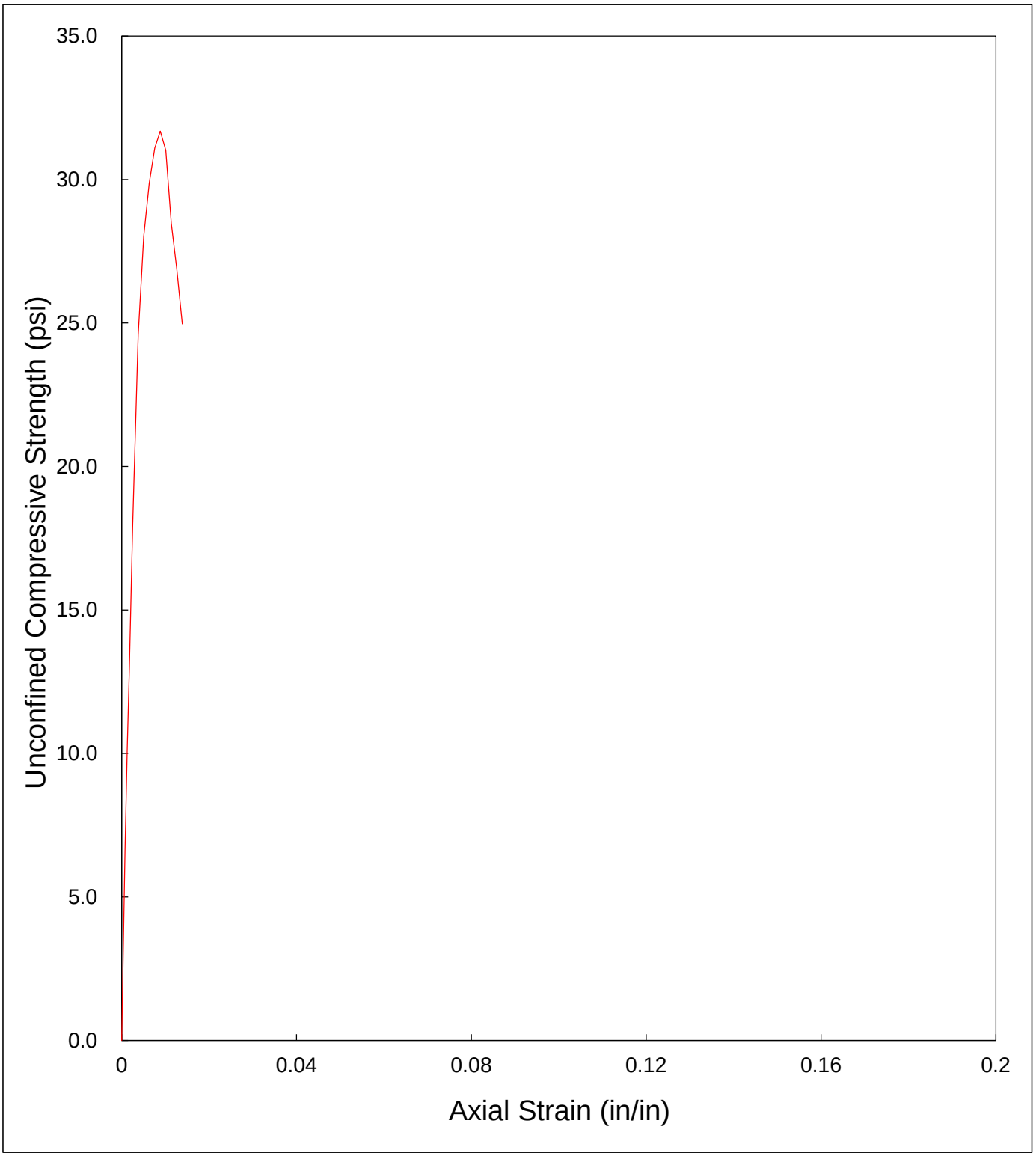
MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	168.71	g
3. WT WET SOIL + TARE	524.54	g
4. WT DRY SOIL + TARE	421.84	g
5. WT WATER, Ww	102.70	g
6. WT DRY SOIL, Ws	253.13	g
7. MOISTURE CONTENT, W	**40.57**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		*LENGTH*	
No. 1	2.00	in.	3.97	in.
No. 2	2.00	in.	3.96	in.
No. 3	2.02	in.	3.96	in.
Average	**2.01**	**in.**	**3.97**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***356.58***	***g***
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.53	in^3
Initial Bulk Unit Weight,	108.4	lb/ft^3
Initial Dry Unit Weight	77.1	lb/ft^3
15 % Strain (0.15 Lo)	0.59	in.
UCS	31.7	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.159	0.0000	0.0
21	0.003	0.003	3.162	0.0008	6.6
32	0.005	0.005	3.163	0.0013	10.1
41	0.007	0.007	3.165	0.0018	13.0
57	0.010	0.010	3.167	0.0025	18.0
78	0.015	0.015	3.171	0.0038	24.6
89	0.020	0.020	3.175	0.0050	28.0
95	0.025	0.025	3.179	0.0063	29.9
99	0.030	0.030	3.184	0.0076	31.1
101	0.035	0.035	3.188	0.0088	31.7
99	0.040	0.040	3.192	0.0101	31.0
91	0.045	0.045	3.196	0.0113	28.5
86	0.050	0.050	3.200	0.0126	26.9
80	0.055	0.055	3.204	0.0139	25.0

UNCONFINED COMPRESSION TESTING
Sample No. 0487-002 (28 day)



UNCONFINED COMPRESSION TEST

ASTM D 2166
SUMMARY OF RESULTS

PROJECT:	Macon ISS		
PROJECT No.:	SH0487		
SAMPLE No.:	0487-002 (28 day)		
TESTING DATE:	6/27/2013	LOADING RATE:	0.04 in./min.
TESTED BY:	KMA	TRACKING CODE:	9120

TESTING PARAMETER AND RESULTS		
MOISTURE CONTENT	40.6	**%**
BULK UNIT WEIGHT	108.4	lb/ft^3
DRY UNIT WEIGHT	77.1	lb/ft^3
UCS *	31.7	lb/in^2

* UCS - UNCONFINED COMPRESSIVE STRENGTH

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	RJB
PROJECT No.:	SH0487	TRACKING CODE:	9120_PM
SAMPLE No.:	0487-002 (28 Day)	EQUIPMENT No.:	6B
TEST DATE:	7/12/13		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	218.30 ***g***
3. WT WET SOIL + TARE	400.67 ***g***	624.20 ***g***
4. WT DRY SOIL + TARE	291.22 ***g***	509.52 ***g***
5. WT WATER, Ww	109.45 g	114.68 g
6. WT DRY SOIL, Ws	291.22 g	291.22 g
7. MOISTURE CONTENT, W	37.58 %	39.38 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.00 in.***	***3.00 in.***	***1.92 in.***	***1.94 in.***
No. 2	***3.01 in.***	***3.00 in.***	***1.90 in.***	***1.93 in.***
No. 3	***2.99 in.***	***3.01 in.***	***1.92 in.***	***1.89 in.***
Average	3.00 in.	3.00 in.	1.91 in.	1.92 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***400.67 g***	***406.04 g***
Area, Ao	7.07 in^2	7.08 in^2
Volume, Vo	13.50 in^3	13.61 in^3
Bulk Unit Weight	113.0 lb/ft^3	113.7 lb/ft^3
Dry Unit Weight	82.2 lb/ft^3	81.5 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	RJB
PROJECT No.:	SH0487	TRACKING CODE:	9120_PM
SAMPLE No.:	0487-002 (28 Day)	EQUIPMENT No.:	6B
TEST DATE:	7/12/13		

			TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
TEST DATE	TIME (military)	TESTED BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
07/12/13	10 : 20	RJB	7.0	5.0	6.2				
07/12/13	10 : 55	RJB	17.0	15.0	16.1	12.8	10.0	6.6	0.66
07/12/13	13 : 5	RJB	27.0	25.0	26.6	23.9	10.0	7.8	0.78
07/15/13	9 : 30	RJB	37.0	35.0	36.4	36.5	10.0	9.9	0.99
07/15/13	11 : 50	RJB	47.0	45.0	46.3	46.4	10.0	10.0	1.00
07/15/13	14 : 43	RJB	57.0	55.0	*	56.3	10.0	10.0	1.00
07/15/13	14 : 44	RJB	47.0	45.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	RJB
PROJECT No.:	SH0487	TRACKING CODE:	9120_PM
SAMPLE No.:	0487-002 (28 Day)	EQUIPMENT No.:	6B
TEST DATE:	7/12/13		

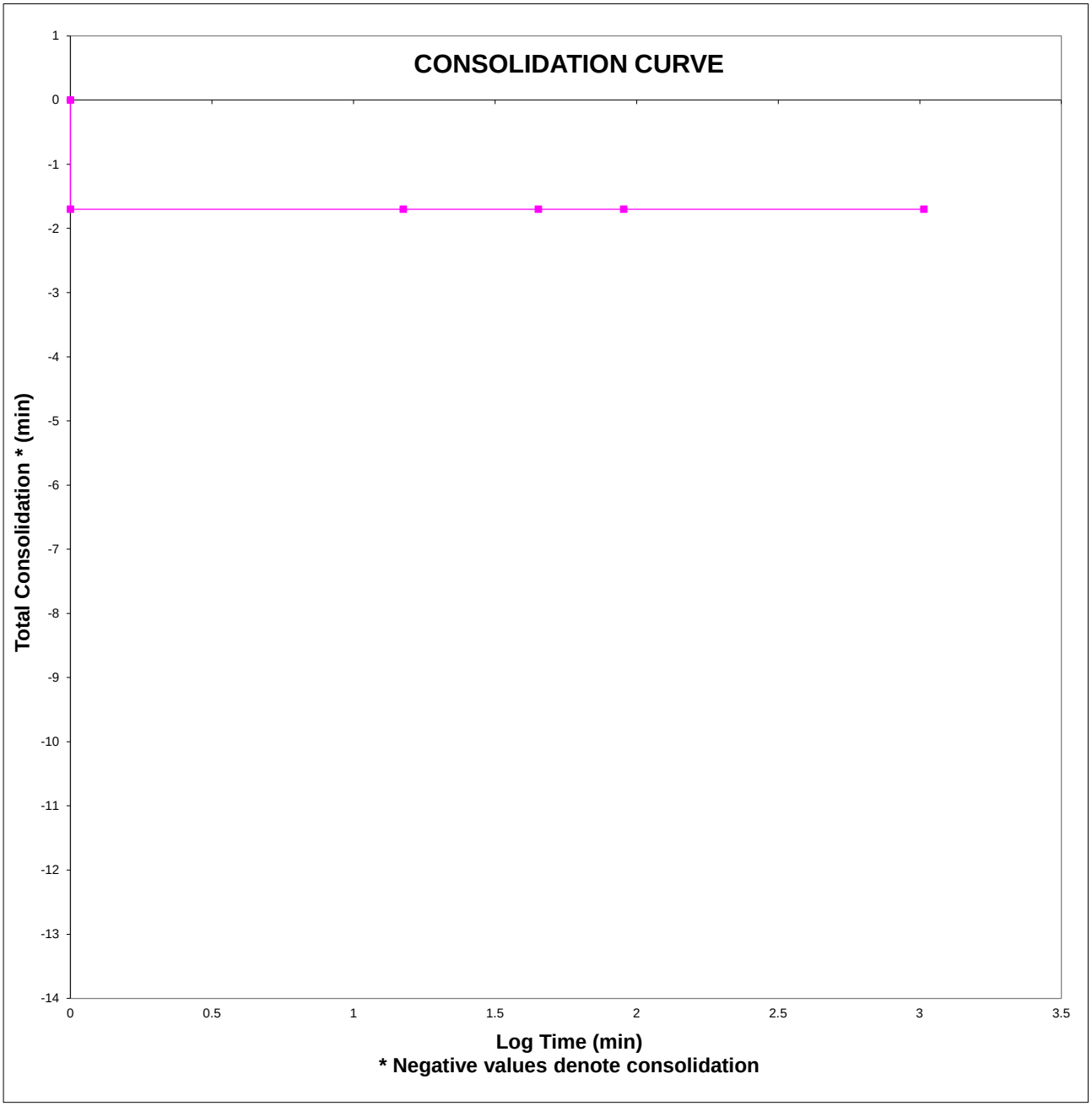
CELL PRESSURE: 55 psi **BACK PRESSURE:** 45 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
7 / 15 / 13	RJB	14 : 45	0	0	0	25.0	25.0	0.0
7 / 15 / 13	RJB	14 : 46	1	1	0.00	24.1	24.2	1.7
7 / 15 / 13	RJB	15 : 0	14	15	1.18	24.1	24.2	1.7
7 / 15 / 13	RJB	15 : 30	30	45	1.65	24.1	24.2	1.7
7 / 15 / 13	RJB	16 : 15	45	90	1.95	24.1	24.2	1.7
7 / 16 / 13	RJB	8 : 0	945	1035	3.01	24.1	24.2	1.7

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	RJB
PROJECT No.:	SH0487	TRACKING CODE:	9120_PM
SAMPLE No.:	0487-002 (28 Day)	EQUIPMENT No.:	6B
TEST DATE:	7/12/13		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	RJB
PROJECT No.:	SH0487	TRACKING CODE:	9120_PM
SAMPLE No.:	0487-002 (28 Day)	EQUIPMENT No.:	6B
TEST DATE:	7/12/13		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
7 / 16 / 13	RJB	8 : 35	0	0.0	25.0	20.0	55.0	45.0	45.0
7 / 16 / 13	RJB	14 : 10	335	0.5	24.5	20.0	55.0	45.0	45.0
7 / 17 / 13	RJB	8 : 49	1119	1.9	23.1	20.0	55.0	45.0	45.0
7 / 18 / 13	RJB	13 : 20	1711	3.6	21.4	20.0	55.0	45.0	45.0
7 / 19 / 13	RJB	8 : 4	RESET	0.0	25.0	20.0	55.0	45.0	45.0
7 / 19 / 13	RJB	15 : 42	458	0.5	24.5	20.0	55.0	45.0	45.0
7 / 22 / 13	RJB	7 : 45	3843	4.2	20.8	20.0	55.0	45.0	45.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	RJB
PROJECT No.:	SH0487	TRACKING CODE:	9120_PM
SAMPLE No.:	0487-002 (28 Day)	EQUIPMENT No.:	6B
TEST DATE:	7/12/13		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				5.154		
335	0.5	0.5	1.00	4.948	1.08E-07	1.08E-07
1119	1.4	1.4	1.00	4.371	9.82E-08	9.87E-08
1711	1.7	1.7	1.00	3.670	9.05E-08	9.09E-08
RESET	-3.6	-3.6	1.00	5.154	#VALUE!	#VALUE!
458	0.5	0.5	1.00	4.948	7.90E-08	7.93E-08
3843	3.7	3.7	1.00	3.422	8.50E-08	8.54E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	RJB
PROJECT No.:	SH0487	TRACKING CODE:	9120_PM
SAMPLE No.:	0487-002 (28 Day)	EQUIPMENT No.:	6B
TEST DATE:	7/12/13		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	113.0 lb/ft³	113.7 lb/ft³
DRY UNIT WEIGHT	82.2 lb/ft³	81.5 lb/ft³
MOISTURE CONTENT	37.6 %	39.4 %
PERMEABILITY @ 20°C	9.3E-08 cm/sec	

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon ISS	SAMPLE No. (Specimen No. 1):	0487-002
PROJECT No.:	SH0487	SAMPLE No. (Specimen No. 2)	0487-002C
START DATE:	7/15/2013	SAMPLE DESCRIPTION:	
TRACKING CODE:	9120		

TESTED BY: TNR

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	168.71	g		g
3. WT WET SOIL + TARE	524.54	g		g
4. WT DRY SOIL + TARE	421.84	g		g
5. WT WATER, Ww	102.70	g		g
6. WT DRY SOIL, Ws	253.13	g		g
7. MOISTURE CONTENT, W	40.57	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	3.95	in.
No. 2	2.00	in.	3.94	in.
No. 3	1.99	in.	3.95	in.
Average	2.00	in.	3.95	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	355.40	g
Initial Dry Specimen WT, Wd	252.82	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.39	in^3
Initial Bulk Unit Weight,	109.3	pcf
Initial Dry Unit Weight,	77.7	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNR

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	168.71	g		g
3. WT WET SOIL + TARE	524.54	g		g
4. WT DRY SOIL + TARE	421.84	g		g
5. WT WATER, Ww	102.70	g		g
6. WT DRY SOIL, Ws	253.13	g		g
7. MOISTURE CONTENT, W	40.57	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.01	in.	3.95	in.
No. 2	1.98	in.	3.95	in.
No. 3	1.99	in.	3.94	in.
Average	1.99	in.	3.95	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	343.11	g
Initial Dry Specimen WT, Wd	244.08	g
Initial Area, Ao	3.12	in^2
Initial Volume, Vo	12.30	in^3
Initial Bulk Unit Weight,	106.3	pcf
Initial Dry Unit Weight,	75.6	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon ISS	INITIAL MOISTURE CONTENT	40.57	%
PROJECT No.:	SH0487	INITIAL VOLUME:	12.39	in³
SAMPLE No.:	0487-002	INITIAL TOTAL WEIGHT:	355.40	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	252.82	grams
TRACKING CODE:	9120			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	3.95	2.00	12.39		355.40					0.00
1	3.88	1.97	11.86	-4.29	341.25	1.35	6.44	5.09	2.01	2.01
2	3.81	1.96	11.52	-7.00	331.30	1.35	6.93	5.58	2.21	4.22
3	3.87	1.95	11.57	-6.59	324.51	1.34	5.51	4.17	1.65	5.87
4	3.85	1.96	11.61	-6.30	317.92	1.35	6.42	5.07	2.01	7.88
5	3.86	1.95	11.52	-6.98	313.65	1.35	4.64	3.29	1.30	9.18
6	3.84	1.96	11.60	-6.38	308.25	1.35	4.30	2.96	1.17	10.35
7	3.66	1.95	10.99	-11.27	298.81	1.35	7.46	6.11	2.42	12.76
8	0.00	0.00	0.00	-100.00				0.00	0.00	12.76
9	0.00	0.00	0.00	-100.00				0.00	0.00	12.76
10	0.00	0.00	0.00	-100.00				0.00	0.00	12.76
11	0.00	0.00	0.00	-100.00				0.00	0.00	12.76
12	0.00	0.00	0.00	-100.00				0.00	0.00	12.76

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon ISS	INITIAL MOISTURE CONTENT	40.57	%
PROJECT No.:	SH0487	INITIAL VOLUME:	12.30	in³
SAMPLE No.:	0487-002C	INITIAL TOTAL WEIGHT:	343.11	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	244.08	grams
TRACKING CODE:	9120			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	3.95	1.99	12.30		343.11					0.00
1	3.95	2.00	12.37	0.61	346.66	1.36	1.44	0.07	0.03	0.03
2	3.95	2.00	12.44	1.16	347.59	1.36	1.40	0.03	0.01	0.04
3	3.95	2.00	12.45	1.23	348.34	1.33	1.37	0.05	0.02	0.06
4	3.95	1.99	12.34	0.39	349.05	1.35	1.37	0.02	0.01	0.07
5	3.95	2.01	12.48	1.50	349.17	1.36	1.44	0.08	0.03	0.11
6	3.95	1.99	12.28	-0.10	349.17	1.35	1.36	0.01	0.01	0.11
7	3.95	1.99	12.33	0.28	348.60	1.34	1.36	0.02	0.01	0.12
8	0.00	0.00	0.00	-100.00				0.00	0.00	0.12
9	0.00	0.00	0.00	-100.00				0.00	0.00	0.12
10	0.00	0.00	0.00	-100.00				0.00	0.00	0.12
11	0.00	0.00	0.00	-100.00				0.00	0.00	0.12
12	0.00	0.00	0.00	-100.00				0.00	0.00	0.12

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon ISS	SAMPLE No. (Test):	0487-002
PROJECT No.:	SH0487	SAMPLE No. (Control):	0487-002C
START DATE:	7/15/2013	SAMPLE DESCRIPTION:	0
TRACKING CODE:	9120		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	109.3	pcf	106.3	pcf
2. DRY UNIT WEIGHT	77.7	pcf	75.6	pcf
3. MOISTURE CONTENT	40.57	%	40.57	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-11.3	%	-1.5	%
2. TOTAL MASS LOSS	12.76	%	0.12	%
3. RELATIVE MASS LOSS	12.64	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

LIQUID RELEASE TESTING

SUMMARY OF RESULTS

PROJECT:	Macon ISS	TESTING DATE:	10/25/2013
PROJECT No.:	SH0487	TESTED BY:	TNR
SAMPLE No.:	0487-003 (28 day)	TRACKING CODE:	9198
TESTING METHOD:	EPA Method 9096		

TESTING PARAMETER AND RESULTS		
QUANTITY OF MATERIAL	175.50	**g**
LENGTH OF TEST	10.0	**min.**
RESULTS (PASS / FAIL) *	Pass	

* In accordance with EPA Method 9096, if any liquid from the test material collects on the filters after 10 minutes of testing, the material is deemed to contain free liquids, and therefore has failed the liquid release test.

UNCONFINED COMPRESSION TEST

ASTM D 2166

PROJECT:	Macon ISS		
PROJECT No.:	SH0487		
SAMPLE No.:	0487-003 (7 day)		
TESTING DATE:	10-Jul-13	LOADING RATE:	0.04 in./min.
TESTED BY:	TNR/KMA	TRACKING CODE:	9132

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	167.37	g
3. WT WET SOIL + TARE	303.00	g
4. WT DRY SOIL + TARE	263.09	g
5. WT WATER, Ww	39.91	g
6. WT DRY SOIL, Ws	95.72	g
7. MOISTURE CONTENT, W	**41.69**	**%**

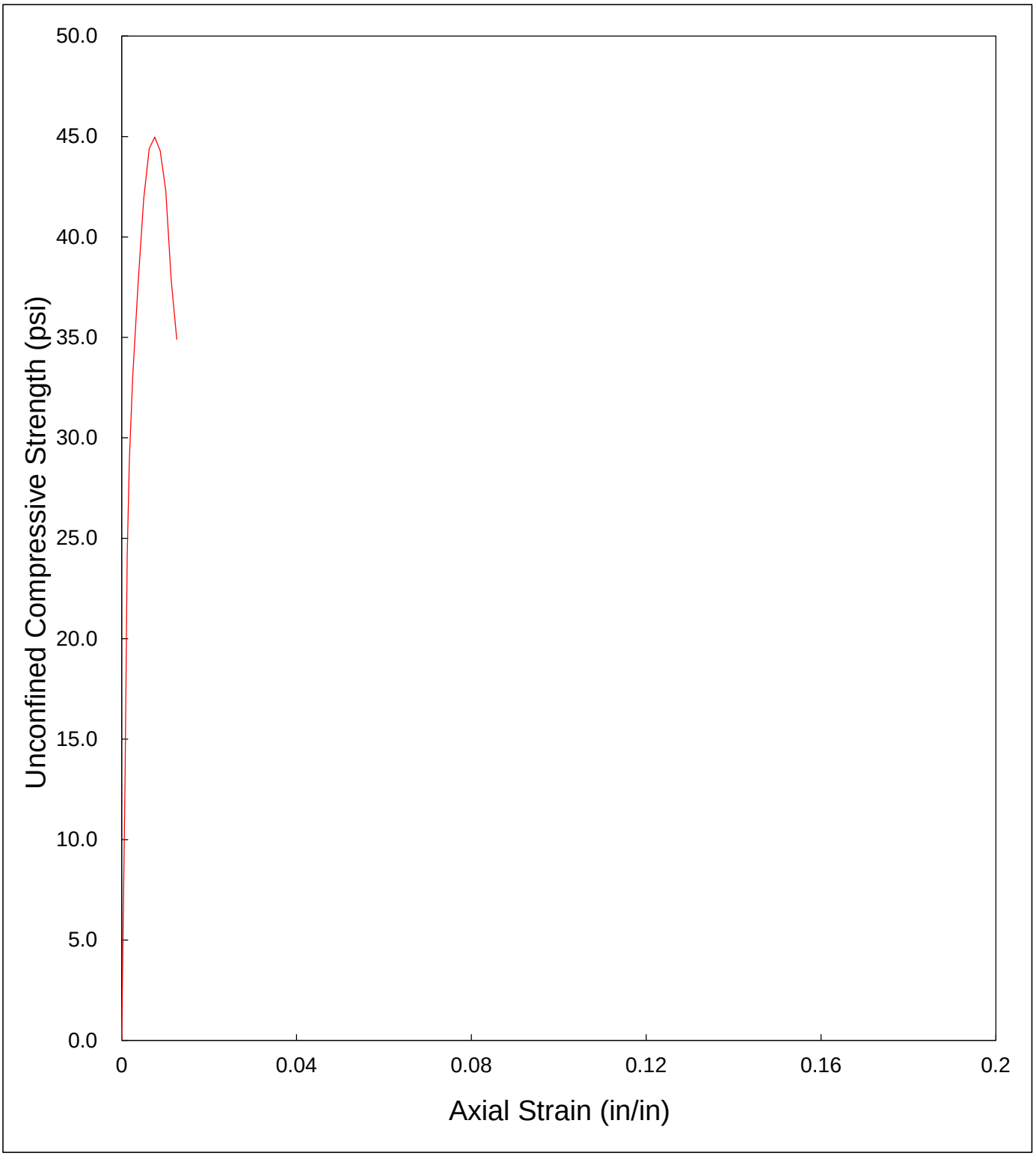
SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	3.96	in.
No. 2	1.99	in.	3.96	in.
No. 3	1.98	in.	3.96	in.
Average	**1.99**	**in.**	**3.96**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***355.48***	***g***
Initial Area, Ao	3.11	in^2
Initial Volume, Vo	12.33	in^3
Initial Bulk Unit Weight,	109.9	lb/ft^3
Initial Dry Unit Weight	77.5	lb/ft^3
15 % Strain (0.15 Lo)	0.59	in.
UCS	45.0	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.111	0.0000	0.0
40	0.003	0.003	3.114	0.0008	12.8
75	0.005	0.005	3.115	0.0013	24.1
90	0.007	0.007	3.117	0.0018	28.9
103	0.010	0.010	3.119	0.0025	33.0
118	0.015	0.015	3.123	0.0038	37.8
131	0.020	0.020	3.127	0.0050	41.9
139	0.025	0.025	3.131	0.0063	44.4
141	0.030	0.030	3.135	0.0076	45.0
139	0.035	0.035	3.139	0.0088	44.3
133	0.040	0.040	3.143	0.0101	42.3
119	0.045	0.045	3.147	0.0114	37.8
110	0.050	0.050	3.151	0.0126	34.9

UNCONFINED COMPRESSION TESTING

Sample No. 0487-003 (7 day)



UNCONFINED COMPRESSION TEST

ASTM D 2166
SUMMARY OF RESULTS

PROJECT:	Macon ISS		
PROJECT No.:	SH0487		
SAMPLE No.:	0487-003 (7 day)		
TESTING DATE:	7/10/2013	LOADING RATE:	0.04 in./min.
TESTED BY:	TNR/KMA	TRACKING CODE:	9132

TESTING PARAMETER AND RESULTS		
MOISTURE CONTENT	41.7	**%**
BULK UNIT WEIGHT	109.9	lb/ft^3
DRY UNIT WEIGHT	77.5	lb/ft^3
UCS *	45.0	lb/in^2

* UCS - UNCONFINED COMPRESSIVE STRENGTH

UNCONFINED COMPRESSION TEST

ASTM D 2166

PROJECT:	Macon ISS		
PROJECT No.:	SH0489		
SAMPLE No.:	0487-003 (28 day)		
TESTING DATE:	30-Jul-13	LOADING RATE:	0.0285 in./min.
TESTED BY:	TNR	TRACKING CODE:	9198

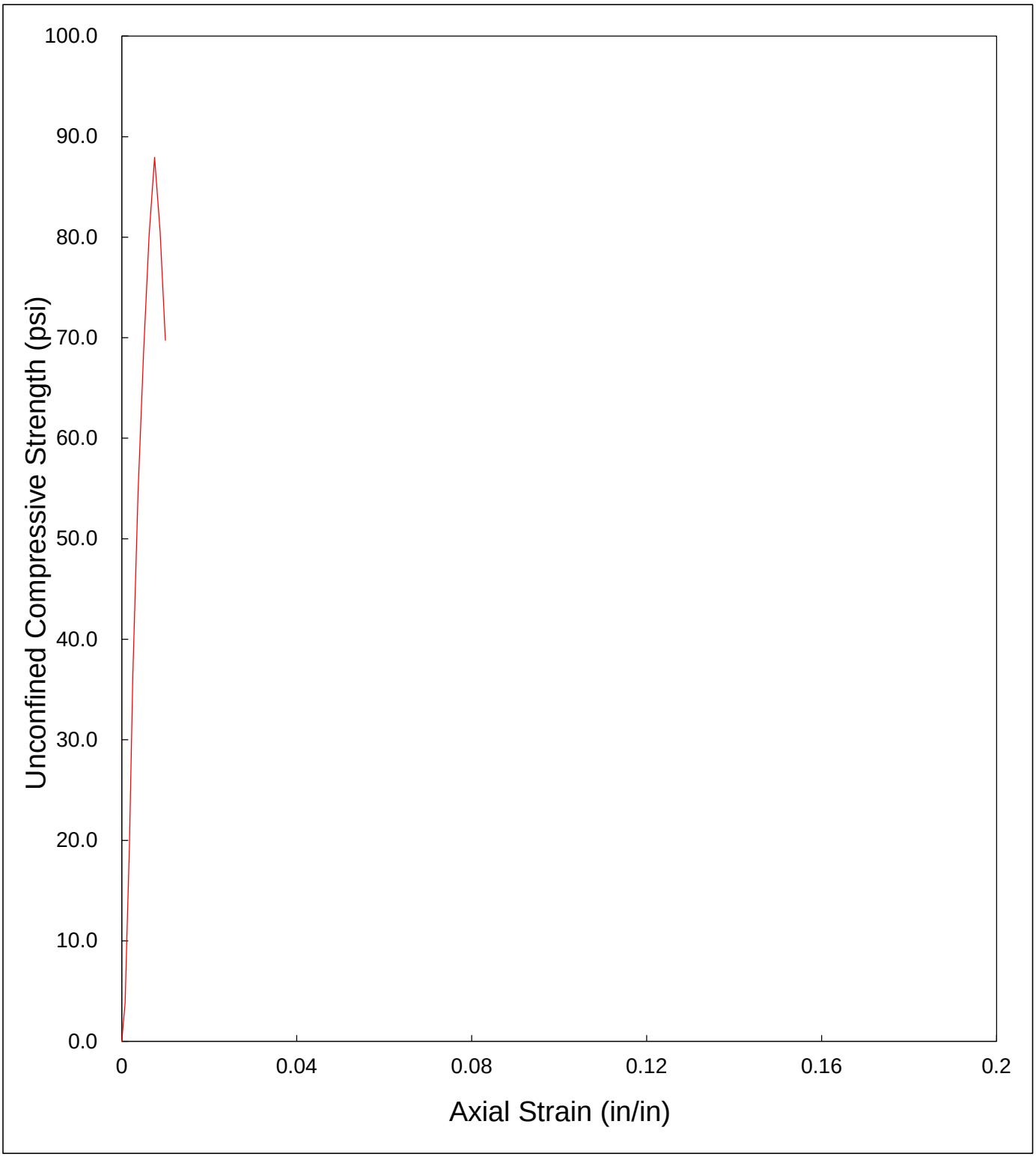
MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	167.46	g
3. WT WET SOIL + TARE	338.91	g
4. WT DRY SOIL + TARE	288.13	g
5. WT WATER, Ww	50.78	g
6. WT DRY SOIL, Ws	120.67	g
7. MOISTURE CONTENT, W	**42.08**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		*LENGTH*	
No. 1	2.01	in.	4.00	in.
No. 2	2.00	in.	4.00	in.
No. 3	1.99	in.	4.01	in.
Average	**2.00**	**in.**	**4.00**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***356.70***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.56	in^3
Initial Bulk Unit Weight,	108.2	lb/ft^3
Initial Dry Unit Weight	76.2	lb/ft^3
15 % Strain (0.15 Lo)	0.60	in.
UCS	87.9	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.137	0.0000	0.0
12	0.003	0.003	3.140	0.0007	3.8
37	0.005	0.005	3.141	0.0012	11.8
61	0.007	0.007	3.143	0.0017	19.4
114	0.010	0.010	3.145	0.0025	36.2
172	0.015	0.015	3.149	0.0037	54.6
216	0.020	0.020	3.153	0.0050	68.5
253	0.025	0.025	3.157	0.0062	80.1
278	0.030	0.030	3.161	0.0075	87.9
255	0.035	0.035	3.165	0.0087	80.6
221	0.040	0.040	3.169	0.0100	69.7

UNCONFINED COMPRESSION TESTING
Sample No. 0487-003 (28 day)



UNCONFINED COMPRESSION TEST

ASTM D 2166
SUMMARY OF RESULTS

PROJECT:	Macon ISS		
PROJECT No.:	SH0489		
SAMPLE No.:	0487-003 (28 day)		
TESTING DATE:	7/30/2013	LOADING RATE:	0.0285 in./min.
TESTED BY:	TNR	TRACKING CODE:	9198

TESTING PARAMETER AND RESULTS		
MOISTURE CONTENT	42.1	**%**
BULK UNIT WEIGHT	108.2	lb/ft^3
DRY UNIT WEIGHT	76.2	lb/ft^3
UCS *	87.9	lb/in^2

* UCS - UNCONFINED COMPRESSIVE STRENGTH

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon ISS	TESTED BY:	RJB
PROJECT No.:	SH0487	TRACKING CODE:	9198_PM
SAMPLE No.:	0487-003 (28 Day)	EQUIPMENT No.:	6B
TEST DATE:	8/1/13		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	88.24 ***g***
3. WT WET SOIL + TARE	159.69 ***g***	249.48 ***g***
4. WT DRY SOIL + TARE	113.78 ***g***	202.02 ***g***
5. WT WATER, Ww	45.91 g	47.46 g
6. WT DRY SOIL, Ws	113.78 g	113.78 g
7. MOISTURE CONTENT, W	40.35 %	41.71 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***2.00 in.***	***1.99 in.***	***1.78 in.***	***1.75 in.***
No. 2	***1.99 in.***	***1.99 in.***	***1.76 in.***	***1.78 in.***
No. 3	***1.99 in.***	***2.00 in.***	***1.76 in.***	***1.77 in.***
Average	1.99 in.	1.99 in.	1.76 in.	1.77 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***159.69 g***	***161.27 g***
Area, Ao	3.12 in^2	3.12 in^2
Volume, Vo	5.50 in^3	5.51 in^3
Bulk Unit Weight	110.6 lb/ft^3	111.5 lb/ft^3
Dry Unit Weight	78.8 lb/ft^3	78.6 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon ISS	TESTED BY:	RJB
PROJECT No.:	SH0487	TRACKING CODE:	9198_PM
SAMPLE No.:	0487-003 (28 Day)	EQUIPMENT No.:	6B
TEST DATE:	8/1/13		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
08/01/13	12 : 25	RJB	7.0	5.0	6.2				
08/01/13	12 : 55	RJB	17.0	15.0	16.3	10.3	10.0	4.1	0.41
08/01/13	14 : 5	RJB	27.0	25.0	26.2	*	*	*	*
08/01/13	14 : 30	RJB	37.0	35.0	35.8	*	*	*	*
08/01/13	15 : 15	RJB	47.0	45.0	46.3	38.7	10.0	2.9	0.29
08/02/13	7 : 50	RJB	57.0	55.0	56.5	52.3	10.0	6.0	0.60
08/02/13	8 : 20	RJB	67.0	65.0	66.4	64.1	10.0	7.6	0.76
08/02/13	8 : 55	RJB	77.0	75.0	76.6	76.6	10.0	10.2	1.02
08/02/13	9 : 30	RJB	87.0	85.0	86.7	85.1	10.0	8.5	0.85
08/02/13	9 : 55	RJB	97.0	95.0	96.6	95.7	10.0	9.0	0.90
08/02/13	10 : 26	RJB	107.0	105.0	*	106.1	10.0	9.5	0.95
08/02/13	10 : 27	RJB	97.0	95.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon ISS	TESTED BY:	RJB
PROJECT No.:	SH0487	TRACKING CODE:	9198_PM
SAMPLE No.:	0487-003 (28 Day)	EQUIPMENT No.:	6B
TEST DATE:	8/1/13		

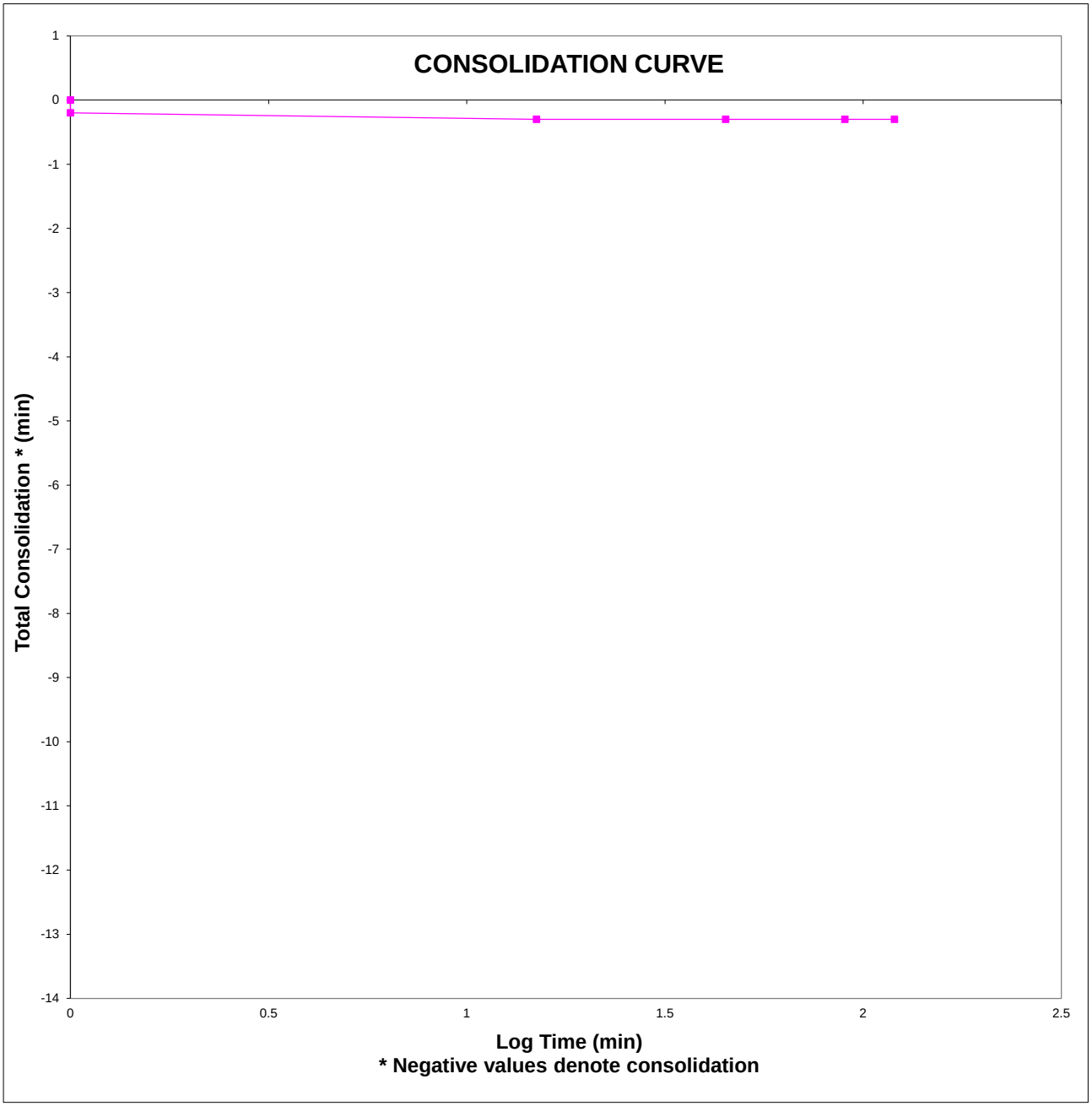
CELL PRESSURE: 105 psi **BACK PRESSURE:** 95 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
8 / 2 / 13	RJB	10 : 30	0	0	0	25.0	25.0	0.0
8 / 2 / 13	RJB	10 : 31	1	1	0.00	24.9	24.9	0.2
8 / 2 / 13	RJB	10 : 45	14	15	1.18	24.9	24.8	0.3
8 / 2 / 13	RJB	11 : 15	30	45	1.65	24.9	24.8	0.3
8 / 2 / 13	RJB	12 : 0	45	90	1.95	24.9	24.8	0.3
8 / 2 / 13	RJB	12 : 30	30	120	2.08	24.9	24.8	0.3

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon ISS	TESTED BY:	RJB
PROJECT No.:	SH0487	TRACKING CODE:	9198_PM
SAMPLE No.:	0487-003 (28 Day)	EQUIPMENT No.:	6B
TEST DATE:	8/1/13		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon ISS	TESTED BY:	RJB
PROJECT No.:	SH0487	TRACKING CODE:	9198_PM
SAMPLE No.:	0487-003 (28 Day)	EQUIPMENT No.:	6B
TEST DATE:	8/1/13		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
8 / 2 / 13	RJB	12 : 35	0	0.0	25.0	20.0	105.0	95.0	93.0
8 / 5 / 13	RJB	8 : 12	4057	0.6	24.4	20.0	105.0	95.0	93.0
8 / 5 / 13	RJB	8 : 14	RESET	0.0	25.0	20.0	105.0	95.0	93.0
8 / 8 / 13	RJB	9 : 42	4408	0.5	24.5	20.0	105.0	95.0	93.0
8 / 12 / 13	RJB	12 : 0	5898	1.1	23.9	20.0	105.0	95.0	93.0
8 / 15 / 13	RJB	14 : 53	4493	1.6	23.4	20.0	105.0	95.0	93.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon ISS	TESTED BY:	RJB
PROJECT No.:	SH0487	TRACKING CODE:	9198_PM
SAMPLE No.:	0487-003 (28 Day)	EQUIPMENT No.:	6B
TEST DATE:	8/1/13		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				36.998		
4057	0.6	0.6	1.00	36.731	3.32E-09	3.34E-09
RESET				36.998		
4408	0.5	0.5	1.00	36.775	2.55E-09	2.56E-09
5898	0.6	0.6	1.00	36.507	2.30E-09	2.31E-09
4493	0.5	0.5	1.00	36.284	2.53E-09	2.54E-09

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon ISS	TESTED BY:	RJB
PROJECT No.:	SH0487	TRACKING CODE:	9198_PM
SAMPLE No.:	0487-003 (28 Day)	EQUIPMENT No.:	6B
TEST DATE:	8/1/13		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	110.6 lb/ft³	111.5 lb/ft³
DRY UNIT WEIGHT	78.8 lb/ft³	78.6 lb/ft³
MOISTURE CONTENT	40.3 %	41.7 %
PERMEABILITY @ 20°C	2.7E-09 cm/sec	

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon ISS	SAMPLE No. (Specimen No. 1):	0487-003
PROJECT No.:	SH0487	SAMPLE No. (Specimen No. 2)	0487-003C
START DATE:	10/18/2013	SAMPLE DESCRIPTION:	
TRACKING CODE:	9198_WDD		

TESTED BY: TNR

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	167.46	g	167.46	g
3. WT WET SOIL + TARE	338.91	g	338.91	g
4. WT DRY SOIL + TARE	288.13	g	288.13	g
5. WT WATER, Ww	50.78	g	50.78	g
6. WT DRY SOIL, Ws	120.67	g	120.67	g
7. MOISTURE CONTENT, W	42.08	%	42.08	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	1.99	in.	1.89	in.
No. 2	1.99	in.	1.89	in.
No. 3	2.01	in.	1.92	in.
Average	2.00	in.	1.90	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	169.10	g
Initial Dry Specimen WT, Wd	119.02	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	5.95	in^3
Initial Bulk Unit Weight,	108.3	pcf
Initial Dry Unit Weight,	76.3	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNR

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	167.46	g	167.46	g
3. WT WET SOIL + TARE	338.91	g	338.91	g
4. WT DRY SOIL + TARE	288.13	g	288.13	g
5. WT WATER, Ww	50.78	g	50.78	g
6. WT DRY SOIL, Ws	120.67	g	120.67	g
7. MOISTURE CONTENT, W	42.08	%	42.08	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	1.97	in.
No. 2	1.99	in.	1.94	in.
No. 3	1.99	in.	1.95	in.
Average	1.99	in.	1.95	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	173.71	g
Initial Dry Specimen WT, Wd	122.26	g
Initial Area, Ao	3.12	in^2
Initial Volume, Vo	6.10	in^3
Initial Bulk Unit Weight,	108.5	pcf
Initial Dry Unit Weight,	76.4	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon ISS	INITIAL MOISTURE CONTENT	42.08	%
PROJECT No.:	SH0487	INITIAL VOLUME:	5.95	in³
SAMPLE No.:	0487-003	INITIAL TOTAL WEIGHT:	169.10	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	119.02	grams
TRACKING CODE:	9198_WDD			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	1.90	2.00	5.95		169.10					0.00
1	1.85	1.96	5.57	-6.28	162.36	1.33	1.76	0.43	0.36	0.36
2	1.86	1.95	5.52	-7.21	161.42	1.33	2.02	0.69	0.58	0.94
3	1.86	1.95	5.58	-6.12	160.60	1.34	2.14	0.80	0.67	1.61
4	1.84	1.96	5.58	-6.22	159.87	1.34	1.91	0.57	0.48	2.09
5	1.85	1.95	5.54	-6.86	159.38	1.35	1.74	0.39	0.33	2.42
6	1.85	1.96	5.58	-6.20	157.87	1.34	1.61	0.27	0.23	2.65
7	1.85	1.95	5.54	-6.80	158.84	1.34	1.71	0.38	0.32	2.97
8	1.86	1.97	5.68	-4.54	157.32	1.34	1.73	0.39	0.33	3.29
9	1.85	1.97	5.62	-5.46	157.52	1.34	1.54	0.20	0.17	3.46
10	1.85	1.96	5.58	-6.10	157.75	1.34	1.76	0.42	0.35	3.81
11	1.86	1.96	5.58	-6.08	156.50	1.33	1.37	0.04	0.04	3.85
12	1.86	1.97	5.65	-4.90	155.62	1.34	1.67	0.33	0.28	4.12

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon ISS
PROJECT No.:	SH0487
SAMPLE No.:	0487-003C
TESTING SEQUENCE:	WET / DRY
TRACKING CODE:	9198_WDD

INITIAL MOISTURE CONTENT	42.08	%
INITIAL VOLUME:	6.10	in³
INITIAL TOTAL WEIGHT:	173.71	grams
INITIAL DRY SOIL WEIGHT:	122.26	grams

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	1.95	1.99	6.10		173.71					0.00
1	1.95	1.99	6.10	-0.01	174.51	1.33	1.36	0.02	0.02	0.02
2	1.96	1.99	6.11	0.21	174.76	1.33	1.34	0.00	0.00	0.02
3	1.96	1.99	6.10	0.09	174.90	1.34	1.35	0.01	0.01	0.03
4	1.94	1.99	6.08	-0.37	175.00	1.34	1.34	0.00	0.00	0.04
5	1.96	1.98	6.06	-0.66	175.21	1.33	1.34	0.01	0.01	0.04
6	1.93	1.99	6.03	-1.18	175.14	1.33	1.34	0.01	0.01	0.05
7	1.96	1.99	6.10	-0.04	175.34	1.34	1.35	0.01	0.01	0.06
8	1.95	1.99	6.09	-0.13	175.28	1.34	1.35	0.02	0.01	0.07
9	1.97	1.99	6.15	0.88	175.43	1.34	1.34	0.00	0.00	0.07
10	1.96	1.99	6.10	0.10	175.49	1.34	1.35	0.01	0.01	0.08
11	1.95	2.00	6.10	0.08	175.63	1.33	1.33	0.00	0.00	0.08
12	1.94	1.99	6.04	-0.87	173.35	1.34	1.49	0.15	0.12	0.21

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon ISS	SAMPLE No. (Test):	0487-003
PROJECT No.:	SH0487	SAMPLE No. (Control):	0487-003C
START DATE:	10/18/2013	SAMPLE DESCRIPTION:	0
TRACKING CODE:	9198_WDD		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	108.3	pcf	108.5	pcf
2. DRY UNIT WEIGHT	76.3	pcf	76.4	pcf
3. MOISTURE CONTENT	42.08	%	42.08	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-7.2	%	-1.2	%
2. TOTAL MASS LOSS	4.12	%	0.21	%
3. RELATIVE MASS LOSS	3.92	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

LIQUID RELEASE TESTING

SUMMARY OF RESULTS

PROJECT:	Macon ISS	TESTING DATE:	11/18/2013
PROJECT No.:	SH0487	TESTED BY:	TNR
SAMPLE No.:	0487-004 (7 day)	TRACKING CODE:	9335
TESTING METHOD:	EPA Method 9096		

TESTING PARAMETER AND RESULTS		
QUANTITY OF MATERIAL	359.50	**g**
LENGTH OF TEST	10.0	**min.**
RESULTS (PASS / FAIL) *	PASS	

* In accordance with EPA Method 9096, if any liquid from the test material collects on the filters after 10 minutes of testing, the material is deemed to contain free liquids, and therefore has failed the liquid release test.

LIQUID RELEASE TESTING

SUMMARY OF RESULTS

PROJECT:	Macon ISS	TESTING DATE:	11/21/2013
PROJECT No.:	SH0487	TESTED BY:	TNR
SAMPLE No.:	0487-004 (28 day)	TRACKING CODE:	9364
TESTING METHOD:	EPA Method 9096		

TESTING PARAMETER AND RESULTS		
QUANTITY OF MATERIAL	360.00	**g**
LENGTH OF TEST	10.0	**min.**
RESULTS (PASS / FAIL) *	PASS	

* In accordance with EPA Method 9096, if any liquid from the test material collects on the filters after 10 minutes of testing, the material is deemed to contain free liquids, and therefore has failed the liquid release test.

UNCONFINED COMPRESSION TEST

ASTM D 2166

PROJECT:	Macon ISS		
PROJECT No.:	SH0487		
SAMPLE No.:	0487-004 (7 day)		
TESTING DATE:	30-Oct-13	LOADING RATE:	0.04 in./min.
TESTED BY:	TNR	TRACKING CODE:	9335

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	162.83	g
3. WT WET SOIL + TARE	358.01	g
4. WT DRY SOIL + TARE	303.89	g
5. WT WATER, Ww	54.12	g
6. WT DRY SOIL, Ws	141.06	g
7. MOISTURE CONTENT, W	**38.37**	**%**

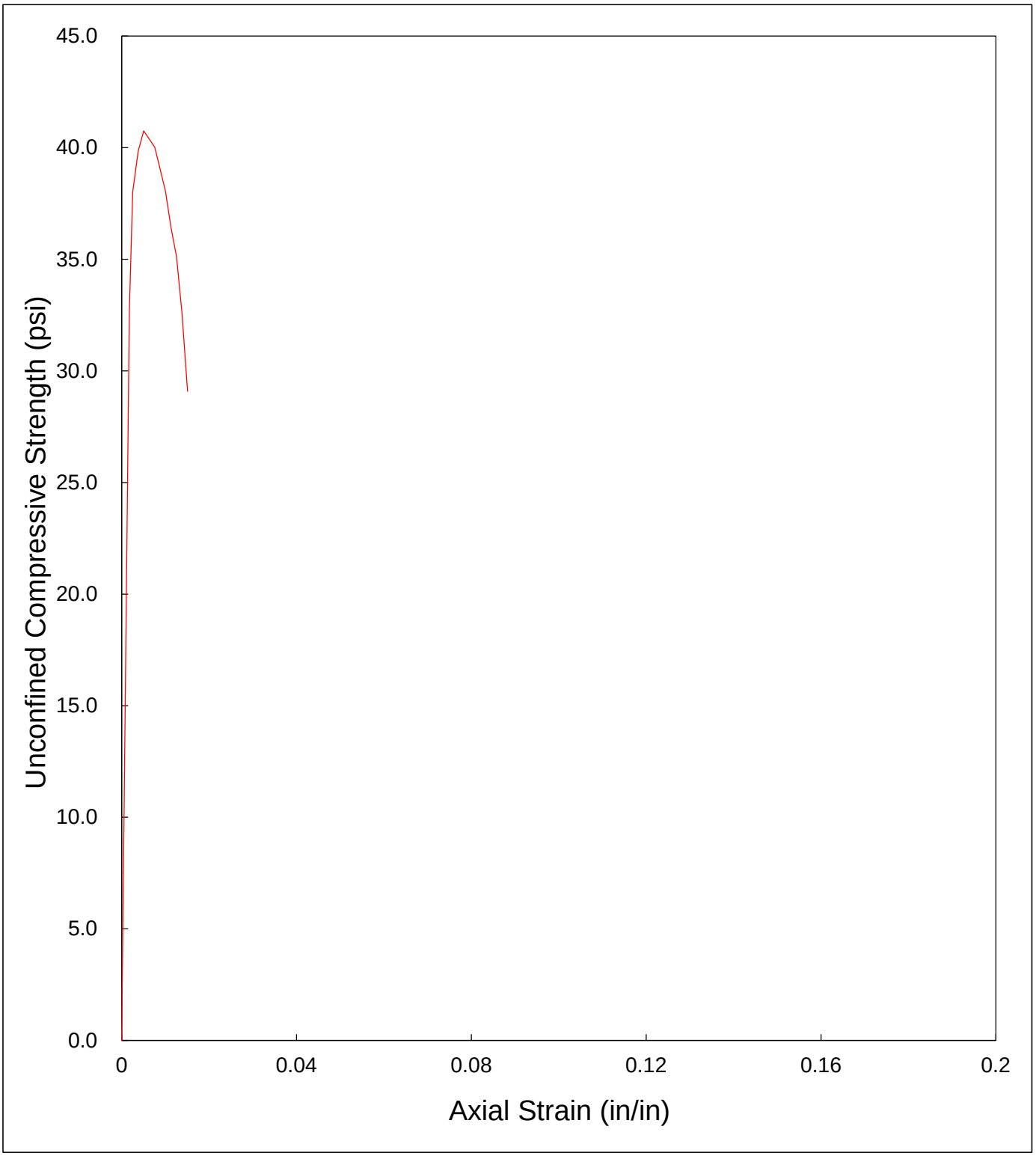
SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.01	in.	3.96	in.
No. 2	2.01	in.	3.98	in.
No. 3	1.99	in.	4.00	in.
Average	**2.00**	**in.**	**3.98**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***362.85***	***g***
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.54	in^3
Initial Bulk Unit Weight,	110.3	lb/ft^3
Initial Dry Unit Weight	79.7	lb/ft^3
15 % Strain (0.15 Lo)	0.60	in.
UCS	40.8	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.149	0.0000	0.0
45	0.003	0.003	3.152	0.0008	14.3
74	0.005	0.005	3.153	0.0013	23.5
103	0.007	0.007	3.155	0.0018	32.6
120	0.010	0.010	3.157	0.0025	38.0
126	0.015	0.015	3.161	0.0038	39.9
129	0.020	0.020	3.165	0.0050	40.8
128	0.025	0.025	3.169	0.0063	40.4
127	0.030	0.030	3.173	0.0075	40.0
124	0.035	0.035	3.177	0.0088	39.0
121	0.040	0.040	3.181	0.0100	38.0
116	0.045	0.045	3.185	0.0113	36.4
112	0.050	0.050	3.190	0.0126	35.1
104	0.055	0.055	3.194	0.0138	32.6
93	0.060	0.060	3.198	0.0151	29.1

UNCONFINED COMPRESSION TESTING

Sample No. 0487-004 (7 day)



UNCONFINED COMPRESSION TEST

ASTM D 2166
SUMMARY OF RESULTS

PROJECT:	Macon ISS		
PROJECT No.:	SH0487		
SAMPLE No.:	0487-004 (7 day)		
TESTING DATE:	10/30/2013	LOADING RATE:	0.04 in./min.
TESTED BY:	TNR	TRACKING CODE:	9335

TESTING PARAMETER AND RESULTS		
MOISTURE CONTENT	38.4	**%**
BULK UNIT WEIGHT	110.3	lb/ft^3
DRY UNIT WEIGHT	79.7	lb/ft^3
UCS *	40.8	lb/in^2

* UCS - UNCONFINED COMPRESSIVE STRENGTH

UNCONFINED COMPRESSION TEST

ASTM D 2166

PROJECT:	Macon ISS		
PROJECT No.:	SH0487		
SAMPLE No.:	0487-004 (28 day)		
TESTING DATE:	21-Nov-13	LOADING RATE:	0.04 in./min.
TESTED BY:	TNR	TRACKING CODE:	9364

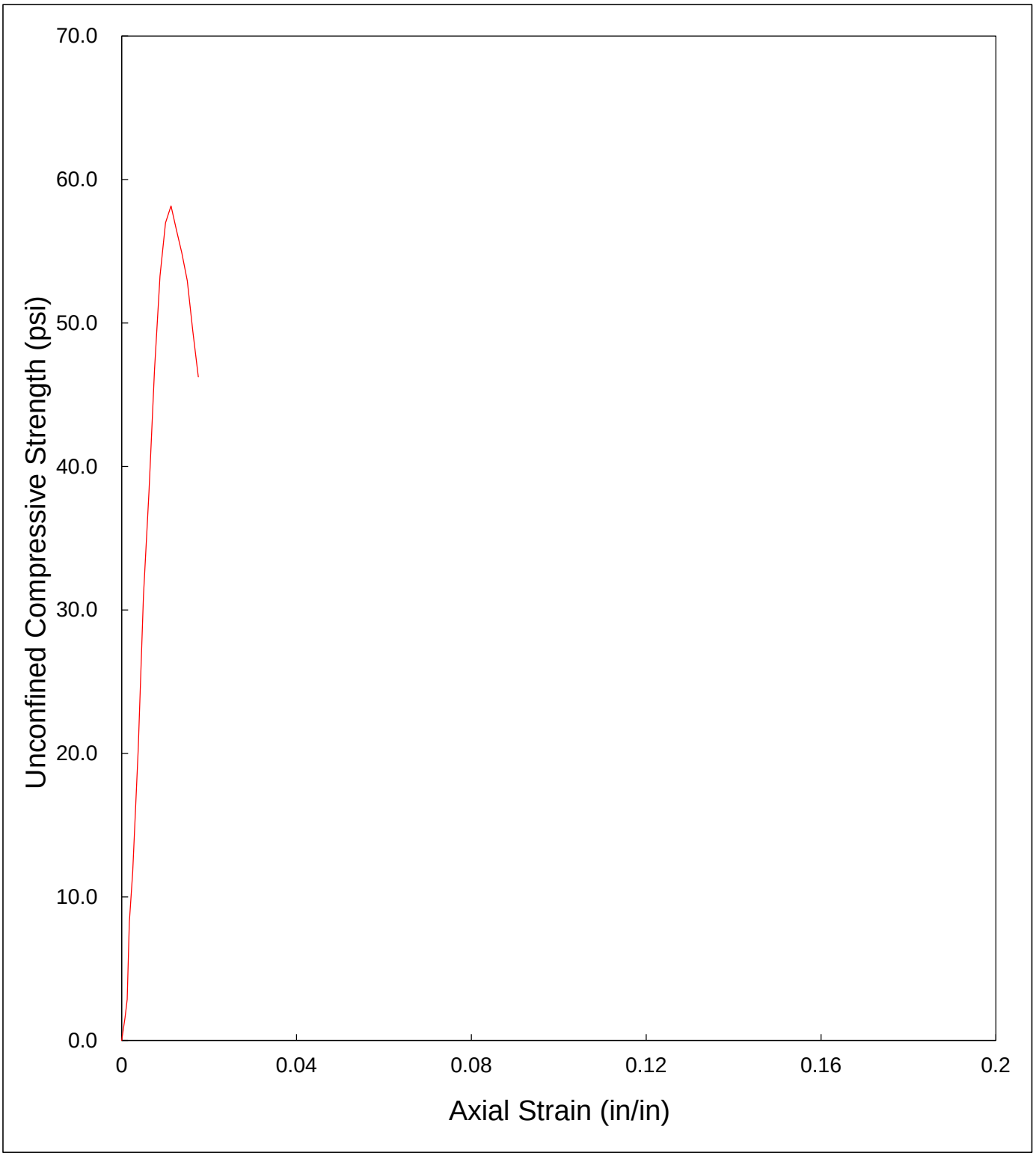
MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	173.49	g
3. WT WET SOIL + TARE	317.29	g
4. WT DRY SOIL + TARE	278.89	g
5. WT WATER, Ww	38.40	g
6. WT DRY SOIL, Ws	105.40	g
7. MOISTURE CONTENT, W	**36.43**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		*LENGTH*	
No. 1	2.01	in.	4.00	in.
No. 2	2.00	in.	4.01	in.
No. 3	1.99	in.	3.98	in.
Average	**2.00**	**in.**	**4.00**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***364.87***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.56	in^3
Initial Bulk Unit Weight,	110.7	lb/ft^3
Initial Dry Unit Weight	81.1	lb/ft^3
15 % Strain (0.15 Lo)	0.60	in.
UCS	58.2	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.144	0.0000	0.0
5	0.003	0.003	3.147	0.0008	1.6
9	0.005	0.005	3.148	0.0013	2.9
26	0.007	0.007	3.150	0.0018	8.3
37	0.010	0.010	3.152	0.0025	11.7
64	0.015	0.015	3.156	0.0038	20.3
98	0.020	0.020	3.160	0.0050	31.0
121	0.025	0.025	3.164	0.0063	38.2
148	0.030	0.030	3.168	0.0075	46.7
169	0.035	0.035	3.172	0.0088	53.3
181	0.040	0.040	3.176	0.0100	57.0
185	0.045	0.045	3.180	0.0113	58.2
180	0.050	0.050	3.184	0.0125	56.5
175	0.055	0.055	3.188	0.0138	54.9
169	0.060	0.060	3.192	0.0150	52.9
158	0.065	0.065	3.196	0.0163	49.4
148	0.070	0.070	3.200	0.0175	46.2

UNCONFINED COMPRESSION TESTING
Sample No. 0487-004 (28 day)



UNCONFINED COMPRESSION TEST

ASTM D 2166
SUMMARY OF RESULTS

PROJECT:	Macon ISS		
PROJECT No.:	SH0487		
SAMPLE No.:	0487-004 (28 day)		
TESTING DATE:	11/21/2013	LOADING RATE:	0.04 in./min.
TESTED BY:	TNR	TRACKING CODE:	9364

TESTING PARAMETER AND RESULTS		
MOISTURE CONTENT	36.4	**%**
BULK UNIT WEIGHT	110.7	lb/ft^3
DRY UNIT WEIGHT	81.1	lb/ft^3
UCS *	58.2	lb/in^2

* UCS - UNCONFINED COMPRESSIVE STRENGTH

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon ISS	TESTED BY:	RJB
PROJECT No.:	SH0487	TRACKING CODE:	9364_PM
SAMPLE No.:	0487-004	EQUIPMENT No.:	3
TEST DATE:	11/21/13		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	220.56 ***g***
3. WT WET SOIL + TARE	400.50 ***g***	626.80 ***g***
4. WT DRY SOIL + TARE	288.83 ***g***	509.39 ***g***
5. WT WATER, Ww	111.67 g	117.41 g
6. WT DRY SOIL, Ws	288.83 g	288.83 g
7. MOISTURE CONTENT, W	38.66 %	40.65 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.00 in.***	***3.00 in.***	***1.92 in.***	***2.03 in.***
No. 2	***3.00 in.***	***2.99 in.***	***1.95 in.***	***1.97 in.***
No. 3	***2.99 in.***	***3.03 in.***	***2.01 in.***	***1.91 in.***
Average	3.00 in.	3.01 in.	1.96 in.	1.97 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***400.50 g***	***406.26 g***
Area, Ao	7.06 in^2	7.09 in^2
Volume, Vo	13.84 in^3	13.95 in^3
Bulk Unit Weight	110.2 lb/ft^3	110.9 lb/ft^3
Dry Unit Weight	79.5 lb/ft^3	78.9 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon ISS	TESTED BY:	RJB
PROJECT No.:	SH0487	TRACKING CODE:	9364_PM
SAMPLE No.:	0487-004	EQUIPMENT No.:	3
TEST DATE:	11/21/13		

			TEST PRESSURES (psi)						
TEST	*TIME*	*TESTED*	*APPLIED*		*PORE*		*PRESSURE CHANGE*		
DATE	*(military)*	*BY*	*CELL*	*BACK*	*SAT.*	*TEST*	*CELL*	*PORE*	*B-Value*
11/21/13	9 : 20	RJB	7.0	5.0	5.3				
11/21/13	10 : 5	RJB	17.0	15.0	15.4	10.4	10.0	5.1	0.51
11/21/13	12 : 40	RJB	27.0	25.0	25.3	23.2	10.0	7.8	0.78
11/21/13	13 : 50	RJB	37.0	35.0	35.2	34.0	10.0	8.7	0.87
11/21/13	14 : 40	RJB	47.0	45.0	45.1	44.4	10.0	9.2	0.92
11/21/13	15 : 25	RJB	57.0	55.0	55.2	54.5	10.0	9.4	0.94
11/22/13	10 : 45	RJB	67.0	65.0	*	64.9	10.0	9.7	0.97
11/22/13	10 : 46	RJB	77.0	75.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon ISS	TESTED BY:	RJB
PROJECT No.:	SH0487	TRACKING CODE:	9364_PM
SAMPLE No.:	0487-004	EQUIPMENT No.:	3
TEST DATE:	11/21/13		

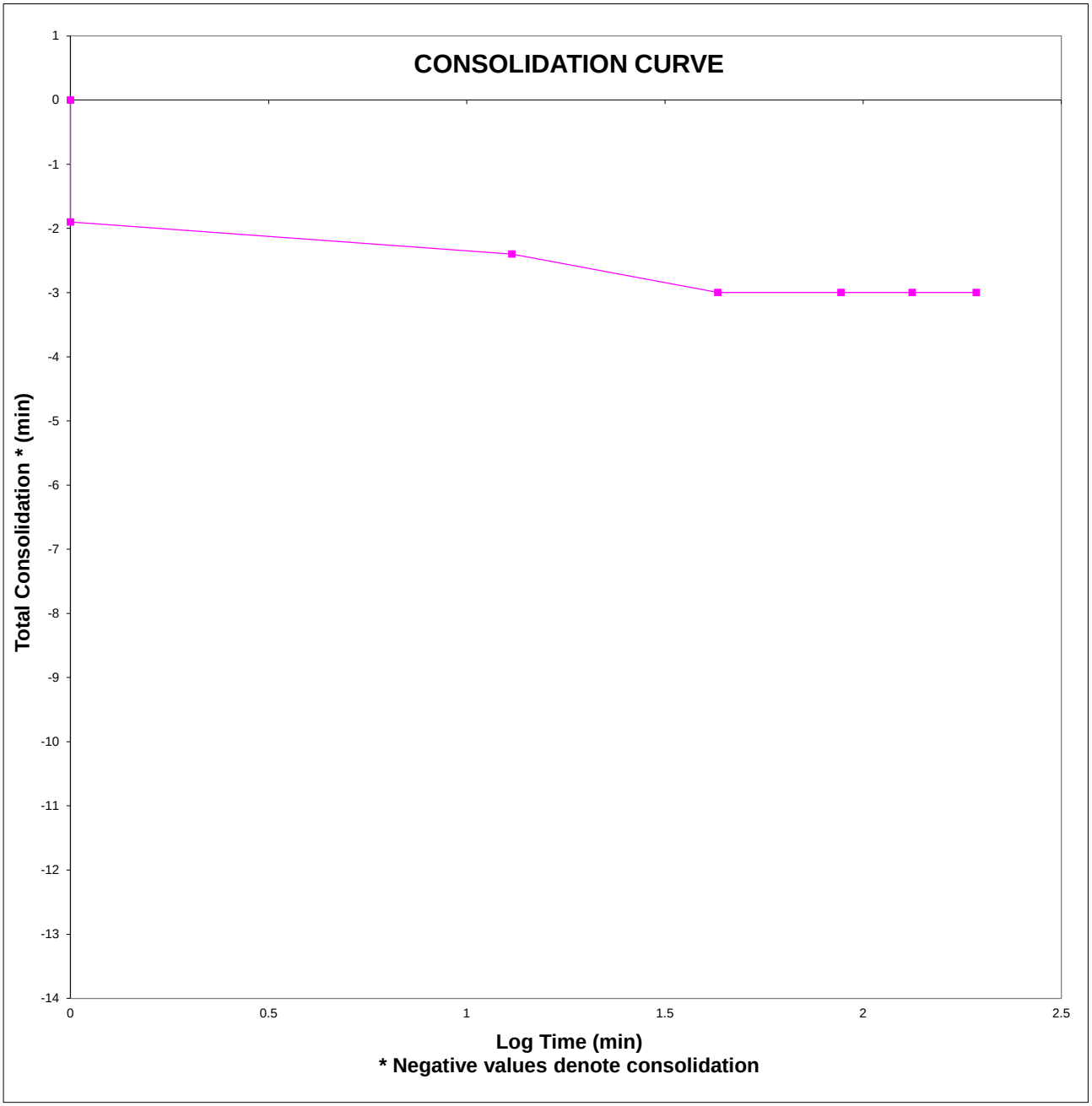
CELL PRESSURE: 55 psi **BACK PRESSURE:** 45 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
11 / 22 / 13	RJB	10 : 47	0	0	0	25.0	25.0	0.0
11 / 22 / 13	RJB	10 : 48	1	1	0.00	24.0	24.1	1.9
11 / 22 / 13	RJB	11 : 0	12	13	1.11	23.8	23.8	2.4
11 / 22 / 13	RJB	11 : 30	30	43	1.63	23.7	23.3	3.0
11 / 22 / 13	RJB	12 : 15	45	88	1.94	23.7	23.3	3.0
11 / 22 / 13	RJB	13 : 0	45	133	2.12	23.7	23.3	3.0
11 / 22 / 13	RJB	14 : 0	60	193	2.29	23.7	23.3	3.0

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon ISS	TESTED BY:	RJB
PROJECT No.:	SH0487	TRACKING CODE:	9364_PM
SAMPLE No.:	0487-004	EQUIPMENT No.:	3
TEST DATE:	11/21/13		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon ISS	TESTED BY:	RJB
PROJECT No.:	SH0487	TRACKING CODE:	9364_PM
SAMPLE No.:	0487-004	EQUIPMENT No.:	3
TEST DATE:	11/21/13		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
11 / 25 / 13	RJB	14 : 3	0	0.0	25.0	20.0	65.0	55.0	53.0
11 / 26 / 13	RJB	8 : 13	1090	0.6	24.4	20.0	65.0	55.0	53.0
11 / 27 / 13	RJB	8 : 39	1466	1.2	23.8	20.0	65.0	55.0	53.0
12 / 2 / 13	RJB	9 : 56	7277	3.3	21.7	20.0	65.0	55.0	53.0
12 / 2 / 13	RJB	9 : 57	RESET	0.0	25.0	20.0	65.0	55.0	53.0
12 / 4 / 13	RJB	7 : 24	2727	0.8	24.2	20.0	65.0	55.0	53.0
12 / 4 / 13	RJB	8 : 0	RESET	0.0	25.0	20.0	65.0	55.0	53.0
12 / 5 / 13	RJB	10 : 40	1600	0.7	24.3	20.0	65.0	55.0	53.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon ISS	TESTED BY:	RJB
PROJECT No.:	SH0487	TRACKING CODE:	9364_PM
SAMPLE No.:	0487-004	EQUIPMENT No.:	3
TEST DATE:	11/21/13		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				33.266		
1090	0.6	0.6	1.00	33.025	6.08E-09	6.11E-09
1466	0.6	0.6	1.00	32.784	4.55E-09	4.57E-09
7277	2.1	2.1	1.00	31.940	3.26E-09	3.28E-09
RESET				33.266		
2727	0.8	0.8	1.00	32.944	3.24E-09	3.26E-09
RESET				33.266		
1600	0.7	0.7	1.00	32.985	4.83E-09	4.86E-09

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon ISS	TESTED BY:	RJB
PROJECT No.:	SH0487	TRACKING CODE:	9364_PM
SAMPLE No.:	0487-004	EQUIPMENT No.:	3
TEST DATE:	11/21/13		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	110.2 lb/ft³	110.9 lb/ft³
DRY UNIT WEIGHT	79.5 lb/ft³	78.9 lb/ft³
MOISTURE CONTENT	38.7 %	40.7 %
PERMEABILITY @ 20°C	4.0E-09 cm/sec	

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon ISS	SAMPLE No. (Specimen No. 1):	0487-004
PROJECT No.:	SH0487	SAMPLE No. (Specimen No. 2)	0487-004C
START DATE:	11/21/2013	SAMPLE DESCRIPTION:	9364
TRACKING CODE:			

TESTED BY: TNR

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)					
Specimen No. 1	INITIAL		FINAL		
1. MOISTURE TIN NO.					
2. WT MOISTURE TIN (tare weight)	173.49	g	173.49	g	
3. WT WET SOIL + TARE	317.29	g	317.29	g	
4. WT DRY SOIL + TARE	278.89	g	278.89	g	
5. WT WATER, Ww	38.40	g	38.40	g	
6. WT DRY SOIL, Ws	105.40	g	105.40	g	
7. MOISTURE CONTENT, W	36.43	%	NA	%	

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.02	in.	4.00	in.
No. 2	2.01	in.	4.01	in.
No. 3	1.99	in.	4.02	in.
Average	2.01	in.	4.01	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	361.43	g
Initial Dry Specimen WT, Wd	264.91	g
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.68	in^3
Initial Bulk Unit Weight,	108.6	pcf
Initial Dry Unit Weight,	79.6	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNR

MOISTURE CONTENT (Dry Basis)					
Specimen No. 2	INITIAL		FINAL		
1. MOISTURE TIN NO.					
2. WT MOISTURE TIN (tare weight)	173.49	g	173.49	g	
3. WT WET SOIL + TARE	317.29	g	317.29	g	
4. WT DRY SOIL + TARE	278.89	g	278.89	g	
5. WT WATER, Ww	38.40	g	38.40	g	
6. WT DRY SOIL, Ws	105.40	g	105.40	g	
7. MOISTURE CONTENT, W	36.43	%	NA	%	

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.02	in.	3.96	in.
No. 2	2.01	in.	3.98	in.
No. 3	1.99	in.	3.98	in.
Average	2.01	in.	3.97	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	357.47	g
Initial Dry Specimen WT, Wd	262.01	g
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.54	in^3
Initial Bulk Unit Weight,	108.6	pcf
Initial Dry Unit Weight,	79.6	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon ISS	INITIAL MOISTURE CONTENT	36.43	%
PROJECT No.:	SH0487	INITIAL VOLUME:	12.68	in³
SAMPLE No.:	0487-004	INITIAL TOTAL WEIGHT:	361.43	grams
TESTING SEQUENCE:	WET/DRY	INITIAL DRY SOIL WEIGHT:	264.91	grams
TRACKING CODE:	9335_WDD			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	0.00	0.00	0.00		361.43					0.00
1	3.90	1.97	11.86	-6.45	347.33	1.33	1.58	0.25	0.09	0.09
2	3.94	1.96	11.95	-5.74	347.56	1.33	1.80	0.47	0.18	0.27
3	3.92	1.97	11.97	-5.62	346.61	1.35	1.84	0.50	0.19	0.46
4	3.92	1.96	11.85	-6.56	346.41	1.35	2.28	0.94	0.35	0.81
5	3.91	1.97	11.95	-5.79	346.25	1.34	1.86	0.52	0.20	1.01
6	3.92	1.96	11.83	-6.69	345.09	1.28	2.50	1.22	0.46	1.47
7	3.91	1.97	11.97	-5.62	343.81	1.33	3.10	1.77	0.67	2.14
8	3.92	1.98	12.00	-5.36	335.50	1.34	7.22	5.88	2.22	4.36
9	3.95	1.98	12.12	-4.45	331.92	1.34	4.98	3.64	1.37	5.73
10	3.97	2.00	12.46	-1.76	322.65	1.35	8.80	7.45	2.81	8.54
11	0.00	0.00	0.00	-100.00	209.17	1.36	82.76	81.39	30.72	39.27
12	0.00	0.00	0.00	-100.00				0.00	0.00	39.27

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon ISS	INITIAL MOISTURE CONTENT	36.43	%
PROJECT No.:	SH0487	INITIAL VOLUME:	12.54	in³
SAMPLE No.:	0487-004C	INITIAL TOTAL WEIGHT:	357.47	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	262.01	grams
TRACKING CODE:	9335C_WDD			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	0.00	0.00	0.00		357.47					0.00
1	3.98	1.99	12.43	-0.91	358.85	1.33	1.34	0.01	0.00	0.00
2	3.99	2.00	12.53	-0.07	359.27	1.33	1.33	0.00	0.00	0.00
3	3.99	2.00	12.57	0.25	357.18	1.34	1.34	0.00	0.00	0.00
4	3.98	2.00	12.50	-0.35	358.57	1.34	1.34	0.00	0.00	0.00
5	3.97	2.00	12.48	-0.45	358.52	1.34	1.34	0.00	0.00	0.00
6	3.97	2.00	12.48	-0.51	358.78	1.27	1.34	0.07	0.03	0.03
7	3.97	2.00	12.50	-0.33	358.85	1.33	1.34	0.01	0.00	0.03
8	3.99	2.01	12.61	0.54	358.31	1.34	1.35	0.01	0.00	0.04
9	3.97	2.01	12.55	0.07	358.59	1.33	1.34	0.00	0.00	0.04
10	3.97	2.00	12.54	-0.04	358.65	1.33	1.33	0.00	0.00	0.04
11	3.98	2.00	12.54	0.01	358.59	1.36	1.37	0.00	0.00	0.04
12	0.00	0.00	0.00	-100.00				0.00	0.00	0.04

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon ISS	SAMPLE No. (Test):	0487-004
PROJECT No.:	SH0487	SAMPLE No. (Control):	0487-004C
START DATE:	11/21/2013	SAMPLE DESCRIPTION:	9364
TRACKING CODE:	9335		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	108.6	pcf	108.6	pcf
2. DRY UNIT WEIGHT	79.6	pcf	79.6	pcf
3. MOISTURE CONTENT	36.43	%	36.43	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-100.0	%	-100.0	%
2. TOTAL MASS LOSS	39.27	%	0.04	%
3. RELATIVE MASS LOSS	39.23	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

GSI Quality Control Plan

Appendix A-5

May 21, 2016
Project No. 0176740
Corrective Action Completion Report

Environmental Resources Management
3200 Windy Hill Rd. Suite 1500W
Atlanta, GA 30339
(678) 486-2700

Quality Control Plan

***In Situ* Solidification/Stabilization**

Macon Former MGP Remediation
Macon, Bibb County, GA



Prepared for:
Environmental Resources Management, Inc.

Prepared by:
Geo-Solutions Inc.
1250 Fifth Avenue
New Kensington, PA 15068

Revision 2

Geo-Solutions
Soil and Groundwater Problems Solved

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1. INTRODUCTION

Geo-Solutions, Inc. (GSI) will be responsible for Quality Control of its work. This will include performing real-time monitoring of the grout mixing, soil mixing, and other GSI portions of the project and verifying that the completed work meets the project specification requirements. GSI will endeavor to maintain the highest quality of work possible for the duration of the project. This document outlines the methods by which GSI intends to maintain the quality of its work.

1.1 PERSONNEL

Quality control (QC) personnel on-site will include a QC technician and a QC manager. Position of quality control manager will be served by Trae Deri. All quality control sampling, procedures, reports, controls, and testing will be performed by the quality control technician or quality control manager. The quality control manager will be on site full-time and is experienced in managing and executing quality-assurance and quality-control procedures similar in nature and the extent to those required for this project. Trae's resume can be found as an attachment to the Work Plan.

The site superintendent will be Keith Adamson. He will also assist Trae in his responsibilities of performing daily quality control duties as well as insuring all work is performed per the project plans and specifications. The site superintendent will be on-site full time and will also be included in enacting GSI safety standard operating procedures. Keith's resume can be found as an attachment to the Work Plan.

2. PROCEDURES

2.1 SUBMITTAL PROCEDURE

Submittals will be prepared and submitted to Environmental Resources Management (ERM) for review and approval. Submittals will be tracked by transmittals following a sequential numbering system with alphabetic suffix as needed for follow-up submittals. Only submittals required by the project specifications will be transmitted to ERM for review and approval.

A submittal tracking log will be maintained and updated by GSI.

Submittals will be typically transmitted via email with a hard copy given to on-site ERM personnel. The submittals will be prepared by personnel that have the technical qualification to prepare an adequate submittal to ensure it meets the contract requirements per the specifications.

3. RELATED DOCUMENTS

- Specification Section 01330 – Submittal Procedures and Startup Submittals
- Specification Section 01400 – Quality Requirements
- Specification Section 02196 – In Situ Solidification
- GSI's ISS Work Plan

4. MATERIALS

The materials required for the soil mixing are water, bentonite, Portland Cement, and Ground Granulated Blast Furnace Slag (GGBFS). Originals or copies of the material certificates of analysis will be provided after they are received from the suppliers. GSI plans to receive the GGBFS and Portland Cement separately from the manufacturer. GSI will blend the materials at the 3:1 ratio during batching to meet the mix design.

Cement. GSI plans on using Portland cement, ASTM C-150, Type I or II, supplied by a local manufacturer. Portland cement will be supplied as a component of the slag/ cement blend.

Slag. GSI plans on using Ground Granulated Blast Furnace Slag, Grade 100, supplied by a local manufacturer. Slag will be supplied as a component of the slag/ cement blend.

Water. Potable water from temporary on-site 3-inch water line or reuse of MGP contact water.

Bentonite. API 13A Section 9 bentonite to be delivered via supersack and loaded into vertical silo for batching.

5. GROUT MIXING AND PROPORTIONING

Reagent (slag/ portland cement blend, bentonite) will be stored in bulk storage containers and silos after being unloaded at the site and prior to being utilized in the grout mix. Proportioning of the grout mix at the batch plant will be accomplished using the following measuring devices:

Water: Flow meters
GGBFS/ Cement / Bentonite: Silo/ Mixer Load Cells and Mud Balance

Geo-Solutions batch plant is specially designed for accurate proportioning of multiple grout ingredients. Dry reagents are added by weight which is measured at the load cell readouts by the plant operator. Water is added via flow meters and/ or by weight. Density is monitored every 3rd batch once parameters are stable at the start of each day. The plant is designed for soil mixing demands for a project of this size.

Quality control equipment will be calibrated and checked on a routine basis. Mud balances will be checked for calibration every morning. Upon initial set up, scales will be calibrated by a certified scale technician. Following set up, the load cells will be checked with certified weights every 1-2 weeks and calibrated accordingly. If a considerably discrepancy is noted or equipment is in need of repair a technician will be contacted. Flow meters will also be checked and calibrated at the outset of the work and routinely thereafter. Flowmeters are checked by pumping a volume of water through the meter and measuring it in a graduated container. ERM will be notified when maintenance or calibration activities are planned.

Grout density measurements will be compared to the theoretical grout density computed by the absolute volume method:

Absolute Volume

For Mix 1 – Perimeter Area, the water to dry grout ratio is 1:1 for soil mixing, and we will use the parameters provided in the contract documents for the following grout densities for each material:

Soil Mixing**:

Cement – 11.5%	(SG = 3.15)
Slag – 34.6%	(SG = 2.92)
Bentonite – 3.8.0%	(SG = 2.35)
Water – 50.0%	(SG = 1)
Density =	**93.5 pcf**

**Grout ratios subject to change pending soil conditions and after testing of initial columns.

For Mix 2 – Central Area, the water to dry grout ratio is 1:1 for soil mixing, and we will use the parameters provided in the contract documents for the following grout densities for each material:

Soil Mixing**:

Cement – 16.7%	(SG = 3.15)
Slag – 30.0%	(SG = 2.92)
Bentonite – 3.3%	(SG = 2.35)
Water – 50.0%	(SG = 1)
Density =	**93.6 pcf**

**Grout ratios subject to change pending soil conditions and after testing of initial columns.

Grout is prepared by first adding water to the batching tank. After the water has been added, the cement/slag blend is added until the target density is reached. Once pumping to the ISS rig commences, water and cement/ slag is added at a consistent rate, always maintaining the target density. The grout is continuously agitated in the holding tank. Agitation helps to keep the solid particles in suspension.

A batch plant operator will monitor the grout production and notify the supervisor of any problems. The batch plant operator will also be in charge of performing and recording the results of quality control tests on the freshly mixed grout. The quality control testing at the batch plant will consist primarily of density measurements. Quality control testing performed at the batch plant will be recorded on the “Batch Plant Quality Control Form” which will be submitted daily as part of the “Daily Quality Control Report”.

6. SAMPLE GROUT ADDITION CALCULATIONS

The selected pattern of columns for soil mixing will ensure 100% coverage of the ISS work limits. A proposed column layout is provided in Appendix B of the Work Plan. Column center-to-center spacing is based on the equation: 0.867 x diameter (D) = column spacing. Once

the column locations are finalized and depths can be calculated, the grout addition per column will be determined. Please find a sample grout addition calculation attached in **Attachment A**. Grout addition will be calculated according to the following equation:

((Treated Volume, ft^3 – Previously Treated Overlap Area) x Assumed Soil Density, pcf x Reagent Dosage, %) / Reagent Weight per Unit Volume of Grout, lbs/gal = **Gallons of Grout / Column**

The QC officer, batch plant operator and drill rig operator will communicate during each column installation to ensure that the appropriate volume of grout is delivered to each column. The actual grout volume delivered to each column will be recorded on the "SM Drill Rig Quality Control Report", which will be submitted daily as part of the "Daily Quality Control Report".

7. COLUMN IDENTIFICATION AND LOCATION

Each column will be assigned a unique identification. Generally, GSI utilizes a letter, number identification system where the letter corresponds to the row and the number corresponds to the column of the grid that the soil mix column centerpoint falls on. For instance a soil mix column located at the intersection of the third row and fourth column might be identified as C4.

GSI will verify control points existing at the site and establish additional points to be maintained during the project. The column layout, prepared in Autocad, will be used to locate each column's centerpoint in relation to known site features. These centerpoints will be loaded into a data acquisition system tied to a GPS system established for use at this site. GSI will use this GPS system to perform daily layout. The GPS systems that GSI uses have a horizontal and vertical tolerance of +/- 0.1'. After the column has been accurately located, a pin flag/stake is placed at the location (see photo), the drill rig is pulled into position, and centered over the pin flag/ stake.

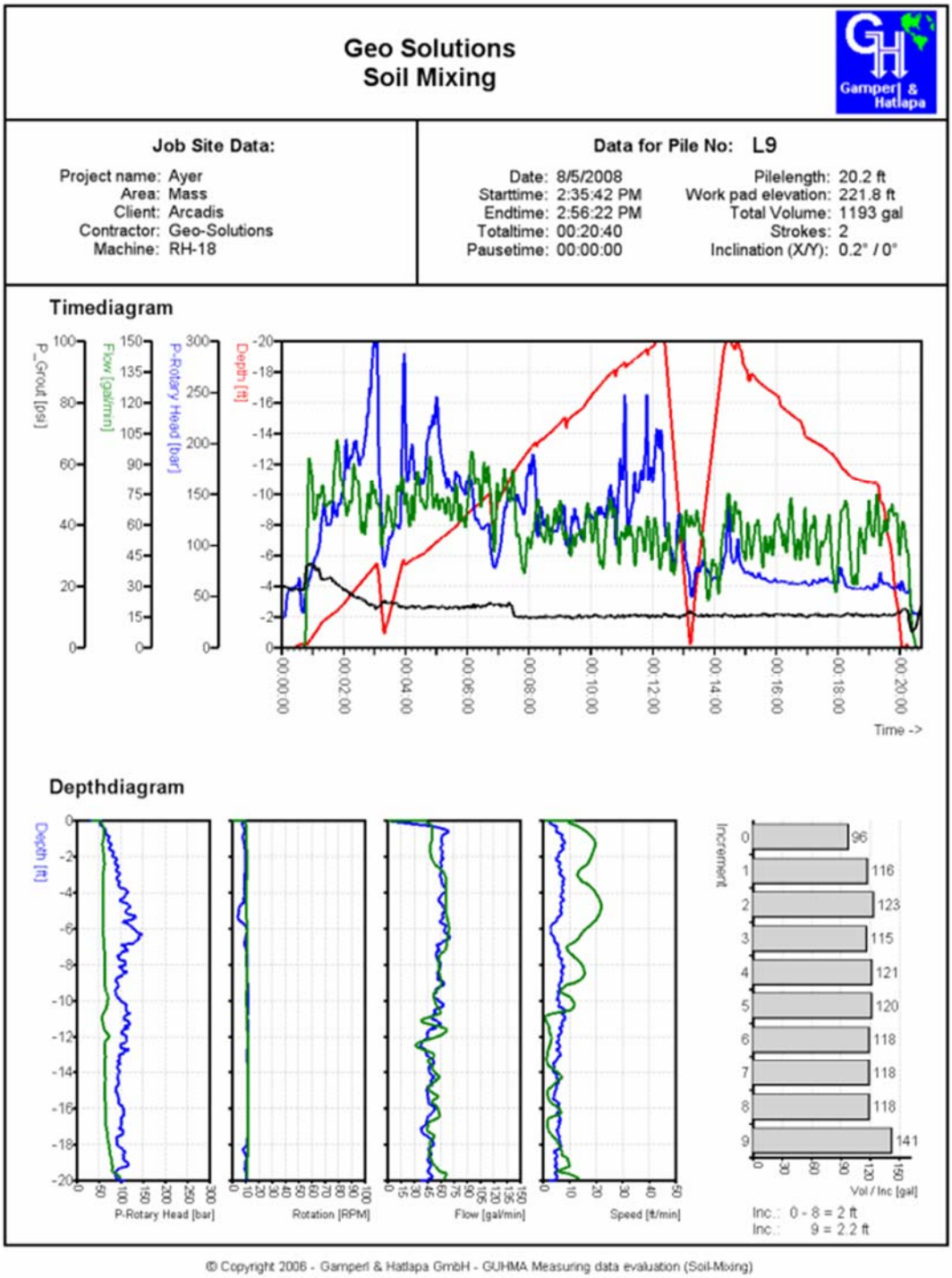


Photo of Soil Mixing Layout

8. DRILL RIG REPORT

GSI's drill rig is equipped with the Guhma data acquisition system (or similar). This system includes an onboard computer where the operator can continuously monitor soil mixing parameters as applicable. The system stores all of this information and compiles "rig reports" that are downloaded at the end of each shift. The report includes grout injection pressures, grout flow rates, vertical speed of auger, and rotation speed of auger (rpm). An example rig report is included below. The column depth is determined by establishing zero at the top of the column, which is determined during GPS staking of the column's horizontal location. Zero depth begins with the auger teeth flush with the top of the working platform.

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Example Rig Report

9. TESTING AND INSPECTION

9.1 SAMPLE COLLECTION AND TESTING

Wet "grab" samples will be taken from within recently mixed columns at a frequency of 1 sample set per day or once every 1000 treated cubic yards, whichever is more frequent, and 1 sample every 200 linear feet around the perimeter of the ISS area. Grab samples of soil-cement will be taken using a hydraulic or mechanical "thief" sampler. Samples will be stored to allow curing. Once the samples have cured for either 3, 7, 14, or 28 days testing, the samples will be provided to ERM for shipment to testing laboratory. Initially, GSI will be taking "split" samples along with ERM to receive preliminary data on column testing. Additional samples may be taken approximately every 1,000 to 3,000 cubic yards of soil mix. Typically, the grab samples will be used to cast 2" x 4" (for unconfined compressive strength (UCS testing) and 3" x 6" (for permeability testing) specimens. Specimens will be cast in a manner that limits the entrapment of air. Immediately after casting, the specimens will be stored in a moisture and temperature controlled environment (normally a cooler kept in the air conditioned site trailers) to cure, undisturbed, prior to transport. When the samples have taken their initial "set" (normally 3 to 5 days) they will be provided to ERM for shipment to a laboratory for UCS, permeability, wet/ dry durability testing at appropriate curing intervals per the specifications.

9.1.1 SAMPLE IDENTIFICATION NOMENCLATURE

Samples will be identified by a simple naming convention using a combination of the date the sample was collected and from what specific column. For example, a sample collected on May 11, 2015 from column S1 will have a sample identification of 2015-0511-S1 or similar.

9.2 CONTRACTOR PERFORMED TESTS

GSI will perform sampling and testing throughout the work day during ISS operations to inspect and ensure all columns are able to meet or exceed performance requirements. The sampling method and test results will recorded and documented as part of the "Daily Quality Control Report" with test results updated when they are received from the testing laboratory.

9.3 INSPECTION

GSI will perform daily and frequent inspections on all aspects of work including subcontractor performed work to ensure all is being conducted in accordance with contract documents and local and state requirements.

Work activities by GSI personnel and subcontractors will be monitored by GSI supervision and any deficiencies in workmanship identified will be corrected immediately and brought to the attention of the engineer. If the deficiencies are not able to be immediately corrected, a corrective action plan will be developed in coordination with the engineer and other as necessary to bring all work into compliance.

9.3.1 DOCUMENTATION

A log of inspections and testing will be documented throughout the course of work to include acceptable work and work needing adjustments and corrective measures. Documentation discussing work the engineer has indicated as nonconforming or defective and any corrective actions/measures.

10. GENERAL

As part of the "Daily Quality Control Report" submittal, GSI will report a summary of daily site activities including the weather, conversations between GSI and other site personnel, safety issues, production issues, and GSI personnel onsite. Observations and suggestions for future site operations on the project will be included on this report so that management can make appropriate decisions about how to best continue the project.

11. ACCEPTANCE

The soil mixing will be considered acceptable when the permeability, unconfined compressive strength, and mass loss criteria are achieved. GSI understands that these criteria are as follows:

1. ISS performance Goals of the ISS columns:

    a. Hydraulic Conductivity $1x10^{-6}$ cm/sec

    b. UCS strength greater than 50 psi but less than 500 psi (28 day)

    c. Mass loss following wetting and drying less than 10%

Note: Should undesirable results be achieved, GSI will first test archived specimens from the same sample set. If unacceptable results persist, then GSI will retest following additional cure time. Unlike concrete, soil-grout continues to improve well beyond 28 days of curing. Finally, GSI will test additional sample sets collected around the time of the failing set to help to determine whether or not the failing set is anomalous.

12. CORRECTIVE PROCEDURES

If the results of the UCS and permeability testing indicate that a column or columns of the site are not in compliance with the project objectives, these columns will be retreated. GSI will endeavor to notify ERM of defective portions of the work as quickly as possible. GSI and ERM will jointly decide the most appropriate course of action to deal with defective areas.

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Table 1. QC Testing Summary Table

Property	Requirement	Min. Frequency	Test Method	Comment
Water Source				
pH	6 to 9	1 per source	Hach Kit	
Total Hardness	<250 ppm	1 per source	Hach Kit	
Alkalinity	<250ppm	1 per source	Hach Kit	
Total Dissolved Solids	<1500 ppm	1 per source	Hach Kit	
Grout (Batch Plant)				
Density	TBD	2 per shift	API RP 13B-1	
Viscosity	TBD	As needed	API RP 13B-1	
pH	TBD	As needed	Hach Kit	
Temperature	TBD	As needed	Thermometer	
Soil-Grout (SM)				
Collect Samples	NA	1 per day or 1000 CYs		
UCS	>50 psi	1 per day or 1000 CYs	ASTM D1633 or D2166	After 28 day cure
Permeability	<1x10-6	1 per day or 1000 CYs	ASTM D5084	After 28 day cure
Backfill				
Gradation	<1", <25% passing #200	5,000 CYs		
Density		5,000 CYs	ASTM D1557	
Compaction	95% DD	5,000 SF	ASTM D2922	
Moisture Content		5,000 SF	ASTM D3017	

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Attachment A
Example Quality Control Reports

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Project:		**Project Number:**		**Date:**	
Client:		**Location:**		**Weather:**	
Owner:		**Superintendent(s):**		**Temp:**	
PM:		**Project Eng.:**		**Days on Site:**	
Shift:		**Safety Officer:**			

DESCRIPTION OF WORK ACTIVITIES:

Subcontractors on Site:

CONVERSATIONS WITH CLIENT:

PRODUCTION DELAYS:

SAFETY DISCUSSIONS, TOPICS, AND ACTIVITIES:

DATE

ID #	DESCRIPTION OF EQUIPMENT	ID #	DESCRIPTION OF EQUIPMENT
	EMPLOYEES ON SITE		EMPLOYEES ON SITE

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Job No:		
Job Name:		
Location:		
Client: NRT		
Date:		

COLUMN REPORT - DRILL RIG

Column ID	Start Time	Stop Time	Design Top El. ft.	Actual Top El. ft.	Design Bottom El. ft.	Actual Bottom El. ft.	# Of Overlaps or % Treated	Effective Area SF	Target Grout Vol Gals	Actual Grout Vol Gals	Cement lbs.	Slag lbs.	Total Reagent (%)	Sample Y/N	Mixing Strokes	Material Treated CY

Comments:

Obstructions:

Columns Completed Today

Columns Completed To Date

Material Treated Today, 12% Reagent Addition	CY
Material Treated To Date, 12% Reagent Addition	CY
Pilot Test Column Material Treated	CY
Total Material Treated To Date	CY

QC Engineer:

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Job No:	
Job Name:	
Location:	
Client:	
Date:	

Batch Plant Report

Holding Tank Measurements

Time	Density - Mud Balance (SG)	Comments

CALIBRATION CHECK WITH WATER

Mud Balance at Mix Tank SG

Mud Balance at Holding Tank SG

Comments: .

QC Engineer:

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GROUT MIX DAILY QC

Job Number
Site:
Location:

DATE

	Water (lbs)/ Gal	Cement (lbs)	Slag (lbs)	SG
TARGETS				
TOTALS				

Time	Batch	Water		Cement		Slag		SG	Additional			Final SG
		Gal	lbs	lbs added	Total lbs.	lbs added	Total lbs.		Water	Cement	Slag	
	1											
	2											
	3											
	4											
	5											
	6											
	7											
	8											
	9											
	10											
	11											
	12											
	13											
	14											
	15											
	16											
	17											
	18											
	19											
	20											

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TRUCK TRACKING SHEET

DATE: _____

Truck #	TIME IN	TIME OUT	TRUCK #	SOIL	DEBRIS	DECON?	Tailgate Lock?
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
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21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							

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Attachment B
Example Grout Addition Calculation

Mix Design Worksheet **Job Name:** Macon, GA **Job Number:** 11-046

Mix Design (by weight of SOIL)

Input		Unit Weight (lb/cf)
Soil	**100.00%**	121 Match with Lab Dry Density
Water	**6.50%**	62.4
Attapulgite	**0.00%**	**160**
Slag	**4.50%**	**186**
Portland	**1.50%**	**197**
Bentonite	**0.50%**	**160**
	113.00%	

Assume **247086.1** lbs Soil (From Column Info)

Soil	247,086.054	lb	2,042.034	cf
Water	16,060.593	lb	257.381	cf
Attapulgite	0.000	lb	0.000	cf
Slag	11,118.872	lb	59.779	cf
Portland	3,706.291	lb	18.814	cf
Bentonite	1,235.430	lb	7.721	cf
	279,207.24	Total Lbs	2,385.73	Total CF

Density Info

SOIL MIX (Theoretical)

Unit Weight of Soil Mix → **117.03** **lb/cf**

Specific Gravity - Soil Mix → **1.88**

GROUT MIX

Unit Weight of Grout Mix → **93.46** **lb/cf**

Specific Gravity - Grout Mix → **1.50**

BENTONITE/WATER

Unit Weight Water/Bent. Mix → **65.24** **lb/cf**

Specific Gravity - Water/Bent. Mix → **1.05**

4.32	lbs Slag per Gallon of Grout
5.56	Tons of Slag per Column
1.44	lbs Portland Cement per Gallon of Grout
1.85	Tons Portland Cement Required per Column
0.48	lbs Bentonite per Gallon of Grout
0.62	Tons Bentonite Required per Column

Mix ID: Mix 1 - Perimeter

Mix Info

1.083	:1	W:C
1.000	:1	W:Solids (Excluding Soil)
7.69%		Percent Bentonite by water

Column Info

10	ft	Column Diameter
78.54	SF	Column Area
26	ft	Column Depth
2042.0	Cf	Volume of soil per column
75.63	*CY*	
121	PCF	Soil Weight
247086.1	lbs soil per Column	

Batching Info

Target W:C Ratio = **1** (W:C) 6.0% Total Cement Addition

CF per Column			Lbs per col.	Lbs per Batch	% by # of Grout
257.3813	cf	Water	16060.59	4997.772	50.0%
0.0000	cf	Attapulgite	0	0	0.0%
59.7789	cf	Slag	11118.87	3459.996	34.6%
18.8137	cf	Portland	3706.291	1153.332	11.5%
7.7214	cf	Bentonite	1235.43	384.444	3.8%
343.6953	Total CF Grout		32121.19	9995.543	100.0%
7.48	Gallons per CF				
2570.840752	**Gallons of Mix per Column**				

Target Batch Size = **800** Gal

Total # Batches per Column = 3.21 26 ft deep

Gallons Water per Batch = 599.09

98.9	Gallons of Grout Required per Ft of Drill Depth
12.73	CY of Spoils Generated
1.2590	**Gallons of grout required per CF for target addition**

Mix Design Worksheet **Job Name:** Macon, GA **Job Number:** 11-046

Mix Design (by weight of SOIL)

Input		Unit Weight (lb/cf)	
Soil	**100.00%**	121	Match with Lab Dry Density
Water	**7.50%**	62.4	
Attapulgite	**0.00%**	**160**	
Slag	**4.50%**	**186**	
Portland	**2.50%**	**197**	
Bentonite	**0.50%**	**160**	
	115.00%		

Assume **247086.1** lbs Soil (From Column Info)

Soil	247,086.054	lb	2,042.034	cf
Water	18,531.454	lb	296.978	cf
Attapulgite	0.000	lb	0.000	cf
Slag	11,118.872	lb	59.779	cf
Portland	6,177.151	lb	31.356	cf
Bentonite	1,235.430	lb	7.721	cf
	284,148.96	Total Lbs	2,437.87	Total CF

Density Info

SOIL MIX (Theoretical)

Unit Weight of Soil Mix → **116.56** **lb/cf**

Specific Gravity - Soil Mix → **1.87**

GROUT MIX

Unit Weight of Grout Mix → **93.63** **lb/cf**

Specific Gravity - Grout Mix → **1.50**

BENTONITE/WATER

Unit Weight Water/Bent. Mix → **64.87** **lb/cf**

Specific Gravity - Water/Bent. Mix → **1.04**

3.76	lbs Slag per Gallon of Grout
5.56	Tons of Slag per Column
2.09	lbs Portland Cement per Gallon of Grout
3.09	Tons Portland Cement Required per Column
0.42	lbs Bentonite per Gallon of Grout
0.62	Tons Bentonite Required per Column

Mix ID: Mix 2 - Central

Mix Info

1.071	:1	W:C
1.000	:1	W:Solids (Excluding Soil)
6.67%		Percent Bentonite by water

Column Info

10	ft	Column Diameter
78.54	SF	Column Area
26	ft	Column Depth
2042.0	Cf	Volume of soil per column
75.63	*CY*	
121	PCF	Soil Weight
247086.1	lbs soil per Column	

Batching Info

Target W:C Ratio = **0.8** (W:C) 7.0% Total Cement Addition

CF per Column			Lbs per col.	Lbs per Batch	% by # of Grout
296.9784	cf	Water	18531.45	5007.072	50.0%
0.0000	cf	Attapulgite	0	0	0.0%
59.7789	cf	Slag	11118.87	3004.243	30.0%
31.3561	cf	Portland	6177.151	1669.024	16.7%
7.7214	cf	Bentonite	1235.43	333.8048	3.3%
395.8349	Total CF Grout		37062.91	10014.14	100.0%
7.48	Gallons per CF				
2960.844685	**Gallons of Mix per Column**				

Target Batch Size = **800** Gal

Total # Batches per Column = 3.70 26 ft deep

Gallons Water per Batch = 600.21

113.9	Gallons of Grout Required per Ft of Drill Depth
14.66	CY of Spoils Generated
1.4499	**Gallons of grout required per CF for target addition**

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Column Volume Calculation / Cement Addition

Macon Former MGP Remediation
Macon, Bibb County, GA
JOB # 11-046

Column ID: S1 **Date Mixed:** 2/1/15

Neat Volume

10.0 Ft. Column Diameter
10.0 Ft. Column Depth

78.54 SF Column Area

785.40 CF Neat Column Volume
29.09 CY Neat Column Volume

Overlap Calculation and Effective Volume

10.0 Ft. Column Diameter
10.0 Ft. Column Depth

78.54 SF Column Area
2.00 Column Overlaps
8.95 SF Overlaps
69.59 SF Effective Area
695.85 CF Effective Volume
25.77 CY Effective Volume

Soil Weight for Reagent Calcs.

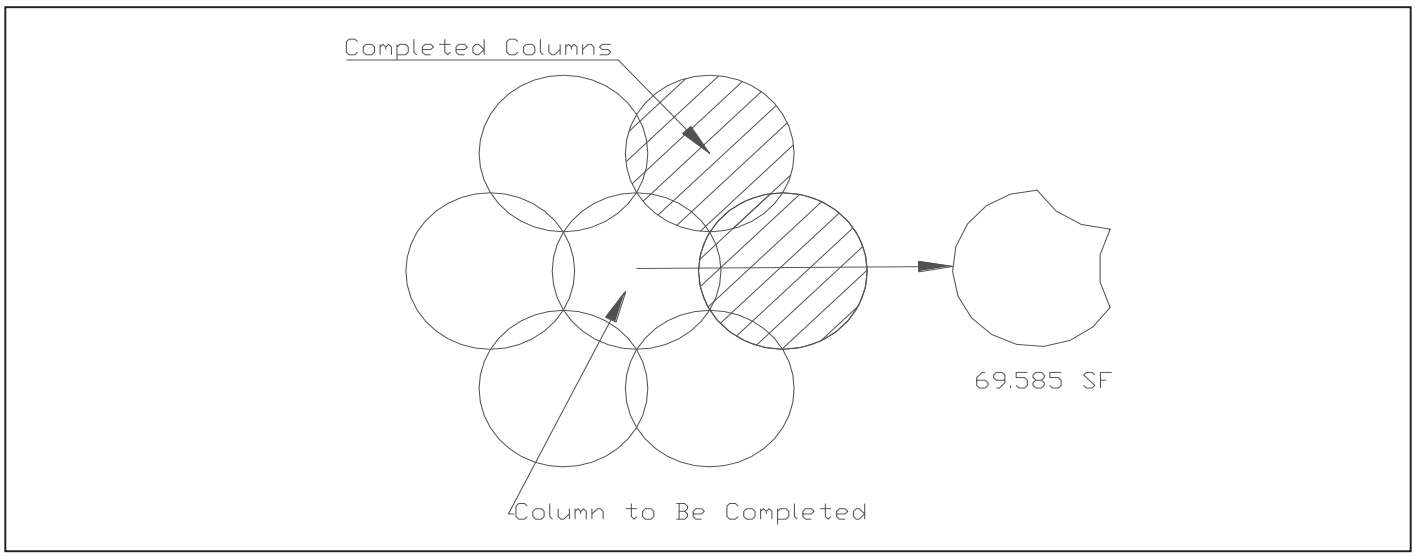
695.85 CF Effective Column Volume
120.00 PCF Soil Dry Unit Weight

83,502.00 lbs Soil
8.5% Target Total Cement Addition (By weight of soil)
7,097.67 lbs Cement Required

6.375% Slag Cement (By dry weight of soil)
5,323.25 lbs Slag Cement Required
2.125% Portland Cement (By dry weight of soil)
1,774.42 lbs Portland Cement Required

1.5 :1 Target Water to Reagent Ratio

1,300.89 Gallons Grout Required



Kemron Geotechnical Test Results

Appendix A-6

May 21, 2016
Project No. 0176740
Corrective Action Completion Report

Environmental Resources Management
3200 Windy Hill Rd. Suite 1500W
Atlanta, GA 30339
(678) 486-2700

KEMRON
ENVIRONMENTAL SERVICES

1359-A Ellsworth Industrial Blvd • Atlanta, GA 30318 • TEL 404-636-0928 • FAX 404-636-7162

May 10, 2016

Environmental Resources Management, Inc.
3200 Windy Hill Road, Suite 1500W
Atlanta, GA 30339

Re: Final Letter Report of Confirmation Testing
ERM Project No. 176740
KEMRON Project No. SH0578

Dear Mr. Rivera:

Enclosed, please find the testing results for samples received between July 16, 2015 and February 23, 2016 for confirmation testing. All analytical testing was performed by Analytical Environmental Services (AES) located in Atlanta, GA.

This letter report includes the summary tables, supporting laboratory data and the sample chain of custodies. The following methods were completed for selected samples:

Unconfined Compressive Strength – ASTM D2166
Hydraulic Conductivity – ASTM D5084
Wet/Dry Durability – ASTM D4843
Leachability – ANSI 16.1
Leachability – EPA LEAF Method 1315

KEMRON Environmental Services, Inc. appreciates this opportunity to provide laboratory services to ERM. If you have any questions, or require additional information, please contact me at (404) 636-0928.

Sincerely,

KEMRON Environmental Services, Inc.

James Moyer
Staff Chemist

Tommy A. Jordan, P.G.
Program Manager

Attachments: Table 1 – Summary of Confirmation Testing Results
Table 2-2i – Summary of ANS 16.1 Leachability Analytical Results
Table 3-3i – Summary of EPA LEAF 1315 Leachability Analytical Results
Appendix A – Unconfined Compressive Strength Data Sheets
Appendix B – Hydraulic Conductivity Data Sheets
Appendix C – Wet/Dry Durability Data Sheets
Appendix D – ANS 16.1 Leachability Data Sheets
Appendix E – EPA LEAF 1315 Leachability Data Sheets

Tables

ERM
MACON AGL CONFIRMATION TESTING
KEMRON PROJECT No. SH0578

TABLE 1

Confirmational Testing Results
Unconfined Compressive Strength and Hydraulic Conductivity

Sample ID	Kemron Tracking Number	Field Sampling Date	Cure Day	Unconfined Compressive Strength ASTM D1633				Hydraulic Conductivity ASTM D5084				Wet Dry Durability ASTM D4843	
				Moisture Content %	Bulk Density (lb/ft^3)	Dry Density (lb/ft^3)	UCS (lb/in^2)	Moisture Content (%)	Bulk Density (lb/ft^3)	Dry Density (lb/ft^3)	K (cm/sec)	PASS/FAIL	Mass Loss
CQ27-(M)-20150711-01	A183	7/11/2015	3	41.84	109.4	77.1	110.5						
	A191		7	40.85	107.9	76.6	205.7	< 1.0E -9 *					
	A293		28	40.85	108.9	77.3	567.4	41.0	104	74.0	1.4E-09	PASS	
CP26-B-20150713-02	A189	7/13/2015	3	53.27	104.4	68.1	125.8						
	A192		7	51.31	104.4	69.0	131.3	52.0	103.4	68.0	1.85E-09		
	A292		28	50.59	104.1	69.1	490.8	58.1	99	62.7	2.7E-09	PASS	
CM25-10-20150714-03	A190	7/14/2015	3	48.77	105.8	71.1	189.8						
	A195		7	47.72	104.7	70.9	434.7	43.0	107.0	74.8	2.53E-09		
	A296		28	45.34	106.7	73.4	594.7	44.2	105	73.1	1.9E-09	PASS	
CM23-5-20150717-04	A193	7/17/2015	3	47.47	107.8	73.1	139.5						
	A200		7	47.17	106.9	72.6	307.8	44.7	107.0	73.9	2.50E-09		
	A298		28	47.10	106.4	72.3	608.4	43.9	106	73.6	4.5E-09		
	A568		61									PASS	
CJ24-5-20150717-05	A194	7/17/2015	3	47.77	106.4	72.1	141.5						
	A201		7	45.55	106.3	73.0	286.4	46.51	104.9	76.1	1.12E-07		
	A299		28	45.24	105.7	72.8	582.8	45.3	105	71.9	4.0E-08		
	A569		61									PASS	
CH22-(20)-20150718-06	A196	7/18/2015	3	46.55	107.2	73.2	218.4						
	A204		7	45.86	106.1	72.8	467.4	42.31	106.6	74.9	2.73E-09		
	A300		30	43.39	107.2	74.7	679.6	46.1	105	71.6	1.6E-09	PASS	
CF20-(10)-20150718-07	A197	7/18/2015	3	42.39	108.9	76.5	141.7						
	A205		7	39.03	107.8	77.5	235.9						
	A301		30	41.30	109.2	77.3	526.0					PASS	
	A463		90					41.07	106.8	75.7	5.9E-09		
CC21-20-20150720-08	A198	7/20/2015	3	45.33	107.0	73.6	242.1						
	A234		7	46.12	107.5	73.5	383.9						
	A302		28	45.50	105.8	72.7	619.5					PASS	
	A464		88					45.03	107.3	74.0	1.8E-08		
CA21-5-20150720-09	A199	7/20/2015	3	46.98	104.5	71.1	225.9						
	A235		7	47.24	106.8	72.5	358.7						
	A303		28	45.45	105.5	72.5	506.0					PASS	
	A465		88					48.46	106.0	71.4	4.7E-08		
BZ18-10-20150721-10	A203	7/21/2015	3	72.28	97.8	56.8	252.2						
	A240		7	71.72	95.9	55.9	412.2	69.74	96.6	56.9	2.39E-08		
	A304		28	71.98	97.4	56.6	527.9	70.0	95	55.7	4.7E-10	PASS	
BW19-15-20150721-11	A202	7/21/2015	3	71.98	97.7	56.8	203.7						
	A241		7	69.46	97.1	57.3	344.6	71.70	94.8	55.2	4.15E-08		
	A305		28	70.61	97.4	57.1	438.1	71.6	95	55.5	2.0E-08	PASS	
BU19-5-20150722-12	A236	7/22/2015	5	57.54	100.7	63.9	217.1						
	A244		7					57.41	101.2	64.3	8.12E-09		
	A307		28	55.69	102.1	65.6	527.0	56.7	100	63.8	1.2E-09	PASS	
BS17-10-20150722-13	A237	7/22/2015	5	60.50	101.0	62.9	181.3						
	A245		7					62.16	98.2	60.6	2.07E-09		
	A308		28	60.52	100.0	62.3	462.5	62.8	99	60.9	3.2E-08		
	A338		34									PASS	
BS15-5-20150723-14	A238	7/23/2015	4	64.04	99.0	60.3	140.0						
			7					62.4	98	60.4	5.0E-07		
	A329		28	61.80	98.7	61.0	500.9	63.6	98	60.0	2.4E-08		
	A339		33									PASS	
BS13-20-20150724-15	A239	7/24/2015	3	111.55	88.8	42.0	58.6						
			7					58.3	99	62.8	4.1E-07		
	A332		28	109.59	87.8	41.9	289.5	97.9	87	44.1	3.4E-08	Considered a failure @ Cycle 3	>15%
	A404		66									FAIL @ Cycle 5	>30%
	A480		94									FAIL @ Cycle 11	>30%
BO11-15-20150725-16	A243	7/25/2015	3	53.04	103.9	67.9	124.4						
	A247		7					54.9	106	68.3	3.6E-08		
	A333		28	53.65	102.7	66.8	390.1	53.0	102	67	3.9E-08	PASS	

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TABLE 1

Confirmational Testing Results
Unconfined Compressive Strength and Hydraulic Conductivity

Sample ID	Kemron Tracking Number	Field Sampling Date	Cure Day	Unconfined Compressive Strength ASTM D1633				Hydraulic Conductivity ASTM D5084				Wet Dry Durability ASTM D4843	
				Moisture Content %	Bulk Density (lb/ft^3)	Dry Density (lb/ft^3)	UCS (lb/in^2)	Moisture Content (%)	Bulk Density (lb/ft^3)	Dry Density (lb/ft^3)	K (cm/sec)	PASS/FAIL	Mass Loss
BM9-10-20150727-17	A246	7/27/2015	3	58.07	99.2	62.8	143.1						
			7					58.3	99.0	62.8	3.4E-08		
	A335		28	58.68	100.6	63.4	505.3	56.2	102.0	65.5	3.0E-09	PASS	
BJ8-5-20150728-18	A248	7/28/2015	3	71.56	95.4	55.6	138.1						
			7					68.6	96.0	56.8	4.3E-08		
	A336		28	68.13	97.0	57.7	435.7	68.3	97	57.5	1.1E-08		
	A389		50									PASS	
BD8-10-20150729-19	A249	7/29/2015	3	58.87	100.1	63.0	64.2						
			7					48.2	101.0	68.5	2.3E-08		
	A340		28	56.96	101.0	64.4	395.7	59.9	98.0	61.6	4.5E-09	PASS	
AY7-15-20150730-20	A250	7/30/2015	3	62.13	100.7	62.1	190.6						
			7					58.8	101	63.8	3.1E-08		
	A344		28	57.82	100.1	63.4	472.2	59.2	101	63.6	2.4E-08	PASS	
AR10-5-20150731-21	A251	7/31/2015	3	55.34	100.5	64.7	95.6						
	A297/A291		7	54.74	101.6	65.7	350.0	54.22	101.1	65.6	1.40E-08		
	A351		28	54.26	100.4	65.1	512.4	53.0	100	65.5	7.7E-09	PASS	
AP10-10-20150801-22	A252	8/1/2015	3	59.31	101.1	63.5	85.3						
			7					55.7	101	65.1	3.0E-08		
	A352		28	53.74	103.0	67.0	424.7	54.7	102	66.1	2.6E-08	PASS	
AH10-12-20150803-23	A271	8/3/2015	3	52.17	103.1	67.8	111.0						
			7					52.1	102	67.1	2.4E-08		
	A353		28	51.69	102.8	67.8	401.8	50.7	103	68.5	1.9E-08	PASS	
AB10-5-20150810-24	A306	8/10/2015	7					55.09	102.2	66.8	1.66E-08		
	A365		29	54.43	100.6	65.2	555.1	55.6	99	63.8	7.0E-08	PASS	
C11-25-20150811-25		8/11/2015	7					58.8	100	62.7	2.0E-08		
	A366		28	59.07	99.7	62.7	417.0	58.2	98	62.0	9.3E-08	PASS	
H10-5-20150812-26		8/12/2015	7					64.7	96	58.1	1.8E-08		
	A367		28	64.53	98.4	59.8	511.4	63.9	97	58.9	5.0E-08	PASS	
S9-10-20150813-27		8/13/2015	7					57.2	98	62.2	9.7E-09		
	A373		27	55.69	101.4	65.1	521.5						
	A382		28					57.1	100	63.9	7.0E-09	PASS	
E13-5-20150814-28		8/14/2015	7					66.9	95	56.9	1.1E-08		
	A374		26	66.23	97.0	58.4	450.6						
	A383		28					66.1	96	57.8	2.2E-09	PASS	
C17-10-20150815-29		8/15/2015	7					58.0	101	64.1	2.7E-07		
	A375		25	57.39	101.0	64.2	443.5						
	A384		28					57.5	99	62.9	9.7E-09	PASS	
H18-5-20150817-30		8/17/2015	7					53.6	101	65.9	2.7E-08		
	A376		23	50.79	102.8	68.2	342.0						
	A385		28					56.77	102.8	65.6	2.6E-08	PASS	
K21-10-20150818-31	A337	8/18/2015	7	53.32	103.1	67.2	278.9	53.0	102	66.4	1.4E-10		
	A386		28					53.53	101.7	66.3	1.5E-08	PASS	
S21-15-20150819-32		8/19/2015	7					67.4	96	57.4	2.1E-09		
	A377		21	65.85	98.0	59.1	426.7						
	A387		28					65.7	97	58.5	2.5E-08	Considered a failure @ Cycle 12	>15%
	A481		68									PASS	
X20-5-20150820-33		8/20/2015	7					67.7	95	56.4	2.3E-10		
	A378		20	67.00	97.3	58.2	372.7						
	A391		28					66.8	95	56.9	3.9E-09	FAIL @ Cycle 12	>30%
	A521		74									PASS	
AG23-10-20150822-34		8/22/2015	7					59.6	97	60.9	1.1E-09		
	A379		18	61.05	99.5	61.8	361.7						
	A394		28					57.5	97.7	62.0	1.3E-08	PASS	

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TABLE 1

Confirmational Testing Results
Unconfined Compressive Strength and Hydraulic Conductivity

Sample ID	Kemron Tracking Number	Field Sampling Date	Cure Day	Unconfined Compressive Strength ASTM D1633				Hydraulic Conductivity ASTM D5084				Wet Dry Durability ASTM D4843	
				Moisture Content %	Bulk Density (lb/ft^3)	Dry Density (lb/ft^3)	UCS (lb/in^2)	Moisture Content (%)	Bulk Density (lb/ft^3)	Dry Density (lb/ft^3)	K (cm/sec)	PASS/FAIL	Mass Loss
AN24-15-20150824-35		8/24/2015	7					59.7	98	61.2	5.6E-09		
	A380		16	60.74	99.2	61.7	400.6						
	A395		28					59.8	95.6	59.8	1.9E-08	PASS	
AV24-5-20150825-36	A360	8/25/2015	7					36.83	106.3	77.7	3.4E-09		
	A368		14	41.25	107.4	76.0	409.8						
	A396		28					42.59	106.7	74.8	2.6E-08	PASS	
BG23-10-20150826-37	A361	8/26/2015	7					49.15	102.5	68.7	3.5E-09		
	A369		13	49.35	103.0	68.9	297.4						
	A399		28					49.68	101.6	67.9	2.2E-09	PASS	
CM27-15-20150828-38	A362	8/28/2015	7					39.66	109.6	78.5	5.2E-08		
	A370		11	39.35	109.2	78.4	74.7						
	A401		28					40.57	107.0	76.1	2.4E-08	PASS	
CC25-10-20150829-39	A363	8/29/2015	7					64.82	97.3	59.0	3.9E-09		
	A371		10	64.00	95.6	58.3	289.5						
	A402		28					66.18	96.2	57.9	6.9E-09	FAIL @ Cycle 8	>30%
	A482		58									FAIL @ Cycle 9	>30%
BV26-5-20150901-40	A364	9/1/2015	7	77.26	95.2	53.7	287.0	72.85	94.7	54.8	3.4E-09		
	A406		28					73.7	93	53.8	4.3E-09		
	A457		38									FAIL @ Cycle 6	>30%
	A531		65									FAIL @ Cycle 5	>30%
BU21-15-20150902-41	A381	9/2/2015	7	54.70	101.0	65.3	248.1	55.86	100.7	64.6	3.0E-09		
	A425		28					63.0	97	59.7	2.9E-08	PASS	
BK21-10-20150903-42	A372	9/3/2015	7	63.77	98.4	60.1	220.5	65.19	96.8	58.6	4.1E-09		
	A428		28					64.8	95	57.9	6.1E-09	FAIL @ Cycle 2	>30%
	A522		60									FAIL @ Cycle 3	>30%
AZ18-5-20150909-43	A388	9/9/2015	7	54.14	101.1	65.6	225.2	57.1	103	65.6	3.2E-08		
	A431		28					57.97	100.1	63.4	2.4E-09	FAIL @ Cycle 8	>30%
	A539		64									FAIL @ Cycle 8	>30%
AR18-15-20150910-44	A390	9/10/2015	7	48.37	103.9	70.0	200.3	44.9	103	71.1	9.6E-08		
	A432		28					45.02	105.1	72.5	6.2E-08	PASS	
L16-10-20150911-45	A392	9/11/2015	7	54.00	102.7	66.7	284.2	53.3	101.7	66.3	5.2E-09		
	A453		28					46.87	101.6	69.1	6.1E-08	PASS	
W17-10-20150914-46	A393	9/14/2015	7	45.00	107.3	74.0	204.9	44.8	105.8	73.0	1.4E-08		
	A454		28					44.70	106.0	73.3	1.2E-08	PASS	
AF18-5-20150915-47	A397	9/15/2015	7	52.26	102.5	67.3	255.7	55.78	99.9	64.1	4.0E-09		
	A456		28					54.00	100.3	65.1	1.9E-08	PASS	
AL18-10-20150916-48	A398	9/16/2015	7	56.22	102.1	65.4	177.7	55.37	98.7	63.5	7.1E-08		
	A458		28					54.53	99.6	64.4	1.4E-07	PASS	
BC11-15-20150917-49	A400	9/17/2015	7	47.69	104.8	70.9	254.1	47.66	104.0	70.4	5.3E-09		
	A459		28					48.04	103.9	70.2	1.8E-08	PASS	
K13-5-20150919-50	A403	9/19/2015	7	54.06	103.2	67.0	193.9	54.04	101.0	65.5	6.2E-08		
	A462		28					57.31	101.6	64.6	2.1E-08	PASS	
Z14-10-20150922-51	A405	9/22/2015	7	55.27	101.8	65.6	175.1	48.4	101	68.1	7.3E-09		
	A466		28					52.04	100.9	66.4	1.9E-08	PASS	
AK15-5-20150923-52	A426	9/23/2015	7	49.70	103.4	69.1	181.0	56.9	99	63.1	7.2E-09		
	A467		28					47.96	102	68.9	2.5E-08	PASS	
BI13-10-20150924-53	A427	9/24/2015	7	53.51	103.3	67.3	238.6	57.0	100	63.7	9.1E-08		
	A474		28					45.85	101.5	69.6	1.1E-08	PASS	
BB14-15-20150925-54	A429	9/25/2015	7	48.74	104.7	70.4	348.2	47.3	101	68.4	1.7E-08		
	A477		28					43.74	100.1	69.7	3.8E-08	PASS	
AQ15-5-20150928-55	A430	9/28/2015	7	47.00	105.7	71.9	237.1	46.96	104.4	71.2	3.4E-09		
	A478		28					43.46	104.1	72.6	1.8E-08	PASS	
AR30-5-20151006-56	A455	10/6/2015	7	52.88	102.7	67.2	383.8	63.11	97.9	60.0	2.2E-08		
	A523		28					61.7	98.1	60.7	2.6E-09		
BE31-10-20151007-57	A460	10/7/2015	8	56.76	101.9	65.0	209.4	56.68	99.5	63.5	5.8E-09		
	A524		28					54.57	101.6	65.7	2.7E-08		
BO31-5-20151009-58	A461	10/9/2015	7	45.89	105.7	72.4	207.1	48.84	103.7	69.7	8.1E-09		
	A525		28					48.27	103.4	69.7	1.7E-07	PASS	
CF30-15-20151013-59	A468	10/13/2015	7	56.49	101.3	64.7	245.3	57.13	99.6	63.4	5.0E-09		
	A537		28					56.28	101.1	64.7	6.5E-08	FAIL @ Cycle 9	>30%
BV30-10-20151015-60	A475	10/15/2015	7	66.43	97.9	58.8	271.0	70.98	95.0	55.6	1.7E-08		
	A540		28					67.66	95.6	57.0	5.7E-09	FAIL @ Cycle 4	>30%
BI27-5-20151016-61	A476	10/16/2015	7	77.10	94.3	53.2	226.4	77.8	92.8	52.2	2.7E-08		
	A552		28					72.62	92.8	53.8	5.3E-08		
BD26-10-20151019-62	A479	10/19/2015	7	59.13	99.8	62.7	183.9	60.86	97.5	60.6	6.7E-08		
	A554		28					61.56	98.3	60.9	2.8E-08	FAIL @ Cycle 7	>30%

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TABLE 1

Confirmational Testing Results
Unconfined Compressive Strength and Hydraulic Conductivity

Sample ID	Kemron Tracking Number	Field Sampling Date	Cure Day	Unconfined Compressive Strength ASTM D1633				Hydraulic Conductivity ASTM D5084				Wet Dry Durability ASTM D4843	
				Moisture Content %	Bulk Density (lb/ft^3)	Dry Density (lb/ft^3)	UCS (lb/in^2)	Moisture Content (%)	Bulk Density (lb/ft^3)	Dry Density (lb/ft^3)	K (cm/sec)	PASS/FAIL	Mass Loss
BN46-15-20151020-63	A483	10/20/2015	7	47.54	107.8	73.1	157.5	42.16	106.4	74.8	1.8E-07		
	A555		28					46.58	106.5	72.7	5.3E-08	PASS	
BG43-5-20151021-64	A513	10/21/2015	7	41.79	108.8	76.7	161.2	45.65	106.8	73.3	2.3E-07		
	A557		28					44.15	108.3	75.1	9.1E-08	PASS	
BL40-10-20151022-65	A514	10/22/2015	7	50.95	104.2	69.0	167.2	53.02	103.1	67.4	2.7E-07		
	A558		28					52.83	101.9	66.7	2.4E-08	PASS	
BM35-15-20151023-66	A520	10/23/2015	7	52.01	103.0	67.8	304.8	49.81	101.6	67.8	2.6E-08		
	A560		28					50.1	101.8	67.8	2.5E-08	PASS	
BH38-5-20151028-67	A526	10/28/2015	7	49.21	105.0	70.4	137.6	46.48	102.8	70.2	2.6E-07		
	A566		28					49.34	103.6	69.4	1.1E-07	PASS	
BF34-10-20151029-68	A530	10/29/2015	7	79.16	93.5	52.2	193.5	84.21	92.2	50.05	1.5E-07		
	A567		28					86.45	90.9	48.7	3.5E-08		
AT6-15-201581102-69	A536	11/2/2015	7	54.85	102.0	65.9	141.5	54.82	99.8	64.4	4.9E-08		
	A570		28					52.78	101.4	66.4	3.9E-08	PASS	
AI3-20-20151103-70	A538	11/3/2015	7	44.33	105.3	72.9	134.5	47.45	104.3	70.7	1.6E-07		
	A571		28					47.60	102.9	69.7	1.1E-07	PASS	
C3-25-20151105-71	A541	11/5/2015	7	59.21	101.7	63.9	77.7	59.78	99.6	62.3	2.0E-07		
	A572		28					59.99	98.4	61.5	1.9E-07	PASS	
I5-20-20151106-72	A551	11/6/2015	7	51.79	103.6	68.3	127.8	51.67	100.7	66.4	1.7E-07		
	A573		28					49.79	99.9	66.6	3.8E-08	PASS	
R4-5-20151109-73	A553	11/9/2015	7	52.89	99.9	65.3	108.7	59.86	98.6	61.6	6.4E-07		
	A574		28					61.1	98	60.8	1.0E-07	PASS	
X4-15-20151110-74	A556	11/10/2015	7	43.19	107.8	75.3	87.0	46.43	105.2	71.8	2.2E-07		
	A583		28					45.0	107	73.7	1.5E-08	PASS	
AN6-10-20151112-75	A559	11/12/2015	7	46.83	105.7	72.0	99.8	46.78	103.6	70.6	1.6E-07		
	A592		28					46.4	105	71.9	9.5E-09	PASS	
AH6-5-20151113-76	A561	11/13/2015	7	45.33	104.6	72.0	121.8	46.29	102.8	70.3	7.3E-08		
	A593		28					44.3	103	71.5	2.8E-08	PASS	
Z4-10-20151114-77	A562	11/14/2015	6	43.67	107.1	74.5	108.5	42.57	107.3	75.3	2.9E-08		
	A594		31					40.4	108	76.6	3.7E-09	PASS	
F6-10-20151117-78	A565	11/17/2015	7	42.39	107.9	75.8	116.1	42.64	106.1	74.4	7.6E-08		
	A595		28					42.2	104	72.8	1.4E-08	PASS	
Remix-1-20151119-79	A600	11/19/2015	28									PASS	
Remix-2-20151120-80	A603	11/20/2015	28									PASS	
Remix-3-20151121-81	A604	11/21/2015	28									PASS	
Remix-4-20160217-82	A678	2/17/2016	28									PASS	
Remix-6-20160218-83	A679	2/18/2016	28									PASS	

Notes:
% = percent
lb/ft^3= Pounds Per Cubic Foot
lb/in^2= Pounds Per Square Inch
TIP = Testing in progress
Testing Not Requested (gray shading)
* Sample impermeable. No movement of permeate > 0.5 ml could be obtained within 2 weeks.

APPENDIX A

Unconfined Compressive Strength

ASTM D1633

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CQ27-(M)-20150711-01 (3 Day)		
TESTING DATE:	14-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	TAJ	TRACKING CODE:	A183_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	77.14	g
3. WT WET SOIL + TARE	138.30	g
4. WT DRY SOIL + TARE	120.26	g
5. WT WATER, Ww	18.04	g
6. WT DRY SOIL, Ws	43.12	g
7. MOISTURE CONTENT, W	**41.84**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	4.02	in.
No. 2	2.00	in.	4.02	in.
No. 3	2.00	in.	4.03	in.
Average	**2.00**	**in.**	**4.02**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***362.99***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.64	in^3
Initial Bulk Unit Weight,	109.4	lb/ft^3
Initial Dry Unit Weight	77.1	lb/ft^3
Maximum Load (Peak)	351.00	lbs.
UCS	110.5	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.142	0.0000	0.0
351	0.045	0.045	3.177	0.0112	110.5

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CQ27-(M)-20150711-01 (3 Day)		
TESTING DATE:	14-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	TAJ	TRACKING CODE:	A183_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	362.99	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.64	in^3
Initial Bulk Unit Weight,	109.4	lb/ft^3
Initial Dry Unit Weight	77.1	lb/ft^3
Maximum Load (Peak)	351.00	lbs.
Moisture Content, W	41.84	%
UCS	110.5	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CQ27-(M)-20150711-01 (7 Day)		
TESTING DATE:	18-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	JDM	TRACKING CODE:	A191_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	115.01	g
3. WT WET SOIL + TARE	218.00	g
4. WT DRY SOIL + TARE	188.13	g
5. WT WATER, Ww	29.87	g
6. WT DRY SOIL, Ws	73.12	g
7. MOISTURE CONTENT, W	**40.85**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.01	in.	4.01	in.
No. 2	2.00	in.	4.02	in.
No. 3	2.00	in.	4.01	in.
Average	**2.00**	**in.**	**4.01**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***357.94***	***g***
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.63	in^3
Initial Bulk Unit Weight,	107.9	lb/ft^3
Initial Dry Unit Weight	76.6	lb/ft^3
Maximum Load (Peak)	664.00	lbs.
UCS	205.7	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
1	0.000	0.000	3.147	0.0000	0.3
664	0.100	0.100	3.228	0.0249	205.7

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CQ27-(M)-20150711-01 (7 Day)		
TESTING DATE:	18-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	JDM	TRACKING CODE:	A191_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	357.94	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.63	in^3
Initial Bulk Unit Weight,	107.9	lb/ft^3
Initial Dry Unit Weight	76.6	lb/ft^3
Maximum Load (Peak)	664.00	lbs.
Moisture Content, W	40.85	%
UCS	205.7	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CQ27-(M)-20150711-01 (28 Day)		
TESTING DATE:	10-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A293_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	50.19	g
3. WT WET SOIL + TARE	106.39	g
4. WT DRY SOIL + TARE	90.09	g
5. WT WATER, Ww	16.30	g
6. WT DRY SOIL, Ws	39.90	g
7. MOISTURE CONTENT, W	**40.85**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	4.00	in.
No. 2	2.00	in.	4.00	in.
No. 3	2.01	in.	4.01	in.
Average	**2.00**	**in.**	**4.00**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***359.91***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.59	in^3
Initial Bulk Unit Weight,	108.9	lb/ft^3
Initial Dry Unit Weight	77.3	lb/ft^3
Maximum Load (Peak)	1809.00	lbs.
UCS	567.4	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.144	0.0000	0.0
1809	0.055	0.055	3.188	0.0137	567.4

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CQ27-(M)-20150711-01 (28 Day)		
TESTING DATE:	10-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A293_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	359.91	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.59	in^3
Initial Bulk Unit Weight,	108.9	lb/ft^3
Initial Dry Unit Weight	77.3	lb/ft^3
Maximum Load (Peak)	1809.00	lbs.
Moisture Content, W	40.85	%
UCS	567.4	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CP26-B-20150713-02 (3 Day)		
TESTING DATE:	16-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	TAJ	TRACKING CODE:	A189_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	113.27	g
3. WT WET SOIL + TARE	184.60	g
4. WT DRY SOIL + TARE	159.81	g
5. WT WATER, Ww	24.79	g
6. WT DRY SOIL, Ws	46.54	g
7. MOISTURE CONTENT, W	**53.27**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.02	in.	4.04	in.
No. 2	2.03	in.	4.04	in.
No. 3	2.05	in.	4.04	in.
Average	**2.03**	**in.**	**4.04**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***359.59***	***g***
Initial Area, Ao	3.25	in^2
Initial Volume, Vo	13.12	in^3
Initial Bulk Unit Weight,	104.4	lb/ft^3
Initial Dry Unit Weight	68.1	lb/ft^3
Maximum Load (Peak)	412.00	lbs.
UCS	125.8	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.247	0.0000	0.0
412	0.035	0.035	3.276	0.0087	125.8

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CP26-B-20150713-02 (3 Day)		
TESTING DATE:	16-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	TAJ	TRACKING CODE:	A189_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	359.59	g
Initial Area, Ao	3.25	in^2
Initial Volume, Vo	13.12	in^3
Initial Bulk Unit Weight,	104.4	lb/ft^3
Initial Dry Unit Weight	68.1	lb/ft^3
Maximum Load (Peak)	412.00	lbs.
Moisture Content, W	53.27	%
UCS	125.8	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CP26-B-20150713-02 (7 Day)		
TESTING DATE:	20-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	JDM	TRACKING CODE:	A192_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.59	g
3. WT WET SOIL + TARE	131.29	g
4. WT DRY SOIL + TARE	112.74	g
5. WT WATER, Ww	18.55	g
6. WT DRY SOIL, Ws	36.15	g
7. MOISTURE CONTENT, W	**51.31**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.06	in.	4.03	in.
No. 2	2.03	in.	4.03	in.
No. 3	2.02	in.	4.02	in.
Average	**2.04**	**in.**	**4.02**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***358.56***	***g***
Initial Area, Ao	3.25	in^2
Initial Volume, Vo	13.09	in^3
Initial Bulk Unit Weight,	104.4	lb/ft^3
Initial Dry Unit Weight	69.0	lb/ft^3
Maximum Load (Peak)	936.00	lbs.
UCS	284.6	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.253	0.0000	0.0
936	0.045	0.045	3.289	0.0112	284.6

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CP26-B-20150713-02 (7 Day)		
TESTING DATE:	20-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	JDM	TRACKING CODE:	A192_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	358.56	g
Initial Area, Ao	3.25	in^2
Initial Volume, Vo	13.09	in^3
Initial Bulk Unit Weight,	104.4	lb/ft^3
Initial Dry Unit Weight	69.0	lb/ft^3
Maximum Load (Peak)	936.00	lbs.
Moisture Content, W	51.31	%
UCS	284.6	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CP26-B-20150713-02 (28 Day)		
TESTING DATE:	10-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A292_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	49.75	g
3. WT WET SOIL + TARE	100.59	g
4. WT DRY SOIL + TARE	83.51	g
5. WT WATER, Ww	17.08	g
6. WT DRY SOIL, Ws	33.76	g
7. MOISTURE CONTENT, W	**50.59**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.06	in.	4.02	in.
No. 2	2.03	in.	4.02	in.
No. 3	2.02	in.	4.03	in.
Average	**2.04**	**in.**	**4.02**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***358.02***	***g***
Initial Area, Ao	3.26	in^2
Initial Volume, Vo	13.11	in^3
Initial Bulk Unit Weight,	104.1	lb/ft^3
Initial Dry Unit Weight	69.1	lb/ft^3
Maximum Load (Peak)	1621.00	lbs.
UCS	490.8	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.257	0.0000	0.0
1621	0.055	0.055	3.302	0.0137	490.8

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CP26-B-20150713-02 (28 Day)		
TESTING DATE:	10-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A292_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	358.02	g
Initial Area, Ao	3.26	in^2
Initial Volume, Vo	13.11	in^3
Initial Bulk Unit Weight,	104.1	lb/ft^3
Initial Dry Unit Weight	69.1	lb/ft^3
Maximum Load (Peak)	1621.00	lbs.
Moisture Content, W	50.59	%
UCS	490.8	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CM25-(10)-20150714-03 (3 Day)		
TESTING DATE:	17-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	JDM	TRACKING CODE:	A190_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	114.14	g
3. WT WET SOIL + TARE	184.73	g
4. WT DRY SOIL + TARE	161.59	g
5. WT WATER, Ww	23.14	g
6. WT DRY SOIL, Ws	47.45	g
7. MOISTURE CONTENT, W	**48.77**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.05	in.	4.04	in.
No. 2	2.02	in.	4.00	in.
No. 3	2.02	in.	4.03	in.
Average	**2.03**	**in.**	**4.02**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***362.45***	***g***
Initial Area, Ao	3.25	in^2
Initial Volume, Vo	13.05	in^3
Initial Bulk Unit Weight,	105.8	lb/ft^3
Initial Dry Unit Weight	71.1	lb/ft^3
Maximum Load (Peak)	626.00	lbs.
UCS	189.8	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.245	0.0000	0.0
626	0.065	0.065	3.298	0.0162	189.8

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CM25-(10)-20150714-03 (3 Day)		
TESTING DATE:	17-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	JDM	TRACKING CODE:	A190_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	362.45	g
Initial Area, Ao	3.25	in^2
Initial Volume, Vo	13.05	in^3
Initial Bulk Unit Weight,	105.8	lb/ft^3
Initial Dry Unit Weight	71.1	lb/ft^3
Maximum Load (Peak)	626.00	lbs.
Moisture Content, W	48.77	%
UCS	189.8	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CM25-10-20150714-03 (7 Day)		
TESTING DATE:	21-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	JDM	TRACKING CODE:	A195_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	77.51	g
3. WT WET SOIL + TARE	154.12	g
4. WT DRY SOIL + TARE	129.37	g
5. WT WATER, Ww	24.75	g
6. WT DRY SOIL, Ws	51.86	g
7. MOISTURE CONTENT, W	**47.72**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.06	in.	4.03	in.
No. 2	2.04	in.	4.02	in.
No. 3	2.02	in.	4.02	in.
Average	**2.04**	**in.**	**4.02**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***360.99***	***g***
Initial Area, Ao	3.27	in^2
Initial Volume, Vo	13.13	in^3
Initial Bulk Unit Weight,	104.7	lb/ft^3
Initial Dry Unit Weight	70.9	lb/ft^3
Maximum Load (Peak)	1439.00	lbs.
UCS	434.7	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.265	0.0000	0.0
1439	0.055	0.055	3.311	0.0137	434.7

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CM25-10-20150714-03 (7 Day)		
TESTING DATE:	21-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	JDM	TRACKING CODE:	A195_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	360.99	g
Initial Area, Ao	3.27	in^2
Initial Volume, Vo	13.13	in^3
Initial Bulk Unit Weight,	104.7	lb/ft^3
Initial Dry Unit Weight	70.9	lb/ft^3
Maximum Load (Peak)	1439.00	lbs.
Moisture Content, W	47.72	%
UCS	434.7	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CM25-10-20150714-03 (28 Day)		
TESTING DATE:	11-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A296_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	77.01	g
3. WT WET SOIL + TARE	138.97	g
4. WT DRY SOIL + TARE	119.64	g
5. WT WATER, Ww	19.33	g
6. WT DRY SOIL, Ws	42.63	g
7. MOISTURE CONTENT, W	**45.34**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.06	in.	4.01	in.
No. 2	2.04	in.	4.00	in.
No. 3	2.02	in.	4.02	in.
Average	**2.04**	**in.**	**4.01**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***367.36***	***g***
Initial Area, Ao	3.27	in^2
Initial Volume, Vo	13.11	in^3
Initial Bulk Unit Weight,	106.7	lb/ft^3
Initial Dry Unit Weight	73.4	lb/ft^3
Maximum Load (Peak)	1966.00	lbs.
UCS	594.7	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.269	0.0000	0.0
1966	0.045	0.045	3.306	0.0112	594.7

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CM25-10-20150714-03 (28 Day)		
TESTING DATE:	11-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A296_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	367.36	g
Initial Area, Ao	3.27	in^2
Initial Volume, Vo	13.11	in^3
Initial Bulk Unit Weight,	106.7	lb/ft^3
Initial Dry Unit Weight	73.4	lb/ft^3
Maximum Load (Peak)	1966.00	lbs.
Moisture Content, W	45.34	%
UCS	594.7	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CM23-5-20150717-04 (3 Day)		
TESTING DATE:	20-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	JDM	TRACKING CODE:	A193_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.66	g
3. WT WET SOIL + TARE	136.09	g
4. WT DRY SOIL + TARE	116.96	g
5. WT WATER, Ww	19.13	g
6. WT DRY SOIL, Ws	40.30	g
7. MOISTURE CONTENT, W	**47.47**	**%**

SOIL SPECIMEN DIMENSIONS		
	DIAMETER	***LENGTH***
No. 1	2.04 in.	4.02 in.
No. 2	2.03 in.	4.03 in.
No. 3	2.02 in.	4.01 in.
Average	**2.03 in.**	**4.02 in.**

SPECIMEN CONDITIONS	
Initial Specimen WT, Wo	***367.86 g***
Initial Area, Ao	3.23 in^2
Initial Volume, Vo	13.00 in^3
Initial Bulk Unit Weight,	107.8 lb/ft^3
Initial Dry Unit Weight	73.1 lb/ft^3
Maximum Load (Peak)	424.00 lbs.
UCS	129.5 lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.232	0.0000	0.0
424	0.050	0.050	3.273	0.0124	129.5

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CM23-5-20150717-04 (3 Day)		
TESTING DATE:	20-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	JDM	TRACKING CODE:	A193_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	367.86	g
Initial Area, Ao	3.23	in^2
Initial Volume, Vo	13.00	in^3
Initial Bulk Unit Weight,	107.8	lb/ft^3
Initial Dry Unit Weight	73.1	lb/ft^3
Maximum Load (Peak)	424.00	lbs.
Moisture Content, W	47.47	%
UCS	129.5	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CM23-5-20150717-04 (7 Day)		
TESTING DATE:	24-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	TAJ	TRACKING CODE:	A200_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	48.08	g
3. WT WET SOIL + TARE	98.84	g
4. WT DRY SOIL + TARE	82.57	g
5. WT WATER, Ww	16.27	g
6. WT DRY SOIL, Ws	34.49	g
7. MOISTURE CONTENT, W	**47.17**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.02	in.	4.02	in.
No. 2	2.03	in.	4.02	in.
No. 3	2.05	in.	4.04	in.
Average	**2.03**	**in.**	**4.02**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***366.47***	***g***
Initial Area, Ao	3.25	in^2
Initial Volume, Vo	13.06	in^3
Initial Bulk Unit Weight,	106.9	lb/ft^3
Initial Dry Unit Weight	72.6	lb/ft^3
Maximum Load (Peak)	1012.00	lbs.
UCS	307.8	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.247	0.0000	0.0
1012	0.050	0.050	3.288	0.0124	307.8

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CM23-5-20150717-04 (7 Day)		
TESTING DATE:	24-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	TAJ	TRACKING CODE:	A200_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	366.47	g
Initial Area, Ao	3.25	in^2
Initial Volume, Vo	13.06	in^3
Initial Bulk Unit Weight,	106.9	lb/ft^3
Initial Dry Unit Weight	72.6	lb/ft^3
Maximum Load (Peak)	1012.00	lbs.
Moisture Content, W	47.17	%
UCS	307.8	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CM23-5-20150717-04 (28 Day)		
TESTING DATE:	14-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A298_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.26	g
3. WT WET SOIL + TARE	127.79	g
4. WT DRY SOIL + TARE	111.29	g
5. WT WATER, Ww	16.50	g
6. WT DRY SOIL, Ws	35.03	g
7. MOISTURE CONTENT, W	**47.10**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.06	in.	4.03	in.
No. 2	2.04	in.	4.02	in.
No. 3	2.02	in.	4.01	in.
Average	**2.04**	**in.**	**4.02**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***366.61***	***g***
Initial Area, Ao	3.27	in^2
Initial Volume, Vo	13.13	in^3
Initial Bulk Unit Weight,	106.4	lb/ft^3
Initial Dry Unit Weight	72.3	lb/ft^3
Maximum Load (Peak)	2018.00	lbs.
UCS	608.4	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.267	0.0000	0.0
2018	0.060	0.060	3.317	0.0149	608.4

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CM23-5-20150717-04 (28 Day)		
TESTING DATE:	14-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A298_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	366.61	g
Initial Area, Ao	3.27	in^2
Initial Volume, Vo	13.13	in^3
Initial Bulk Unit Weight,	106.4	lb/ft^3
Initial Dry Unit Weight	72.3	lb/ft^3
Maximum Load (Peak)	2018.00	lbs.
Moisture Content, W	47.10	%
UCS	608.4	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CJ24-5-20150717-05 (3 Day)		
TESTING DATE:	20-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	JDM	TRACKING CODE:	A194_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.06	g
3. WT WET SOIL + TARE	154.85	g
4. WT DRY SOIL + TARE	129.38	g
5. WT WATER, Ww	25.47	g
6. WT DRY SOIL, Ws	53.32	g
7. MOISTURE CONTENT, W	**47.77**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.06	in.	4.01	in.
No. 2	2.03	in.	4.00	in.
No. 3	2.02	in.	4.00	in.
Average	**2.04**	**in.**	**4.00**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***364.28***	***g***
Initial Area, Ao	3.26	in^2
Initial Volume, Vo	13.03	in^3
Initial Bulk Unit Weight,	106.5	lb/ft^3
Initial Dry Unit Weight	72.1	lb/ft^3
Maximum Load (Peak)	468.00	lbs.
UCS	141.5	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.257	0.0000	0.0
468	0.060	0.060	3.306	0.0150	141.5

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CJ24-5-20150717-05 (3 Day)		
TESTING DATE:	20-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	JDM	TRACKING CODE:	A194_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	364.28	g
Initial Area, Ao	3.26	in^2
Initial Volume, Vo	13.03	in^3
Initial Bulk Unit Weight,	106.5	lb/ft^3
Initial Dry Unit Weight	72.1	lb/ft^3
Maximum Load (Peak)	468.00	lbs.
Moisture Content, W	47.77	%
UCS	141.5	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CJ24-5-20150717-05 (7 Day)		
TESTING DATE:	24-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	TAJ	TRACKING CODE:	A201_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	49.77	g
3. WT WET SOIL + TARE	90.70	g
4. WT DRY SOIL + TARE	77.89	g
5. WT WATER, Ww	12.81	g
6. WT DRY SOIL, Ws	28.12	g
7. MOISTURE CONTENT, W	**45.55**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.02	in.	4.03	in.
No. 2	2.04	in.	4.05	in.
No. 3	2.03	in.	4.02	in.
Average	**2.03**	**in.**	**4.03**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***364.33***	***g***
Initial Area, Ao	3.24	in^2
Initial Volume, Vo	13.06	in^3
Initial Bulk Unit Weight,	106.3	lb/ft^3
Initial Dry Unit Weight	73.0	lb/ft^3
Maximum Load (Peak)	940.00	lbs.
UCS	286.4	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.238	0.0000	0.0
940	0.055	0.055	3.282	0.0136	286.4

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CJ24-5-20150717-05 (7 Day)		
TESTING DATE:	24-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	TAJ	TRACKING CODE:	A201_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	364.33	g
Initial Area, Ao	3.24	in^2
Initial Volume, Vo	13.06	in^3
Initial Bulk Unit Weight,	106.3	lb/ft^3
Initial Dry Unit Weight	73.0	lb/ft^3
Maximum Load (Peak)	940.00	lbs.
Moisture Content, W	45.55	%
UCS	286.4	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CJ24-5-20150717-05 (28 Day)		
TESTING DATE:	14-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A299_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.74	g
3. WT WET SOIL + TARE	129.97	g
4. WT DRY SOIL + TARE	113.39	g
5. WT WATER, Ww	16.58	g
6. WT DRY SOIL, Ws	36.65	g
7. MOISTURE CONTENT, W	**45.24**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.06	in.	4.02	in.
No. 2	2.05	in.	4.03	in.
No. 3	2.03	in.	4.02	in.
Average	**2.05**	**in.**	**4.02**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***367.06***	***g***
Initial Area, Ao	3.29	in^2
Initial Volume, Vo	13.23	in^3
Initial Bulk Unit Weight,	105.7	lb/ft^3
Initial Dry Unit Weight	72.8	lb/ft^3
Maximum Load (Peak)	1938.00	lbs.
UCS	582.8	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.288	0.0000	0.0
1938	0.045	0.045	3.325	0.0112	582.8

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CJ24-5-20150717-05 (28 Day)		
TESTING DATE:	14-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A299_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	367.06	g
Initial Area, Ao	3.29	in^2
Initial Volume, Vo	13.23	in^3
Initial Bulk Unit Weight,	105.7	lb/ft^3
Initial Dry Unit Weight	72.8	lb/ft^3
Maximum Load (Peak)	1938.00	lbs.
Moisture Content, W	45.24	%
UCS	582.8	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CH22-(20)-20150718-06 (3 Day)		
TESTING DATE:	21-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	JDM	TRACKING CODE:	A196_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	117.92	g
3. WT WET SOIL + TARE	241.89	g
4. WT DRY SOIL + TARE	202.51	g
5. WT WATER, Ww	39.38	g
6. WT DRY SOIL, Ws	84.59	g
7. MOISTURE CONTENT, W	**46.55**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.06	in.	4.01	in.
No. 2	2.03	in.	4.03	in.
No. 3	2.02	in.	4.01	in.
Average	**2.04**	**in.**	**4.01**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***367.46***	***g***
Initial Area, Ao	3.25	in^2
Initial Volume, Vo	13.06	in^3
Initial Bulk Unit Weight,	107.2	lb/ft^3
Initial Dry Unit Weight	73.2	lb/ft^3
Maximum Load (Peak)	722.00	lbs.
UCS	218.4	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
1	0.000	0.000	3.253	0.0000	0.3
722	0.065	0.065	3.306	0.0162	218.4

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CH22-(20)-20150718-06 (3 Day)		
TESTING DATE:	21-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	JDM	TRACKING CODE:	A196_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	367.46	g
Initial Area, Ao	3.25	in^2
Initial Volume, Vo	13.06	in^3
Initial Bulk Unit Weight,	107.2	lb/ft^3
Initial Dry Unit Weight	73.2	lb/ft^3
Maximum Load (Peak)	722.00	lbs.
Moisture Content, W	46.55	%
UCS	218.4	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CH22-(20)-20150718-06 (7 Day)		
TESTING DATE:	25-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	JDM	TRACKING CODE:	A204_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	49.23	g
3. WT WET SOIL + TARE	101.68	g
4. WT DRY SOIL + TARE	85.19	g
5. WT WATER, Ww	16.49	g
6. WT DRY SOIL, Ws	35.96	g
7. MOISTURE CONTENT, W	**45.86**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.06	in.	4.05	in.
No. 2	2.04	in.	4.02	in.
No. 3	2.02	in.	4.02	in.
Average	**2.04**	**in.**	**4.03**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***367.71***	***g***
Initial Area, Ao	3.27	in^2
Initial Volume, Vo	13.20	in^3
Initial Bulk Unit Weight,	106.1	lb/ft^3
Initial Dry Unit Weight	72.8	lb/ft^3
Maximum Load (Peak)	1551.00	lbs.
UCS	467.4	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.273	0.0000	0.0
1551	0.055	0.055	3.318	0.0136	467.4

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CH22-(20)-20150718-06 (7 Day)		
TESTING DATE:	25-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	JDM	TRACKING CODE:	A204_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	367.71	g
Initial Area, Ao	3.27	in^2
Initial Volume, Vo	13.20	in^3
Initial Bulk Unit Weight,	106.1	lb/ft^3
Initial Dry Unit Weight	72.8	lb/ft^3
Maximum Load (Peak)	1551.00	lbs.
Moisture Content, W	45.86	%
UCS	467.4	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Magon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CH22-(20)-20150718-06 (30 Day)		
TESTING DATE:	17-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A300_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.73	g
3. WT WET SOIL + TARE	126.96	g
4. WT DRY SOIL + TARE	111.76	g
5. WT WATER, Ww	15.20	g
6. WT DRY SOIL, Ws	35.03	g
7. MOISTURE CONTENT, W	**43.39**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.02	in.	4.04	in.
No. 2	2.04	in.	4.03	in.
No. 3	2.07	in.	4.03	in.
Average	**2.04**	**in.**	**4.03**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***371.92***	***g***
Initial Area, Ao	3.28	in^2
Initial Volume, Vo	13.22	in^3
Initial Bulk Unit Weight,	107.2	lb/ft^3
Initial Dry Unit Weight	74.7	lb/ft^3
Maximum Load (Peak)	2257.00	lbs.
UCS	679.6	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.280	0.0000	0.0
2257	0.050	0.050	3.321	0.0124	679.6

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Magon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CH22-(20)-20150718-06 (30 Day)		
TESTING DATE:	17-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A300_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	371.92	g
Initial Area, Ao	3.28	in^2
Initial Volume, Vo	13.22	in^3
Initial Bulk Unit Weight,	107.2	lb/ft^3
Initial Dry Unit Weight	74.7	lb/ft^3
Maximum Load (Peak)	2257.00	lbs.
Moisture Content, W	43.39	%
UCS	679.6	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CF20-(10)-20150718-07 (3 Day)		
TESTING DATE:	21-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	JDM	TRACKING CODE:	A197_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.29	g
3. WT WET SOIL + TARE	135.38	g
4. WT DRY SOIL + TARE	117.79	g
5. WT WATER, Ww	17.59	g
6. WT DRY SOIL, Ws	41.50	g
7. MOISTURE CONTENT, W	**42.39**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.05	in.	4.04	in.
No. 2	2.03	in.	4.04	in.
No. 3	2.02	in.	4.03	in.
Average	**2.03**	**in.**	**4.04**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***374.51***	***g***
Initial Area, Ao	3.24	in^2
Initial Volume, Vo	13.10	in^3
Initial Bulk Unit Weight,	108.9	lb/ft^3
Initial Dry Unit Weight	76.5	lb/ft^3
Maximum Load (Peak)	466.00	lbs.
UCS	141.7	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.244	0.0000	0.0
466	0.055	0.055	3.289	0.0136	141.7

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CF20-(10)-20150718-07 (3 Day)		
TESTING DATE:	21-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	JDM	TRACKING CODE:	A197_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	374.51	g
Initial Area, Ao	3.24	in^2
Initial Volume, Vo	13.10	in^3
Initial Bulk Unit Weight,	108.9	lb/ft^3
Initial Dry Unit Weight	76.5	lb/ft^3
Maximum Load (Peak)	466.00	lbs.
Moisture Content, W	42.39	%
UCS	141.7	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CF20-(10)-20150718-07 (7 Day)		
TESTING DATE:	25-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	JDM	TRACKING CODE:	A205_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	52.75	g
3. WT WET SOIL + TARE	87.09	g
4. WT DRY SOIL + TARE	77.45	g
5. WT WATER, Ww	9.64	g
6. WT DRY SOIL, Ws	24.70	g
7. MOISTURE CONTENT, W	**39.03**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.06	in.	4.01	in.
No. 2	2.05	in.	4.00	in.
No. 3	2.02	in.	4.00	in.
Average	**2.04**	**in.**	**4.00**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***371.23***	***g***
Initial Area, Ao	3.28	in^2
Initial Volume, Vo	13.12	in^3
Initial Bulk Unit Weight,	107.8	lb/ft^3
Initial Dry Unit Weight	77.5	lb/ft^3
Maximum Load (Peak)	782.00	lbs.
UCS	235.9	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.277	0.0000	0.0
782	0.045	0.045	3.314	0.0112	235.9

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CF20-(10)-20150718-07 (7 Day)		
TESTING DATE:	25-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	JDM	TRACKING CODE:	A205_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	371.23	g
Initial Area, Ao	3.28	in^2
Initial Volume, Vo	13.12	in^3
Initial Bulk Unit Weight,	107.8	lb/ft^3
Initial Dry Unit Weight	77.5	lb/ft^3
Maximum Load (Peak)	782.00	lbs.
Moisture Content, W	39.03	%
UCS	235.9	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Magon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CF20-(10)-20150718-07 (30 Day)		
TESTING DATE:	17-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A301_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	77.57	g
3. WT WET SOIL + TARE	126.94	g
4. WT DRY SOIL + TARE	112.51	g
5. WT WATER, Ww	14.43	g
6. WT DRY SOIL, Ws	34.94	g
7. MOISTURE CONTENT, W	**41.30**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.02	in.	4.00	in.
No. 2	2.03	in.	4.02	in.
No. 3	2.06	in.	4.02	in.
Average	**2.04**	**in.**	**4.02**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***374.54***	***g***
Initial Area, Ao	3.25	in^2
Initial Volume, Vo	13.07	in^3
Initial Bulk Unit Weight,	109.2	lb/ft^3
Initial Dry Unit Weight	77.3	lb/ft^3
Maximum Load (Peak)	1731.00	lbs.
UCS	526.0	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.254	0.0000	0.0
1731	0.045	0.045	3.291	0.0112	526.0

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Magon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CF20-(10)-20150718-07 (30 Day)		
TESTING DATE:	17-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A301_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	374.54	g
Initial Area, Ao	3.25	in^2
Initial Volume, Vo	13.07	in^3
Initial Bulk Unit Weight,	109.2	lb/ft^3
Initial Dry Unit Weight	77.3	lb/ft^3
Maximum Load (Peak)	1731.00	lbs.
Moisture Content, W	41.30	%
UCS	526.0	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Magon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CC21-20-20150720-08 (3 Day)		
TESTING DATE:	23-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	JDM	TRACKING CODE:	A198_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.15	g
3. WT WET SOIL + TARE	153.32	g
4. WT DRY SOIL + TARE	129.25	g
5. WT WATER, Ww	24.07	g
6. WT DRY SOIL, Ws	53.10	g
7. MOISTURE CONTENT, W	**45.33**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.06	in.	4.03	in.
No. 2	2.03	in.	4.01	in.
No. 3	2.03	in.	4.02	in.
Average	**2.04**	**in.**	**4.02**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***369.68***	***g***
Initial Area, Ao	3.27	in^2
Initial Volume, Vo	13.16	in^3
Initial Bulk Unit Weight,	107.0	lb/ft^3
Initial Dry Unit Weight	73.6	lb/ft^3
Maximum Load (Peak)	803.00	lbs.
UCS	242.1	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.272	0.0000	0.0
803	0.055	0.055	3.317	0.0137	242.1

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Magon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CC21-20-20150720-08 (3 Day)		
TESTING DATE:	23-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	JDM	TRACKING CODE:	A198_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	369.68	g
Initial Area, Ao	3.27	in^2
Initial Volume, Vo	13.16	in^3
Initial Bulk Unit Weight,	107.0	lb/ft^3
Initial Dry Unit Weight	73.6	lb/ft^3
Maximum Load (Peak)	803.00	lbs.
Moisture Content, W	45.33	%
UCS	242.1	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CC21-20-20150720-08 (7 Day)		
TESTING DATE:	27-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	TAJ	TRACKING CODE:	A234_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	117.93	g
3. WT WET SOIL + TARE	210.88	g
4. WT DRY SOIL + TARE	181.54	g
5. WT WATER, Ww	29.34	g
6. WT DRY SOIL, Ws	63.61	g
7. MOISTURE CONTENT, W	**46.12**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.05	in.	4.02	in.
No. 2	2.03	in.	4.01	in.
No. 3	2.02	in.	4.01	in.
Average	**2.03**	**in.**	**4.01**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***366.96***	***g***
Initial Area, Ao	3.24	in^2
Initial Volume, Vo	13.01	in^3
Initial Bulk Unit Weight,	107.5	lb/ft^3
Initial Dry Unit Weight	73.5	lb/ft^3
Maximum Load (Peak)	1262.00	lbs.
UCS	383.9	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.242	0.0000	0.0
1262	0.055	0.055	3.287	0.0137	383.9

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CC21-20-20150720-08 (7 Day)		
TESTING DATE:	27-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	TAJ	TRACKING CODE:	A234_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	366.96	g
Initial Area, Ao	3.24	in^2
Initial Volume, Vo	13.01	in^3
Initial Bulk Unit Weight,	107.5	lb/ft^3
Initial Dry Unit Weight	73.5	lb/ft^3
Maximum Load (Peak)	1262.00	lbs.
Moisture Content, W	46.12	%
UCS	383.9	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Magon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CC21-20-20150720-08 (28 Day)		
TESTING DATE:	17-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A302_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.78	g
3. WT WET SOIL + TARE	128.36	g
4. WT DRY SOIL + TARE	112.23	g
5. WT WATER, Ww	16.13	g
6. WT DRY SOIL, Ws	35.45	g
7. MOISTURE CONTENT, W	**45.50**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.03	in.	4.03	in.
No. 2	2.04	in.	4.01	in.
No. 3	2.07	in.	4.02	in.
Average	**2.05**	**in.**	**4.02**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***367.12***	***g***
Initial Area, Ao	3.29	in^2
Initial Volume, Vo	13.22	in^3
Initial Bulk Unit Weight,	105.8	lb/ft^3
Initial Dry Unit Weight	72.7	lb/ft^3
Maximum Load (Peak)	2066.00	lbs.
UCS	619.5	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.289	0.0000	0.0
2066	0.055	0.055	3.335	0.0137	619.5

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Magon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CC21-20-20150720-08 (28 Day)		
TESTING DATE:	17-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A302_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	367.12	g
Initial Area, Ao	3.29	in^2
Initial Volume, Vo	13.22	in^3
Initial Bulk Unit Weight,	105.8	lb/ft^3
Initial Dry Unit Weight	72.7	lb/ft^3
Maximum Load (Peak)	2066.00	lbs.
Moisture Content, W	45.50	%
UCS	619.5	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Magon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CA21-5-20150720-09 (3 Day)		
TESTING DATE:	23-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	JDM	TRACKING CODE:	A199_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	115.00	g
3. WT WET SOIL + TARE	188.99	g
4. WT DRY SOIL + TARE	165.34	g
5. WT WATER, Ww	23.65	g
6. WT DRY SOIL, Ws	50.34	g
7. MOISTURE CONTENT, W	**46.98**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.07	in.	4.02	in.
No. 2	2.05	in.	4.03	in.
No. 3	2.04	in.	4.01	in.
Average	**2.05**	**in.**	**4.02**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***364.83***	***g***
Initial Area, Ao	3.31	in^2
Initial Volume, Vo	13.30	in^3
Initial Bulk Unit Weight,	104.5	lb/ft^3
Initial Dry Unit Weight	71.1	lb/ft^3
Maximum Load (Peak)	756.00	lbs.
UCS	225.9	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.309	0.0000	0.0
756	0.045	0.045	3.347	0.0112	225.9

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Magon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CA21-5-20150720-09 (3 Day)		
TESTING DATE:	23-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	JDM	TRACKING CODE:	A199_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	364.83	g
Initial Area, Ao	3.31	in^2
Initial Volume, Vo	13.30	in^3
Initial Bulk Unit Weight,	104.5	lb/ft^3
Initial Dry Unit Weight	71.1	lb/ft^3
Maximum Load (Peak)	756.00	lbs.
Moisture Content, W	46.98	%
UCS	225.9	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CA21-5-20150720-09 (7 Day)		
TESTING DATE:	27-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	TAJ	TRACKING CODE:	A235_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	114.99	g
3. WT WET SOIL + TARE	235.45	g
4. WT DRY SOIL + TARE	196.80	g
5. WT WATER, Ww	38.65	g
6. WT DRY SOIL, Ws	81.81	g
7. MOISTURE CONTENT, W	**47.24**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.02	in.	4.02	in.
No. 2	2.03	in.	4.02	in.
No. 3	2.05	in.	4.02	in.
Average	**2.03**	**in.**	**4.02**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***365.74***	***g***
Initial Area, Ao	3.25	in^2
Initial Volume, Vo	13.05	in^3
Initial Bulk Unit Weight,	106.8	lb/ft^3
Initial Dry Unit Weight	72.5	lb/ft^3
Maximum Load (Peak)	1176.00	lbs.
UCS	358.7	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.246	0.0000	0.0
1176	0.040	0.040	3.279	0.0100	358.7

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CA21-5-20150720-09 (7 Day)		
TESTING DATE:	27-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	TAJ	TRACKING CODE:	A235_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	365.74	g
Initial Area, Ao	3.25	in^2
Initial Volume, Vo	13.05	in^3
Initial Bulk Unit Weight,	106.8	lb/ft^3
Initial Dry Unit Weight	72.5	lb/ft^3
Maximum Load (Peak)	1176.00	lbs.
Moisture Content, W	47.24	%
UCS	358.7	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Magon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CA21-5-20150720-09 (28 Day)		
TESTING DATE:	17-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A303_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	77.61	g
3. WT WET SOIL + TARE	127.44	g
4. WT DRY SOIL + TARE	111.87	g
5. WT WATER, Ww	15.57	g
6. WT DRY SOIL, Ws	34.26	g
7. MOISTURE CONTENT, W	**45.45**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.02	in.	4.02	in.
No. 2	2.04	in.	4.01	in.
No. 3	2.05	in.	4.02	in.
Average	**2.04**	**in.**	**4.02**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***362.49***	***g***
Initial Area, Ao	3.26	in^2
Initial Volume, Vo	13.09	in^3
Initial Bulk Unit Weight,	105.5	lb/ft^3
Initial Dry Unit Weight	72.5	lb/ft^3
Maximum Load (Peak)	1669.00	lbs.
UCS	506.0	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.257	0.0000	0.0
1669	0.050	0.050	3.298	0.0124	506.0

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Magon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CA21-5-20150720-09 (28 Day)		
TESTING DATE:	17-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A303_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	362.49	g
Initial Area, Ao	3.26	in^2
Initial Volume, Vo	13.09	in^3
Initial Bulk Unit Weight,	105.5	lb/ft^3
Initial Dry Unit Weight	72.5	lb/ft^3
Maximum Load (Peak)	1669.00	lbs.
Moisture Content, W	45.45	%
UCS	506.0	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BZ18-10-20150721-10 (3 Day)		
TESTING DATE:	24-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	TAJ	TRACKING CODE:	A203_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	49.79	g
3. WT WET SOIL + TARE	103.11	g
4. WT DRY SOIL + TARE	80.74	g
5. WT WATER, Ww	22.37	g
6. WT DRY SOIL, Ws	30.95	g
7. MOISTURE CONTENT, W	**72.28**	**%**

SOIL SPECIMEN DIMENSIONS		
	DIAMETER	***LENGTH***
No. 1	2.04 in.	4.01 in.
No. 2	2.02 in.	4.01 in.
No. 3	2.02 in.	4.02 in.
Average	**2.03 in.**	**4.01 in.**

SPECIMEN CONDITIONS	
Initial Specimen WT, Wo	***332.51 g***
Initial Area, Ao	3.23 in^2
Initial Volume, Vo	12.95 in^3
Initial Bulk Unit Weight,	97.8 lb/ft^3
Initial Dry Unit Weight	56.8 lb/ft^3
Maximum Load (Peak)	824.00 lbs.
UCS	252.2 lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.226	0.0000	0.0
824	0.050	0.050	3.267	0.0125	252.2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BZ18-10-20150721-10 (3 Day)		
TESTING DATE:	24-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	TAJ	TRACKING CODE:	A203_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	332.51	g
Initial Area, Ao	3.23	in^2
Initial Volume, Vo	12.95	in^3
Initial Bulk Unit Weight,	97.8	lb/ft^3
Initial Dry Unit Weight	56.8	lb/ft^3
Maximum Load (Peak)	824.00	lbs.
Moisture Content, W	72.28	%
UCS	252.2	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BZ18-10-20150721-10 (7 Day)		
TESTING DATE:	28-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A240_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	50.05	g
3. WT WET SOIL + TARE	114.84	g
4. WT DRY SOIL + TARE	87.78	g
5. WT WATER, Ww	27.06	g
6. WT DRY SOIL, Ws	37.73	g
7. MOISTURE CONTENT, W	**71.72**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.07	in.	4.02	in.
No. 2	2.05	in.	4.00	in.
No. 3	2.03	in.	4.00	in.
Average	**2.05**	**in.**	**4.01**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***332.61***	***g***
Initial Area, Ao	3.30	in^2
Initial Volume, Vo	13.21	in^3
Initial Bulk Unit Weight,	95.9	lb/ft^3
Initial Dry Unit Weight	55.9	lb/ft^3
Maximum Load (Peak)	1378.00	lbs.
UCS	412.2	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.297	0.0000	0.0
1378	0.055	0.055	3.343	0.0137	412.2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BZ18-10-20150721-10 (7 Day)		
TESTING DATE:	28-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A240_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	332.61	g
Initial Area, Ao	3.30	in^2
Initial Volume, Vo	13.21	in^3
Initial Bulk Unit Weight,	95.9	lb/ft^3
Initial Dry Unit Weight	55.9	lb/ft^3
Maximum Load (Peak)	1378.00	lbs.
Moisture Content, W	71.72	%
UCS	412.2	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BZ18-10-20150721-10 (28 Day)		
TESTING DATE:	18-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A304_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	77.40	g
3. WT WET SOIL + TARE	128.22	g
4. WT DRY SOIL + TARE	106.95	g
5. WT WATER, Ww	21.27	g
6. WT DRY SOIL, Ws	29.55	g
7. MOISTURE CONTENT, W	**71.98**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	3.99	in.
No. 2	2.00	in.	3.99	in.
No. 3	1.99	in.	4.00	in.
Average	**2.00**	**in.**	**3.99**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***319.89***	***g***
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.51	in^3
Initial Bulk Unit Weight,	97.4	lb/ft^3
Initial Dry Unit Weight	56.6	lb/ft^3
Maximum Load (Peak)	1675.00	lbs.
UCS	527.9	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.133	0.0000	0.0
1675	0.050	0.050	3.173	0.0125	527.9

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BZ18-10-20150721-10 (28 Day)		
TESTING DATE:	18-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A304_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	319.89	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.51	in^3
Initial Bulk Unit Weight,	97.4	lb/ft^3
Initial Dry Unit Weight	56.6	lb/ft^3
Maximum Load (Peak)	1675.00	lbs.
Moisture Content, W	71.98	%
UCS	527.9	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BW19-15-20150721-11 (3 Day)		
TESTING DATE:	24-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	TAJ	TRACKING CODE:	A202_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	49.56	g
3. WT WET SOIL + TARE	99.64	g
4. WT DRY SOIL + TARE	78.68	g
5. WT WATER, Ww	20.96	g
6. WT DRY SOIL, Ws	29.12	g
7. MOISTURE CONTENT, W	**71.98**	**%**

SOIL SPECIMEN DIMENSIONS		
	DIAMETER	***LENGTH***
No. 1	2.00 in.	4.00 in.
No. 2	2.00 in.	4.00 in.
No. 3	2.00 in.	4.00 in.
Average	**2.00 in.**	**4.00 in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***321.34***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.53	in^3
Initial Bulk Unit Weight,	97.7	lb/ft^3
Initial Dry Unit Weight	56.8	lb/ft^3
Maximum Load (Peak)	646.00	lbs.
UCS	203.7	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.136	0.0000	0.0
646	0.045	0.045	3.172	0.0113	203.7

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BW19-15-20150721-11 (3 Day)		
TESTING DATE:	24-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	TAJ	TRACKING CODE:	A202_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	321.34	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.53	in^3
Initial Bulk Unit Weight,	97.7	lb/ft^3
Initial Dry Unit Weight	56.8	lb/ft^3
Maximum Load (Peak)	646.00	lbs.
Moisture Content, W	71.98	%
UCS	203.7	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BW19-15-20150721-11 (7 Day)		
TESTING DATE:	28-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A241_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	49.50	g
3. WT WET SOIL + TARE	102.49	g
4. WT DRY SOIL + TARE	80.77	g
5. WT WATER, Ww	21.72	g
6. WT DRY SOIL, Ws	31.27	g
7. MOISTURE CONTENT, W	**69.46**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.01	in.	4.01	in.
No. 2	2.01	in.	3.99	in.
No. 3	2.00	in.	4.00	in.
Average	**2.00**	**in.**	**4.00**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***320.78***	***g***
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.59	in^3
Initial Bulk Unit Weight,	97.1	lb/ft^3
Initial Dry Unit Weight	57.3	lb/ft^3
Maximum Load (Peak)	1096.00	lbs.
UCS	344.6	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.149	0.0000	0.0
1096	0.040	0.040	3.181	0.0100	344.6

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BW19-15-20150721-11 (7 Day)		
TESTING DATE:	28-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A241_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	320.78	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.59	in^3
Initial Bulk Unit Weight,	97.1	lb/ft^3
Initial Dry Unit Weight	57.3	lb/ft^3
Maximum Load (Peak)	1096.00	lbs.
Moisture Content, W	69.46	%
UCS	344.6	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BW19-15-20150721-11 (28 Day)		
TESTING DATE:	18-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A305_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.22	g
3. WT WET SOIL + TARE	129.28	g
4. WT DRY SOIL + TARE	107.32	g
5. WT WATER, Ww	21.96	g
6. WT DRY SOIL, Ws	31.10	g
7. MOISTURE CONTENT, W	**70.61**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	1.99	in.	4.01	in.
No. 2	1.99	in.	4.00	in.
No. 3	1.99	in.	4.01	in.
Average	**1.99**	**in.**	**4.01**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***319.53***	***g***
Initial Area, Ao	3.12	in^2
Initial Volume, Vo	12.49	in^3
Initial Bulk Unit Weight,	97.4	lb/ft^3
Initial Dry Unit Weight	57.1	lb/ft^3
Maximum Load (Peak)	1389.00	lbs.
UCS	438.1	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.119	0.0000	0.0
1389	0.065	0.065	3.171	0.0162	438.1

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BW19-15-20150721-11 (28 Day)		
TESTING DATE:	18-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A305_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	319.53	g
Initial Area, Ao	3.12	in^2
Initial Volume, Vo	12.49	in^3
Initial Bulk Unit Weight,	97.4	lb/ft^3
Initial Dry Unit Weight	57.1	lb/ft^3
Maximum Load (Peak)	1389.00	lbs.
Moisture Content, W	70.61	%
UCS	438.1	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BU19-5-20150722-12 (5 Day)		
TESTING DATE:	27-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	TAJ	TRACKING CODE:	A236_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.24	g
3. WT WET SOIL + TARE	134.20	g
4. WT DRY SOIL + TARE	113.03	g
5. WT WATER, Ww	21.17	g
6. WT DRY SOIL, Ws	36.79	g
7. MOISTURE CONTENT, W	**57.54**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	4.00	in.
No. 2	2.00	in.	4.00	in.
No. 3	2.01	in.	4.00	in.
Average	**2.00**	**in.**	**4.00**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***333.22***	***g***
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.60	in^3
Initial Bulk Unit Weight,	100.7	lb/ft^3
Initial Dry Unit Weight	63.9	lb/ft^3
Maximum Load (Peak)	691.00	lbs.
UCS	217.1	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.151	0.0000	0.0
691	0.040	0.040	3.183	0.0100	217.1

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BU19-5-20150722-12 (5 Day)		
TESTING DATE:	27-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	TAJ	TRACKING CODE:	A236_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	333.22	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.60	in^3
Initial Bulk Unit Weight,	100.7	lb/ft^3
Initial Dry Unit Weight	63.9	lb/ft^3
Maximum Load (Peak)	691.00	lbs.
Moisture Content, W	57.54	%
UCS	217.1	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BU19-5-20150722-12 (28 day)		
TESTING DATE:	19-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC/TNB	TRACKING CODE:	A307_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	114.43	g
3. WT WET SOIL + TARE	176.49	g
4. WT DRY SOIL + TARE	154.29	g
5. WT WATER, Ww	22.20	g
6. WT DRY SOIL, Ws	39.86	g
7. MOISTURE CONTENT, W	**55.69**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	1.99	in.	4.01	in.
No. 2	1.99	in.	4.01	in.
No. 3	2.00	in.	4.01	in.
Average	**1.99**	**in.**	**4.01**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***335.25***	***g***
Initial Area, Ao	3.12	in^2
Initial Volume, Vo	12.51	in^3
Initial Bulk Unit Weight,	102.1	lb/ft^3
Initial Dry Unit Weight	65.6	lb/ft^3
Maximum Load (Peak)	1666.00	lbs.
UCS	527.0	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.122	0.0000	0.0
1666	0.050	0.050	3.161	0.0125	527.0

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BU19-5-20150722-12 (28 day)		
TESTING DATE:	19-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC/TNB	TRACKING CODE:	A307_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	335.25	g
Initial Area, Ao	3.12	in^2
Initial Volume, Vo	12.51	in^3
Initial Bulk Unit Weight,	102.1	lb/ft^3
Initial Dry Unit Weight	65.6	lb/ft^3
Maximum Load (Peak)	1666.00	lbs.
Moisture Content, W	55.69	%
UCS	527.0	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BS17-10-20150722-13 (5 Day)		
TESTING DATE:	27-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	TAJ	TRACKING CODE:	A237_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	48.87	g
3. WT WET SOIL + TARE	81.05	g
4. WT DRY SOIL + TARE	68.92	g
5. WT WATER, Ww	12.13	g
6. WT DRY SOIL, Ws	20.05	g
7. MOISTURE CONTENT, W	**60.50**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	1.99	in.	4.02	in.
No. 2	1.99	in.	3.99	in.
No. 3	1.99	in.	4.00	in.
Average	**1.99**	**in.**	**4.00**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***329.71***	***g***
Initial Area, Ao	3.11	in^2
Initial Volume, Vo	12.44	in^3
Initial Bulk Unit Weight,	101.0	lb/ft^3
Initial Dry Unit Weight	62.9	lb/ft^3
Maximum Load (Peak)	568.00	lbs.
UCS	181.3	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.106	0.0000	0.0
568	0.035	0.035	3.133	0.0087	181.3

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BS17-10-20150722-13 (5 Day)		
TESTING DATE:	27-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	TAJ	TRACKING CODE:	A237_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	329.71	g
Initial Area, Ao	3.11	in^2
Initial Volume, Vo	12.44	in^3
Initial Bulk Unit Weight,	101.0	lb/ft^3
Initial Dry Unit Weight	62.9	lb/ft^3
Maximum Load (Peak)	568.00	lbs.
Moisture Content, W	60.50	%
UCS	181.3	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BS17-10-20150722-13 (28 day)		
TESTING DATE:	19-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC/TNB	TRACKING CODE:	A308_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	112.30	g
3. WT WET SOIL + TARE	271.57	g
4. WT DRY SOIL + TARE	211.52	g
5. WT WATER, Ww	60.05	g
6. WT DRY SOIL, Ws	99.22	g
7. MOISTURE CONTENT, W	**60.52**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	4.02	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.02	in.
Average	**2.00**	**in.**	**4.02**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***331.02***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.61	in^3
Initial Bulk Unit Weight,	100.0	lb/ft^3
Initial Dry Unit Weight	62.3	lb/ft^3
Maximum Load (Peak)	1470.00	lbs.
UCS	462.5	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.139	0.0000	0.0
1470	0.050	0.050	3.179	0.0125	462.5

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BS17-10-20150722-13 (28 day)		
TESTING DATE:	19-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC/TNB	TRACKING CODE:	A308_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	331.02	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.61	in^3
Initial Bulk Unit Weight,	100.0	lb/ft^3
Initial Dry Unit Weight	62.3	lb/ft^3
Maximum Load (Peak)	1470.00	lbs.
Moisture Content, W	60.52	%
UCS	462.5	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BS15-5-20150723-14 (4 Day)		
TESTING DATE:	27-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	TAJ	TRACKING CODE:	A238_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	114.08	g
3. WT WET SOIL + TARE	227.76	g
4. WT DRY SOIL + TARE	183.38	g
5. WT WATER, Ww	44.38	g
6. WT DRY SOIL, Ws	69.30	g
7. MOISTURE CONTENT, W	**64.04**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	1.99	in.	3.99	in.
No. 2	2.00	in.	4.02	in.
No. 3	2.01	in.	4.00	in.
Average	**2.00**	**in.**	**4.00**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***327.05***	***g***
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.59	in^3
Initial Bulk Unit Weight,	99.0	lb/ft^3
Initial Dry Unit Weight	60.3	lb/ft^3
Maximum Load (Peak)	446.00	lbs.
UCS	140.0	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.146	0.0000	0.0
446	0.050	0.050	3.186	0.0125	140.0

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BS15-5-20150723-14 (4 Day)		
TESTING DATE:	27-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	TAJ	TRACKING CODE:	A238_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	327.05	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.59	in^3
Initial Bulk Unit Weight,	99.0	lb/ft^3
Initial Dry Unit Weight	60.3	lb/ft^3
Maximum Load (Peak)	446.00	lbs.
Moisture Content, W	64.04	%
UCS	140.0	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BS15-5-20150723-14 (28 Day)		
TESTING DATE:	20-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A329_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	114.99	g
3. WT WET SOIL + TARE	166.36	g
4. WT DRY SOIL + TARE	146.74	g
5. WT WATER, Ww	19.62	g
6. WT DRY SOIL, Ws	31.75	g
7. MOISTURE CONTENT, W	**61.80**	**%**

SOIL SPECIMEN DIMENSIONS		
	DIAMETER	***LENGTH***
No. 1	2.01 in.	3.99 in.
No. 2	2.01 in.	3.99 in.
No. 3	2.00 in.	3.99 in.
Average	**2.00 in.**	**3.99 in.**

SPECIMEN CONDITIONS	
Initial Specimen WT, Wo	***326.05 g***
Initial Area, Ao	3.16 in^2
Initial Volume, Vo	12.59 in^3
Initial Bulk Unit Weight,	98.7 lb/ft^3
Initial Dry Unit Weight	61.0 lb/ft^3
Maximum Load (Peak)	1603.00 lbs.
UCS	500.9 lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.156	0.0000	0.0
1603	0.055	0.055	3.200	0.0138	500.9

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BS15-5-20150723-14 (28 Day)		
TESTING DATE:	20-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A329_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	326.05	g
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.59	in^3
Initial Bulk Unit Weight,	98.7	lb/ft^3
Initial Dry Unit Weight	61.0	lb/ft^3
Maximum Load (Peak)	1603.00	lbs.
Moisture Content, W	61.80	%
UCS	500.9	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BS13-20-20150724-15 (3 Day)		
TESTING DATE:	27-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	TAJ	TRACKING CODE:	A239_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	113.25	g
3. WT WET SOIL + TARE	170.94	g
4. WT DRY SOIL + TARE	140.52	g
5. WT WATER, Ww	30.42	g
6. WT DRY SOIL, Ws	27.27	g
7. MOISTURE CONTENT, W	**111.55**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	4.03	in.
No. 2	2.00	in.	4.00	in.
No. 3	1.99	in.	4.02	in.
Average	**1.99**	**in.**	**4.01**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***292.45***	***g***
Initial Area, Ao	3.12	in^2
Initial Volume, Vo	12.55	in^3
Initial Bulk Unit Weight,	88.8	lb/ft^3
Initial Dry Unit Weight	42.0	lb/ft^3
Maximum Load (Peak)	186.00	lbs.
UCS	58.9	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.125	0.0000	0.0
186	0.045	0.045	3.160	0.0112	58.9

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BS13-20-20150724-15 (3 Day)		
TESTING DATE:	27-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	TAJ	TRACKING CODE:	A239_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	292.45	g
Initial Area, Ao	3.12	in^2
Initial Volume, Vo	12.55	in^3
Initial Bulk Unit Weight,	88.8	lb/ft^3
Initial Dry Unit Weight	42.0	lb/ft^3
Maximum Load (Peak)	186.00	lbs.
Moisture Content, W	111.55	%
UCS	58.9	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BS13-20-20150724-15 (28 Day)		
TESTING DATE:	21-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A332_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	77.00	g
3. WT WET SOIL + TARE	130.11	g
4. WT DRY SOIL + TARE	102.34	g
5. WT WATER, Ww	27.77	g
6. WT DRY SOIL, Ws	25.34	g
7. MOISTURE CONTENT, W	**109.59**	**%**

SOIL SPECIMEN DIMENSIONS		
	DIAMETER	***LENGTH***
No. 1	2.00 in.	4.00 in.
No. 2	2.00 in.	3.99 in.
No. 3	2.00 in.	4.00 in.
Average	**2.00 in.**	**3.99 in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***289.46***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.55	in^3
Initial Bulk Unit Weight,	87.8	lb/ft^3
Initial Dry Unit Weight	41.9	lb/ft^3
Maximum Load (Peak)	914.00	lbs.
UCS	287.2	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.143	0.0000	0.0
914	0.050	0.050	3.182	0.0125	287.2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BS13-20-20150724-15 (28 Day)		
TESTING DATE:	21-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A332_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	289.46	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.55	in^3
Initial Bulk Unit Weight,	87.8	lb/ft^3
Initial Dry Unit Weight	41.9	lb/ft^3
Maximum Load (Peak)	914.00	lbs.
Moisture Content, W	109.59	%
UCS	287.2	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BO11-15-20150725-16 (3 Day)		
TESTING DATE:	28-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A243_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	49.06	g
3. WT WET SOIL + TARE	104.49	g
4. WT DRY SOIL + TARE	85.28	g
5. WT WATER, Ww	19.21	g
6. WT DRY SOIL, Ws	36.22	g
7. MOISTURE CONTENT, W	**53.04**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	4.02	in.
No. 2	2.00	in.	3.99	in.
No. 3	1.99	in.	3.99	in.
Average	**2.00**	**in.**	**4.00**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***341.17***	***g***
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.51	in^3
Initial Bulk Unit Weight,	103.9	lb/ft^3
Initial Dry Unit Weight	67.9	lb/ft^3
Maximum Load (Peak)	396.00	lbs.
UCS	124.4	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.128	0.0000	0.0
396	0.070	0.070	3.184	0.0175	124.4

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BO11-15-20150725-16 (3 Day)		
TESTING DATE:	28-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A243_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	341.17	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.51	in^3
Initial Bulk Unit Weight,	103.9	lb/ft^3
Initial Dry Unit Weight	67.9	lb/ft^3
Maximum Load (Peak)	396.00	lbs.
Moisture Content, W	53.04	%
UCS	124.4	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BO11-15-20150725-16 (28 day)		
TESTING DATE:	22-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	TNB	TRACKING CODE:	A333_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	172.09	g
3. WT WET SOIL + TARE	264.74	g
4. WT DRY SOIL + TARE	232.39	g
5. WT WATER, Ww	32.35	g
6. WT DRY SOIL, Ws	60.30	g
7. MOISTURE CONTENT, W	**53.65**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	3.99	in.
No. 2	2.00	in.	3.98	in.
No. 3	2.00	in.	3.99	in.
Average	**2.00**	**in.**	**3.99**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***337.71***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.53	in^3
Initial Bulk Unit Weight,	102.7	lb/ft^3
Initial Dry Unit Weight	66.8	lb/ft^3
Maximum Load (Peak)	1245.00	lbs.
UCS	390.1	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.143	0.0000	0.0
1245	0.060	0.060	3.191	0.0150	390.1

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BO11-15-20150725-16 (28 day)		
TESTING DATE:	22-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	TNB	TRACKING CODE:	A333_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	337.71	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.53	in^3
Initial Bulk Unit Weight,	102.7	lb/ft^3
Initial Dry Unit Weight	66.8	lb/ft^3
Maximum Load (Peak)	1245.00	lbs.
Moisture Content, W	53.65	%
UCS	390.1	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BM9-10-20150727-17 (3 Day)		
TESTING DATE:	30-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	TAJ	TRACKING CODE:	A246_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	49.90	g
3. WT WET SOIL + TARE	73.99	g
4. WT DRY SOIL + TARE	65.14	g
5. WT WATER, Ww	8.85	g
6. WT DRY SOIL, Ws	15.24	g
7. MOISTURE CONTENT, W	**58.07**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.01	in.	4.00	in.
No. 2	2.00	in.	4.02	in.
No. 3	2.01	in.	4.02	in.
Average	**2.01**	**in.**	**4.01**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***330.62***	***g***
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.69	in^3
Initial Bulk Unit Weight,	99.2	lb/ft^3
Initial Dry Unit Weight	62.8	lb/ft^3
Maximum Load (Peak)	459.00	lbs.
UCS	143.1	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.163	0.0000	0.0
459	0.055	0.055	3.207	0.0137	143.1

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BM9-10-20150727-17 (3 Day)		
TESTING DATE:	30-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	TAJ	TRACKING CODE:	A246_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	330.62	g
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.69	in^3
Initial Bulk Unit Weight,	99.2	lb/ft^3
Initial Dry Unit Weight	62.8	lb/ft^3
Maximum Load (Peak)	459.00	lbs.
Moisture Content, W	58.07	%
UCS	143.1	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BM9-10-20150727-17(28 Day)		
TESTING DATE:	24-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A335_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	116.75	g
3. WT WET SOIL + TARE	177.27	g
4. WT DRY SOIL + TARE	154.89	g
5. WT WATER, Ww	22.38	g
6. WT DRY SOIL, Ws	38.14	g
7. MOISTURE CONTENT, W	**58.68**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	3.98	in.
No. 2	2.00	in.	4.00	in.
No. 3	1.99	in.	3.99	in.
Average	**2.00**	**in.**	**3.99**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***330.01***	***g***
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.50	in^3
Initial Bulk Unit Weight,	100.6	lb/ft^3
Initial Dry Unit Weight	63.4	lb/ft^3
Maximum Load (Peak)	1605.00	lbs.
UCS	505.3	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.133	0.0000	0.0
1605	0.055	0.055	3.176	0.0138	505.3

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BM9-10-20150727-17(28 Day)		
TESTING DATE:	24-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A335_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	330.01	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.50	in^3
Initial Bulk Unit Weight,	100.6	lb/ft^3
Initial Dry Unit Weight	63.4	lb/ft^3
Maximum Load (Peak)	1605.00	lbs.
Moisture Content, W	58.68	%
UCS	505.3	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BJ8-5-20150728-18 (3 Day)		
TESTING DATE:	31-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	TAJ	TRACKING CODE:	A248_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	29.09	g
3. WT WET SOIL + TARE	52.80	g
4. WT DRY SOIL + TARE	42.91	g
5. WT WATER, Ww	9.89	g
6. WT DRY SOIL, Ws	13.82	g
7. MOISTURE CONTENT, W	**71.56**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	1.99	in.	3.99	in.
No. 2	1.99	in.	3.99	in.
No. 3	1.99	in.	4.00	in.
Average	**1.99**	**in.**	**3.99**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***310.93***	***g***
Initial Area, Ao	3.11	in^2
Initial Volume, Vo	12.42	in^3
Initial Bulk Unit Weight,	95.4	lb/ft^3
Initial Dry Unit Weight	55.6	lb/ft^3
Maximum Load (Peak)	435.00	lbs.
UCS	138.1	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.110	0.0000	0.0
435	0.050	0.050	3.150	0.0125	138.1

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BJ8-5-20150728-18 (3 Day)		
TESTING DATE:	31-Jul-15	LOADING RATE:	0.04in./min.
TESTED BY:	TAJ	TRACKING CODE:	A248_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	310.93	g
Initial Area, Ao	3.11	in^2
Initial Volume, Vo	12.42	in^3
Initial Bulk Unit Weight,	95.4	lb/ft^3
Initial Dry Unit Weight	55.6	lb/ft^3
Maximum Load (Peak)	435.00	lbs.
Moisture Content, W	71.56	%
UCS	138.1	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BJ8-5-20150728-18 (28 Day)		
TESTING DATE:	25-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A336_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.73	g
3. WT WET SOIL + TARE	127.05	g
4. WT DRY SOIL + TARE	106.66	g
5. WT WATER, Ww	20.39	g
6. WT DRY SOIL, Ws	29.93	g
7. MOISTURE CONTENT, W	**68.13**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	3.98	in.
No. 2	2.00	in.	3.98	in.
No. 3	2.00	in.	3.97	in.
Average	**2.00**	**in.**	**3.98**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***316.99***	***g***
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.45	in^3
Initial Bulk Unit Weight,	97.0	lb/ft^3
Initial Dry Unit Weight	57.7	lb/ft^3
Maximum Load (Peak)	1385.00	lbs.
UCS	435.7	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.131	0.0000	0.0
1385	0.060	0.060	3.179	0.0151	435.7

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BJ8-5-20150728-18 (28 Day)		
TESTING DATE:	25-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A336_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	316.99	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.45	in^3
Initial Bulk Unit Weight,	97.0	lb/ft^3
Initial Dry Unit Weight	57.7	lb/ft^3
Maximum Load (Peak)	1385.00	lbs.
Moisture Content, W	68.13	%
UCS	435.7	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BD8-10-20150729-19 (3 Day)		
TESTING DATE:	1-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	TAJ	TRACKING CODE:	A249_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	31.58	g
3. WT WET SOIL + TARE	51.74	g
4. WT DRY SOIL + TARE	44.27	g
5. WT WATER, Ww	7.47	g
6. WT DRY SOIL, Ws	12.69	g
7. MOISTURE CONTENT, W	**58.87**	**%**

SOIL SPECIMEN DIMENSIONS		
	DIAMETER	***LENGTH***
No. 1	2.00 in.	3.99 in.
No. 2	2.00 in.	3.99 in.
No. 3	2.00 in.	3.98 in.
Average	**2.00 in.**	**3.99 in.**

SPECIMEN CONDITIONS	
Initial Specimen WT, Wo	***328.99 g***
Initial Area, Ao	3.14 in^2
Initial Volume, Vo	12.52 in^3
Initial Bulk Unit Weight,	100.1 lb/ft^3
Initial Dry Unit Weight	63.0 lb/ft^3
Maximum Load (Peak)	204.00 lbs.
UCS	64.2 lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.142	0.0000	0.0
204	0.045	0.045	3.177	0.0113	64.2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BD8-10-20150729-19 (3 Day)		
TESTING DATE:	1-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	TAJ	TRACKING CODE:	A249_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	328.99	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.52	in^3
Initial Bulk Unit Weight,	100.1	lb/ft^3
Initial Dry Unit Weight	63.0	lb/ft^3
Maximum Load (Peak)	204.00	lbs.
Moisture Content, W	58.87	%
UCS	64.2	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BD8-10-20150729-19 (28 Day)		
TESTING DATE:	26-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A340_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.74	g
3. WT WET SOIL + TARE	126.15	g
4. WT DRY SOIL + TARE	108.22	g
5. WT WATER, Ww	17.93	g
6. WT DRY SOIL, Ws	31.48	g
7. MOISTURE CONTENT, W	**56.96**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	1.99	in.	3.98	in.
No. 2	2.00	in.	4.00	in.
No. 3	2.00	in.	3.99	in.
Average	**2.00**	**in.**	**3.99**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***331.80***	***g***
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.51	in^3
Initial Bulk Unit Weight,	101.0	lb/ft^3
Initial Dry Unit Weight	64.4	lb/ft^3
Maximum Load (Peak)	1259.00	lbs.
UCS	395.7	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.134	0.0000	0.0
1259	0.060	0.060	3.182	0.0150	395.7

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BD8-10-20150729-19 (28 Day)		
TESTING DATE:	26-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A340_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	331.80	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.51	in^3
Initial Bulk Unit Weight,	101.0	lb/ft^3
Initial Dry Unit Weight	64.4	lb/ft^3
Maximum Load (Peak)	1259.00	lbs.
Moisture Content, W	56.96	%
UCS	395.7	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AY7-15-20150730-20 (3 Day)		
TESTING DATE:	3-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A250_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	50.99	g
3. WT WET SOIL + TARE	107.98	g
4. WT DRY SOIL + TARE	86.14	g
5. WT WATER, Ww	21.84	g
6. WT DRY SOIL, Ws	35.15	g
7. MOISTURE CONTENT, W	**62.13**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.01	in.	4.01	in.
No. 2	2.00	in.	4.00	in.
No. 3	2.00	in.	3.99	in.
Average	**2.00**	**in.**	**4.00**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***332.88***	***g***
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.59	in^3
Initial Bulk Unit Weight,	100.7	lb/ft^3
Initial Dry Unit Weight	62.1	lb/ft^3
Maximum Load (Peak)	608.00	lbs.
UCS	190.6	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.147	0.0000	0.0
608	0.055	0.055	3.191	0.0137	190.6

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AY7-15-20150730-20 (3 Day)		
TESTING DATE:	3-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A250_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	332.88	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.59	in^3
Initial Bulk Unit Weight,	100.7	lb/ft^3
Initial Dry Unit Weight	62.1	lb/ft^3
Maximum Load (Peak)	608.00	lbs.
Moisture Content, W	62.13	%
UCS	190.6	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AY7-15-20150730-20 (28 Day)		
TESTING DATE:	27-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A344_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.78	g
3. WT WET SOIL + TARE	127.71	g
4. WT DRY SOIL + TARE	109.05	g
5. WT WATER, Ww	18.66	g
6. WT DRY SOIL, Ws	32.27	g
7. MOISTURE CONTENT, W	**57.82**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	4.01	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.01	in.
Average	**2.00**	**in.**	**4.01**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***331.13***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.60	in^3
Initial Bulk Unit Weight,	100.1	lb/ft^3
Initial Dry Unit Weight	63.4	lb/ft^3
Maximum Load (Peak)	1507.00	lbs.
UCS	472.2	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.144	0.0000	0.0
1507	0.060	0.060	3.191	0.0150	472.2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AY7-15-20150730-20 (28 Day)		
TESTING DATE:	27-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A344_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	331.13	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.60	in^3
Initial Bulk Unit Weight,	100.1	lb/ft^3
Initial Dry Unit Weight	63.4	lb/ft^3
Maximum Load (Peak)	1507.00	lbs.
Moisture Content, W	57.82	%
UCS	472.2	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AR10-5-20150731-21 (3 Day)		
TESTING DATE:	3-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A251_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	49.69	g
3. WT WET SOIL + TARE	100.33	g
4. WT DRY SOIL + TARE	82.29	g
5. WT WATER, Ww	18.04	g
6. WT DRY SOIL, Ws	32.60	g
7. MOISTURE CONTENT, W	**55.34**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	3.96	in.
No. 2	2.01	in.	3.98	in.
No. 3	2.02	in.	3.97	in.
Average	**2.01**	**in.**	**3.97**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***333.24***	***g***
Initial Area, Ao	3.18	in^2
Initial Volume, Vo	12.63	in^3
Initial Bulk Unit Weight,	100.5	lb/ft^3
Initial Dry Unit Weight	64.7	lb/ft^3
Maximum Load (Peak)	308.00	lbs.
UCS	95.6	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.178	0.0000	0.0
308	0.055	0.055	3.223	0.0138	95.6

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AR10-5-20150731-21 (3 Day)		
TESTING DATE:	3-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A251_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	333.24	g
Initial Area, Ao	3.18	in^2
Initial Volume, Vo	12.63	in^3
Initial Bulk Unit Weight,	100.5	lb/ft^3
Initial Dry Unit Weight	64.7	lb/ft^3
Maximum Load (Peak)	308.00	lbs.
Moisture Content, W	55.34	%
UCS	95.6	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AR10-5-20150731-21 (7 Day)		
TESTING DATE:	11-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A297_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.03	g
3. WT WET SOIL + TARE	130.84	g
4. WT DRY SOIL + TARE	111.45	g
5. WT WATER, Ww	19.39	g
6. WT DRY SOIL, Ws	35.42	g
7. MOISTURE CONTENT, W	**54.74**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	4.00	in.
No. 2	2.00	in.	4.01	in.
No. 3	1.99	in.	4.00	in.
Average	**2.00**	**in.**	**4.00**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***334.63***	***g***
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.54	in^3
Initial Bulk Unit Weight,	101.6	lb/ft^3
Initial Dry Unit Weight	65.7	lb/ft^3
Maximum Load (Peak)	1112.00	lbs.
UCS	350.0	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.133	0.0000	0.0
1112	0.055	0.055	3.177	0.0137	350.0

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AR10-5-20150731-21 (7 Day)		
TESTING DATE:	11-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A297_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	334.63	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.54	in^3
Initial Bulk Unit Weight,	101.6	lb/ft^3
Initial Dry Unit Weight	65.7	lb/ft^3
Maximum Load (Peak)	1112.00	lbs.
Moisture Content, W	54.74	%
UCS	350.0	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AR10-5-20150731-21 (28 Day)		
TESTING DATE:	28-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A351_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	77.56	g
3. WT WET SOIL + TARE	134.56	g
4. WT DRY SOIL + TARE	114.51	g
5. WT WATER, Ww	20.05	g
6. WT DRY SOIL, Ws	36.95	g
7. MOISTURE CONTENT, W	**54.26**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.01	in.	4.01	in.
No. 2	2.01	in.	4.00	in.
No. 3	2.01	in.	4.03	in.
Average	**2.01**	**in.**	**4.01**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***334.26***	***g***
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.69	in^3
Initial Bulk Unit Weight,	100.4	lb/ft^3
Initial Dry Unit Weight	65.1	lb/ft^3
Maximum Load (Peak)	1645.00	lbs.
UCS	512.4	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.163	0.0000	0.0
1645	0.060	0.060	3.211	0.0150	512.4

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AR10-5-20150731-21 (28 Day)		
TESTING DATE:	28-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A351_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	334.26	g
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.69	in^3
Initial Bulk Unit Weight,	100.4	lb/ft^3
Initial Dry Unit Weight	65.1	lb/ft^3
Maximum Load (Peak)	1645.00	lbs.
Moisture Content, W	54.26	%
UCS	512.4	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AP10-10-20150801-22 (3 Day)		
TESTING DATE:	4-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A252_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	49.76	g
3. WT WET SOIL + TARE	104.50	g
4. WT DRY SOIL + TARE	84.12	g
5. WT WATER, Ww	20.38	g
6. WT DRY SOIL, Ws	34.36	g
7. MOISTURE CONTENT, W	**59.31**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	1.99	in.	3.97	in.
No. 2	2.00	in.	3.99	in.
No. 3	2.00	in.	4.00	in.
Average	**2.00**	**in.**	**3.99**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***331.56***	***g***
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.49	in^3
Initial Bulk Unit Weight,	101.1	lb/ft^3
Initial Dry Unit Weight	63.5	lb/ft^3
Maximum Load (Peak)	272.00	lbs.
UCS	85.3	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.134	0.0000	0.0
272	0.070	0.070	3.190	0.0176	85.3

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AP10-10-20150801-22 (3 Day)		
TESTING DATE:	4-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A252_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	331.56	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.49	in^3
Initial Bulk Unit Weight,	101.1	lb/ft^3
Initial Dry Unit Weight	63.5	lb/ft^3
Maximum Load (Peak)	272.00	lbs.
Moisture Content, W	59.31	%
UCS	85.3	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AP10-10-20150801-22 (28 Day)		
TESTING DATE:	29-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	TNB	TRACKING CODE:	A352_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	171.52	g
3. WT WET SOIL + TARE	317.73	g
4. WT DRY SOIL + TARE	266.62	g
5. WT WATER, Ww	51.11	g
6. WT DRY SOIL, Ws	95.10	g
7. MOISTURE CONTENT, W	**53.74**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	1.99	in.	3.99	in.
No. 2	1.99	in.	3.99	in.
No. 3	2.00	in.	3.98	in.
Average	**1.99**	**in.**	**3.99**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***335.45***	***g***
Initial Area, Ao	3.11	in^2
Initial Volume, Vo	12.41	in^3
Initial Bulk Unit Weight,	103.0	lb/ft^3
Initial Dry Unit Weight	67.0	lb/ft^3
Maximum Load (Peak)	1340.00	lbs.
UCS	424.7	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.111	0.0000	0.0
1340	0.055	0.055	3.155	0.0138	424.7

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AP10-10-20150801-22 (28 Day)		
TESTING DATE:	29-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	TNB	TRACKING CODE:	A352_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	335.45	g
Initial Area, Ao	3.11	in^2
Initial Volume, Vo	12.41	in^3
Initial Bulk Unit Weight,	103.0	lb/ft^3
Initial Dry Unit Weight	67.0	lb/ft^3
Maximum Load (Peak)	1340.00	lbs.
Moisture Content, W	53.74	%
UCS	424.7	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AH10-12-20150803-23 (3 Day)		
TESTING DATE:	6-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	JDM	TRACKING CODE:	A271_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	114.42	g
3. WT WET SOIL + TARE	212.63	g
4. WT DRY SOIL + TARE	178.96	g
5. WT WATER, Ww	33.67	g
6. WT DRY SOIL, Ws	64.54	g
7. MOISTURE CONTENT, W	**52.17**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	1.99	in.	4.01	in.
No. 2	1.99	in.	4.00	in.
No. 3	1.99	in.	4.00	in.
Average	**1.99**	**in.**	**4.00**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***337.47***	***g***
Initial Area, Ao	3.11	in^2
Initial Volume, Vo	12.47	in^3
Initial Bulk Unit Weight,	103.1	lb/ft^3
Initial Dry Unit Weight	67.8	lb/ft^3
Maximum Load (Peak)	352.00	lbs.
UCS	111.0	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.115	0.0000	0.0
352	0.070	0.070	3.170	0.0175	111.0

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AH10-12-20150803-23 (3 Day)		
TESTING DATE:	6-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	JDM	TRACKING CODE:	A271_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	337.47	g
Initial Area, Ao	3.11	in^2
Initial Volume, Vo	12.47	in^3
Initial Bulk Unit Weight,	103.1	lb/ft^3
Initial Dry Unit Weight	67.8	lb/ft^3
Maximum Load (Peak)	352.00	lbs.
Moisture Content, W	52.17	%
UCS	111.0	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AH10-12-20150803-23 (28 Day)		
TESTING DATE:	31-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A353_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	114.06	g
3. WT WET SOIL + TARE	176.10	g
4. WT DRY SOIL + TARE	154.96	g
5. WT WATER, Ww	21.14	g
6. WT DRY SOIL, Ws	40.90	g
7. MOISTURE CONTENT, W	**51.69**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	4.01	in.
No. 2	2.00	in.	3.99	in.
No. 3	2.00	in.	4.01	in.
Average	**2.00**	**in.**	**4.00**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***338.63***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.54	in^3
Initial Bulk Unit Weight,	102.8	lb/ft^3
Initial Dry Unit Weight	67.8	lb/ft^3
Maximum Load (Peak)	1274.00	lbs.
UCS	401.8	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.135	0.0000	0.0
1274	0.045	0.045	3.171	0.0112	401.8

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AH10-12-20150803-23 (28 Day)		
TESTING DATE:	31-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A353_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	338.63	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.54	in^3
Initial Bulk Unit Weight,	102.8	lb/ft^3
Initial Dry Unit Weight	67.8	lb/ft^3
Maximum Load (Peak)	1274.00	lbs.
Moisture Content, W	51.69	%
UCS	401.8	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AB10-5-20150810-24 (29 Day)		
TESTING DATE:	8-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A365_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	114.05	g
3. WT WET SOIL + TARE	181.26	g
4. WT DRY SOIL + TARE	157.57	g
5. WT WATER, Ww	23.69	g
6. WT DRY SOIL, Ws	43.52	g
7. MOISTURE CONTENT, W	**54.43**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.01	in.	4.00	in.
No. 2	2.01	in.	4.01	in.
No. 3	2.01	in.	4.01	in.
Average	**2.01**	**in.**	**4.01**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***335.81***	***g***
Initial Area, Ao	3.17	in^2
Initial Volume, Vo	12.71	in^3
Initial Bulk Unit Weight,	100.6	lb/ft^3
Initial Dry Unit Weight	65.2	lb/ft^3
Maximum Load (Peak)	1785.00	lbs.
UCS	555.1	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
	0.000	0.000	3.172	0.0000	0.0
1785	0.055	0.055	3.216	0.0137	555.1

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AB10-5-20150810-24 (29 Day)		
TESTING DATE:	8-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A365_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	335.81	g
Initial Area, Ao	3.17	in^2
Initial Volume, Vo	12.71	in^3
Initial Bulk Unit Weight,	100.6	lb/ft^3
Initial Dry Unit Weight	65.2	lb/ft^3
Maximum Load (Peak)	1785.00	lbs.
Moisture Content, W	54.43	%
UCS	555.1	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	C11-25-20150811-25 (28 Day)		
TESTING DATE:	8-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A366_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	113.22	g
3. WT WET SOIL + TARE	174.08	g
4. WT DRY SOIL + TARE	151.48	g
5. WT WATER, Ww	22.60	g
6. WT DRY SOIL, Ws	38.26	g
7. MOISTURE CONTENT, W	**59.07**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.02	in.	4.00	in.
No. 2	2.01	in.	4.00	in.
No. 3	2.01	in.	4.00	in.
Average	**2.01**	**in.**	**4.00**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***332.05***	***g***
Initial Area, Ao	3.17	in^2
Initial Volume, Vo	12.68	in^3
Initial Bulk Unit Weight,	99.7	lb/ft^3
Initial Dry Unit Weight	62.7	lb/ft^3
Maximum Load (Peak)	1337.00	lbs.
UCS	417.0	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.170	0.0000	0.0
1337	0.045	0.045	3.207	0.0113	417.0

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	C11-25-20150811-25 (28 Day)		
TESTING DATE:	8-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A366_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	332.05	g
Initial Area, Ao	3.17	in^2
Initial Volume, Vo	12.68	in^3
Initial Bulk Unit Weight,	99.7	lb/ft^3
Initial Dry Unit Weight	62.7	lb/ft^3
Maximum Load (Peak)	1337.00	lbs.
Moisture Content, W	59.07	%
UCS	417.0	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	H10-5-20150812-26 (28 Day)		
TESTING DATE:	9-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A367_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	77.62	g
3. WT WET SOIL + TARE	140.01	g
4. WT DRY SOIL + TARE	115.54	g
5. WT WATER, Ww	24.47	g
6. WT DRY SOIL, Ws	37.92	g
7. MOISTURE CONTENT, W	**64.53**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.01	in.	4.01	in.
No. 2	2.00	in.	4.00	in.
No. 3	2.00	in.	4.00	in.
Average	**2.00**	**in.**	**4.00**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***326.19***	***g***
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.63	in^3
Initial Bulk Unit Weight,	98.4	lb/ft^3
Initial Dry Unit Weight	59.8	lb/ft^3
Maximum Load (Peak)	1635.00	lbs.
UCS	511.4	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.153	0.0000	0.0
1635	0.055	0.055	3.197	0.0137	511.4

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	H10-5-20150812-26 (28 Day)		
TESTING DATE:	9-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A367_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	326.19	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.63	in^3
Initial Bulk Unit Weight,	98.4	lb/ft^3
Initial Dry Unit Weight	59.8	lb/ft^3
Maximum Load (Peak)	1635.00	lbs.
Moisture Content, W	64.53	%
UCS	511.4	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	S9-10-20150813-27 (27 Day)		
TESTING DATE:	9-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A373_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.77	g
3. WT WET SOIL + TARE	141.80	g
4. WT DRY SOIL + TARE	118.54	g
5. WT WATER, Ww	23.26	g
6. WT DRY SOIL, Ws	41.77	g
7. MOISTURE CONTENT, W	**55.69**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	3.97	in.
No. 2	2.00	in.	3.97	in.
No. 3	2.00	in.	3.97	in.
Average	**2.00**	**in.**	**3.97**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***332.05***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.47	in^3
Initial Bulk Unit Weight,	101.4	lb/ft^3
Initial Dry Unit Weight	65.1	lb/ft^3
Maximum Load (Peak)	1656.00	lbs.
UCS	521.5	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.139	0.0000	0.0
1656	0.045	0.045	3.175	0.0113	521.5

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	S9-10-20150813-27 (27 Day)		
TESTING DATE:	9-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A373_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	332.05	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.47	in^3
Initial Bulk Unit Weight,	101.4	lb/ft^3
Initial Dry Unit Weight	65.1	lb/ft^3
Maximum Load (Peak)	1656.00	lbs.
Moisture Content, W	55.69	%
UCS	521.5	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	E13-5-20150814-28 (26 Day)		
TESTING DATE:	9-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A374_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	77.52	g
3. WT WET SOIL + TARE	141.62	g
4. WT DRY SOIL + TARE	116.08	g
5. WT WATER, Ww	25.54	g
6. WT DRY SOIL, Ws	38.56	g
7. MOISTURE CONTENT, W	**66.23**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.01	in.	3.97	in.
No. 2	2.00	in.	3.98	in.
No. 3	2.00	in.	3.98	in.
Average	**2.00**	**in.**	**3.98**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***319.12***	***g***
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.53	in^3
Initial Bulk Unit Weight,	97.0	lb/ft^3
Initial Dry Unit Weight	58.4	lb/ft^3
Maximum Load (Peak)	1439.00	lbs.
UCS	450.6	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.149	0.0000	0.0
1439	0.055	0.055	3.194	0.0138	450.6

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	E13-5-20150814-28 (26 Day)		
TESTING DATE:	9-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A374_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	319.12	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.53	in^3
Initial Bulk Unit Weight,	97.0	lb/ft^3
Initial Dry Unit Weight	58.4	lb/ft^3
Maximum Load (Peak)	1439.00	lbs.
Moisture Content, W	66.23	%
UCS	450.6	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	C17-10-20150815-29 (25 Day)		
TESTING DATE:	9-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A375_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	65.04	g
3. WT WET SOIL + TARE	131.57	g
4. WT DRY SOIL + TARE	107.31	g
5. WT WATER, Ww	24.26	g
6. WT DRY SOIL, Ws	42.27	g
7. MOISTURE CONTENT, W	**57.39**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	3.98	in.
No. 2	2.00	in.	3.98	in.
No. 3	2.00	in.	3.98	in.
Average	**2.00**	**in.**	**3.98**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***331.50***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.50	in^3
Initial Bulk Unit Weight,	101.0	lb/ft^3
Initial Dry Unit Weight	64.2	lb/ft^3
Maximum Load (Peak)	1409.00	lbs.
UCS	443.5	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.141	0.0000	0.0
1409	0.045	0.045	3.177	0.0113	443.5

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	C17-10-20150815-29 (25 Day)		
TESTING DATE:	9-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A375_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	331.50	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.50	in^3
Initial Bulk Unit Weight,	101.0	lb/ft^3
Initial Dry Unit Weight	64.2	lb/ft^3
Maximum Load (Peak)	1409.00	lbs.
Moisture Content, W	57.39	%
UCS	443.5	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	H18-5-20150817-30 (23 Day)		
TESTING DATE:	9-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A376_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.37	g
3. WT WET SOIL + TARE	132.36	g
4. WT DRY SOIL + TARE	113.50	g
5. WT WATER, Ww	18.86	g
6. WT DRY SOIL, Ws	37.13	g
7. MOISTURE CONTENT, W	**50.79**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.01	in.	3.98	in.
No. 2	2.00	in.	3.99	in.
No. 3	2.00	in.	3.98	in.
Average	**2.01**	**in.**	**3.98**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***339.36***	***g***
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.58	in^3
Initial Bulk Unit Weight,	102.8	lb/ft^3
Initial Dry Unit Weight	68.2	lb/ft^3
Maximum Load (Peak)	1095.00	lbs.
UCS	342.0	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.158	0.0000	0.0
1095	0.055	0.055	3.202	0.0138	342.0

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	H18-5-20150817-30 (23 Day)		
TESTING DATE:	9-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A376_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	339.36	g
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.58	in^3
Initial Bulk Unit Weight,	102.8	lb/ft^3
Initial Dry Unit Weight	68.2	lb/ft^3
Maximum Load (Peak)	1095.00	lbs.
Moisture Content, W	50.79	%
UCS	342.0	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	K21-10-20150818-31 (7 Day)		
TESTING DATE:	25-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A337_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	65.05	
3. WT WET SOIL + TARE	115.40	g
4. WT DRY SOIL + TARE	97.89	g
5. WT WATER, Ww	17.51	g
6. WT DRY SOIL, Ws	32.84	g
7. MOISTURE CONTENT, W	**53.32**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	4.00	in.
No. 2	2.00	in.	3.98	in.
No. 3	2.00	in.	4.00	in.
Average	**2.00**	**in.**	**3.99**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***339.06***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.53	in^3
Initial Bulk Unit Weight,	103.1	lb/ft^3
Initial Dry Unit Weight	67.2	lb/ft^3
Maximum Load (Peak)	886.00	lbs.
UCS	278.9	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.137	0.0000	0.0
886	0.050	0.050	3.177	0.0125	278.9

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	K21-10-20150818-31 (7 Day)		
TESTING DATE:	25-Aug-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A337_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	339.06	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.53	in^3
Initial Bulk Unit Weight,	103.1	lb/ft^3
Initial Dry Unit Weight	67.2	lb/ft^3
Maximum Load (Peak)	886.00	lbs.
Moisture Content, W	53.32	%
UCS	278.9	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	S21-15-20150819-32 (21 Day)		
TESTING DATE:	9-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A377_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	66.10	g
3. WT WET SOIL + TARE	134.91	g
4. WT DRY SOIL + TARE	107.59	g
5. WT WATER, Ww	27.32	g
6. WT DRY SOIL, Ws	41.49	g
7. MOISTURE CONTENT, W	**65.85**	**%**

SOIL SPECIMEN DIMENSIONS		
	DIAMETER	***LENGTH***
No. 1	1.99 in.	3.97 in.
No. 2	2.00 in.	3.97 in.
No. 3	2.00 in.	3.97 in.
Average	**2.00 in.**	**3.97 in.**

SPECIMEN CONDITIONS	
Initial Specimen WT, Wo	***319.65 g***
Initial Area, Ao	3.13 in^2
Initial Volume, Vo	12.43 in^3
Initial Bulk Unit Weight,	98.0 lb/ft^3
Initial Dry Unit Weight	59.1 lb/ft^3
Maximum Load (Peak)	1351.00 lbs.
UCS	426.7 lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.130	0.0000	0.0
1351	0.045	0.045	3.166	0.0113	426.7

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	S21-15-20150819-32 (21 Day)		
TESTING DATE:	9-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A377_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	319.65	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.43	in^3
Initial Bulk Unit Weight,	98.0	lb/ft^3
Initial Dry Unit Weight	59.1	lb/ft^3
Maximum Load (Peak)	1351.00	lbs.
Moisture Content, W	65.85	%
UCS	426.7	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	X20-5-20150820-33 (20 Day)		
TESTING DATE:	9-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A378_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.25	g
3. WT WET SOIL + TARE	136.47	g
4. WT DRY SOIL + TARE	112.31	g
5. WT WATER, Ww	24.16	g
6. WT DRY SOIL, Ws	36.06	g
7. MOISTURE CONTENT, W	**67.00**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	3.97	in.
No. 2	2.00	in.	3.97	in.
No. 3	2.00	in.	3.97	in.
Average	**2.00**	**in.**	**3.97**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***317.88***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.45	in^3
Initial Bulk Unit Weight,	97.3	lb/ft^3
Initial Dry Unit Weight	58.2	lb/ft^3
Maximum Load (Peak)	1185.00	lbs.
UCS	372.7	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.135	0.0000	0.0
1185	0.055	0.055	3.179	0.0138	372.7

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	X20-5-20150820-33 (20 Day)		
TESTING DATE:	9-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A378_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	317.88	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.45	in^3
Initial Bulk Unit Weight,	97.3	lb/ft^3
Initial Dry Unit Weight	58.2	lb/ft^3
Maximum Load (Peak)	1185.00	lbs.
Moisture Content, W	67.00	%
UCS	372.7	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AG23-10-20150822-34 (18 Day)		
TESTING DATE:	9-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A379_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	77.09	g
3. WT WET SOIL + TARE	157.68	g
4. WT DRY SOIL + TARE	127.13	g
5. WT WATER, Ww	30.55	g
6. WT DRY SOIL, Ws	50.04	g
7. MOISTURE CONTENT, W	**61.05**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	3.97	in.
No. 2	2.00	in.	3.98	in.
No. 3	2.00	in.	3.98	in.
Average	**2.00**	**in.**	**3.98**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***325.90***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.48	in^3
Initial Bulk Unit Weight,	99.5	lb/ft^3
Initial Dry Unit Weight	61.8	lb/ft^3
Maximum Load (Peak)	1151.00	lbs.
UCS	361.7	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.138	0.0000	0.0
1151	0.055	0.055	3.182	0.0138	361.7

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AG23-10-20150822-34 (18 Day)		
TESTING DATE:	9-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A379_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	325.90	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.48	in^3
Initial Bulk Unit Weight,	99.5	lb/ft^3
Initial Dry Unit Weight	61.8	lb/ft^3
Maximum Load (Peak)	1151.00	lbs.
Moisture Content, W	61.05	%
UCS	361.7	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AN24-15-20150824-35 (16 Day)		
TESTING DATE:	9-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A380_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.15	g
3. WT WET SOIL + TARE	136.83	g
4. WT DRY SOIL + TARE	113.90	g
5. WT WATER, Ww	22.93	g
6. WT DRY SOIL, Ws	37.75	g
7. MOISTURE CONTENT, W	**60.74**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.01	in.	3.98	in.
No. 2	2.00	in.	3.98	in.
No. 3	2.00	in.	3.99	in.
Average	**2.00**	**in.**	**3.98**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***327.22***	***g***
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.57	in^3
Initial Bulk Unit Weight,	99.2	lb/ft^3
Initial Dry Unit Weight	61.7	lb/ft^3
Maximum Load (Peak)	1279.00	lbs.
UCS	400.6	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.157	0.0000	0.0
1279	0.045	0.045	3.193	0.0113	400.6

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AN24-15-20150824-35 (16 Day)		
TESTING DATE:	9-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A380_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	327.22	g
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.57	in^3
Initial Bulk Unit Weight,	99.2	lb/ft^3
Initial Dry Unit Weight	61.7	lb/ft^3
Maximum Load (Peak)	1279.00	lbs.
Moisture Content, W	60.74	%
UCS	400.6	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AV24-5-20150825-36 (14 Day)		
TESTING DATE:	8-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A368_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	169.73	g
3. WT WET SOIL + TARE	236.20	g
4. WT DRY SOIL + TARE	216.79	g
5. WT WATER, Ww	19.41	g
6. WT DRY SOIL, Ws	47.06	g
7. MOISTURE CONTENT, W	**41.25**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	4.02	in.
No. 2	2.00	in.	4.06	in.
No. 3	2.00	in.	4.01	in.
Average	**2.00**	**in.**	**4.03**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***356.66***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.65	in^3
Initial Bulk Unit Weight,	107.4	lb/ft^3
Initial Dry Unit Weight	76.0	lb/ft^3
Maximum Load (Peak)	1305.00	lbs.
UCS	409.8	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.141	0.0000	0.0
1305	0.055	0.055	3.185	0.0137	409.8

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AV24-5-20150825-36 (14 Day)		
TESTING DATE:	8-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A368_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	356.66	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.65	in^3
Initial Bulk Unit Weight,	107.4	lb/ft^3
Initial Dry Unit Weight	76.0	lb/ft^3
Maximum Load (Peak)	1305.00	lbs.
Moisture Content, W	41.25	%
UCS	409.8	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BG23-10-20150826-37 (13 Day)		
TESTING DATE:	8-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A369_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	172.40	g
3. WT WET SOIL + TARE	237.41	g
4. WT DRY SOIL + TARE	215.93	g
5. WT WATER, Ww	21.48	g
6. WT DRY SOIL, Ws	43.53	g
7. MOISTURE CONTENT, W	**49.35**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.01	in.	4.01	in.
No. 2	2.01	in.	4.01	in.
No. 3	2.01	in.	4.00	in.
Average	**2.01**	**in.**	**4.01**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***343.39***	***g***
Initial Area, Ao	3.17	in^2
Initial Volume, Vo	12.70	in^3
Initial Bulk Unit Weight,	103.0	lb/ft^3
Initial Dry Unit Weight	68.9	lb/ft^3
Maximum Load (Peak)	955.00	lbs.
UCS	297.4	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.171	0.0000	0.0
955	0.050	0.050	3.211	0.0125	297.4

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BG23-10-20150826-37 (13 Day)		
TESTING DATE:	8-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A369_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	343.39	g
Initial Area, Ao	3.17	in^2
Initial Volume, Vo	12.70	in^3
Initial Bulk Unit Weight,	103.0	lb/ft^3
Initial Dry Unit Weight	68.9	lb/ft^3
Maximum Load (Peak)	955.00	lbs.
Moisture Content, W	49.35	%
UCS	297.4	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CM27-15-20150828-38 (11 Day)		
TESTING DATE:	8-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A370_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	167.45	g
3. WT WET SOIL + TARE	231.97	g
4. WT DRY SOIL + TARE	213.75	g
5. WT WATER, Ww	18.22	g
6. WT DRY SOIL, Ws	46.30	g
7. MOISTURE CONTENT, W	**39.35**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	3.99	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.01	in.	3.99	in.
Average	**2.00**	**in.**	**4.00**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***361.17***	***g***
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.60	in^3
Initial Bulk Unit Weight,	109.2	lb/ft^3
Initial Dry Unit Weight	78.4	lb/ft^3
Maximum Load (Peak)	239.00	lbs.
UCS	74.7	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.152	0.0000	0.0
239	0.060	0.060	3.200	0.0150	74.7

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CM27-15-20150828-38 (11 Day)		
TESTING DATE:	8-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A370_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	361.17	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.60	in^3
Initial Bulk Unit Weight,	109.2	lb/ft^3
Initial Dry Unit Weight	78.4	lb/ft^3
Maximum Load (Peak)	239.00	lbs.
Moisture Content, W	39.35	%
UCS	74.7	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CC25-10-20150829-39 (10 Day)		
TESTING DATE:	8-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A371_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	169.32	g
3. WT WET SOIL + TARE	235.02	g
4. WT DRY SOIL + TARE	209.38	g
5. WT WATER, Ww	25.64	g
6. WT DRY SOIL, Ws	40.06	g
7. MOISTURE CONTENT, W	**64.00**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.02	in.	3.97	in.
No. 2	2.01	in.	4.00	in.
No. 3	2.01	in.	3.98	in.
Average	**2.01**	**in.**	**3.99**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***317.72***	***g***
Initial Area, Ao	3.18	in^2
Initial Volume, Vo	12.66	in^3
Initial Bulk Unit Weight,	95.6	lb/ft^3
Initial Dry Unit Weight	58.3	lb/ft^3
Maximum Load (Peak)	931.00	lbs.
UCS	289.5	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.176	0.0000	0.0
931	0.050	0.050	3.216	0.0125	289.5

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CC25-10-20150829-39 (10 Day)		
TESTING DATE:	8-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A371_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	317.72	g
Initial Area, Ao	3.18	in^2
Initial Volume, Vo	12.66	in^3
Initial Bulk Unit Weight,	95.6	lb/ft^3
Initial Dry Unit Weight	58.3	lb/ft^3
Maximum Load (Peak)	931.00	lbs.
Moisture Content, W	64.00	%
UCS	289.5	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BV26-5-20150901-40 (7 Day)		
TESTING DATE:	9-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A364_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	168.72	g
3. WT WET SOIL + TARE	232.39	g
4. WT DRY SOIL + TARE	204.64	g
5. WT WATER, Ww	27.75	g
6. WT DRY SOIL, Ws	35.92	g
7. MOISTURE CONTENT, W	**77.26**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	3.99	in.
No. 2	1.99	in.	4.00	in.
No. 3	2.00	in.	4.01	in.
Average	**2.00**	**in.**	**4.00**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***312.77***	***g***
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.51	in^3
Initial Bulk Unit Weight,	95.2	lb/ft^3
Initial Dry Unit Weight	53.7	lb/ft^3
Maximum Load (Peak)	910.00	lbs.
UCS	287.0	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.127	0.0000	0.0
910	0.055	0.055	3.171	0.0137	287.0

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BV26-5-20150901-40 (7 Day)		
TESTING DATE:	9-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A364_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	312.77	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.51	in^3
Initial Bulk Unit Weight,	95.2	lb/ft^3
Initial Dry Unit Weight	53.7	lb/ft^3
Maximum Load (Peak)	910.00	lbs.
Moisture Content, W	77.26	%
UCS	287.0	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BU21-15-20150902-41 (7 Day)		
TESTING DATE:	9-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A381_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	116.76	g
3. WT WET SOIL + TARE	230.59	g
4. WT DRY SOIL + TARE	190.34	g
5. WT WATER, Ww	40.25	g
6. WT DRY SOIL, Ws	73.58	g
7. MOISTURE CONTENT, W	**54.70**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	4.00	in.
No. 2	2.00	in.	4.00	in.
No. 3	2.01	in.	4.00	in.
Average	**2.00**	**in.**	**4.00**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***334.27***	***g***
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.61	in^3
Initial Bulk Unit Weight,	101.0	lb/ft^3
Initial Dry Unit Weight	65.3	lb/ft^3
Maximum Load (Peak)	792.00	lbs.
UCS	248.1	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.152	0.0000	0.0
792	0.050	0.050	3.192	0.0125	248.1

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BU21-15-20150902-41 (7 Day)		
TESTING DATE:	9-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A381_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	334.27	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.61	in^3
Initial Bulk Unit Weight,	101.0	lb/ft^3
Initial Dry Unit Weight	65.3	lb/ft^3
Maximum Load (Peak)	792.00	lbs.
Moisture Content, W	54.70	%
UCS	248.1	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BK21-10-20150903-42 (7 Day)		
TESTING DATE:	10-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A372_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	67.27	g
3. WT WET SOIL + TARE	126.80	g
4. WT DRY SOIL + TARE	103.62	g
5. WT WATER, Ww	23.18	g
6. WT DRY SOIL, Ws	36.35	g
7. MOISTURE CONTENT, W	**63.77**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	4.00	in.
No. 2	2.00	in.	4.02	in.
No. 3	2.00	in.	4.01	in.
Average	**2.00**	**in.**	**4.01**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***325.68***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.61	in^3
Initial Bulk Unit Weight,	98.4	lb/ft^3
Initial Dry Unit Weight	60.1	lb/ft^3
Maximum Load (Peak)	703.00	lbs.
UCS	220.5	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.144	0.0000	0.0
703	0.055	0.055	3.188	0.0137	220.5

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BK21-10-20150903-42 (7 Day)		
TESTING DATE:	10-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A372_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	325.68	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.61	in^3
Initial Bulk Unit Weight,	98.4	lb/ft^3
Initial Dry Unit Weight	60.1	lb/ft^3
Maximum Load (Peak)	703.00	lbs.
Moisture Content, W	63.77	%
UCS	220.5	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AZ18-5-20150909-43 (7 Day)		
TESTING DATE:	16-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A388_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	114.06	g
3. WT WET SOIL + TARE	175.98	g
4. WT DRY SOIL + TARE	154.23	g
5. WT WATER, Ww	21.75	g
6. WT DRY SOIL, Ws	40.17	g
7. MOISTURE CONTENT, W	**54.14**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.01	in.	4.00	in.
No. 2	2.01	in.	4.00	in.
No. 3	2.00	in.	4.00	in.
Average	**2.00**	**in.**	**4.00**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***334.77***	***g***
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.61	in^3
Initial Bulk Unit Weight,	101.1	lb/ft^3
Initial Dry Unit Weight	65.6	lb/ft^3
Maximum Load (Peak)	721.00	lbs.
UCS	225.2	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.154	0.0000	0.0
721	0.060	0.060	3.202	0.0150	225.2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AZ18-5-20150909-43 (7 Day)		
TESTING DATE:	16-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A388_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	334.77	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.61	in^3
Initial Bulk Unit Weight,	101.1	lb/ft^3
Initial Dry Unit Weight	65.6	lb/ft^3
Maximum Load (Peak)	721.00	lbs.
Moisture Content, W	54.14	%
UCS	225.2	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AR18-15-20150910-44 (7 Day)		
TESTING DATE:	17-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A390_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	77.56	g
3. WT WET SOIL + TARE	132.56	g
4. WT DRY SOIL + TARE	114.63	g
5. WT WATER, Ww	17.93	g
6. WT DRY SOIL, Ws	37.07	g
7. MOISTURE CONTENT, W	**48.37**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	4.03	in.
No. 2	2.00	in.	4.03	in.
No. 3	2.00	in.	4.03	in.
Average	**2.00**	**in.**	**4.03**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***345.83***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.68	in^3
Initial Bulk Unit Weight,	103.9	lb/ft^3
Initial Dry Unit Weight	70.0	lb/ft^3
Maximum Load (Peak)	641.00	lbs.
UCS	200.3	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.145	0.0000	0.0
641	0.070	0.070	3.200	0.0174	200.3

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AR18-15-20150910-44 (7 Day)		
TESTING DATE:	17-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A390_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	345.83	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.68	in^3
Initial Bulk Unit Weight,	103.9	lb/ft^3
Initial Dry Unit Weight	70.0	lb/ft^3
Maximum Load (Peak)	641.00	lbs.
Moisture Content, W	48.37	%
UCS	200.3	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	L16-10-20150911-45 (7 Day)		
TESTING DATE:	18-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A392_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	65.05	g
3. WT WET SOIL + TARE	119.58	g
4. WT DRY SOIL + TARE	100.46	g
5. WT WATER, Ww	19.12	g
6. WT DRY SOIL, Ws	35.41	g
7. MOISTURE CONTENT, W	**54.00**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.01	in.	3.98	in.
No. 2	2.00	in.	4.00	in.
No. 3	2.00	in.	3.97	in.
Average	**2.00**	**in.**	**3.98**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***338.45***	***g***
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.55	in^3
Initial Bulk Unit Weight,	102.7	lb/ft^3
Initial Dry Unit Weight	66.7	lb/ft^3
Maximum Load (Peak)	907.00	lbs.
UCS	284.2	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.152	0.0000	0.0
907	0.050	0.050	3.192	0.0126	284.2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	L16-10-20150911-45 (7 Day)		
TESTING DATE:	18-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A392_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	338.45	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.55	in^3
Initial Bulk Unit Weight,	102.7	lb/ft^3
Initial Dry Unit Weight	66.7	lb/ft^3
Maximum Load (Peak)	907.00	lbs.
Moisture Content, W	54.00	%
UCS	284.2	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	W17-10-20150914-46 (7 Day)		
TESTING DATE:	21-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A393_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	113.22	g
3. WT WET SOIL + TARE	171.12	g
4. WT DRY SOIL + TARE	153.15	g
5. WT WATER, Ww	17.97	g
6. WT DRY SOIL, Ws	39.93	g
7. MOISTURE CONTENT, W	**45.00**	**%**

SOIL SPECIMEN DIMENSIONS		
	DIAMETER	***LENGTH***
No. 1	2.00 in.	4.01 in.
No. 2	2.00 in.	4.00 in.
No. 3	2.00 in.	4.01 in.
Average	**2.00 in.**	**4.00 in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***354.43***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.58	in^3
Initial Bulk Unit Weight,	107.3	lb/ft^3
Initial Dry Unit Weight	74.0	lb/ft^3
Maximum Load (Peak)	652.00	lbs.
UCS	204.9	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.142	0.0000	0.0
652	0.050	0.050	3.181	0.0125	204.9

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	W17-10-20150914-46 (7 Day)		
TESTING DATE:	21-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A393_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	354.43	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.58	in^3
Initial Bulk Unit Weight,	107.3	lb/ft^3
Initial Dry Unit Weight	74.0	lb/ft^3
Maximum Load (Peak)	652.00	lbs.
Moisture Content, W	45.00	%
UCS	204.9	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AF18-5-20150915-47 (7 Day)		
TESTING DATE:	22-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A397_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.15	g
3. WT WET SOIL + TARE	140.25	g
4. WT DRY SOIL + TARE	118.25	g
5. WT WATER, Ww	22.00	g
6. WT DRY SOIL, Ws	42.10	g
7. MOISTURE CONTENT, W	**52.26**	**%**

SOIL SPECIMEN DIMENSIONS		
	DIAMETER	***LENGTH***
No. 1	2.00 in.	3.97 in.
No. 2	2.00 in.	3.96 in.
No. 3	2.00 in.	3.97 in.
Average	**2.00 in.**	**3.97 in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***334.75***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.44	in^3
Initial Bulk Unit Weight,	102.5	lb/ft^3
Initial Dry Unit Weight	67.3	lb/ft^3
Maximum Load (Peak)	812.00	lbs.
UCS	255.7	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.135	0.0000	0.0
812	0.050	0.050	3.175	0.0126	255.7

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AF18-5-20150915-47 (7 Day)		
TESTING DATE:	22-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A397_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	334.75	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.44	in^3
Initial Bulk Unit Weight,	102.5	lb/ft^3
Initial Dry Unit Weight	67.3	lb/ft^3
Maximum Load (Peak)	812.00	lbs.
Moisture Content, W	52.26	%
UCS	255.7	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AL18-10-20150916-48 (7 Day)		
TESTING DATE:	23-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A398_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.37	g
3. WT WET SOIL + TARE	126.08	g
4. WT DRY SOIL + TARE	108.19	g
5. WT WATER, Ww	17.89	g
6. WT DRY SOIL, Ws	31.82	g
7. MOISTURE CONTENT, W	**56.22**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	4.00	in.
No. 2	2.00	in.	3.99	in.
No. 3	2.00	in.	3.97	in.
Average	**2.00**	**in.**	**3.99**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***335.23***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.51	in^3
Initial Bulk Unit Weight,	102.1	lb/ft^3
Initial Dry Unit Weight	65.4	lb/ft^3
Maximum Load (Peak)	567.00	lbs.
UCS	177.7	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.138	0.0000	0.0
567	0.065	0.065	3.190	0.0163	177.7

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AL18-10-20150916-48 (7 Day)		
TESTING DATE:	23-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A398_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	335.23	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.51	in^3
Initial Bulk Unit Weight,	102.1	lb/ft^3
Initial Dry Unit Weight	65.4	lb/ft^3
Maximum Load (Peak)	567.00	lbs.
Moisture Content, W	56.22	%
UCS	177.7	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BC11-15-20150917-49 (7 Day)		
TESTING DATE:	24-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A400_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.78	g
3. WT WET SOIL + TARE	128.93	g
4. WT DRY SOIL + TARE	112.09	g
5. WT WATER, Ww	16.84	g
6. WT DRY SOIL, Ws	35.31	g
7. MOISTURE CONTENT, W	**47.69**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.02	in.	4.00	in.
No. 2	2.00	in.	3.99	in.
No. 3	2.00	in.	4.01	in.
Average	**2.01**	**in.**	**4.00**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***347.23***	***g***
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.63	in^3
Initial Bulk Unit Weight,	104.8	lb/ft^3
Initial Dry Unit Weight	70.9	lb/ft^3
Maximum Load (Peak)	813.00	lbs.
UCS	254.1	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.159	0.0000	0.0
813	0.050	0.050	3.199	0.0125	254.1

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BC11-15-20150917-49 (7 Day)		
TESTING DATE:	24-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A400_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	347.23	g
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.63	in^3
Initial Bulk Unit Weight,	104.8	lb/ft^3
Initial Dry Unit Weight	70.9	lb/ft^3
Maximum Load (Peak)	813.00	lbs.
Moisture Content, W	47.69	%
UCS	254.1	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	K13-5-20150919-50 (7 Day)		
TESTING DATE:	26-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	TNB	TRACKING CODE:	A403_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	114.06	g
3. WT WET SOIL + TARE	208.19	g
4. WT DRY SOIL + TARE	175.16	g
5. WT WATER, Ww	33.03	g
6. WT DRY SOIL, Ws	61.10	g
7. MOISTURE CONTENT, W	**54.06**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	3.98	in.
No. 2	2.00	in.	3.99	in.
No. 3	2.00	in.	3.98	in.
Average	**2.00**	**in.**	**3.98**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***337.93***	***g***
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.47	in^3
Initial Bulk Unit Weight,	103.2	lb/ft^3
Initial Dry Unit Weight	67.0	lb/ft^3
Maximum Load (Peak)	614.00	lbs.
UCS	193.9	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.131	0.0000	0.0
614	0.045	0.045	3.167	0.0113	193.9

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	K13-5-20150919-50 (7 Day)		
TESTING DATE:	26-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	TNB	TRACKING CODE:	A403_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	337.93	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.47	in^3
Initial Bulk Unit Weight,	103.2	lb/ft^3
Initial Dry Unit Weight	67.0	lb/ft^3
Maximum Load (Peak)	614.00	lbs.
Moisture Content, W	54.06	%
UCS	193.9	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	Z14-10-20150922-51 (7 Day)		
TESTING DATE:	29-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A405_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.75	g
3. WT WET SOIL + TARE	127.29	g
4. WT DRY SOIL + TARE	109.30	g
5. WT WATER, Ww	17.99	g
6. WT DRY SOIL, Ws	32.55	g
7. MOISTURE CONTENT, W	**55.27**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	3.99	in.
No. 2	2.00	in.	3.99	in.
No. 3	2.00	in.	4.00	in.
Average	**2.00**	**in.**	**4.00**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***335.71***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.56	in^3
Initial Bulk Unit Weight,	101.8	lb/ft^3
Initial Dry Unit Weight	65.6	lb/ft^3
Maximum Load (Peak)	558.00	lbs.
UCS	175.1	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.143	0.0000	0.0
558	0.055	0.055	3.186	0.0138	175.1

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	Z14-10-20150922-51 (7 Day)		
TESTING DATE:	29-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A405_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	335.71	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.56	in^3
Initial Bulk Unit Weight,	101.8	lb/ft^3
Initial Dry Unit Weight	65.6	lb/ft^3
Maximum Load (Peak)	558.00	lbs.
Moisture Content, W	55.27	%
UCS	175.1	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AK15-5-20150923-52 (7 Day)		
TESTING DATE:	30-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A426_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.03	g
3. WT WET SOIL + TARE	127.72	g
4. WT DRY SOIL + TARE	110.56	g
5. WT WATER, Ww	17.16	g
6. WT DRY SOIL, Ws	34.53	g
7. MOISTURE CONTENT, W	**49.70**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.01	in.	3.97	in.
No. 2	2.01	in.	3.98	in.
No. 3	2.00	in.	3.98	in.
Average	**2.00**	**in.**	**3.98**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***340.53***	***g***
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.55	in^3
Initial Bulk Unit Weight,	103.4	lb/ft^3
Initial Dry Unit Weight	69.1	lb/ft^3
Maximum Load (Peak)	579.00	lbs.
UCS	181.0	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.155	0.0000	0.0
579	0.055	0.055	3.199	0.0138	181.0

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AK15-5-20150923-52 (7 Day)		
TESTING DATE:	30-Sep-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A426_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	340.53	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.55	in^3
Initial Bulk Unit Weight,	103.4	lb/ft^3
Initial Dry Unit Weight	69.1	lb/ft^3
Maximum Load (Peak)	579.00	lbs.
Moisture Content, W	49.70	%
UCS	181.0	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BI13-10-20150924-53 (7 Day)		
TESTING DATE:	1-Oct-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A427_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	63.33	g
3. WT WET SOIL + TARE	116.40	g
4. WT DRY SOIL + TARE	97.90	g
5. WT WATER, Ww	18.50	g
6. WT DRY SOIL, Ws	34.57	g
7. MOISTURE CONTENT, W	**53.51**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	1.99	in.	3.96	in.
No. 2	1.99	in.	3.96	in.
No. 3	2.00	in.	3.96	in.
Average	**1.99**	**in.**	**3.96**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***335.48***	***g***
Initial Area, Ao	3.12	in^2
Initial Volume, Vo	12.37	in^3
Initial Bulk Unit Weight,	103.3	lb/ft^3
Initial Dry Unit Weight	67.3	lb/ft^3
Maximum Load (Peak)	755.00	lbs.
UCS	238.6	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.124	0.0000	0.0
755	0.050	0.050	3.164	0.0126	238.6

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BI13-10-20150924-53 (7 Day)		
TESTING DATE:	1-Oct-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A427_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	335.48	g
Initial Area, Ao	3.12	in^2
Initial Volume, Vo	12.37	in^3
Initial Bulk Unit Weight,	103.3	lb/ft^3
Initial Dry Unit Weight	67.3	lb/ft^3
Maximum Load (Peak)	755.00	lbs.
Moisture Content, W	53.51	%
UCS	238.6	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BB14-15-20150925-54 (7 Day)		
TESTING DATE:	2-Oct-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A429_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	67.28	g
3. WT WET SOIL + TARE	129.08	g
4. WT DRY SOIL + TARE	108.83	g
5. WT WATER, Ww	20.25	g
6. WT DRY SOIL, Ws	41.55	g
7. MOISTURE CONTENT, W	**48.74**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.01	in.	3.97	in.
No. 2	2.00	in.	4.00	in.
No. 3	2.00	in.	3.98	in.
Average	**2.00**	**in.**	**3.98**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***345.21***	***g***
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.56	in^3
Initial Bulk Unit Weight,	104.7	lb/ft^3
Initial Dry Unit Weight	70.4	lb/ft^3
Maximum Load (Peak)	1114.00	lbs.
UCS	348.2	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.155	0.0000	0.0
1114	0.055	0.055	3.199	0.0138	348.2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BB14-15-20150925-54 (7 Day)		
TESTING DATE:	2-Oct-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A429_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	345.21	g
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.56	in^3
Initial Bulk Unit Weight,	104.7	lb/ft^3
Initial Dry Unit Weight	70.4	lb/ft^3
Maximum Load (Peak)	1114.00	lbs.
Moisture Content, W	48.74	%
UCS	348.2	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AQ15-5-20150928-55 (7 Day)		
TESTING DATE:	5-Oct-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A430_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	77.52	g
3. WT WET SOIL + TARE	126.56	g
4. WT DRY SOIL + TARE	110.88	g
5. WT WATER, Ww	15.68	g
6. WT DRY SOIL, Ws	33.36	g
7. MOISTURE CONTENT, W	**47.00**	**%**

SOIL SPECIMEN DIMENSIONS		
	DIAMETER	***LENGTH***
No. 1	2.00 in.	3.99 in.
No. 2	2.00 in.	4.00 in.
No. 3	2.00 in.	3.99 in.
Average	**2.00 in.**	**3.99 in.**

SPECIMEN CONDITIONS	
Initial Specimen WT, Wo	***347.74 g***
Initial Area, Ao	3.14 in^2
Initial Volume, Vo	12.54 in^3
Initial Bulk Unit Weight,	105.7 lb/ft^3
Initial Dry Unit Weight	71.9 lb/ft^3
Maximum Load (Peak)	754.00 lbs.
UCS	237.1 lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.141	0.0000	0.0
754	0.050	0.050	3.180	0.0125	237.1

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AQ15-5-20150928-55 (7 Day)		
TESTING DATE:	5-Oct-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A430_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	347.74	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.54	in^3
Initial Bulk Unit Weight,	105.7	lb/ft^3
Initial Dry Unit Weight	71.9	lb/ft^3
Maximum Load (Peak)	754.00	lbs.
Moisture Content, W	47.00	%
UCS	237.1	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AR30-5-20151006-56 (7 Day)		
TESTING DATE:	13-Oct-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A455_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	111.81	g
3. WT WET SOIL + TARE	178.48	g
4. WT DRY SOIL + TARE	155.42	g
5. WT WATER, Ww	23.06	g
6. WT DRY SOIL, Ws	43.61	g
7. MOISTURE CONTENT, W	**52.88**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.01	in.	3.98	in.
No. 2	2.00	in.	3.96	in.
No. 3	2.00	in.	3.98	in.
Average	**2.00**	**in.**	**3.97**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***338.12***	***g***
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.54	in^3
Initial Bulk Unit Weight,	102.7	lb/ft^3
Initial Dry Unit Weight	67.2	lb/ft^3
Maximum Load (Peak)	1225.00	lbs.
UCS	383.8	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.155	0.0000	0.0
1225	0.045	0.045	3.191	0.0113	383.8

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AR30-5-20151006-56 (7 Day)		
TESTING DATE:	13-Oct-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A455_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	338.12	g
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.54	in^3
Initial Bulk Unit Weight,	102.7	lb/ft^3
Initial Dry Unit Weight	67.2	lb/ft^3
Maximum Load (Peak)	1225.00	lbs.
Moisture Content, W	52.88	%
UCS	383.8	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BE31-10-20151007-57 (8 Day)		
TESTING DATE:	15-Oct-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A460_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	77.53	g
3. WT WET SOIL + TARE	140.14	g
4. WT DRY SOIL + TARE	117.47	g
5. WT WATER, Ww	22.67	g
6. WT DRY SOIL, Ws	39.94	g
7. MOISTURE CONTENT, W	**56.76**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	4.00	in.
No. 2	1.99	in.	4.01	in.
No. 3	1.99	in.	4.01	in.
Average	**2.00**	**in.**	**4.01**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***335.06***	***g***
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.53	in^3
Initial Bulk Unit Weight,	101.9	lb/ft^3
Initial Dry Unit Weight	65.0	lb/ft^3
Maximum Load (Peak)	664.00	lbs.
UCS	209.4	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.127	0.0000	0.0
664	0.055	0.055	3.171	0.0137	209.4

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BE31-10-20151007-57 (8 Day)		
TESTING DATE:	15-Oct-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A460_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	335.06	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.53	in^3
Initial Bulk Unit Weight,	101.9	lb/ft^3
Initial Dry Unit Weight	65.0	lb/ft^3
Maximum Load (Peak)	664.00	lbs.
Moisture Content, W	56.76	%
UCS	209.4	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BO31-5-20151009-58 (7 Day)		
TESTING DATE:	16-Oct-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A461_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	66.09	g
3. WT WET SOIL + TARE	133.11	g
4. WT DRY SOIL + TARE	112.03	g
5. WT WATER, Ww	21.08	g
6. WT DRY SOIL, Ws	45.94	g
7. MOISTURE CONTENT, W	**45.89**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.01	in.	3.98	in.
No. 2	2.00	in.	3.98	in.
No. 3	1.99	in.	3.98	in.
Average	**2.00**	**in.**	**3.98**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***347.42***	***g***
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.52	in^3
Initial Bulk Unit Weight,	105.7	lb/ft^3
Initial Dry Unit Weight	72.4	lb/ft^3
Maximum Load (Peak)	661.00	lbs.
UCS	207.1	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.147	0.0000	0.0
661	0.055	0.055	3.191	0.0138	207.1

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BO31-5-20151009-58 (7 Day)		
TESTING DATE:	16-Oct-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A461_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	347.42	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.52	in^3
Initial Bulk Unit Weight,	105.7	lb/ft^3
Initial Dry Unit Weight	72.4	lb/ft^3
Maximum Load (Peak)	661.00	lbs.
Moisture Content, W	45.89	%
UCS	207.1	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CF30-15-20151013-59 (7 Day)		
TESTING DATE:	20-Oct-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A468_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.37	g
3. WT WET SOIL + TARE	134.35	g
4. WT DRY SOIL + TARE	113.42	g
5. WT WATER, Ww	20.93	g
6. WT DRY SOIL, Ws	37.05	g
7. MOISTURE CONTENT, W	**56.49**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.01	in.	4.01	in.
No. 2	2.00	in.	3.99	in.
No. 3	2.00	in.	3.99	in.
Average	**2.00**	**in.**	**4.00**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***334.29***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.57	in^3
Initial Bulk Unit Weight,	101.3	lb/ft^3
Initial Dry Unit Weight	64.7	lb/ft^3
Maximum Load (Peak)	784.00	lbs.
UCS	245.3	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.144	0.0000	0.0
784	0.065	0.065	3.196	0.0163	245.3

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	CF30-15-20151013-59 (7 Day)		
TESTING DATE:	20-Oct-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A468_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	334.29	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.57	in^3
Initial Bulk Unit Weight,	101.3	lb/ft^3
Initial Dry Unit Weight	64.7	lb/ft^3
Maximum Load (Peak)	784.00	lbs.
Moisture Content, W	56.49	%
UCS	245.3	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BV30-10-20151015-60 (7 Day)		
TESTING DATE:	22-Oct-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A475_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.46	g
3. WT WET SOIL + TARE	148.39	g
4. WT DRY SOIL + TARE	119.68	g
5. WT WATER, Ww	28.71	g
6. WT DRY SOIL, Ws	43.22	g
7. MOISTURE CONTENT, W	**66.43**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	1.99	in.	4.00	in.
No. 2	1.99	in.	3.98	in.
No. 3	2.00	in.	4.00	in.
Average	**1.99**	**in.**	**4.00**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***320.79***	***g***
Initial Area, Ao	3.12	in^2
Initial Volume, Vo	12.48	in^3
Initial Bulk Unit Weight,	97.9	lb/ft^3
Initial Dry Unit Weight	58.8	lb/ft^3
Maximum Load (Peak)	857.00	lbs.
UCS	271.0	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.123	0.0000	0.0
857	0.050	0.050	3.163	0.0125	271.0

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BV30-10-20151015-60 (7 Day)		
TESTING DATE:	22-Oct-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A475_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	320.79	g
Initial Area, Ao	3.12	in^2
Initial Volume, Vo	12.48	in^3
Initial Bulk Unit Weight,	97.9	lb/ft^3
Initial Dry Unit Weight	58.8	lb/ft^3
Maximum Load (Peak)	857.00	lbs.
Moisture Content, W	66.43	%
UCS	271.0	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BI27-5-20151016-61 (7 Day)		
TESTING DATE:	23-Oct-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A476_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.77	g
3. WT WET SOIL + TARE	121.08	g
4. WT DRY SOIL + TARE	101.79	g
5. WT WATER, Ww	19.29	g
6. WT DRY SOIL, Ws	25.02	g
7. MOISTURE CONTENT, W	**77.10**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	3.97	in.
No. 2	2.00	in.	3.96	in.
No. 3	2.00	in.	3.97	in.
Average	**2.00**	**in.**	**3.97**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***308.06***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.45	in^3
Initial Bulk Unit Weight,	94.3	lb/ft^3
Initial Dry Unit Weight	53.2	lb/ft^3
Maximum Load (Peak)	721.00	lbs.
UCS	226.4	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.140	0.0000	0.0
721	0.055	0.055	3.184	0.0139	226.4

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BI27-5-20151016-61 (7 Day)		
TESTING DATE:	23-Oct-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A476_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	308.06	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.45	in^3
Initial Bulk Unit Weight,	94.3	lb/ft^3
Initial Dry Unit Weight	53.2	lb/ft^3
Maximum Load (Peak)	721.00	lbs.
Moisture Content, W	77.10	%
UCS	226.4	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BD26-10-20151019-62 (7 Day)		
TESTING DATE:	26-Oct-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A479_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	63.71	g
3. WT WET SOIL + TARE	139.79	g
4. WT DRY SOIL + TARE	111.52	g
5. WT WATER, Ww	28.27	g
6. WT DRY SOIL, Ws	47.81	g
7. MOISTURE CONTENT, W	**59.13**	**%**

SOIL SPECIMEN DIMENSIONS		
	DIAMETER	***LENGTH***
No. 1	2.01 in.	3.97 in.
No. 2	2.00 in.	3.99 in.
No. 3	2.00 in.	3.99 in.
Average	**2.00 in.**	**3.98 in.**

SPECIMEN CONDITIONS	
Initial Specimen WT, Wo	***329.31 g***
Initial Area, Ao	3.15 in^2
Initial Volume, Vo	12.57 in^3
Initial Bulk Unit Weight,	99.8 lb/ft^3
Initial Dry Unit Weight	62.7 lb/ft^3
Maximum Load (Peak)	588.00 lbs.
UCS	183.9 lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.154	0.0000	0.0
588	0.055	0.055	3.198	0.0138	183.9

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BD26-10-20151019-62 (7 Day)		
TESTING DATE:	26-Oct-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A479_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	329.31	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.57	in^3
Initial Bulk Unit Weight,	99.8	lb/ft^3
Initial Dry Unit Weight	62.7	lb/ft^3
Maximum Load (Peak)	588.00	lbs.
Moisture Content, W	59.13	%
UCS	183.9	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BN46-15-20151020-63 (7 Day)		
TESTING DATE:	27-Oct-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A483_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.44	g
3. WT WET SOIL + TARE	161.66	g
4. WT DRY SOIL + TARE	134.20	g
5. WT WATER, Ww	27.46	g
6. WT DRY SOIL, Ws	57.76	g
7. MOISTURE CONTENT, W	**47.54**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	3.98	in.
No. 2	2.00	in.	3.96	in.
No. 3	2.00	in.	3.99	in.
Average	**2.00**	**in.**	**3.98**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***352.36***	***g***
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.45	in^3
Initial Bulk Unit Weight,	107.8	lb/ft^3
Initial Dry Unit Weight	73.1	lb/ft^3
Maximum Load (Peak)	501.00	lbs.
UCS	157.5	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.132	0.0000	0.0
501	0.060	0.060	3.180	0.0151	157.5

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BN46-15-20151020-63 (7 Day)		
TESTING DATE:	27-Oct-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A483_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	352.36	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.45	in^3
Initial Bulk Unit Weight,	107.8	lb/ft^3
Initial Dry Unit Weight	73.1	lb/ft^3
Maximum Load (Peak)	501.00	lbs.
Moisture Content, W	47.54	%
UCS	157.5	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BG43-5-20151021-64 (7 Day)		
TESTING DATE:	28-Oct-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A513_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.79	g
3. WT WET SOIL + TARE	155.00	g
4. WT DRY SOIL + TARE	131.95	g
5. WT WATER, Ww	23.05	g
6. WT DRY SOIL, Ws	55.16	g
7. MOISTURE CONTENT, W	**41.79**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.01	in.	3.98	in.
No. 2	2.01	in.	3.98	in.
No. 3	2.00	in.	3.98	in.
Average	**2.01**	**in.**	**3.98**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***359.50***	***g***
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.59	in^3
Initial Bulk Unit Weight,	108.8	lb/ft^3
Initial Dry Unit Weight	76.7	lb/ft^3
Maximum Load (Peak)	516.00	lbs.
UCS	161.2	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.160	0.0000	0.0
516	0.050	0.050	3.200	0.0126	161.2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BG43-5-20151021-64 (7 Day)		
TESTING DATE:	28-Oct-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A513_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	359.50	g
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.59	in^3
Initial Bulk Unit Weight,	108.8	lb/ft^3
Initial Dry Unit Weight	76.7	lb/ft^3
Maximum Load (Peak)	516.00	lbs.
Moisture Content, W	41.79	%
UCS	161.2	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BL40-10-20151022-65 (7 Day)		
TESTING DATE:	29-Oct-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A514_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	77.46	g
3. WT WET SOIL + TARE	154.11	g
4. WT DRY SOIL + TARE	128.24	g
5. WT WATER, Ww	25.87	g
6. WT DRY SOIL, Ws	50.78	g
7. MOISTURE CONTENT, W	**50.95**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	3.97	in.
No. 2	2.00	in.	3.97	in.
No. 3	1.99	in.	3.98	in.
Average	**2.00**	**in.**	**3.97**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***339.98***	***g***
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.43	in^3
Initial Bulk Unit Weight,	104.2	lb/ft^3
Initial Dry Unit Weight	69.0	lb/ft^3
Maximum Load (Peak)	533.00	lbs.
UCS	167.2	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.129	0.0000	0.0
533	0.075	0.075	3.189	0.0189	167.2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BL40-10-20151022-65 (7 Day)		
TESTING DATE:	29-Oct-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A514_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	339.98	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.43	in^3
Initial Bulk Unit Weight,	104.2	lb/ft^3
Initial Dry Unit Weight	69.0	lb/ft^3
Maximum Load (Peak)	533.00	lbs.
Moisture Content, W	50.95	%
UCS	167.2	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BM35-15-20151023-66 (7 Day)		
TESTING DATE:	30-Oct-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A520_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.09	g
3. WT WET SOIL + TARE	131.74	g
4. WT DRY SOIL + TARE	112.70	g
5. WT WATER, Ww	19.04	g
6. WT DRY SOIL, Ws	36.61	g
7. MOISTURE CONTENT, W	**52.01**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.01	in.	3.97	in.
No. 2	2.00	in.	3.99	in.
No. 3	2.00	in.	3.98	in.
Average	**2.00**	**in.**	**3.98**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***339.50***	***g***
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.55	in^3
Initial Bulk Unit Weight,	103.0	lb/ft^3
Initial Dry Unit Weight	67.8	lb/ft^3
Maximum Load (Peak)	975.00	lbs.
UCS	304.8	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.154	0.0000	0.0
975	0.055	0.055	3.198	0.0138	304.8

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BM35-15-20151023-66 (7 Day)		
TESTING DATE:	30-Oct-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A520_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	339.50	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.55	in^3
Initial Bulk Unit Weight,	103.0	lb/ft^3
Initial Dry Unit Weight	67.8	lb/ft^3
Maximum Load (Peak)	975.00	lbs.
Moisture Content, W	52.01	%
UCS	304.8	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BH38-5-20151028-67 (7 Day)		
TESTING DATE:	4-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A526_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.59	g
3. WT WET SOIL + TARE	126.56	g
4. WT DRY SOIL + TARE	110.08	g
5. WT WATER, Ww	16.48	g
6. WT DRY SOIL, Ws	33.49	g
7. MOISTURE CONTENT, W	**49.21**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.01	in.	3.98	in.
No. 2	2.00	in.	3.98	in.
No. 3	2.00	in.	3.98	in.
Average	**2.00**	**in.**	**3.98**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***345.29***	***g***
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.52	in^3
Initial Bulk Unit Weight,	105.0	lb/ft^3
Initial Dry Unit Weight	70.4	lb/ft^3
Maximum Load (Peak)	440.00	lbs.
UCS	137.6	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.145	0.0000	0.0
440	0.065	0.065	3.197	0.0163	137.6

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BH38-5-20151028-67 (7 Day)		
TESTING DATE:	4-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A526_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	345.29	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.52	in^3
Initial Bulk Unit Weight,	105.0	lb/ft^3
Initial Dry Unit Weight	70.4	lb/ft^3
Maximum Load (Peak)	440.00	lbs.
Moisture Content, W	49.21	%
UCS	137.6	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BF34-10-20151029-68 (7 Day)		
TESTING DATE:	5-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A530_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.69	g
3. WT WET SOIL + TARE	134.99	g
4. WT DRY SOIL + TARE	109.23	g
5. WT WATER, Ww	25.76	g
6. WT DRY SOIL, Ws	32.54	g
7. MOISTURE CONTENT, W	**79.16**	**%**

SOIL SPECIMEN DIMENSIONS			
	DIAMETER	***LENGTH***	
No. 1	2.00	3.98	in.
No. 2	2.00	3.98	in.
No. 3	2.00	3.97	in.
Average	**2.00 in.**	**3.98**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***306.34***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.49	in^3
Initial Bulk Unit Weight,	93.5	lb/ft^3
Initial Dry Unit Weight	52.2	lb/ft^3
Maximum Load (Peak)	616.00	lbs.
UCS	193.5	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.140	0.0000	0.0
616	0.055	0.055	3.184	0.0138	193.5

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BF34-10-20151029-68 (7 Day)		
TESTING DATE:	5-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A530_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	306.34	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.49	in^3
Initial Bulk Unit Weight,	93.5	lb/ft^3
Initial Dry Unit Weight	52.2	lb/ft^3
Maximum Load (Peak)	616.00	lbs.
Moisture Content, W	79.16	%
UCS	193.5	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AT6-15-20151102-69 (7 Day)		
TESTING DATE:	9-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A536_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.26	g
3. WT WET SOIL + TARE	141.19	g
4. WT DRY SOIL + TARE	118.19	g
5. WT WATER, Ww	23.00	g
6. WT DRY SOIL, Ws	41.93	g
7. MOISTURE CONTENT, W	**54.85**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.01	in.	3.98	in.
No. 2	2.00	in.	3.99	in.
No. 3	2.00	in.	3.99	in.
Average	**2.00**	**in.**	**3.99**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***336.18***	***g***
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.56	in^3
Initial Bulk Unit Weight,	102.0	lb/ft^3
Initial Dry Unit Weight	65.9	lb/ft^3
Maximum Load (Peak)	452.00	lbs.
UCS	141.5	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.149	0.0000	0.0
452	0.055	0.055	3.193	0.0138	141.5

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AT6-15-20151102-69 (7 Day)		
TESTING DATE:	9-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A536_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	336.18	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.56	in^3
Initial Bulk Unit Weight,	102.0	lb/ft^3
Initial Dry Unit Weight	65.9	lb/ft^3
Maximum Load (Peak)	452.00	lbs.
Moisture Content, W	54.85	%
UCS	141.5	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AI3-20-20151103-70 (7 Day)		
TESTING DATE:	10-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A538_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	114.45	g
3. WT WET SOIL + TARE	193.21	g
4. WT DRY SOIL + TARE	169.02	g
5. WT WATER, Ww	24.19	g
6. WT DRY SOIL, Ws	54.57	g
7. MOISTURE CONTENT, W	**44.33**	**%**

SOIL SPECIMEN DIMENSIONS		
	DIAMETER	***LENGTH***
No. 1	2.00 in.	3.97 in.
No. 2	2.00 in.	3.97 in.
No. 3	2.00 in.	3.97 in.
Average	**2.00 in.**	**3.97 in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***343.63***	***g***
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.44	in^3
Initial Bulk Unit Weight,	105.3	lb/ft^3
Initial Dry Unit Weight	72.9	lb/ft^3
Maximum Load (Peak)	429.00	lbs.
UCS	134.5	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.134	0.0000	0.0
429	0.070	0.070	3.191	0.0176	134.5

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AI3-20-20151103-70 (7 Day)		
TESTING DATE:	10-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A538_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	343.63	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.44	in^3
Initial Bulk Unit Weight,	105.3	lb/ft^3
Initial Dry Unit Weight	72.9	lb/ft^3
Maximum Load (Peak)	429.00	lbs.
Moisture Content, W	44.33	%
UCS	134.5	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	C3-25-20151105-71 (7 Day)		
TESTING DATE:	12-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A541_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	77.10	g
3. WT WET SOIL + TARE	175.00	g
4. WT DRY SOIL + TARE	138.59	g
5. WT WATER, Ww	36.41	g
6. WT DRY SOIL, Ws	61.49	g
7. MOISTURE CONTENT, W	**59.21**	**%**

SOIL SPECIMEN DIMENSIONS		
	DIAMETER	***LENGTH***
No. 1	2.00 in.	3.98 in.
No. 2	2.00 in.	3.98 in.
No. 3	2.00 in.	3.99 in.
Average	**2.00 in.**	**3.98 in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***333.29***	***g***
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.48	in^3
Initial Bulk Unit Weight,	101.7	lb/ft^3
Initial Dry Unit Weight	63.9	lb/ft^3
Maximum Load (Peak)	247.00	lbs.
UCS	77.7	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.133	0.0000	0.0
247	0.055	0.055	3.177	0.0138	77.7

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	C3-25-20151105-71 (7 Day)		
TESTING DATE:	12-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A541_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	333.29	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.48	in^3
Initial Bulk Unit Weight,	101.7	lb/ft^3
Initial Dry Unit Weight	63.9	lb/ft^3
Maximum Load (Peak)	247.00	lbs.
Moisture Content, W	59.21	%
UCS	77.7	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	I5-20-20151106-72 (7 Day)		
TESTING DATE:	13-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A551_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	77.41	g
3. WT WET SOIL + TARE	155.08	g
4. WT DRY SOIL + TARE	128.58	g
5. WT WATER, Ww	26.50	g
6. WT DRY SOIL, Ws	51.17	g
7. MOISTURE CONTENT, W	**51.79**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	3.95	in.
No. 2	2.00	in.	3.97	in.
No. 3	2.00	in.	3.97	in.
Average	**2.00**	**in.**	**3.96**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***338.43***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.44	in^3
Initial Bulk Unit Weight,	103.6	lb/ft^3
Initial Dry Unit Weight	68.3	lb/ft^3
Maximum Load (Peak)	406.00	lbs.
UCS	127.8	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.141	0.0000	0.0
406	0.045	0.045	3.177	0.0114	127.8

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	I5-20-20151106-72 (7 Day)		
TESTING DATE:	13-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A551_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	338.43	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.44	in^3
Initial Bulk Unit Weight,	103.6	lb/ft^3
Initial Dry Unit Weight	68.3	lb/ft^3
Maximum Load (Peak)	406.00	lbs.
Moisture Content, W	51.79	%
UCS	127.8	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	R4-5-20151109-73 (7 Day)		
TESTING DATE:	16-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A553_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	114.45	g
3. WT WET SOIL + TARE	181.31	g
4. WT DRY SOIL + TARE	158.18	g
5. WT WATER, Ww	23.13	g
6. WT DRY SOIL, Ws	43.73	g
7. MOISTURE CONTENT, W	**52.89**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	1.99	in.	3.98	in.
No. 2	2.00	in.	3.97	in.
No. 3	1.99	in.	3.96	in.
Average	**1.99**	**in.**	**3.97**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***325.04***	***g***
Initial Area, Ao	3.12	in^2
Initial Volume, Vo	12.40	in^3
Initial Bulk Unit Weight,	99.9	lb/ft^3
Initial Dry Unit Weight	65.3	lb/ft^3
Maximum Load (Peak)	344.00	lbs.
UCS	108.7	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.124	0.0000	0.0
344	0.050	0.050	3.164	0.0126	108.7

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	R4-5-20151109-73 (7 Day)		
TESTING DATE:	16-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A553_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	325.04	g
Initial Area, Ao	3.12	in^2
Initial Volume, Vo	12.40	in^3
Initial Bulk Unit Weight,	99.9	lb/ft^3
Initial Dry Unit Weight	65.3	lb/ft^3
Maximum Load (Peak)	344.00	lbs.
Moisture Content, W	52.89	%
UCS	108.7	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	X4-15-20151110-74 (7 Day)		
TESTING DATE:	17-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A556_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.27	g
3. WT WET SOIL + TARE	174.24	g
4. WT DRY SOIL + TARE	144.69	g
5. WT WATER, Ww	29.55	g
6. WT DRY SOIL, Ws	68.42	g
7. MOISTURE CONTENT, W	**43.19**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	1.99	in.	3.98	in.
No. 2	1.99	in.	3.99	in.
No. 3	1.99	in.	3.97	in.
Average	**1.99**	**in.**	**3.98**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***351.09***	***g***
Initial Area, Ao	3.12	in^2
Initial Volume, Vo	12.41	in^3
Initial Bulk Unit Weight,	107.8	lb/ft^3
Initial Dry Unit Weight	75.3	lb/ft^3
Maximum Load (Peak)	276.00	lbs.
UCS	87.0	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.119	0.0000	0.0
276	0.065	0.065	3.171	0.0163	87.0

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	X4-15-20151110-74 (7 Day)		
TESTING DATE:	17-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A556_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	351.09	g
Initial Area, Ao	3.12	in^2
Initial Volume, Vo	12.41	in^3
Initial Bulk Unit Weight,	107.8	lb/ft^3
Initial Dry Unit Weight	75.3	lb/ft^3
Maximum Load (Peak)	276.00	lbs.
Moisture Content, W	43.19	%
UCS	87.0	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AN6-10-20151112-75 (7 Day)		
TESTING DATE:	19-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A559_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.77	g
3. WT WET SOIL + TARE	133.68	g
4. WT DRY SOIL + TARE	115.53	g
5. WT WATER, Ww	18.15	g
6. WT DRY SOIL, Ws	38.76	g
7. MOISTURE CONTENT, W	**46.83**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	4.00	in.
No. 2	2.00	in.	3.99	in.
No. 3	2.00	in.	3.99	in.
Average	**2.00**	**in.**	**3.99**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***348.04***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.54	in^3
Initial Bulk Unit Weight,	105.7	lb/ft^3
Initial Dry Unit Weight	72.0	lb/ft^3
Maximum Load (Peak)	318.00	lbs.
UCS	99.8	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.139	0.0000	0.0
318	0.060	0.060	3.187	0.0150	99.8

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AN6-10-20151112-75 (7 Day)		
TESTING DATE:	19-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A559_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	348.04	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.54	in^3
Initial Bulk Unit Weight,	105.7	lb/ft^3
Initial Dry Unit Weight	72.0	lb/ft^3
Maximum Load (Peak)	318.00	lbs.
Moisture Content, W	46.83	%
UCS	99.8	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AH6-5-20151113-76 (7 Day)		
TESTING DATE:	20-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A561_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.64	g
3. WT WET SOIL + TARE	164.45	g
4. WT DRY SOIL + TARE	137.06	g
5. WT WATER, Ww	27.39	g
6. WT DRY SOIL, Ws	60.42	g
7. MOISTURE CONTENT, W	**45.33**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	3.98	in.
No. 2	2.00	in.	3.99	in.
No. 3	1.99	in.	3.98	in.
Average	**2.00**	**in.**	**3.98**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***342.93***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.49	in^3
Initial Bulk Unit Weight,	104.6	lb/ft^3
Initial Dry Unit Weight	72.0	lb/ft^3
Maximum Load (Peak)	388.00	lbs.
UCS	121.8	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.137	0.0000	0.0
388	0.060	0.060	3.185	0.0151	121.8

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AH6-5-20151113-76 (7 Day)		
TESTING DATE:	20-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A561_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	342.93	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.49	in^3
Initial Bulk Unit Weight,	104.6	lb/ft^3
Initial Dry Unit Weight	72.0	lb/ft^3
Maximum Load (Peak)	388.00	lbs.
Moisture Content, W	45.33	%
UCS	121.8	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	Z4-10-20151114-77 (6 Day)		
TESTING DATE:	20-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	TAJ	TRACKING CODE:	A562_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	69.40	g
3. WT WET SOIL + TARE	114.37	g
4. WT DRY SOIL + TARE	100.70	g
5. WT WATER, Ww	13.67	g
6. WT DRY SOIL, Ws	31.30	g
7. MOISTURE CONTENT, W	**43.67**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.01	in.	3.99	in.
No. 2	2.01	in.	3.99	in.
No. 3	2.00	in.	4.01	in.
Average	**2.01**	**in.**	**4.00**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***355.35***	***g***
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.64	in^3
Initial Bulk Unit Weight,	107.1	lb/ft^3
Initial Dry Unit Weight	74.5	lb/ft^3
Maximum Load (Peak)	348.00	lbs.
UCS	108.5	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.163	0.0000	0.0
348	0.055	0.055	3.207	0.0138	108.5

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	Z4-10-20151114-77 (6 Day)		
TESTING DATE:	20-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	TAJ	TRACKING CODE:	A562_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	355.35	g
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.64	in^3
Initial Bulk Unit Weight,	107.1	lb/ft^3
Initial Dry Unit Weight	74.5	lb/ft^3
Maximum Load (Peak)	348.00	lbs.
Moisture Content, W	43.67	%
UCS	108.5	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	F6-10-20151117-78 (7 Day)		
TESTING DATE:	24-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A565_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	77.58	g
3. WT WET SOIL + TARE	145.70	g
4. WT DRY SOIL + TARE	125.42	g
5. WT WATER, Ww	20.28	g
6. WT DRY SOIL, Ws	47.84	g
7. MOISTURE CONTENT, W	**42.39**	**%**

SOIL SPECIMEN DIMENSIONS		
	DIAMETER	***LENGTH***
No. 1	1.99 in.	3.99 in.
No. 2	2.00 in.	4.00 in.
No. 3	1.99 in.	3.99 in.
Average	**2.00 in.**	**3.99 in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***353.49***	***g***
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.48	in^3
Initial Bulk Unit Weight,	107.9	lb/ft^3
Initial Dry Unit Weight	75.8	lb/ft^3
Maximum Load (Peak)	368.00	lbs.
UCS	116.1	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.126	0.0000	0.0
368	0.055	0.055	3.170	0.0138	116.1

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	F6-10-20151117-78 (7 Day)		
TESTING DATE:	24-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A565_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	353.49	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.48	in^3
Initial Bulk Unit Weight,	107.9	lb/ft^3
Initial Dry Unit Weight	75.8	lb/ft^3
Maximum Load (Peak)	368.00	lbs.
Moisture Content, W	42.39	%
UCS	116.1	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BG43-5-20151021-64 (7 Day)		
TESTING DATE:	28-Oct-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A513_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.79	g
3. WT WET SOIL + TARE	155.00	g
4. WT DRY SOIL + TARE	131.95	g
5. WT WATER, Ww	23.05	g
6. WT DRY SOIL, Ws	55.16	g
7. MOISTURE CONTENT, W	**41.79**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.01	in.	3.98	in.
No. 2	2.01	in.	3.98	in.
No. 3	2.00	in.	3.98	in.
Average	**2.01**	**in.**	**3.98**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***359.50***	***g***
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.59	in^3
Initial Bulk Unit Weight,	108.8	lb/ft^3
Initial Dry Unit Weight	76.7	lb/ft^3
Maximum Load (Peak)	516.00	lbs.
UCS	161.2	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.160	0.0000	0.0
516	0.050	0.050	3.200	0.0126	161.2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BG43-5-20151021-64 (7 Day)		
TESTING DATE:	28-Oct-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A513_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	359.50	g
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.59	in^3
Initial Bulk Unit Weight,	108.8	lb/ft^3
Initial Dry Unit Weight	76.7	lb/ft^3
Maximum Load (Peak)	516.00	lbs.
Moisture Content, W	41.79	%
UCS	161.2	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BL40-10-20151022-65 (7 Day)		
TESTING DATE:	29-Oct-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A514_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	77.46	g
3. WT WET SOIL + TARE	154.11	g
4. WT DRY SOIL + TARE	128.24	g
5. WT WATER, Ww	25.87	g
6. WT DRY SOIL, Ws	50.78	g
7. MOISTURE CONTENT, W	**50.95**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	3.97	in.
No. 2	2.00	in.	3.97	in.
No. 3	1.99	in.	3.98	in.
Average	**2.00**	**in.**	**3.97**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***339.98***	***g***
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.43	in^3
Initial Bulk Unit Weight,	104.2	lb/ft^3
Initial Dry Unit Weight	69.0	lb/ft^3
Maximum Load (Peak)	533.00	lbs.
UCS	167.2	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.129	0.0000	0.0
533	0.075	0.075	3.189	0.0189	167.2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BL40-10-20151022-65 (7 Day)		
TESTING DATE:	29-Oct-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A514_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	339.98	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.43	in^3
Initial Bulk Unit Weight,	104.2	lb/ft^3
Initial Dry Unit Weight	69.0	lb/ft^3
Maximum Load (Peak)	533.00	lbs.
Moisture Content, W	50.95	%
UCS	167.2	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BM35-15-20151023-66 (7 Day)		
TESTING DATE:	30-Oct-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A520_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.09	g
3. WT WET SOIL + TARE	131.74	g
4. WT DRY SOIL + TARE	112.70	g
5. WT WATER, Ww	19.04	g
6. WT DRY SOIL, Ws	36.61	g
7. MOISTURE CONTENT, W	**52.01**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.01	in.	3.97	in.
No. 2	2.00	in.	3.99	in.
No. 3	2.00	in.	3.98	in.
Average	**2.00**	**in.**	**3.98**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***339.50***	***g***
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.55	in^3
Initial Bulk Unit Weight,	103.0	lb/ft^3
Initial Dry Unit Weight	67.8	lb/ft^3
Maximum Load (Peak)	975.00	lbs.
UCS	304.8	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.154	0.0000	0.0
975	0.055	0.055	3.198	0.0138	304.8

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BM35-15-20151023-66 (7 Day)		
TESTING DATE:	30-Oct-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A520_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	339.50	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.55	in^3
Initial Bulk Unit Weight,	103.0	lb/ft^3
Initial Dry Unit Weight	67.8	lb/ft^3
Maximum Load (Peak)	975.00	lbs.
Moisture Content, W	52.01	%
UCS	304.8	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BH38-5-20151028-67 (7 Day)		
TESTING DATE:	4-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A526_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.59	g
3. WT WET SOIL + TARE	126.56	g
4. WT DRY SOIL + TARE	110.08	g
5. WT WATER, Ww	16.48	g
6. WT DRY SOIL, Ws	33.49	g
7. MOISTURE CONTENT, W	**49.21**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.01	in.	3.98	in.
No. 2	2.00	in.	3.98	in.
No. 3	2.00	in.	3.98	in.
Average	**2.00**	**in.**	**3.98**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***345.29***	***g***
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.52	in^3
Initial Bulk Unit Weight,	105.0	lb/ft^3
Initial Dry Unit Weight	70.4	lb/ft^3
Maximum Load (Peak)	440.00	lbs.
UCS	137.6	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.145	0.0000	0.0
440	0.065	0.065	3.197	0.0163	137.6

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BH38-5-20151028-67 (7 Day)		
TESTING DATE:	4-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A526_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	345.29	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.52	in^3
Initial Bulk Unit Weight,	105.0	lb/ft^3
Initial Dry Unit Weight	70.4	lb/ft^3
Maximum Load (Peak)	440.00	lbs.
Moisture Content, W	49.21	%
UCS	137.6	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BF34-10-20151029-68 (7 Day)		
TESTING DATE:	5-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A530_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.69	g
3. WT WET SOIL + TARE	134.99	g
4. WT DRY SOIL + TARE	109.23	g
5. WT WATER, Ww	25.76	g
6. WT DRY SOIL, Ws	32.54	g
7. MOISTURE CONTENT, W	**79.16**	**%**

SOIL SPECIMEN DIMENSIONS			
	DIAMETER	***LENGTH***	
No. 1	2.00	3.98	in.
No. 2	2.00	3.98	in.
No. 3	2.00	3.97	in.
Average	**2.00 in.**	**3.98**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***306.34***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.49	in^3
Initial Bulk Unit Weight,	93.5	lb/ft^3
Initial Dry Unit Weight	52.2	lb/ft^3
Maximum Load (Peak)	616.00	lbs.
UCS	193.5	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.140	0.0000	0.0
616	0.055	0.055	3.184	0.0138	193.5

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	BF34-10-20151029-68 (7 Day)		
TESTING DATE:	5-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A530_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	306.34	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.49	in^3
Initial Bulk Unit Weight,	93.5	lb/ft^3
Initial Dry Unit Weight	52.2	lb/ft^3
Maximum Load (Peak)	616.00	lbs.
Moisture Content, W	79.16	%
UCS	193.5	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AT6-15-20151102-69 (7 Day)		
TESTING DATE:	9-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A536_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.26	g
3. WT WET SOIL + TARE	141.19	g
4. WT DRY SOIL + TARE	118.19	g
5. WT WATER, Ww	23.00	g
6. WT DRY SOIL, Ws	41.93	g
7. MOISTURE CONTENT, W	**54.85**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.0085	in.	3.9830	in.
No. 2	2.0030	in.	3.9905	in.
No. 3	1.9960	in.	3.9890	in.
Average	**2.00**	**in.**	**3.99**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***336.18***	***g***
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.56	in^3
Initial Bulk Unit Weight,	102.0	lb/ft^3
Initial Dry Unit Weight	65.9	lb/ft^3
Maximum Load (Peak)	452.00	lbs.
UCS	141.5	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.149	0.0000	0.0
452	0.055	0.055	3.193	0.0138	141.5

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AT6-15-20151102-69 (7 Day)		
TESTING DATE:	9-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A536_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	336.18	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.56	in^3
Initial Bulk Unit Weight,	102.0	lb/ft^3
Initial Dry Unit Weight	65.9	lb/ft^3
Maximum Load (Peak)	452.00	lbs.
Moisture Content, W	54.85	%
UCS	141.5	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AI3-20-20151103-70 (7 Day)		
TESTING DATE:	10-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A538_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	114.45	g
3. WT WET SOIL + TARE	193.21	g
4. WT DRY SOIL + TARE	169.02	g
5. WT WATER, Ww	24.19	g
6. WT DRY SOIL, Ws	54.57	g
7. MOISTURE CONTENT, W	**44.33**	**%**

SOIL SPECIMEN DIMENSIONS		
	DIAMETER	***LENGTH***
No. 1	2.00 in.	3.97 in.
No. 2	2.00 in.	3.97 in.
No. 3	2.00 in.	3.97 in.
Average	**2.00 in.**	**3.97 in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***343.63***	***g***
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.44	in^3
Initial Bulk Unit Weight,	105.3	lb/ft^3
Initial Dry Unit Weight	72.9	lb/ft^3
Maximum Load (Peak)	429.00	lbs.
UCS	134.5	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.134	0.0000	0.0
429	0.070	0.070	3.191	0.0176	134.5

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AI3-20-20151103-70 (7 Day)		
TESTING DATE:	10-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A538_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	343.63	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.44	in^3
Initial Bulk Unit Weight,	105.3	lb/ft^3
Initial Dry Unit Weight	72.9	lb/ft^3
Maximum Load (Peak)	429.00	lbs.
Moisture Content, W	44.33	%
UCS	134.5	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	C3-25-20151105-71 (7 Day)		
TESTING DATE:	12-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A541_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	77.10	g
3. WT WET SOIL + TARE	175.00	g
4. WT DRY SOIL + TARE	138.59	g
5. WT WATER, Ww	36.41	g
6. WT DRY SOIL, Ws	61.49	g
7. MOISTURE CONTENT, W	**59.21**	**%**

SOIL SPECIMEN DIMENSIONS		
	DIAMETER	***LENGTH***
No. 1	2.00 in.	3.98 in.
No. 2	2.00 in.	3.98 in.
No. 3	2.00 in.	3.99 in.
Average	**2.00 in.**	**3.98 in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***333.29***	***g***
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.48	in^3
Initial Bulk Unit Weight,	101.7	lb/ft^3
Initial Dry Unit Weight	63.9	lb/ft^3
Maximum Load (Peak)	247.00	lbs.
UCS	77.7	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.133	0.0000	0.0
247	0.055	0.055	3.177	0.0138	77.7

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	C3-25-20151105-71 (7 Day)		
TESTING DATE:	12-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A541_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	333.29	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.48	in^3
Initial Bulk Unit Weight,	101.7	lb/ft^3
Initial Dry Unit Weight	63.9	lb/ft^3
Maximum Load (Peak)	247.00	lbs.
Moisture Content, W	59.21	%
UCS	77.7	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	I5-20-20151106-72 (7 Day)		
TESTING DATE:	13-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A551_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	77.41	g
3. WT WET SOIL + TARE	155.08	g
4. WT DRY SOIL + TARE	128.58	g
5. WT WATER, Ww	26.50	g
6. WT DRY SOIL, Ws	51.17	g
7. MOISTURE CONTENT, W	**51.79**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	3.95	in.
No. 2	2.00	in.	3.97	in.
No. 3	2.00	in.	3.97	in.
Average	**2.00**	**in.**	**3.96**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***338.43***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.44	in^3
Initial Bulk Unit Weight,	103.6	lb/ft^3
Initial Dry Unit Weight	68.3	lb/ft^3
Maximum Load (Peak)	406.00	lbs.
UCS	127.8	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.141	0.0000	0.0
406	0.045	0.045	3.177	0.0114	127.8

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	I5-20-20151106-72 (7 Day)		
TESTING DATE:	13-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A551_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	338.43	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.44	in^3
Initial Bulk Unit Weight,	103.6	lb/ft^3
Initial Dry Unit Weight	68.3	lb/ft^3
Maximum Load (Peak)	406.00	lbs.
Moisture Content, W	51.79	%
UCS	127.8	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	R4-5-20151109-73 (7 Day)		
TESTING DATE:	16-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A553_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	114.45	g
3. WT WET SOIL + TARE	181.31	g
4. WT DRY SOIL + TARE	158.18	g
5. WT WATER, Ww	23.13	g
6. WT DRY SOIL, Ws	43.73	g
7. MOISTURE CONTENT, W	**52.89**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	1.99	in.	3.98	in.
No. 2	2.00	in.	3.97	in.
No. 3	1.99	in.	3.96	in.
Average	**1.99**	**in.**	**3.97**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***325.04***	***g***
Initial Area, Ao	3.12	in^2
Initial Volume, Vo	12.40	in^3
Initial Bulk Unit Weight,	99.9	lb/ft^3
Initial Dry Unit Weight	65.3	lb/ft^3
Maximum Load (Peak)	344.00	lbs.
UCS	108.7	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.124	0.0000	0.0
344	0.050	0.050	3.164	0.0126	108.7

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	R4-5-20151109-73 (7 Day)		
TESTING DATE:	16-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A553_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	325.04	g
Initial Area, Ao	3.12	in^2
Initial Volume, Vo	12.40	in^3
Initial Bulk Unit Weight,	99.9	lb/ft^3
Initial Dry Unit Weight	65.3	lb/ft^3
Maximum Load (Peak)	344.00	lbs.
Moisture Content, W	52.89	%
UCS	108.7	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	X4-15-20151110-74 (7 Day)		
TESTING DATE:	17-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A556_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.27	g
3. WT WET SOIL + TARE	174.24	g
4. WT DRY SOIL + TARE	144.69	g
5. WT WATER, Ww	29.55	g
6. WT DRY SOIL, Ws	68.42	g
7. MOISTURE CONTENT, W	**43.19**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	1.99	in.	3.98	in.
No. 2	1.99	in.	3.99	in.
No. 3	1.99	in.	3.97	in.
Average	**1.99**	**in.**	**3.98**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***351.09***	***g***
Initial Area, Ao	3.12	in^2
Initial Volume, Vo	12.41	in^3
Initial Bulk Unit Weight,	107.8	lb/ft^3
Initial Dry Unit Weight	75.3	lb/ft^3
Maximum Load (Peak)	276.00	lbs.
UCS	87.0	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.119	0.0000	0.0
276	0.065	0.065	3.171	0.0163	87.0

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	X4-15-20151110-74 (7 Day)		
TESTING DATE:	17-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A556_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	351.09	g
Initial Area, Ao	3.12	in^2
Initial Volume, Vo	12.41	in^3
Initial Bulk Unit Weight,	107.8	lb/ft^3
Initial Dry Unit Weight	75.3	lb/ft^3
Maximum Load (Peak)	276.00	lbs.
Moisture Content, W	43.19	%
UCS	87.0	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AN6-10-20151112-75 (7 Day)		
TESTING DATE:	19-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A559_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.77	g
3. WT WET SOIL + TARE	133.68	g
4. WT DRY SOIL + TARE	115.53	g
5. WT WATER, Ww	18.15	g
6. WT DRY SOIL, Ws	38.76	g
7. MOISTURE CONTENT, W	**46.83**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	4.00	in.
No. 2	2.00	in.	3.99	in.
No. 3	2.00	in.	3.99	in.
Average	**2.00**	**in.**	**3.99**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***348.04***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.54	in^3
Initial Bulk Unit Weight,	105.7	lb/ft^3
Initial Dry Unit Weight	72.0	lb/ft^3
Maximum Load (Peak)	318.00	lbs.
UCS	99.8	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.139	0.0000	0.0
318	0.060	0.060	3.187	0.0150	99.8

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AN6-10-20151112-75 (7 Day)		
TESTING DATE:	19-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A559_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	348.04	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.54	in^3
Initial Bulk Unit Weight,	105.7	lb/ft^3
Initial Dry Unit Weight	72.0	lb/ft^3
Maximum Load (Peak)	318.00	lbs.
Moisture Content, W	46.83	%
UCS	99.8	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AH6-5-20151113-76 (7 Day)		
TESTING DATE:	20-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A561_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.64	g
3. WT WET SOIL + TARE	164.45	g
4. WT DRY SOIL + TARE	137.06	g
5. WT WATER, Ww	27.39	g
6. WT DRY SOIL, Ws	60.42	g
7. MOISTURE CONTENT, W	**45.33**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	3.98	in.
No. 2	2.00	in.	3.99	in.
No. 3	1.99	in.	3.98	in.
Average	**2.00**	**in.**	**3.98**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***342.93***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.49	in^3
Initial Bulk Unit Weight,	104.6	lb/ft^3
Initial Dry Unit Weight	72.0	lb/ft^3
Maximum Load (Peak)	388.00	lbs.
UCS	121.8	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.137	0.0000	0.0
388	0.060	0.060	3.185	0.0151	121.8

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	AH6-5-20151113-76 (7 Day)		
TESTING DATE:	20-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A561_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	342.93	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.49	in^3
Initial Bulk Unit Weight,	104.6	lb/ft^3
Initial Dry Unit Weight	72.0	lb/ft^3
Maximum Load (Peak)	388.00	lbs.
Moisture Content, W	45.33	%
UCS	121.8	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	Z4-10-20151114-77 (6 Day)		
TESTING DATE:	20-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	TAJ	TRACKING CODE:	A562_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	69.40	g
3. WT WET SOIL + TARE	114.37	g
4. WT DRY SOIL + TARE	100.70	g
5. WT WATER, Ww	13.67	g
6. WT DRY SOIL, Ws	31.30	g
7. MOISTURE CONTENT, W	**43.67**	**%**

SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.01	in.	3.99	in.
No. 2	2.01	in.	3.99	in.
No. 3	2.00	in.	4.01	in.
Average	**2.01**	**in.**	**4.00**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***355.35***	***g***
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.64	in^3
Initial Bulk Unit Weight,	107.1	lb/ft^3
Initial Dry Unit Weight	74.5	lb/ft^3
Maximum Load (Peak)	348.00	lbs.
UCS	108.5	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.163	0.0000	0.0
348	0.055	0.055	3.207	0.0138	108.5

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	Z4-10-20151114-77 (6 Day)		
TESTING DATE:	20-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	TAJ	TRACKING CODE:	A562_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	355.35	g
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.64	in^3
Initial Bulk Unit Weight,	107.1	lb/ft^3
Initial Dry Unit Weight	74.5	lb/ft^3
Maximum Load (Peak)	348.00	lbs.
Moisture Content, W	43.67	%
UCS	108.5	lb/in^2

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	F6-10-20151117-78 (7 Day)		
TESTING DATE:	24-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A565_US

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	77.58	g
3. WT WET SOIL + TARE	145.70	g
4. WT DRY SOIL + TARE	125.42	g
5. WT WATER, Ww	20.28	g
6. WT DRY SOIL, Ws	47.84	g
7. MOISTURE CONTENT, W	**42.39**	**%**

SOIL SPECIMEN DIMENSIONS		
	DIAMETER	***LENGTH***
No. 1	1.99 in.	3.99 in.
No. 2	2.00 in.	4.00 in.
No. 3	1.99 in.	3.99 in.
Average	**2.00 in.**	**3.99 in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***353.49***	***g***
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.48	in^3
Initial Bulk Unit Weight,	107.9	lb/ft^3
Initial Dry Unit Weight	75.8	lb/ft^3
Maximum Load (Peak)	368.00	lbs.
UCS	116.1	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.126	0.0000	0.0
368	0.055	0.055	3.170	0.0138	116.1

UNCONFINED COMPRESSION TEST

ASTM D 1633

PROJECT:	Macon AGL		
PROJECT No.:	SH0578		
SAMPLE No.:	F6-10-20151117-78 (7 Day)		
TESTING DATE:	24-Nov-15	LOADING RATE:	0.04in./min.
TESTED BY:	LC	TRACKING CODE:	A565_US

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	353.49	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.48	in^3
Initial Bulk Unit Weight,	107.9	lb/ft^3
Initial Dry Unit Weight	75.8	lb/ft^3
Maximum Load (Peak)	368.00	lbs.
Moisture Content, W	42.39	%
UCS	116.1	lb/in^2

APPENDIX B

Hydraulic Conductivity

ASTM D5084

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A191_PM
SAMPLE No.:	CQ27-(M)-20150711-01 (7-Day)	EQUIPMENT No.:	
TEST DATE:	7/21/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	400.30 ***g***
3. WT WET SOIL + TARE	284.75 ***g***	689.70 ***g***
4. WT DRY SOIL + TARE	201.66 ***g***	601.96 ***g***
5. WT WATER, Ww	83.09 g	87.74 g
6. WT DRY SOIL, Ws	201.66 g	201.66 g
7. MOISTURE CONTENT, W	41.20 %	43.51 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.00 in.***	***3.02 in.***	***1.46 in.***	***1.42 in.***
No. 2	***3.00 in.***	***3.00 in.***	***1.41 in.***	***1.42 in.***
No. 3	***2.99 in.***	***3.00 in.***	***1.44 in.***	***1.40 in.***
Average	3.00 in.	3.00 in.	1.44 in.	1.41 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***284.75 g***	***289.40 g***
Area, Ao	7.07 in^2	7.09 in^2
Volume, Vo	10.16 in^3	10.01 in^3
Bulk Unit Weight	106.7 lb/ft^3	110.1 lb/ft^3
Dry Unit Weight	75.6 lb/ft^3	76.7 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A191_PM
SAMPLE No.:	CQ27-(M)-20150711-01 (7-Day)	EQUIPMENT No.:	0
TEST DATE:	7/21/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
07/21/15	18 : 19	JDM	7.0	5.0	5.0				
07/21/15	18 : 51	JDM	17.0	15.0	15.4	8.4	10.0	3.4	0.34
07/22/15	7 : 59	JDM	27.0	25.0	25.4	21.4	10.0	6.0	0.60
07/02/15	8 : 37	JDM	37.0	35.0	35.6	32.1	10.0	6.7	0.67
07/22/15	9 : 20	JDM	47.0	45.0	45.5	42.0	10.0	6.4	0.64
07/22/15	9 : 54	JDM	57.0	55.0	55.5	53.4	10.0	7.9	0.79
07/22/15	10 : 37	JDM	67.0	65.0	65.2	62.9	10.0	7.4	0.74
07/22/15	11 : 42	JDM	77.0	75.0	76.8	73.7	10.0	8.5	0.85
07/22/15	12 : 30	JDM	87.0	85.0	*	86.3	10.0	9.5	0.95
07/22/15	12 : 30	JDM	77.0	75.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A191_PM
SAMPLE No.:	CQ27-(M)-20150711-01 (7-Day)	EQUIPMENT No.:	0
TEST DATE:	7/21/15		

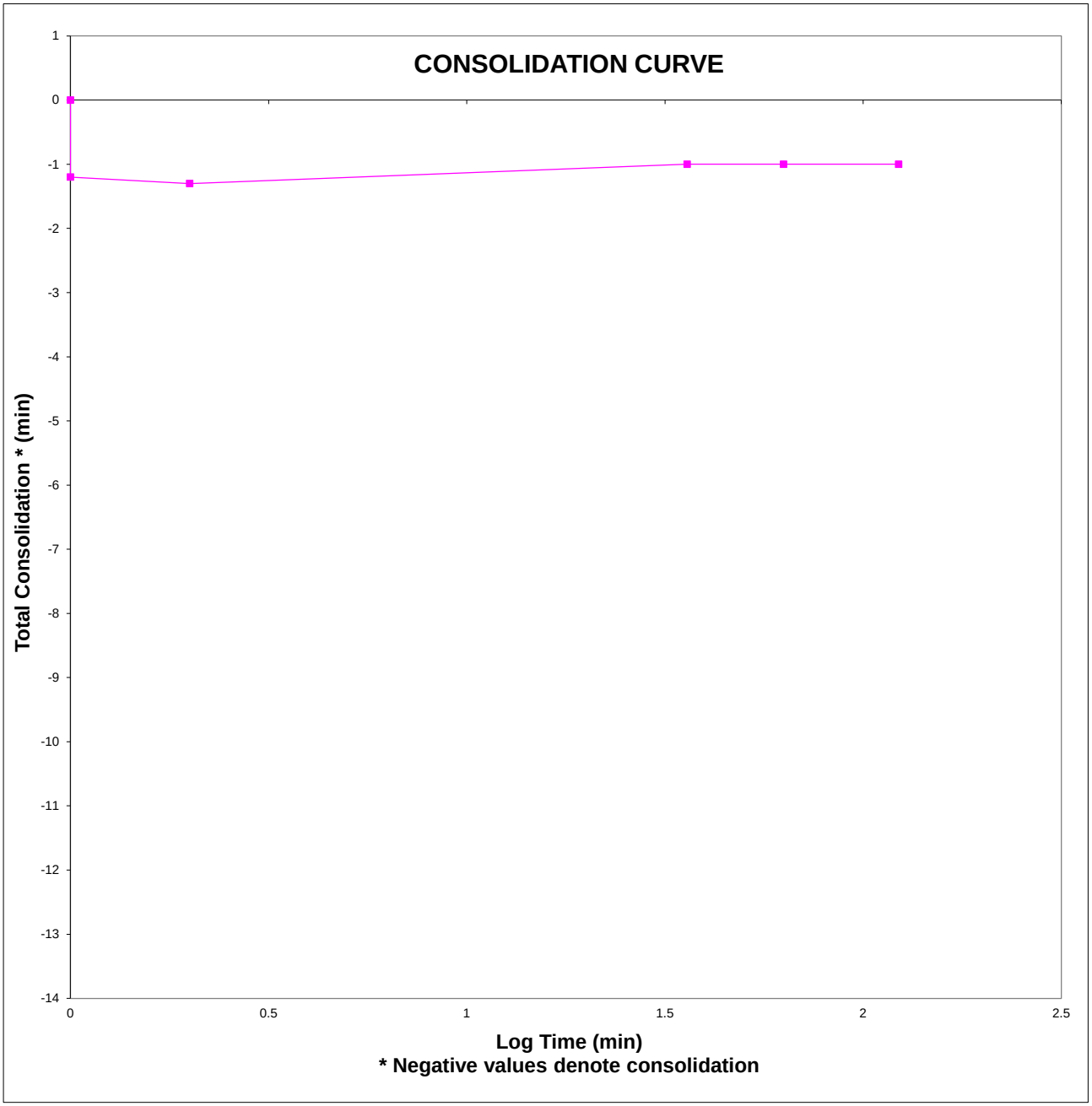
CELL PRESSURE: psi **BACK PRESSURE:** psi **EFFECTIVE STRESS:** 0 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
7 / 22 / 15	JDM	12 : 32	0	0	0	25.0	25.0	0.0
7 / 22 / 15	JDM	12 : 33	1	1	0.00	24.6	24.2	1.2
7 / 22 / 15	JDM	12 : 34	1	2	0.30	24.5	24.2	1.3
7 / 22 / 15	JDM	13 : 8	34	36	1.56	24.8	24.2	1.0
7 / 22 / 15	JDM	13 : 35	27	63	1.80	24.9	24.1	1.0
7 / 22 / 15	JDM	14 : 35	60	123	2.09	25.0	24.0	1.0

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A191_PM
SAMPLE No.:	CQ27-(M)-20150711-01 (7-Day)	EQUIPMENT No.:	0
TEST DATE:	7/21/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A191_PM
SAMPLE No.:	CQ27-(M)-20150711-01 (7-Day)	EQUIPMENT No.:	0
TEST DATE:	7/21/15		

			ELAPSED	HYDRAULIC			GAUGE		
	TESTED	TIME	TIME	HEAD (cm)		TEMP.	PRESSURE (psi)		
DATE	BY	(military)	(minutes)	INFLUENT	EFFLUENT	C°	CELL	INFLUENT	EFFLUENT
/ / 14		:	0						
/ / 14		:	0						
/ / 14		:	0						
/ / 14		:	0						
/ / 14		:	0						

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A191_PM
SAMPLE No.:	CQ27-(M)-20150711-01 (7-Da	EQUIPMENT No.:	0
TEST DATE:	7/21/15		

ELAPSED TIME	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT*	*HYDRAULIC GRADIENT*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
(minutes)	*INFLUENT*	*EFFLUENT*	*RATIO*	*(cm/cm)*	*@ Temp.*	*@ 20° C*
RESET				0.000		
0	0.0	0.0	#DIV/0!	0.000	#DIV/0!	#DIV/0!
0	0.0	0.0	#DIV/0!	0.000	#DIV/0!	#DIV/0!
0	0.0	0.0	#DIV/0!	0.000	#DIV/0!	#DIV/0!
0	0.0	0.0	#DIV/0!	0.000	#DIV/0!	#DIV/0!

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A191_PM
SAMPLE No.:	CQ27-(M)-20150711-01 (7-Day)	EQUIPMENT No.:	0
TEST DATE:	7/21/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**106.7 lb/ft³**	**110.1 lb/ft³**
DRY UNIT WEIGHT	**75.6 lb/ft³**	**76.7 lb/ft³**
MOISTURE CONTENT	**41.2 %**	**43.5 %**
PERMEABILITY @ 20°C	**#DIV/0! cm/sec**	

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	8/11/2015	Tested By:	jcw
End Date:	8/21/2015	Checked By:	mcm
Boring #:	---		
Sample #:	CQ27-M-20150711-01 (28-day)		
Depth:	---		
Visual Description:	Moist, yellowish brown soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084

Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	15/4

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.50

Parameter	Initial	Final
Height, in	1.80	1.80
Diameter, in	3.04	3.04
Area, in^2	7.26	7.26
Volume, in^3	13.1	13.1
Mass, g	358	364
Bulk Density, pcf	104	106
Moisture Content, %	41.0	43.3
Dry Density, pcf	74.0	74.0
Degree of Saturation, %	92	97

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	100.44	Increased Cell Pressure, psi:	110.43	Cell Pressure Increment, psi:	9.99
Sample Pressure, psi:	90.28	Corresponding Sample Pressure, psi:	98.74	Sample Pressure Increment, psi:	8.46
				B Coefficient:	0.85

*B value did not increase with increase in pressure.
Final degree of saturation >95%.

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time, sec	Gradient	Permeability K, cm/sec	Temp, °C	R_t	Permeability K @ 20 °C, cm/sec
		Cell	Sample	Z_1	Z_2	Z_1-Z_2						
8/19	1	100.4	90.3	22.0	21.9	0.1	753	60.6	1.5E-09	20	1.000	1.5E-09
8/19	2	100.4	90.3	22.0	21.9	0.1	789	60.6	1.4E-09	20	1.000	1.4E-09
8/19	3	100.4	90.3	22.0	21.9	0.1	821	60.6	1.4E-09	20	1.000	1.4E-09
8/19	4	100.4	90.3	22.0	21.9	0.1	841	60.6	1.3E-09	20	1.000	1.3E-09

PERMEABILITY AT 20° C: 1.4×10^{-9} cm/sec (@ 10 psi effective stress)

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A192_PM
SAMPLE No.:	CP26-B-20150713-02 (7-Days)	EQUIPMENT No.:	
TEST DATE:	7/21/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	342.06 ***g***
3. WT WET SOIL + TARE	265.21 ***g***	610.80 ***g***
4. WT DRY SOIL + TARE	174.44 ***g***	516.50 ***g***
5. WT WATER, Ww	90.77 g	94.30 g
6. WT DRY SOIL, Ws	174.44 g	174.44 g
7. MOISTURE CONTENT, W	52.04 %	54.06 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.03 in.***	***3.03 in.***	***1.36 in.***	***1.36 in.***
No. 2	***3.02 in.***	***3.03 in.***	***1.40 in.***	***1.40 in.***
No. 3	***3.01 in.***	***3.01 in.***	***1.35 in.***	***1.39 in.***
Average	3.02 in.	3.02 in.	1.37 in.	1.39 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***265.21 g***	***268.74 g***
Area, Ao	7.15 in^2	7.17 in^2
Volume, Vo	9.77 in^3	9.93 in^3
Bulk Unit Weight	103.4 lb/ft^3	103.1 lb/ft^3
Dry Unit Weight	68.0 lb/ft^3	66.9 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A192_PM
SAMPLE No.:	CP26-B-20150713-02 (7-Days)	EQUIPMENT No.:	0
TEST DATE:	7/21/15		

			TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
TEST DATE	TIME (military)	TESTED BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
07/21/15	16 : 58	JDM	7.0	5.0	4.9				
07/21/15	17 : 49	JDM	17.0	15.0	14.9	7.8	10.0	2.9	0.29
07/21/15	18 : 21	JDM	27.0	25.0	24.8	19.9	10.0	5.0	0.50
07/21/15	18 : 53	JDM	37.0	35.0	34.6	31.5	10.0	6.7	0.67
07/22/15	7 : 56	JDM	47.0	45.0	45.2	42.9	10.0	8.3	0.83
07/22/15	8 : 36	JDM	57.0	55.0	55.3	53.9	10.0	8.7	0.87
07/22/15	9 : 18	JDM	67.0	65.0	65.4	64.2	10.0	8.9	0.89
07/22/15	10 : 41	JDM	77.0	75.0	75.2	74.5	10.0	9.1	0.91
07/22/15	11 : 30	JDM	87.0	85.0	*	84.7	10.0	9.5	0.95
07/22/15	11 : 30	JDM	77.0	75.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A192_PM
SAMPLE No.:	CP26-B-20150713-02 (7-Days)	EQUIPMENT No.:	0
TEST DATE:	7/21/15		

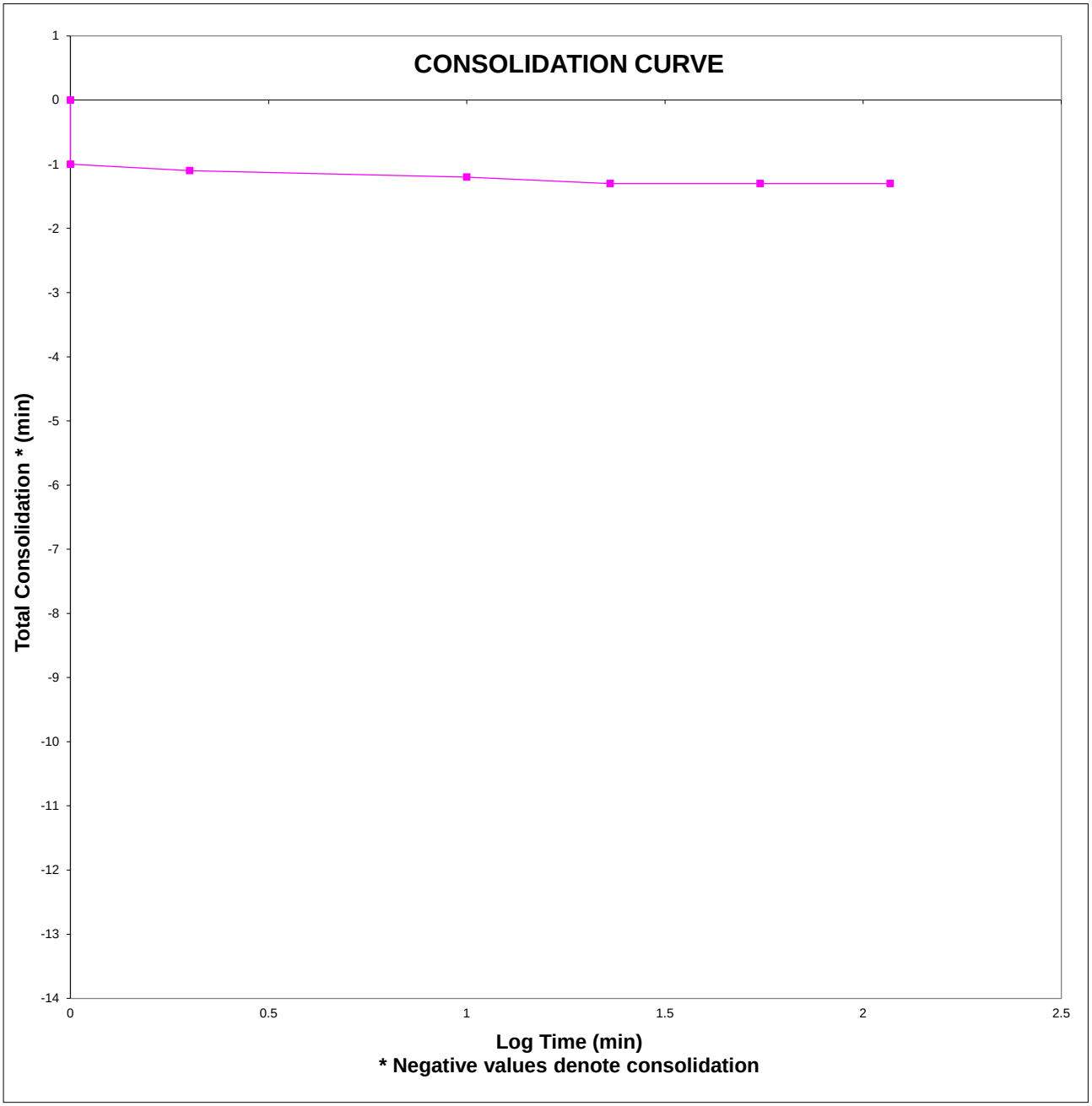
CELL PRESSURE: psi **BACK PRESSURE:** psi **EFFECTIVE STRESS:** 0 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
7 / 22 / 15	JDM	11 : 38	0	0	0	25.0	25.0	0.0
7 / 22 / 15	JDM	11 : 39	1	1	0.00	24.7	24.3	1.0
7 / 22 / 15	JDM	11 : 40	1	2	0.30	24.7	24.2	1.1
7 / 22 / 15	JDM	11 : 48	8	10	1.00	24.7	24.1	1.2
7 / 22 / 15	JDM	12 : 1	13	23	1.36	24.6	24.1	1.3
7 / 22 / 15	JDM	12 : 33	32	55	1.74	24.7	24.0	1.3
7 / 22 / 15	JDM	13 : 35	62	117	2.07	24.7	24.0	1.3

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A192_PM
SAMPLE No.:	CP26-B-20150713-02 (7-Days)	EQUIPMENT No.:	0
TEST DATE:	7/21/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A192_PM
SAMPLE No.:	CP26-B-20150713-02 (7-Days)	EQUIPMENT No.:	0
TEST DATE:	7/21/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
7 / 23 / 15	JDM	15 : 52	0	0.0	25.0	20.0	85.0	75.0	73.0
7 / 24 / 15	JDM	7 : 51	959	0.6	24.4	20.0	85.0	75.0	73.0
7 / 25 / 15	JDM	10 : 32	RESET	0.0	25.0	20.0	85.0	75.0	73.0
7 / 27 / 15	JDM	9 : 26	2814	0.9	24.1	20.0	85.0	75.0	73.0
7 / 29 / 15	JDM	9 : 0	RESET	0.0	25.0	20.0	85.0	75.0	72.0
7 / 31 / 15	JDM	8 : 5	2825	0.5	24.5	20.0	85.0	75.0	72.0
8 / 11 / 15	JDM	8 : 40	RESET	0.0	25.0	20.0	85.0	75.0	72.0
8 / 14 / 15	JDM	14 : 28	4668	0.5	24.5	20.0	85.0	75.0	72.0
8 / 18 / 15	JDM	7 : 50	5362	1.0	24.0	20.0	85.0	75.0	72.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A192_PM
SAMPLE No.:	CP26-B-20150713-02 (7-Days	EQUIPMENT No.:	0
TEST DATE:	7/21/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				47.728		
959	0.6	0.6	1.00	47.382	4.75E-09	4.78E-09
RESET				47.728		
2814	0.9	0.9	1.00	47.210	2.43E-09	2.45E-09
RESET				67.991		
2825	0.5	0.5	1.00	67.703	9.42E-10	9.47E-10
RESET				67.991		
4668	0.5	0.5	1.00	67.703	5.70E-10	5.73E-10
5362	0.5	0.5	1.00	67.415	4.99E-10	5.01E-10

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A192_PM
SAMPLE No.:	CP26-B-20150713-02 (7-Days)	EQUIPMENT No.:	0
TEST DATE:	7/21/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	103.4 lb/ft³	103.1 lb/ft³
DRY UNIT WEIGHT	68.0 lb/ft³	66.9 lb/ft³
MOISTURE CONTENT	52.0 %	54.1 %
PERMEABILITY @ 20°C	1.8E-09 cm/sec	

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	8/11/2015	Tested By:	jcw
End Date:	8/24/2015	Checked By:	jdt
Boring #:	---		
Sample #:	CP26-B-20150713-02 (28-day)		
Depth:	---		
Visual Description:	Moist, yellowish brown soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084

Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	2/5

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.55

Parameter	Initial	Final
Height, in	1.53	1.53
Diameter, in	3.04	3.04
Area, in^2	7.26	7.26
Volume, in^3	11.1	11.1
Mass, g	290	294
Bulk Density, pcf	99	101
Moisture Content, %	58.1	60.4
Dry Density, pcf	62.7	62.7
Degree of Saturation, %	96	100

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90.00	Increased Cell Pressure, psi:	95.02	Cell Pressure Increment, psi:	5.02
Sample Pressure, psi:	79.85	Corresponding Sample Pressure, psi:	83.76	Sample Pressure Increment, psi:	3.91
				B Coefficient:	0.78

*B value did not increase with increase in pressure.
Final degree of saturation >95%.

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time, sec	Gradient	Permeability K, cm/sec	Temp, °C	R_t	Permeability K @ 20 °C, cm/sec
		Cell	Sample	Z_1	Z_2	Z_1-Z_2						
8/18	1	90.0	79.9	21.6	21.5	0.1	338	70.0	2.8E-09	20	1.000	2.8E-09
8/18	2	90.0	79.9	21.6	21.5	0.1	351	70.0	2.7E-09	20	1.000	2.7E-09
8/18	3	90.0	79.9	21.6	21.5	0.1	368	70.0	2.6E-09	20	1.000	2.6E-09
8/18	4	90.0	79.9	21.6	21.5	0.1	379	70.0	2.5E-09	20	1.000	2.5E-09

PERMEABILITY AT 20° C: 2.7 x 10^{-9} cm/sec (@ 10 psi effective stress)

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A195_PM
SAMPLE No.:	CM25-10-20150714-03 (7-Day)	EQUIPMENT No.:	7
TEST DATE:	7/21/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	342.00 ***g***
3. WT WET SOIL + TARE	314.48 ***g***	660.90 ***g***
4. WT DRY SOIL + TARE	219.92 ***g***	561.92 ***g***
5. WT WATER, Ww	94.56 g	98.98 g
6. WT DRY SOIL, Ws	219.92 g	219.92 g
7. MOISTURE CONTENT, W	43.00 %	45.01 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.03 in.***	***3.04 in.***	***1.56 in.***	***1.61 in.***
No. 2	***3.02 in.***	***3.03 in.***	***1.59 in.***	***1.56 in.***
No. 3	***3.00 in.***	***3.02 in.***	***1.55 in.***	***1.60 in.***
Average	3.02 in.	3.03 in.	1.57 in.	1.59 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***314.48 g***	***318.90 g***
Area, Ao	7.15 in^2	7.21 in^2
Volume, Vo	11.20 in^3	11.47 in^3
Bulk Unit Weight	107.0 lb/ft^3	105.9 lb/ft^3
Dry Unit Weight	74.8 lb/ft^3	73.1 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A195_PM
SAMPLE No.:	CM25-10-20150714-03 (7-Day)	EQUIPMENT No.:	7
TEST DATE:	7/21/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
07/21/15	12 : 30	JDM	7.0	5.0	5.4				
07/21/15	13 : 30	JDM	17.0	15.0	15.3	11.4	10.0	6.0	0.60
07/21/15	14 : 30	JDM	27.0	25.0	25.3	22.9	10.0	7.6	0.76
07/21/15	15 : 13	JDM	37.0	35.0	35.4	33.3	10.0	8.0	0.80
07/21/15	16 : 0	JDM	47.0	45.0	46.7	41.0	10.0	5.6	0.56
07/21/15	16 : 30	JDM	57.0	55.0	*	56.4	10.0	9.7	0.97
07/21/15	16 : 30	JDM	67.0	65.0	*	*	*	*	*
	:								
	:								
	:								
	:								
	:								

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A195_PM
SAMPLE No.:	CM25-10-20150714-03 (7-Day)	EQUIPMENT No.:	7
TEST DATE:	7/21/15		

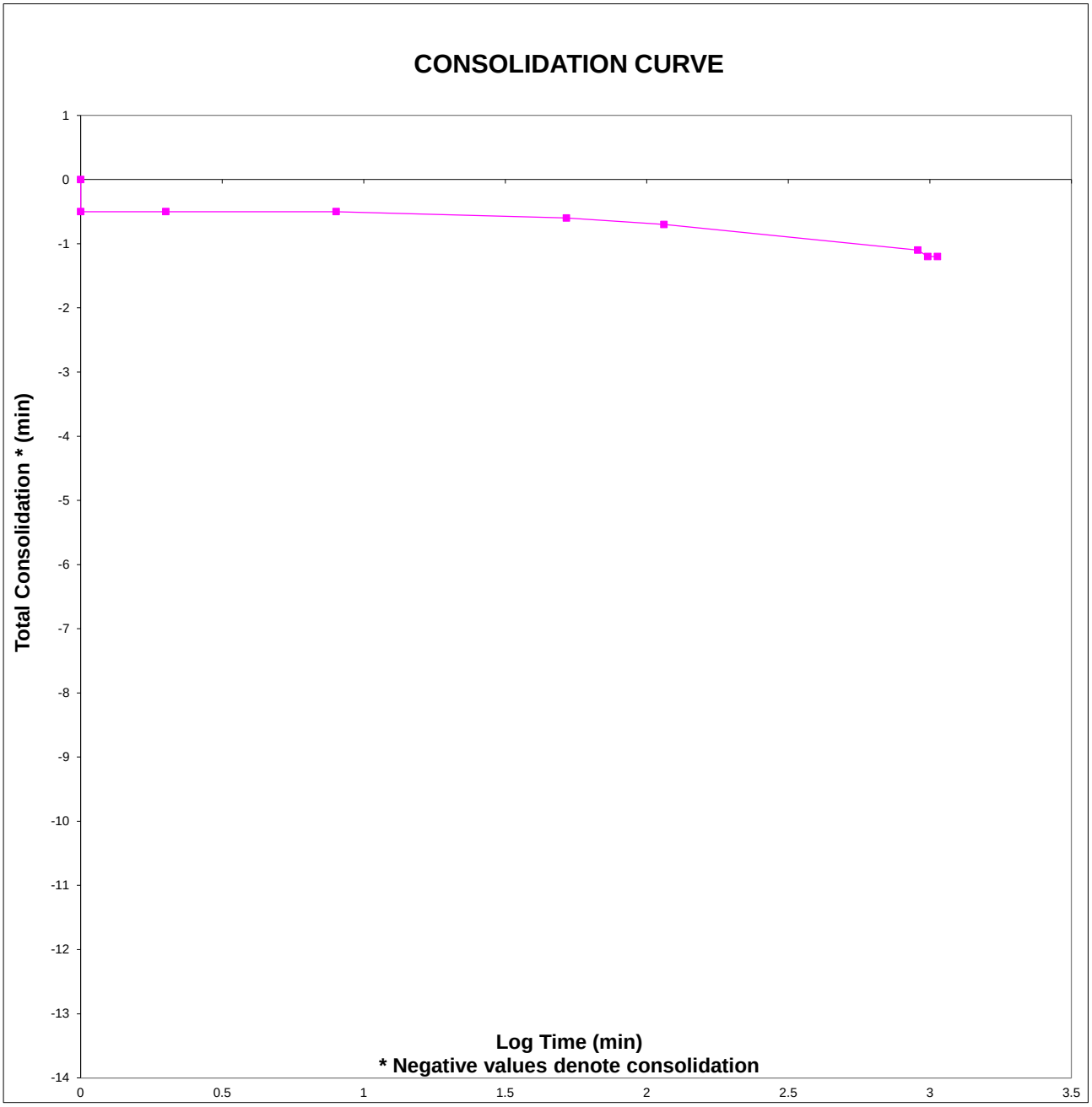
CELL PRESSURE: 55 psi **BACK PRESSURE:** 45 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
7 / 21 / 15	JDM	16 : 54	0	0	0	25.0	25.0	0.0
7 / 21 / 15	JDM	16 : 55	1	1	0.00	24.7	24.8	0.5
7 / 21 / 15	JDM	16 : 56	1	2	0.30	24.7	24.8	0.5
7 / 21 / 15	JDM	17 : 2	6	8	0.90	25.0	24.5	0.5
7 / 21 / 15	JDM	17 : 46	44	52	1.72	25.0	24.4	0.6
7 / 21 / 15	JDM	18 : 49	63	115	2.06	25.0	24.3	0.7
7 / 22 / 15	JDM	8 : 0	791	906	2.96	25.0	23.9	1.1
7 / 22 / 15	JDM	9 : 17	77	983	2.99	25.0	23.8	1.2
7 / 22 / 15	JDM	10 : 38	81	1064	3.03	25.0	23.8	1.2

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A195_PM
SAMPLE No.:	CM25-10-20150714-03 (7-Day)	EQUIPMENT No.:	7
TEST DATE:	7/21/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A195_PM
SAMPLE No.:	CM25-10-20150714-03 (7-Day)	EQUIPMENT No.:	7
TEST DATE:	7/21/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
7 / 23 / 15	JDM	15 : 50	0	0.0	25.0	20.0	55.0	45.0	43.0
7 / 24 / 15	JDM	7 : 52	962	0.7	24.3	20.0	55.0	45.0	43.0
8 / 11 / 15	JDM	8 : 42	RESET	0.0	25.0	20.0	55.0	45.0	42.0
8 / 14 / 15	JDM	14 : 29	4667	0.5	24.5	20.0	55.0	45.0	42.0
8 / 18 / 15	JDM	7 : 51	5362	1.0	24.0	20.0	55.0	45.0	42.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A195_PM
SAMPLE No.:	CM25-10-20150714-03 (7-Day	EQUIPMENT No.:	7
TEST DATE:	7/21/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				41.640		
962	0.7	0.7	1.00	41.288	6.34E-09	6.37E-09
RESET				59.318		
4667	0.5	0.5	1.00	59.066	6.54E-10	6.57E-10
5362	0.5	0.5	1.00	58.815	5.72E-10	5.75E-10

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A195_PM
SAMPLE No.:	CM25-10-20150714-03 (7-Day)	EQUIPMENT No.:	7
TEST DATE:	7/21/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	107.0 lb/ft³	105.9 lb/ft³
DRY UNIT WEIGHT	74.8 lb/ft³	73.1 lb/ft³
MOISTURE CONTENT	43.0 %	45.0 %
PERMEABILITY @ 20°C	2.5E-09 cm/sec	

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	8/11/2015	Tested By:	jcw
End Date:	8/21/2015	Checked By:	mcm
Boring #:	---		
Sample #:	CM25-10-20150714-03 (28-day)		
Depth:	---		
Visual Description:	Moist, yellowish brown soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084
Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	6/7

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.55

Parameter	Initial	Final
Height, in	1.66	1.66
Diameter, in	3.04	3.04
Area, in^2	7.26	7.26
Volume, in^3	12.0	12.0
Mass, g	334	338
Bulk Density, pcf	105	107
Moisture Content, %	44.2	46.1
Dry Density, pcf	73.1	73.1
Degree of Saturation, %	96	100

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	100.24	Increased Cell Pressure, psi:	110.74	Cell Pressure Increment, psi:	10.50
Sample Pressure, psi:	90.12	Corresponding Sample Pressure, psi:	97.14	Sample Pressure Increment, psi:	7.02
				B Coefficient:	0.67

*B value did not increase with increase in pressure. Final degree of saturation >95%.

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time, sec	Gradient	Permeability K, cm/sec	Temp, °C	R_t	Permeability K @ 20 °C, cm/sec
		Cell	Sample	Z_1	Z_2	Z_1-Z_2						
8/18	1	100.2	90.1	24.1	24.0	0.1	471	72.0	2.0E-09	20	1.000	2.0E-09
8/18	2	100.2	90.1	24.1	24.0	0.1	493	72.0	1.9E-09	20	1.000	1.9E-09
8/18	3	100.2	90.1	24.1	24.0	0.1	511	72.0	1.8E-09	20	1.000	1.8E-09
8/18	4	100.2	90.1	24.1	24.0	0.1	528	72.0	1.8E-09	20	1.000	1.8E-09

PERMEABILITY AT 20° C: 1.9 x 10^{-9} cm/sec (@ 10 psi effective stress)

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0579	TRACKING CODE:	A200_PM
SAMPLE No.:	CM23-5-20150717-04 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	7/24/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	297.90 ***g***
3. WT WET SOIL + TARE	314.29 ***g***	615.40 ***g***
4. WT DRY SOIL + TARE	217.16 ***g***	515.06 ***g***
5. WT WATER, Ww	97.13 g	100.34 g
6. WT DRY SOIL, Ws	217.16 g	217.16 g
7. MOISTURE CONTENT, W	44.73 %	46.21 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.02 in.***	***3.01 in.***	***1.58 in.***	***1.58 in.***
No. 2	***3.02 in.***	***3.02 in.***	***1.57 in.***	***1.55 in.***
No. 3	***3.00 in.***	***3.03 in.***	***1.56 in.***	***1.58 in.***
Average	3.01 in.	3.02 in.	1.57 in.	1.57 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***314.29 g***	***317.50 g***
Area, Ao	7.13 in^2	7.15 in^2
Volume, Vo	11.19 in^3	11.25 in^3
Bulk Unit Weight	107.0 lb/ft^3	107.5 lb/ft^3
Dry Unit Weight	73.9 lb/ft^3	73.6 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0579	TRACKING CODE:	A200_PM
SAMPLE No.:	CM23-5-20150717-04 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	7/24/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
08/11/15	18 : 45	JDM	7.0	5.0	5.5				
08/11/15	19 : 0	JDM	17.0	15.0	15.6	10.7	10.0	5.2	0.52
08/11/15	19 : 20	JDM	27.0	25.0	25.8	21.7	10.0	6.1	0.61
08/12/15	8 : 23	JDM	37.0	35.0	35.5	33.1	10.0	7.3	0.73
08/12/15	8 : 40	JDM	47.0	45.0	45.5	43.1	10.0	7.6	0.76
08/12/15	9 : 2	JDM	57.0	55.0	55.4	54.9	10.0	9.4	0.94
08/12/15	9 : 22	JDM	67.0	65.0	*	64.9	10.0	9.5	0.95
08/12/15	9 : 25	JDM	77.0	75.0	*	*	*	*	*
	:								
	:								
	:								
	:								

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0579	TRACKING CODE:	A200_PM
SAMPLE No.:	CM23-5-20150717-04 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	7/24/15		

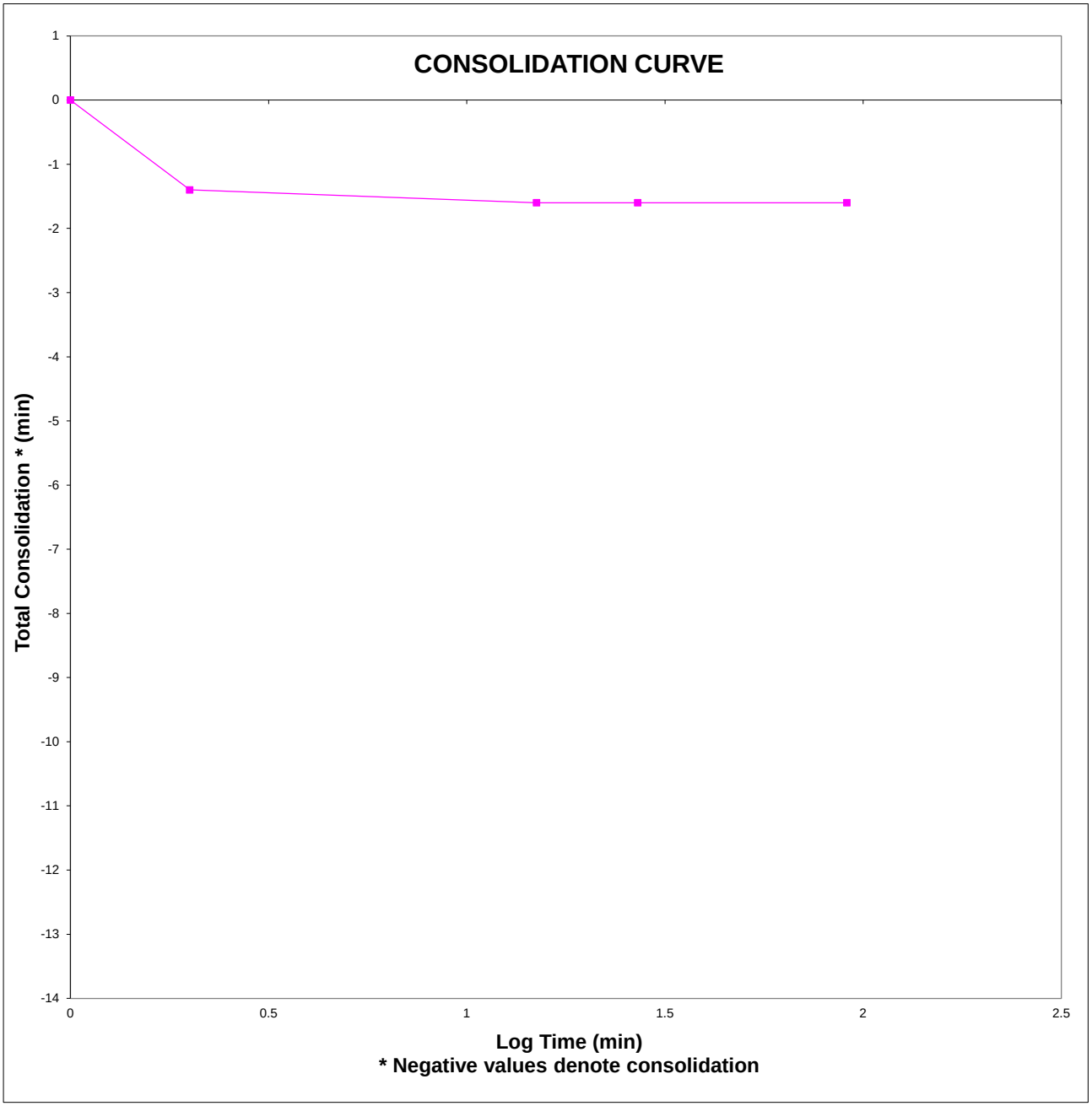
CELL PRESSURE: 65 psi **BACK PRESSURE:** 55 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
8 / 12 / 15	JDM	9 : 28	0	0	0	24.0	24.0	0.0
8 / 12 / 15	JDM	9 : 30	2	2	0.30	23.5	23.1	1.4
8 / 12 / 15	JDM	9 : 43	13	15	1.18	23.4	23.0	1.6
8 / 12 / 15	JDM	9 : 55	12	27	1.43	23.4	23.0	1.6
8 / 12 / 15	JDM	10 : 59	64	91	1.96	23.4	23.0	1.6

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0579	TRACKING CODE:	A200_PM
SAMPLE No.:	CM23-5-20150717-04 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	7/24/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0579	TRACKING CODE:	A200_PM
SAMPLE No.:	CM23-5-20150717-04 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	7/24/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
7 / 29 / 15	JDM	16 : 22	0	1.0	24.0	20.0	65.0	55.0	52.0
7 / 30 / 15	JDM	7 : 51	929	1.5	23.5	20.0	65.0	55.0	52.0
8 / 12 / 15	JDM	11 : 2	18911	1.0	24.0	20.0	65.0	55.0	53.0
8 / 14 / 15	JDM	7 : 34	2672	1.5	23.5	20.0	65.0	55.0	53.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0579	TRACKING CODE:	A200_PM
SAMPLE No.:	CM23-5-20150717-04 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	7/24/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				58.684		
929	0.5	0.5	1.00	58.433	3.33E-09	3.35E-09
18911				41.045		
2672	0.5	0.5	1.00	40.794	1.66E-09	1.66E-09

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0579	TRACKING CODE:	A200_PM
SAMPLE No.:	CM23-5-20150717-04 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	7/24/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	107.0 lb/ft³	107.5 lb/ft³
DRY UNIT WEIGHT	73.9 lb/ft³	73.6 lb/ft³
MOISTURE CONTENT	44.7 %	46.2 %
PERMEABILITY @ 20°C	2.5E-09 cm/sec	

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	8/14/2015	Tested By:	jcw
End Date:	8/25/2015	Checked By:	mcm
Boring #:	---		
Sample #:	CM23-5-2015-0717-04 (28-day)		
Depth:	---		
Visual Description:	Moist, yellowish brown soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084

Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	6/4

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.55

Parameter	Initial	Final
Height, in	1.62	1.62
Diameter, in	3.03	3.03
Area, in^2	7.21	7.21
Volume, in^3	11.7	11.7
Mass, g	325	329
Bulk Density, pcf	106	107
Moisture Content, %	43.9	45.6
Dry Density, pcf	73.6	73.6
Degree of Saturation, %	96	100

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90.06	Increased Cell Pressure, psi:	94.96	Cell Pressure Increment, psi:	4.90
Sample Pressure, psi:	79.94	Corresponding Sample Pressure, psi:	84.60	Sample Pressure Increment, psi:	4.66
				B Coefficient:	0.95

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time, sec	Gradient	Permeability K, cm/sec	Temp, °C	R_t	Permeability K @ 20 °C, cm/sec
		Cell	Sample	Z_1	Z_2	Z_1-Z_2						
8/21	1	90.1	79.9	21.0	20.9	0.1	219	64.3	4.8E-09	20	1.000	4.8E-09
8/21	2	90.1	79.9	21.0	20.9	0.1	231	64.3	4.6E-09	20	1.000	4.6E-09
8/21	3	90.1	79.9	21.0	20.9	0.1	243	64.3	4.3E-09	20	1.000	4.3E-09
8/21	4	90.1	79.9	21.0	20.9	0.1	252	64.3	4.2E-09	20	1.000	4.2E-09

PERMEABILITY AT 20° C: 4.5×10^{-9} cm/sec (@ 10 psi effective stress)

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0579	TRACKING CODE:	A201_PM
SAMPLE No.:	CJ24-5-20150717-05 (7-Day)	EQUIPMENT No.:	5
TEST DATE:	7/24/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	402.89 ***g***
3. WT WET SOIL + TARE	267.42 ***g***	674.00 ***g***
4. WT DRY SOIL + TARE	182.53 ***g***	585.42 ***g***
5. WT WATER, Ww	84.89 g	88.58 g
6. WT DRY SOIL, Ws	182.53 g	182.53 g
7. MOISTURE CONTENT, W	46.51 %	48.53 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.02 in.***	***3.05 in.***	***1.38 in.***	***1.35 in.***
No. 2	***3.02 in.***	***3.02 in.***	***1.36 in.***	***1.35 in.***
No. 3	***3.01 in.***	***3.01 in.***	***1.35 in.***	***1.35 in.***
Average	3.01 in.	3.03 in.	1.36 in.	1.35 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***267.42 g***	***271.11 g***
Area, Ao	7.13 in^2	7.19 in^2
Volume, Vo	9.71 in^3	9.71 in^3
Bulk Unit Weight	104.9 lb/ft^3	106.4 lb/ft^3
Dry Unit Weight	71.6 lb/ft^3	71.6 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0579	TRACKING CODE:	A201_PM
SAMPLE No.:	CJ24-5-20150717-05 (7-Day)	EQUIPMENT No.:	5
TEST DATE:	7/24/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
07/24/15	17 : 58	JDM	7.0	5.0	5.6				
07/25/15	10 : 43	JDM	17.0	15.0	15.6	12.6	10.0	7.0	0.70
07/25/15	12 : 7	JDM	27.0	25.0	25.7	23.9	10.0	8.3	0.83
07/27/15	9 : 25	JDM	37.0	35.0	35.5	35.0	10.0	9.3	0.93
07/27/15	9 : 56	JDM	47.0	45.0	45.4	45.4	10.0	9.9	0.99
07/27/15	11 : 18	JDM	57.0	55.0	*	55.4	10.0	10.0	1.00
07/27/15	11 : 18	JDM	47.0	45.0	*	*	*	*	*
	:								
	:								
	:								
	:								
	:								

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0579	TRACKING CODE:	A201_PM
SAMPLE No.:	CJ24-5-20150717-05 (7-Day)	EQUIPMENT No.:	5
TEST DATE:	7/24/15		

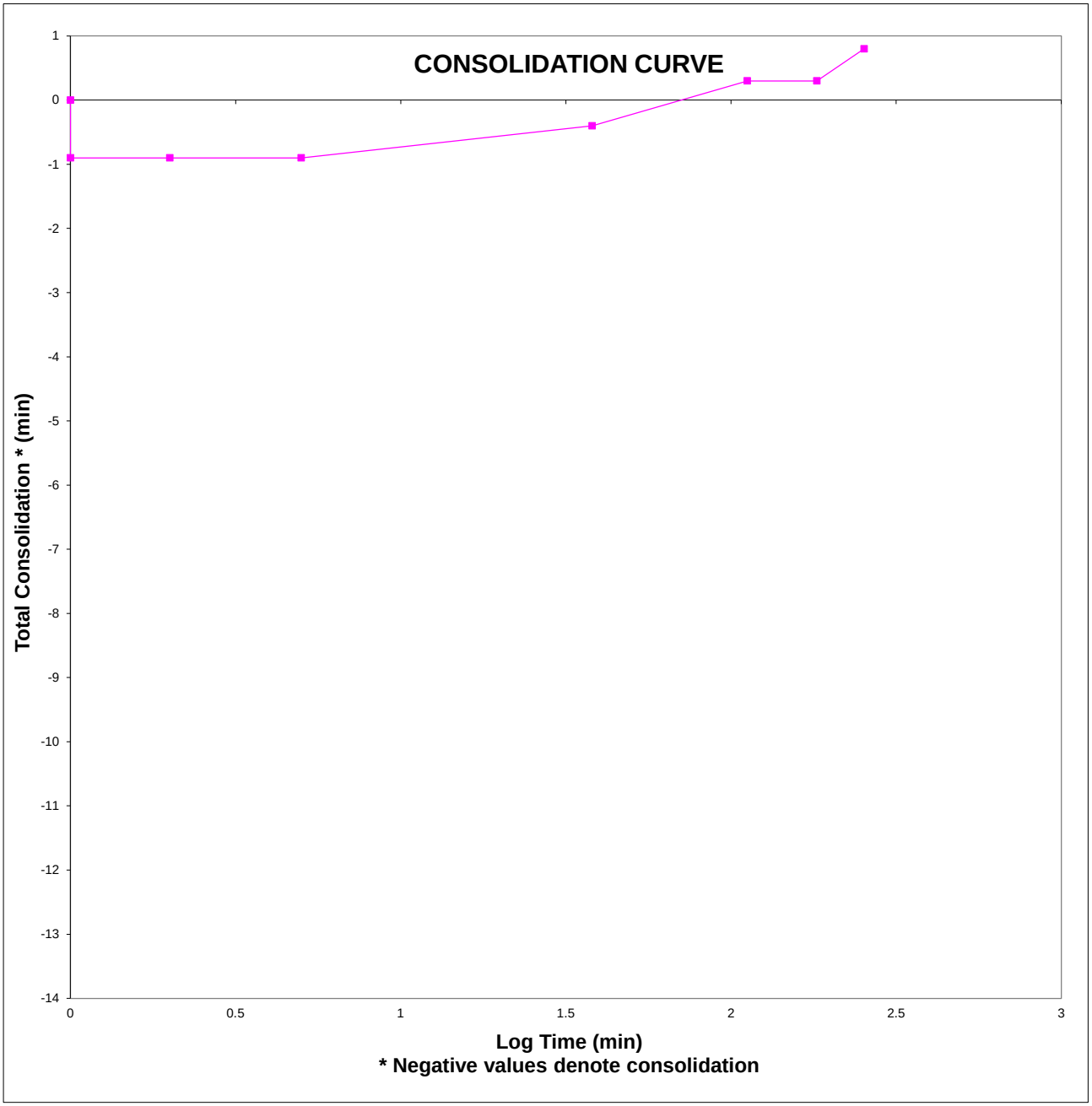
CELL PRESSURE: psi **BACK PRESSURE:** psi **EFFECTIVE STRESS:** 0 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
7 / 27 / 15	JDM	11 : 38	0	0	0	22.0	22.0	0.0
7 / 27 / 15	JDM	11 : 39	1	1	0.00	21.3	21.8	0.9
7 / 27 / 15	JDM	11 : 40	1	2	0.30	21.3	21.8	0.9
7 / 27 / 15	JDM	11 : 43	3	5	0.70	21.3	21.8	0.9
7 / 27 / 15	JDM	12 : 16	33	38	1.58	21.3	22.3	0.4
7 / 27 / 15	JDM	13 : 30	74	112	2.05	21.3	23.0	-0.3
7 / 27 / 15	JDM	14 : 40	70	182	2.26	21.3	23.0	-0.3
7 / 27 / 15	JDM	15 : 51	71	253	2.40	21.3	23.5	-0.8

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0579	TRACKING CODE:	A201_PM
SAMPLE No.:	CJ24-5-20150717-05 (7-Day)	EQUIPMENT No.:	5
TEST DATE:	7/24/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0579	TRACKING CODE:	A201_PM
SAMPLE No.:	CJ24-5-20150717-05 (7-Day)	EQUIPMENT No.:	5
TEST DATE:	7/24/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
7 / 28 / 15	JDM	7 : 59	0	0.0	25.0	20.0	55.0	45.0	44.0
7 / 28 / 15	JDM	10 : 20	141	0.5	24.5	20.0	55.0	45.0	44.0
7 / 28 / 15	JDM	11 : 24	64	1.0	24.0	20.0	55.0	45.0	44.0
7 / 28 / 15	JDM	17 : 0	336	5.5	19.5	20.0	55.0	45.0	44.0
7 / 29 / 15	JDM	8 : 20	RESET	0.0	25.0	20.0	55.0	45.0	44.0
7 / 29 / 15	JDM	8 : 50	30	6.0	19.0	20.0	55.0	45.0	44.0
7 / 29 / 15	JDM	8 : 52	RESET	0.0	25.0	20.0	55.0	45.0	45.0
7 / 29 / 15	JDM	11 : 17	145	0.5	24.5	20.0	55.0	45.0	45.0
7 / 29 / 15	JDM	15 : 35	258	1.1	23.9	20.0	55.0	45.0	45.0
7 / 30 / 15	JDM	7 : 50	975	3.0	22.0	20.0	55.0	45.0	45.0
7 / 30 / 15	JDM	11 : 40	RESET	0.0	25.0	20.0	55.0	45.0	45.0
7 / 30 / 15	JDM	16 : 0	260	0.5	24.5	20.0	55.0	45.0	45.0
7 / 31 / 15	JDM	8 : 6	966	2.2	22.8	20.0	55.0	45.0	45.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0579	TRACKING CODE:	A201_PM
SAMPLE No.:	CJ24-5-20150717-05 (7-Day)	EQUIPMENT No.:	5
TEST DATE:	7/24/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				27.566		
141	0.5	0.5	1.00	27.277	4.68E-08	4.71E-08
64	0.5	0.5	1.00	26.988	1.04E-07	1.05E-07
336	4.5	4.5	1.00	24.385	1.89E-07	1.90E-07
RESET				27.566		
30	6.0	6.0	1.00	24.096	2.81E-06	2.82E-06
RESET				7.228		
145	0.5	0.5	1.00	6.939	1.76E-07	1.77E-07
258	0.6	0.6	1.00	6.592	1.25E-07	1.25E-07
975	1.9	1.9	1.00	5.493	1.17E-07	1.18E-07
RESET				7.228		
260	0.5	0.5	1.00	6.939	9.83E-08	9.88E-08
966	1.7	1.7	1.00	5.956	9.90E-08	9.95E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0579	TRACKING CODE:	A201_PM
SAMPLE No.:	CJ24-5-20150717-05 (7-Day)	EQUIPMENT No.:	5
TEST DATE:	7/24/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	104.9 lb/ft³	106.4 lb/ft³
DRY UNIT WEIGHT	71.6 lb/ft³	71.6 lb/ft³
MOISTURE CONTENT	46.5 %	48.5 %
PERMEABILITY @ 20°C	1.1E-07 cm/sec	

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	8/14/2015	Tested By:	jcw
End Date:	8/25/2015	Checked By:	mcm
Boring #:	---		
Sample #:	CJ24-5-20150717-05 (28-day)		
Depth:	---		
Visual Description:	Moist, yellowish brown soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084

Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	12/2

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.55

Parameter	Initial	Final
Height, in	1.73	1.73
Diameter, in	3.03	3.03
Area, in^2	7.21	7.21
Volume, in^3	12.5	12.5
Mass, g	343	348
Bulk Density, pcf	105	106
Moisture Content, %	45.3	47.5
Dry Density, pcf	71.9	71.9
Degree of Saturation, %	95	100

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90.10	Increased Cell Pressure, psi:	95.34	Cell Pressure Increment, psi:	5.24
Sample Pressure, psi:	79.91	Corresponding Sample Pressure, psi:	84.67	Sample Pressure Increment, psi:	4.76
				B Coefficient:	0.91

*B value did not increase with increase in pressure.
Final degree of saturation >95%.

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time, sec	Gradient	Permeability K, cm/sec	Temp, °C	R_t	Permeability K @ 20 °C, cm/sec
		Cell	Sample	Z_1	Z_2	Z_1-Z_2						
8/21	1	90.1	79.9	24.0	23.7	0.3	69	68.8	4.3E-08	20	1.000	4.3E-08
8/21	2	90.1	79.9	24.0	23.7	0.3	73	68.8	4.1E-08	20	1.000	4.1E-08
8/21	3	90.1	79.9	24.0	23.7	0.3	75	68.8	4.0E-08	20	1.000	4.0E-08
8/21	4	90.1	79.9	24.0	23.7	0.3	77	68.8	3.8E-08	20	1.000	3.8E-08

PERMEABILITY AT 20° C: 4.0 x 10^{-8} cm/sec (@ 10 psi effective stress)

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A204_PM
SAMPLE No.:	CH22-(20)-20150718-06 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	7/25/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	341.99 ***g***
3. WT WET SOIL + TARE	301.76 ***g***	647.40 ***g***
4. WT DRY SOIL + TARE	212.05 ***g***	554.04 ***g***
5. WT WATER, Ww	89.71 g	93.36 g
6. WT DRY SOIL, Ws	212.05 g	212.05 g
7. MOISTURE CONTENT, W	42.31 %	44.03 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.02 in.***	***3.01 in.***	***1.48 in.***	***1.49 in.***
No. 2	***3.02 in.***	***3.02 in.***	***1.52 in.***	***1.56 in.***
No. 3	***3.00 in.***	***3.03 in.***	***1.53 in.***	***1.52 in.***
Average	3.01 in.	3.02 in.	1.51 in.	1.52 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***301.76 g***	***305.41 g***
Area, Ao	7.14 in^2	7.15 in^2
Volume, Vo	10.78 in^3	10.88 in^3
Bulk Unit Weight	106.6 lb/ft^3	106.9 lb/ft^3
Dry Unit Weight	74.9 lb/ft^3	74.2 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A204_PM
SAMPLE No.:	CH22-(20)-20150718-06 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	7/25/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
08/13/15	15 : 55	JDM	7.0	5.0	5.6				
08/13/15	16 : 28	JDM	17.0	15.0	15.4	8.4	10.0	2.8	0.28
08/13/15	17 : 10	JDM	27.0	25.0	25.5	23.5	10.0	8.1	0.81
08/13/15	17 : 37	JDM	37.0	35.0	35.3	33.6	10.0	8.1	0.81
08/13/15	18 : 28	JDM	47.0	45.0	45.2	44.3	10.0	9.0	0.90
08/14/15	7 : 30	JDM	57.0	55.0	55.3	54.4	10.0	9.2	0.92
08/14/15	14 : 30	JDM	67.0	65.0	*	65.3	10.0	10.0	1.00
08/14/15	14 : 30	JDM	57.0	55.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A204_PM
SAMPLE No.:	CH22-(20)-20150718-06 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	7/25/15		

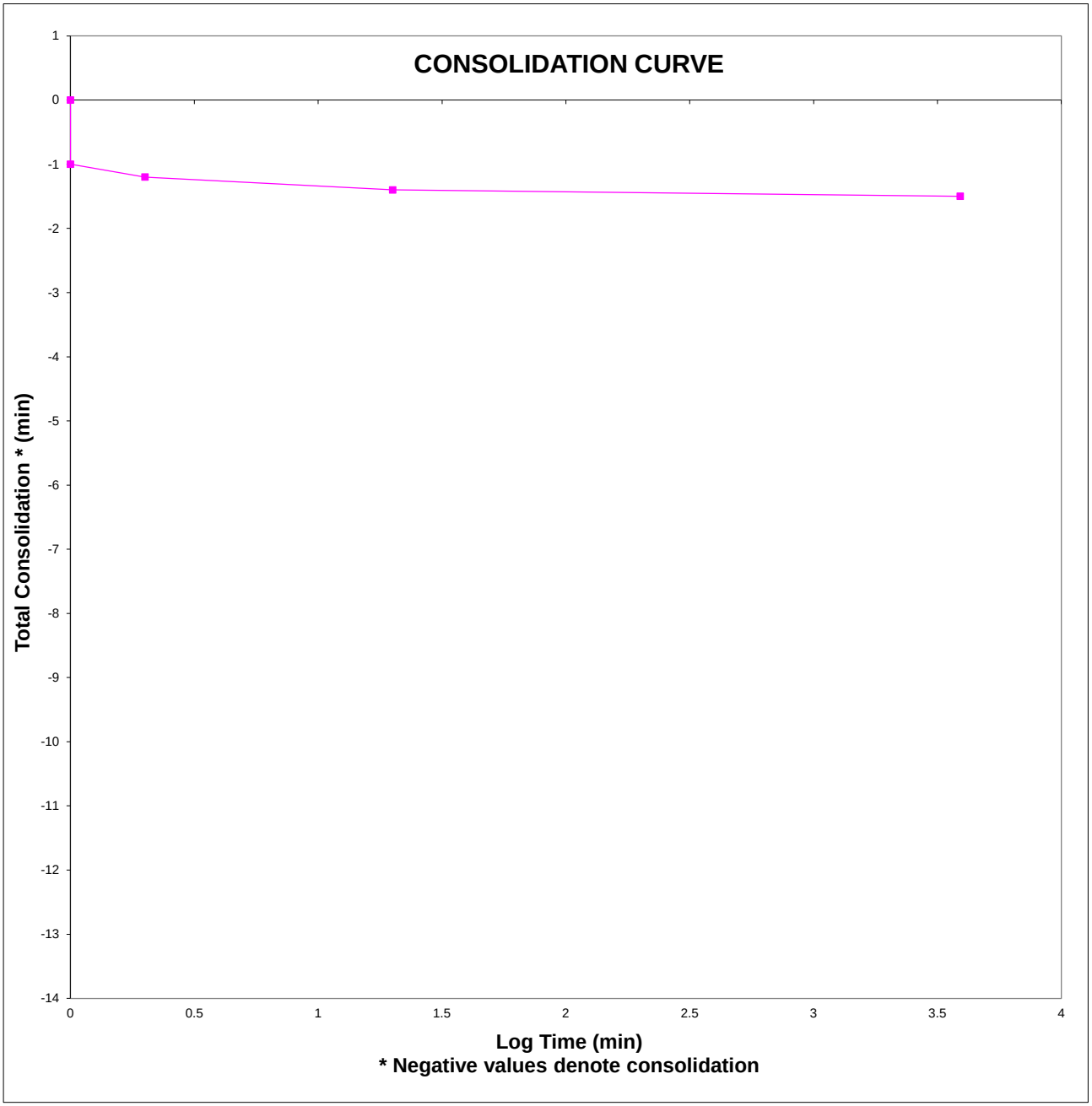
CELL PRESSURE: psi **BACK PRESSURE:** psi **EFFECTIVE STRESS:** 0 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
8 / 14 /	JDM	14 : 40	0	0	0	25.0	25.0	0.0
8 / 14 /	JDM	14 : 41	1	1	0.00	24.5	24.5	1.0
8 / 14 /	JDM	14 : 42	1	2	0.30	24.4	24.4	1.2
8 / 14 /	JDM	15 : 0	18	20	1.30	24.3	24.3	1.4
8 / 17 /	JDM	7 : 51	3891	3911	3.59	24.4	24.1	1.5

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A204_PM
SAMPLE No.:	CH22-(20)-20150718-06 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	7/25/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A204_PM
SAMPLE No.:	CH22-(20)-20150718-06 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	7/25/15		

			ELAPSED	HYDRAULIC HEAD (cm)			GAUGE PRESSURE (psi)		
DATE	TESTED BY	TIME (military)	TIME (minutes)	INFLUENT	EFFLUENT	TEMP. C°	CELL	INFLUENT	EFFLUENT
8 / 17 / 15	JDM	11 : 11	0	1.0	24.0	20.0	65.0	55.0	52.0
8 / 18 / 15	JDM	7 : 56	1245	2.0	23.0	20.0	65.0	55.0	52.0
8 / 19 / 15	JDM	13 : 20	RESET	1.0	24.0	20.0	65.0	55.0	52.0
8 / 20 / 15	JDM	7 : 45	1105	1.5	23.5	20.0	65.0	55.0	52.0
8 / 21 / 15	JDM	8 : 4	1459	2.1	22.9	20.0	65.0	55.0	52.0
8 / 24 / 15	JDM	8 : 28	RESET	1.0	24.0	20.0	65.0	55.0	52.0
8 / 26 / 15	JDM	13 : 0	3152	1.5	23.5	20.0	65.0	55.0	52.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A204_PM
SAMPLE No.:	CH22-(20)-20150718-06 (7-Da	EQUIPMENT No.:	3
TEST DATE:	7/25/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				60.989		
1245	1.0	1.0	1.00	60.468	4.79E-09	4.81E-09
RESET				60.989		
1105	0.5	0.5	1.00	60.728	2.69E-09	2.70E-09
1459	0.6	0.6	1.00	60.416	2.46E-09	2.47E-09
RESET				60.989		
3152	0.5	0.5	1.00	60.728	9.43E-10	9.48E-10

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A204_PM
SAMPLE No.:	CH22-(20)-20150718-06 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	7/25/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**106.6 lb/ft³**	**106.9 lb/ft³**
DRY UNIT WEIGHT	**74.9 lb/ft³**	**74.2 lb/ft³**
MOISTURE CONTENT	**42.3 %**	**44.0 %**
PERMEABILITY @ 20°C	**2.7E-09 cm/sec**	

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	8/14/2015	Tested By:	jcw
End Date:	8/24/2015	Checked By:	mcm
Boring #:	---		
Sample #:	CH22-20-20150718-06 (28-day)		
Depth:	---		
Visual Description:	Moist, yellowish brown soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084

Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	4/5

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.55

Parameter	Initial	Final
Height, in	1.55	1.55
Diameter, in	3.03	3.03
Area, in^2	7.21	7.21
Volume, in^3	11.2	11.2
Mass, g	308	311
Bulk Density, pcf	105	106
Moisture Content, %	46.1	47.6
Dry Density, pcf	71.6	71.6
Degree of Saturation, %	96	99

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90.02	Increased Cell Pressure, psi:	95.06	Cell Pressure Increment, psi:	5.04
Sample Pressure, psi:	80.23	Corresponding Sample Pressure, psi:	84.99	Sample Pressure Increment, psi:	4.76
				B Coefficient:	0.94

*B value did not increase with increase in pressure.
Final degree of saturation >95%.

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time, sec	Gradient	Permeability K, cm/sec	Temp, °C	R_t	Permeability K @ 20 °C, cm/sec
		Cell	Sample	Z_1	Z_2	Z_1-Z_2						
8/18	1	90.0	80.2	19.0	18.9	0.1	619	60.8	1.8E-09	20	1.000	1.8E-09
8/18	2	90.0	80.2	19.0	18.9	0.1	664	60.8	1.7E-09	20	1.000	1.7E-09
8/18	3	90.0	80.2	19.0	18.9	0.1	705	60.8	1.6E-09	20	1.000	1.6E-09
8/18	4	90.0	80.2	19.0	18.9	0.1	764	60.8	1.5E-09	20	1.000	1.5E-09

PERMEABILITY AT 20° C: 1.6×10^{-9} cm/sec (@ 10 psi effective stress)

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A463_PM
SAMPLE No.:	CF20-10-20150718-07 (90-Day)	EQUIPMENT No.:	8
TEST DATE:	10/17/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	114.44 ***g***
3. WT WET SOIL + TARE	152.05 ***g***	268.34 ***g***
4. WT DRY SOIL + TARE	107.78 ***g***	222.22 ***g***
5. WT WATER, Ww	44.27 g	46.12 g
6. WT DRY SOIL, Ws	107.78 g	107.78 g
7. MOISTURE CONTENT, W	41.07 %	42.79 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***2.02 in.***	***2.02 in.***	***1.72 in.***	***1.74 in.***
No. 2	***2.03 in.***	***2.03 in.***	***1.63 in.***	***1.65 in.***
No. 3	***2.04 in.***	***2.04 in.***	***1.69 in.***	***1.63 in.***
Average	2.03 in.	2.03 in.	1.68 in.	1.67 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***152.05 g***	***153.90 g***
Area, Ao	3.23 in^2	3.24 in^2
Volume, Vo	5.42 in^3	5.42 in^3
Bulk Unit Weight	106.8 lb/ft^3	108.1 lb/ft^3
Dry Unit Weight	75.7 lb/ft^3	75.7 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A463_PM
SAMPLE No.:	CF20-10-20150718-07 (90-Day)	EQUIPMENT No.:	8
TEST DATE:	10/17/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
10/16/15	13 : 15	JDM	7.0	5.0	5.6				
10/16/15	14 : 4	JDM	17.0	15.0	15.6	8.2	10.0	2.6	0.26
10/16/15	14 : 34	JDM	27.0	25.0	25.6	20.2	10.0	4.6	0.46
10/16/15	15 : 12	JDM	37.0	35.0	35.7	32.0	10.0	6.4	0.64
10/19/15	9 : 20	JDM	47.0	45.0	45.6	44.4	10.0	8.7	0.87
10/19/15	10 : 1	JDM	57.0	55.0	55.3	54.8	10.0	9.2	0.92
10/19/15	10 : 48	JDM	67.0	65.0	65.1	64.7	10.0	9.4	0.94
10/19/15	13 : 44	JDM	77.0	75.0	*	74.7	10.0	9.6	0.96
10/19/15	13 : 44	JDM	67.0	65.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A463_PM
SAMPLE No.:	CF20-10-20150718-07 (90-Day)	EQUIPMENT No.:	8
TEST DATE:	10/17/15		

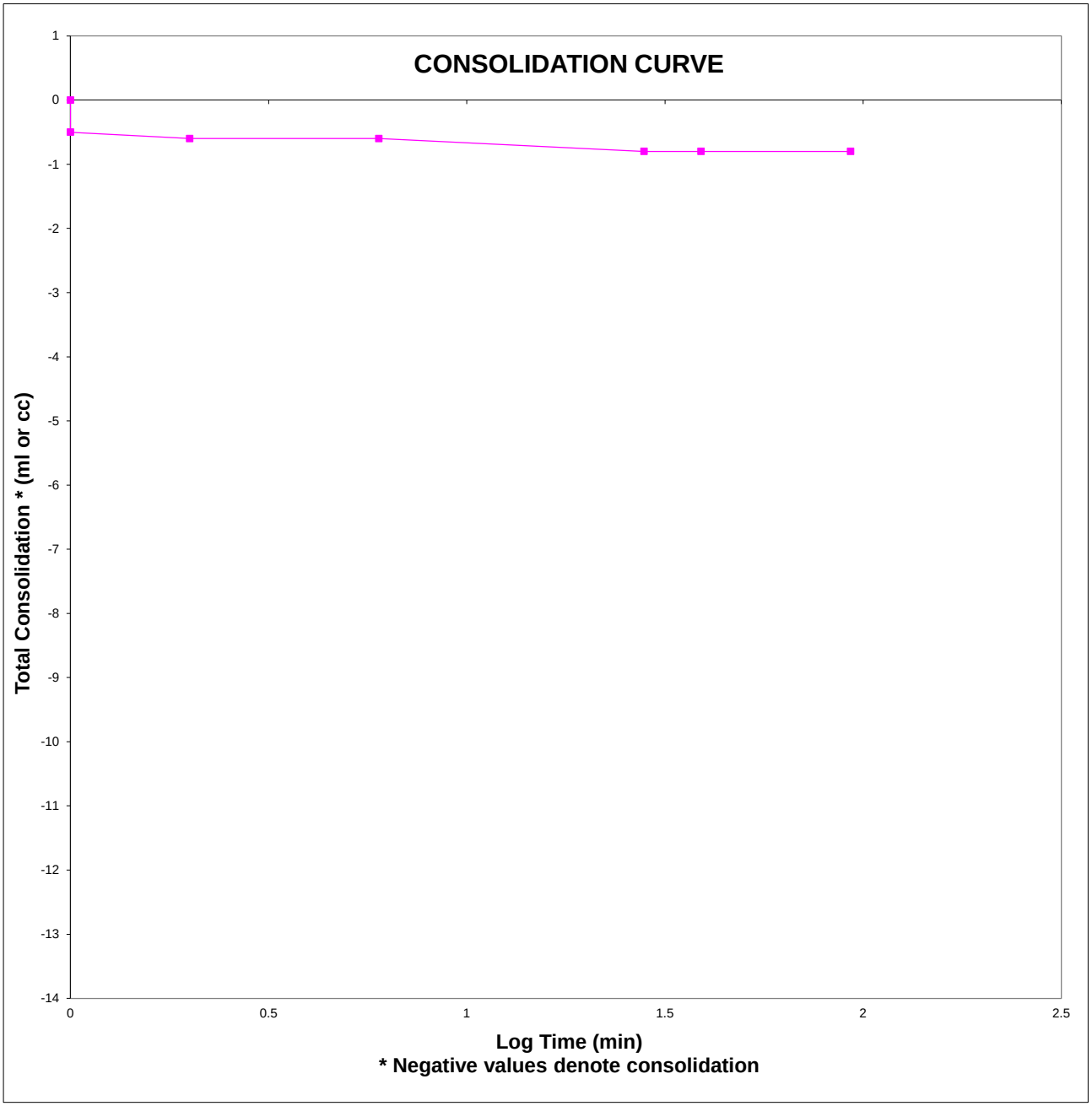
CELL PRESSURE: 75 psi **BACK PRESSURE:** 65 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
10 / 19 / 15	JDM	13 : 43	0	0	0	25.0	25.0	0.0
10 / 19 / 15	JDM	13 : 44	1	1	0.00	24.8	24.7	0.5
10 / 19 / 15	JDM	13 : 45	1	2	0.30	24.8	24.6	0.6
10 / 19 / 15	JDM	13 : 49	4	6	0.78	24.8	24.6	0.6
10 / 19 / 15	JDM	14 : 11	22	28	1.45	24.7	24.5	0.8
10 / 19 / 15	JDM	14 : 22	11	39	1.59	24.7	24.5	0.8
10 / 19 / 15	JDM	15 : 16	54	93	1.97	24.7	24.5	0.8

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A463_PM
SAMPLE No.:	CF20-10-20150718-07 (90-Day)	EQUIPMENT No.:	8
TEST DATE:	10/17/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A463_PM
SAMPLE No.:	CF20-10-20150718-07 (90-Day)	EQUIPMENT No.:	8
TEST DATE:	10/17/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
10 / 20 / 15	JDM	7 : 55	0	0.0	25.0	20.0	75.0	65.0	62.0
10 / 21 / 15	JDM	8 : 10	1455	0.7	24.3	20.0	75.0	65.0	62.0
10 / 22 / 15	JDM	7 : 36	1406	1.2	23.8	20.0	75.0	65.0	62.0
10 / 23 / 15	JDM	8 : 3	1467	1.8	23.2	20.0	75.0	65.0	62.0
10 / 26 / 15	JDM	7 : 53	4310	3.3	21.7	20.0	75.0	65.0	62.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A463_PM
SAMPLE No.:	CF20-10-20150718-07 (90-Da	EQUIPMENT No.:	8
TEST DATE:	10/17/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				55.283		
1455	0.7	0.7	1.00	54.955	6.99E-09	7.02E-09
1406	0.5	0.5	1.00	54.721	5.19E-09	5.22E-09
1467	0.6	0.6	1.00	54.440	6.00E-09	6.03E-09
4310	1.5	1.5	1.00	53.737	5.15E-09	5.17E-09

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A463_PM
SAMPLE No.:	CF20-10-20150718-07 (90-Day)	EQUIPMENT No.:	8
TEST DATE:	10/17/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**106.8 lb/ft³**	**108.1 lb/ft³**
DRY UNIT WEIGHT	**75.7 lb/ft³**	**75.7 lb/ft³**
MOISTURE CONTENT	**41.1 %**	**42.8 %**
PERMEABILITY @ 20°C	**5.9E-09 cm/sec**	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A464_PM
SAMPLE No.:	CC21-20-20150720-08 (88-Day)	EQUIPMENT No.:	9
TEST DATE:	10/17/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	114.40 ***g***
3. WT WET SOIL + TARE	151.44 ***g***	267.52 ***g***
4. WT DRY SOIL + TARE	104.42 ***g***	218.82 ***g***
5. WT WATER, Ww	47.02 g	48.70 g
6. WT DRY SOIL, Ws	104.42 g	104.42 g
7. MOISTURE CONTENT, W	45.03 %	46.64 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***2.03 in.***	***2.02 in.***	***1.62 in.***	***1.69 in.***
No. 2	***2.02 in.***	***2.03 in.***	***1.69 in.***	***1.65 in.***
No. 3	***2.03 in.***	***2.04 in.***	***1.70 in.***	***1.74 in.***
Average	2.02 in.	2.03 in.	1.67 in.	1.69 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***151.44 g***	***153.12 g***
Area, Ao	3.22 in^2	3.24 in^2
Volume, Vo	5.38 in^3	5.48 in^3
Bulk Unit Weight	107.3 lb/ft^3	106.5 lb/ft^3
Dry Unit Weight	74.0 lb/ft^3	72.6 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A464_PM
SAMPLE No.:	CC21-20-20150720-08 (88-Day)	EQUIPMENT No.:	9
TEST DATE:	10/17/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
10/16/15	13 : 13	JDM	7.0	5.0	6.0				
10/16/15	14 : 5	JDM	17.0	15.0	16.2	9.8	10.0	3.8	0.38
10/16/15	14 : 34	JDM	27.0	25.0	26.1	21.8	10.0	5.6	0.56
10/16/15	15 : 11	JDM	37.0	35.0	36.0	33.5	10.0	7.4	0.74
10/19/15	9 : 21	JDM	47.0	45.0	45.8	45.4	10.0	9.4	0.94
10/19/15	10 : 0	JDM	57.0	55.0	55.6	54.9	10.0	9.1	0.91
10/19/15	10 : 46	JDM	67.0	65.0	65.5	64.8	10.0	9.2	0.92
10/19/15	11 : 19	JDM	77.0	75.0	*	75.0	10.0	9.5	0.95
10/19/15	11 : 19	JDM	67.0	65.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A464_PM
SAMPLE No.:	CC21-20-20150720-08 (88-Day)	EQUIPMENT No.:	9
TEST DATE:	10/17/15		

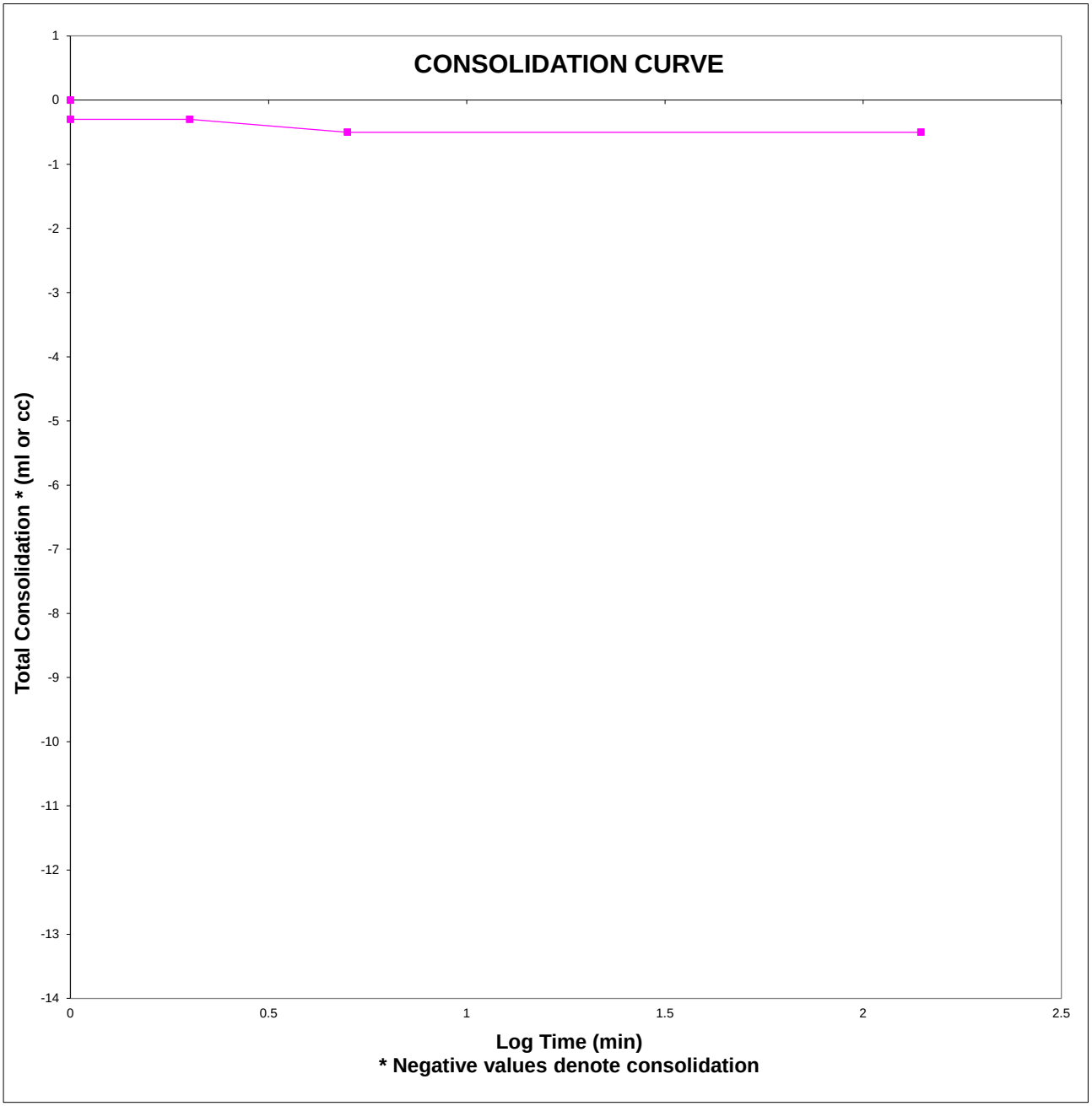
CELL PRESSURE: 75 psi **BACK PRESSURE:** 65 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
10 / 19 / 15	JDM	11 : 20	0	0	0	25.0	25.0	0.0
10 / 19 / 15	JDM	11 : 21	1	1	0.00	24.9	24.8	0.3
10 / 19 / 15	JDM	11 : 22	1	2	0.30	24.9	24.8	0.3
10 / 19 / 15	JDM	11 : 25	3	5	0.70	24.8	24.7	0.5
10 / 19 / 15	JDM	13 : 40	135	140	2.15	24.8	24.7	0.5

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A464_PM
SAMPLE No.:	CC21-20-20150720-08 (88-Day)	EQUIPMENT No.:	9
TEST DATE:	10/17/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A464_PM
SAMPLE No.:	CC21-20-20150720-08 (88-Day)	EQUIPMENT No.:	9
TEST DATE:	10/17/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
10 / 19 / 15	JDM	13 : 40	0	1.0	24.0	20.0	75.0	65.0	63.0
10 / 20 / 15	JDM	7 : 45	1085	2.4	22.6	20.0	75.0	65.0	63.0
10 / 21 / 15	JDM	8 : 9	1464	3.5	21.5	20.0	75.0	65.0	63.0
10 / 22 / 15	JDM	7 : 35	1406	4.5	20.5	20.0	75.0	65.0	63.0
10 / 23 / 15	JDM	8 : 3	1468	5.3	19.7	20.0	75.0	65.0	63.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A464_PM
SAMPLE No.:	CC21-20-20150720-08 (88-Da	EQUIPMENT No.:	9
TEST DATE:	10/17/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				38.541		
1085	1.4	1.4	1.00	37.882	2.71E-08	2.72E-08
1464	1.1	1.1	1.00	37.364	1.60E-08	1.61E-08
1406	1.0	1.0	1.00	36.893	1.54E-08	1.55E-08
1468	0.8	0.8	1.00	36.516	1.19E-08	1.20E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A464_PM
SAMPLE No.:	CC21-20-20150720-08 (88-Day)	EQUIPMENT No.:	9
TEST DATE:	10/17/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	107.3 lb/ft³	106.5 lb/ft³
DRY UNIT WEIGHT	74.0 lb/ft³	72.6 lb/ft³
MOISTURE CONTENT	45.0 %	46.6 %
PERMEABILITY @ 20°C	1.8E-08 cm/sec	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A465_PM
SAMPLE No.:	CA21-5-20150720-09 (88-Day)	EQUIPMENT No.:	10
TEST DATE:	10/17/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	117.88 ***g***
3. WT WET SOIL + TARE	143.87 ***g***	261.92 ***g***
4. WT DRY SOIL + TARE	96.91 ***g***	214.79 ***g***
5. WT WATER, Ww	46.96 g	47.13 g
6. WT DRY SOIL, Ws	96.91 g	96.91 g
7. MOISTURE CONTENT, W	48.46 %	48.63 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***2.0185 in.***	***2.0255 in.***	***1.6640 in.***	***1.5770 in.***
No. 2	***2.0225 in.***	***2.0250 in.***	***1.5860 in.***	***1.6270 in.***
No. 3	***2.0225 in.***	***2.0325 in.***	***1.5860 in.***	***1.6470 in.***
Average	2.02 in.	2.03 in.	1.61 in.	1.62 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***143.87 g***	***144.04 g***
Area, Ao	3.21 in^2	3.23 in^2
Volume, Vo	5.17 in^3	5.22 in^3
Bulk Unit Weight	106.0 lb/ft^3	105.1 lb/ft^3
Dry Unit Weight	71.4 lb/ft^3	70.7 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A465_PM
SAMPLE No.:	CA21-5-20150720-09 (88-Day)	EQUIPMENT No.:	10
TEST DATE:	10/17/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
10/16/15	13 : 46	JDM	7.0	5.0	6.2				
10/16/15	14 : 33	JDM	17.0	15.0	16.1	8.6	10.0	2.4	0.24
10/16/15	15 : 10	JDM	27.0	25.0	26.3	20.0	10.0	3.9	0.39
10/19/15	9 : 23	JDM	37.0	35.0	37.1	32.8	10.0	6.5	0.65
10/19/15	9 : 59	JDM	47.0	45.0	46.1	45.4	10.0	8.3	0.83
10/19/15	10 : 53	JDM	57.0	55.0	55.9	54.8	10.0	8.7	0.87
10/19/15	11 : 23	JDM	67.0	65.0	65.7	64.7	10.0	8.8	0.88
10/19/15	13 : 40	JDM	77.0	75.0	75.7	74.7	10.0	9.0	0.90
10/19/15	14 : 22	JDM	87.0	85.0	85.8	85.0	10.0	9.3	0.93
10/19/15	15 : 16	JDM	97.0	95.0	*	95.5	10.0	9.7	0.97
10/19/15	15 : 16	JDM	87.0	85.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A465_PM
SAMPLE No.:	CA21-5-20150720-09 (88-Day)	EQUIPMENT No.:	10
TEST DATE:	10/17/15		

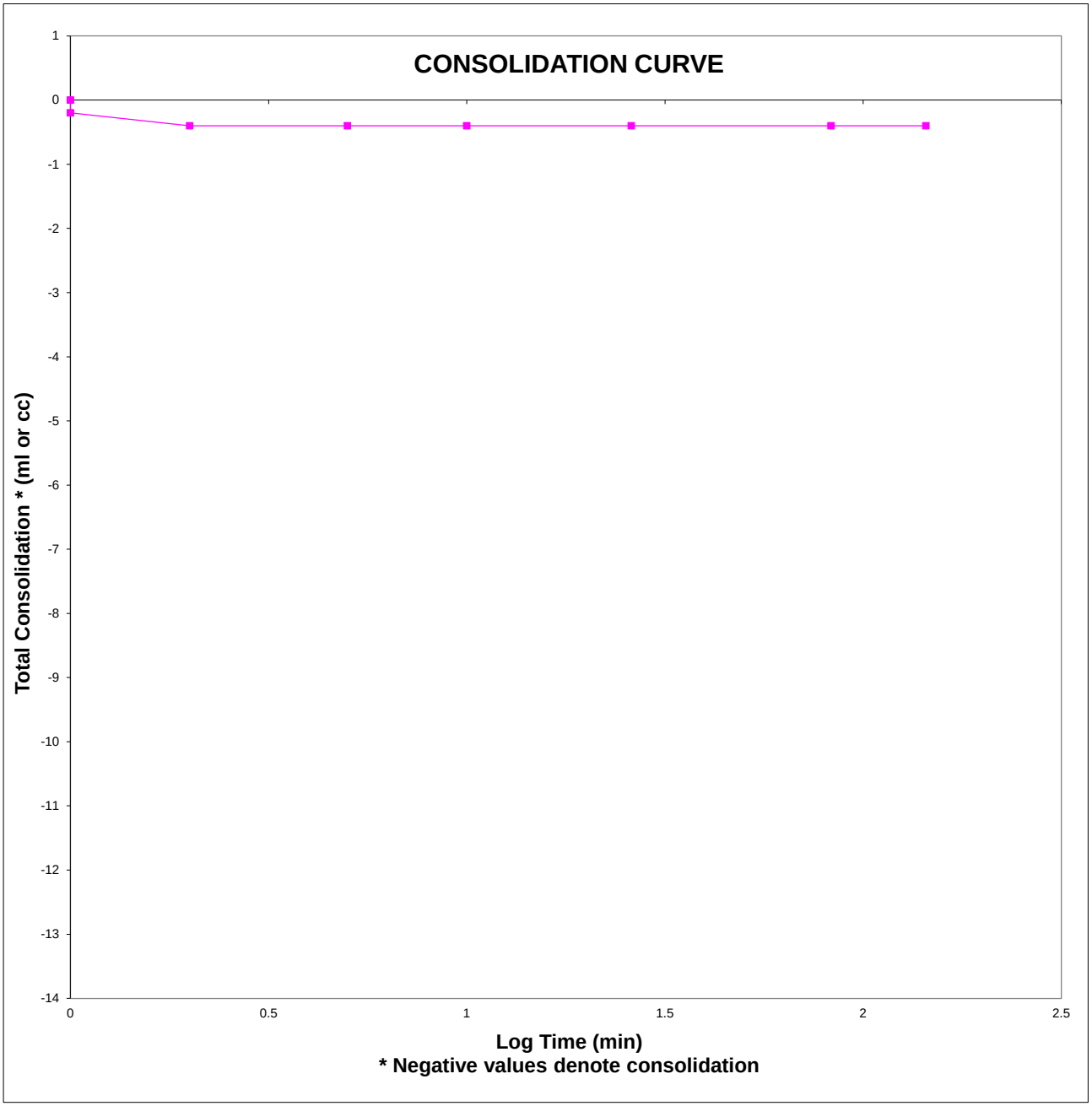
CELL PRESSURE: 95 psi **BACK PRESSURE:** 85 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
10 / 20 / 15	JDM	7 : 52	0	0	0	25.0	25.0	0.0
10 / 20 / 15	JDM	7 : 53	1	1	0.00	24.9	24.9	0.2
10 / 20 / 15	JDM	7 : 54	1	2	0.30	24.8	24.8	0.4
10 / 20 / 15	JDM	7 : 57	3	5	0.70	24.8	24.8	0.4
10 / 20 / 15	JDM	8 : 2	5	10	1.00	24.8	24.8	0.4
10 / 20 / 15	JDM	8 : 18	16	26	1.41	24.8	24.8	0.4
10 / 20 / 15	JDM	9 : 15	57	83	1.92	24.8	24.8	0.4
10 / 20 / 15	JDM	10 16	61	144	2.16	24.8	24.8	0.4

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A465_PM
SAMPLE No.:	CA21-5-20150720-09 (88-Day)	EQUIPMENT No.:	10
TEST DATE:	10/17/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A465_PM
SAMPLE No.:	CA21-5-20150720-09 (88-Day)	EQUIPMENT No.:	10
TEST DATE:	10/17/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
10 / 20 / 15	JDM	10 : 25	0	1.0	24.0	20.0	95.0	85.0	82.0
10 / 20 / 15	JDM	12 : 1	96	1.5	23.5	20.0	95.0	85.0	82.0
10 / 20 / 15	JDM	14 : 3	122	2.0	23.0	20.0	95.0	85.0	82.0
10 / 21 / 15	JDM	8 : 8	1085	5.1	19.9	20.0	95.0	85.0	82.0
10 / 21 / 15	JDM	10 : 15	127	5.6	19.4	20.0	95.0	85.0	82.0
10 / 21 / 15	JDM	15 : 1	286	6.2	18.8	20.0	95.0	85.0	82.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A465_PM
SAMPLE No.:	CA21-5-20150720-09 (88-Day	EQUIPMENT No.:	10
TEST DATE:	10/17/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				57.155		
96	0.5	0.5	1.00	56.911	7.35E-08	7.39E-08
122	0.5	0.5	1.00	56.667	5.81E-08	5.84E-08
1085	3.1	3.1	1.00	55.152	4.11E-08	4.13E-08
127	0.5	0.5	1.00	54.908	5.76E-08	5.79E-08
286	0.6	0.6	1.00	54.615	3.08E-08	3.10E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A465_PM
SAMPLE No.:	CA21-5-20150720-09 (88-Day)	EQUIPMENT No.:	10
TEST DATE:	10/17/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**106.0 lb/ft³**	**105.1 lb/ft³**
DRY UNIT WEIGHT	**71.4 lb/ft³**	**70.7 lb/ft³**
MOISTURE CONTENT	**48.5 %**	**48.6 %**
PERMEABILITY @ 20°C	**4.7E-08 cm/sec**	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A240_PM
SAMPLE No.:	BZ18-10-20150721-10 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	7/28/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	390.08 ***g***
3. WT WET SOIL + TARE	243.29 ***g***	635.50 ***g***
4. WT DRY SOIL + TARE	143.33 ***g***	533.41 ***g***
5. WT WATER, Ww	99.96 g	102.09 g
6. WT DRY SOIL, Ws	143.33 g	143.33 g
7. MOISTURE CONTENT, W	69.74 %	71.23 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***2.99 in.***	***2.98 in.***	***1.38 in.***	***1.38 in.***
No. 2	***2.98 in.***	***2.99 in.***	***1.38 in.***	***1.39 in.***
No. 3	***2.98 in.***	***3.00 in.***	***1.37 in.***	***1.39 in.***
Average	2.98 in.	2.99 in.	1.37 in.	1.39 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***243.29 g***	***245.42 g***
Area, Ao	6.99 in^2	7.02 in^2
Volume, Vo	9.60 in^3	9.74 in^3
Bulk Unit Weight	96.6 lb/ft^3	96.0 lb/ft^3
Dry Unit Weight	56.9 lb/ft^3	56.1 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A240_PM
SAMPLE No.:	BZ18-10-20150721-10 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	7/28/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
07/28/15	17 : 55	JDM	7.0	5.0	5.6				
07/29/15	8 : 15	JDM	17.0	15.0	15.7	12.1	10.0	6.5	0.65
07/29/15	9 : 1	JDM	27.0	25.0	25.6	23.5	10.0	7.8	0.78
07/29/15	10 : 31	JDM	37.0	35.0	35.5	34.3	10.0	8.7	0.87
07/29/15	11 : 25	JDM	47.0	45.0	45.5	44.8	10.0	9.3	0.93
07/29/15	12 : 26	JDM	57.0	55.0	*	55.0	10.0	9.5	0.95
07/29/15	12 : 26	JDM	47.0	45.0	*	*	*	*	*
	:								
	:								
	:								
	:								
	:								

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A240_PM
SAMPLE No.:	BZ18-10-20150721-10 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	7/28/15		

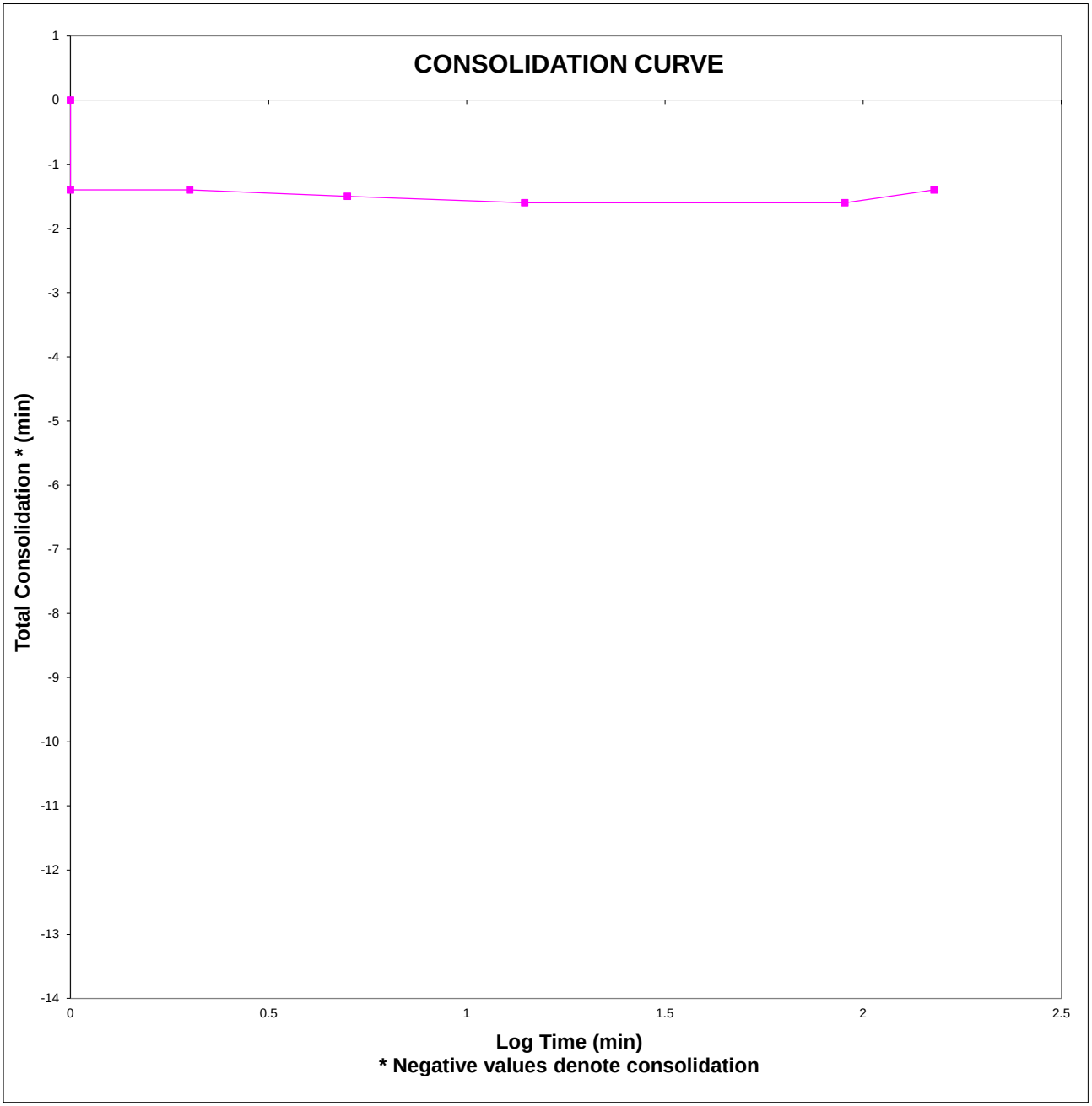
CELL PRESSURE: 55 psi **BACK PRESSURE:** 45 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
7 / 29 / 15	JDM	13 : 46	0	0	0	25.0	25.0	0.0
7 / 29 / 15	JDM	13 : 47	1	1	0.00	24.3	24.3	1.4
7 / 29 / 15	JDM	13 : 48	1	2	0.30	24.3	24.3	1.4
7 / 29 / 15	JDM	13 : 51	3	5	0.70	24.2	24.3	1.5
7 / 29 / 15	JDM	14 : 0	9	14	1.15	24.2	24.2	1.6
7 / 29 / 15	JDM	15 : 16	76	90	1.95	24.2	24.2	1.6
7 / 29 / 15	JDM	16 : 17	61	151	2.18	24.3	24.3	1.4

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A240_PM
SAMPLE No.:	BZ18-10-20150721-10 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	7/28/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A240_PM
SAMPLE No.:	BZ18-10-20150721-10 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	7/28/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
7 / 29 / 15	JDM	16 : 20	0	0.0	25.0	20.0	55.0	45.0	45.0
7 / 30 / 15	JDM	9 : 6	1006	1.3	23.7	20.0	55.0	45.0	45.0
7 / 30 / 15	JDM	9 : 7	RESET	0.0	25.0	20.0	55.0	45.0	45.0
7 / 31 / 15	JDM	8 : 7	1380	1.1	23.9	20.0	55.0	45.0	45.0
8 / 1 / 15	JDM	10 : 18	1571	1.8	23.2	20.0	55.0	45.0	45.0
8 / 3 / 15	JDM	15 : 54	RESET	0.0	25.0	20.0	55.0	45.0	45.0
8 / 4 / 15	JDM	10 : 29	1115	0.5	24.5	20.0	55.0	45.0	45.0
8 / 5 / 15	JDM	7 : 41	1272	1.0	24.0	20.0	55.0	45.0	45.0
8 / 6 / 15	JDM	7 : 43	1442	1.6	23.4	20.0	55.0	45.0	45.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A240_PM
SAMPLE No.:	BZ18-10-20150721-10 (7-Day	EQUIPMENT No.:	2
TEST DATE:	7/28/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				7.165		
1006	1.3	1.3	1.00	6.420	7.04E-08	7.07E-08
RESET				7.165		
1380	1.1	1.1	1.00	6.535	4.31E-08	4.33E-08
1571	0.7	0.7	1.00	6.133	2.60E-08	2.61E-08
RESET				7.165		
1115	0.5	0.5	1.00	6.879	2.36E-08	2.37E-08
1272	0.5	0.5	1.00	6.592	2.16E-08	2.17E-08
1442	0.6	0.6	1.00	6.248	2.40E-08	2.41E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A240_PM
SAMPLE No.:	BZ18-10-20150721-10 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	7/28/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**96.6 lb/ft³**	**96.0 lb/ft³**
DRY UNIT WEIGHT	**56.9 lb/ft³**	**56.1 lb/ft³**
MOISTURE CONTENT	**69.7 %**	**71.2 %**
PERMEABILITY @ 20°C	**2.4E-08 cm/sec**	

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	Macon, GA		
GTX #:	GTX-303551		
Start Date:	8/18/2015	Tested By:	jm
End Date:	8/24/2015	Checked By:	mcm
Boring	---	Test #:	
Sample #:	BZ18-10-20150721-10 (28 day)		
Depth:	---		
Visual Description:	Moist, Stabilized soil/cement		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084 Increasing Tailwater

Sample Type:	Core	Permeant Fluid:	de-aired tap water
Orientation:	Vertical	Cell #:	P2

Sample Preparation: Sample placed into permeameter at as-received density and moisture content, (28 day cure).

Parameter	Initial	Final
Height, in	1.61	1.61
Diameter, in	2.99	2.99
Area, in^2	7.02	7.02
Volume, in^3	11.3	11.3
Mass, g	282	283
Bulk Density, pcf	95	95
Moisture Content, %	70.0	70.6
Dry Density, pcf	55.7	55.7
Degree of Saturation, %	---	95

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90	Pressure Increment, psi:	9.5
Sample Pressure, psi:	80	B Coefficient:	0.95

FLOW DATA

Date	Trial #	Pressure, psi		Head readings			Elapsed Time,	Gradient	Permeability K,	Temp,		Permeability K @ 20 °C,
		Cell	Sample	H_1	H_2	H_1-H_2	sec		cm/sec	°C	R_t	cm/sec
8/20	2	90	80	187.9	187.8	0.1	8100	45.9	4.8E-10	21	0.976	4.7E-10
8/20	3	90	80	187.8	187.6	0.2	16800	45.9	4.7E-10	21	0.976	4.5E-10
8/20	4	90	80	187.6	186.9	0.7	55140	45.9	5.0E-10	21	0.976	4.9E-10
8/20	5	90	80	186.9	186.8	0.1	8100	45.7	4.8E-10	21	0.976	4.7E-10

PERMEABILITY AT 20° C: 4.7 x 10^{-10} cm/sec (@ 10 psi effective stress)

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A241_PM
SAMPLE No.:	BW19-15-20150721-11 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	7/28/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	400.37 ***g***
3. WT WET SOIL + TARE	251.52 ***g***	654.50 ***g***
4. WT DRY SOIL + TARE	146.49 ***g***	546.86 ***g***
5. WT WATER, Ww	105.03 g	107.64 g
6. WT DRY SOIL, Ws	146.49 g	146.49 g
7. MOISTURE CONTENT, W	71.70 %	73.48 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***2.99 in.***	***3.01 in.***	***1.42 in.***	***1.45 in.***
No. 2	***3.00 in.***	***3.00 in.***	***1.43 in.***	***1.42 in.***
No. 3	***3.02 in.***	***2.99 in.***	***1.43 in.***	***1.42 in.***
Average	3.00 in.	3.00 in.	1.43 in.	1.43 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***251.52 g***	***254.13 g***
Area, Ao	7.08 in^2	7.07 in^2
Volume, Vo	10.11 in^3	10.11 in^3
Bulk Unit Weight	94.8 lb/ft^3	95.8 lb/ft^3
Dry Unit Weight	55.2 lb/ft^3	55.2 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A241_PM
SAMPLE No.:	BW19-15-20150721-11 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	7/28/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
07/29/15	11 : 34	JDM	7.0	5.0	5.6				
07/29/15	12 : 25	JDM	17.0	15.0	15.5	10.3	10.0	4.7	0.47
07/29/15	13 : 45	JDM	27.0	25.0	25.5	22.4	10.0	6.9	0.69
07/29/15	14 : 58	JDM	37.0	35.0	35.6	33.7	10.0	8.2	0.82
07/29/15	15 : 35	JDM	47.0	45.0	45.5	44.0	10.0	8.4	0.84
07/29/15	16 : 17	JDM	57.0	55.0	55.5	54.8	10.0	9.3	0.93
07/29/15	17 : 0	JDM	67.0	65.0	*	65.0	10.0	9.5	0.95
07/29/15	17 : 0	JDM	57.0	55.0	*	*	*	*	*
	:								
	:								
	:								
	:								

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A241_PM
SAMPLE No.:	BW19-15-20150721-11 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	7/28/15		

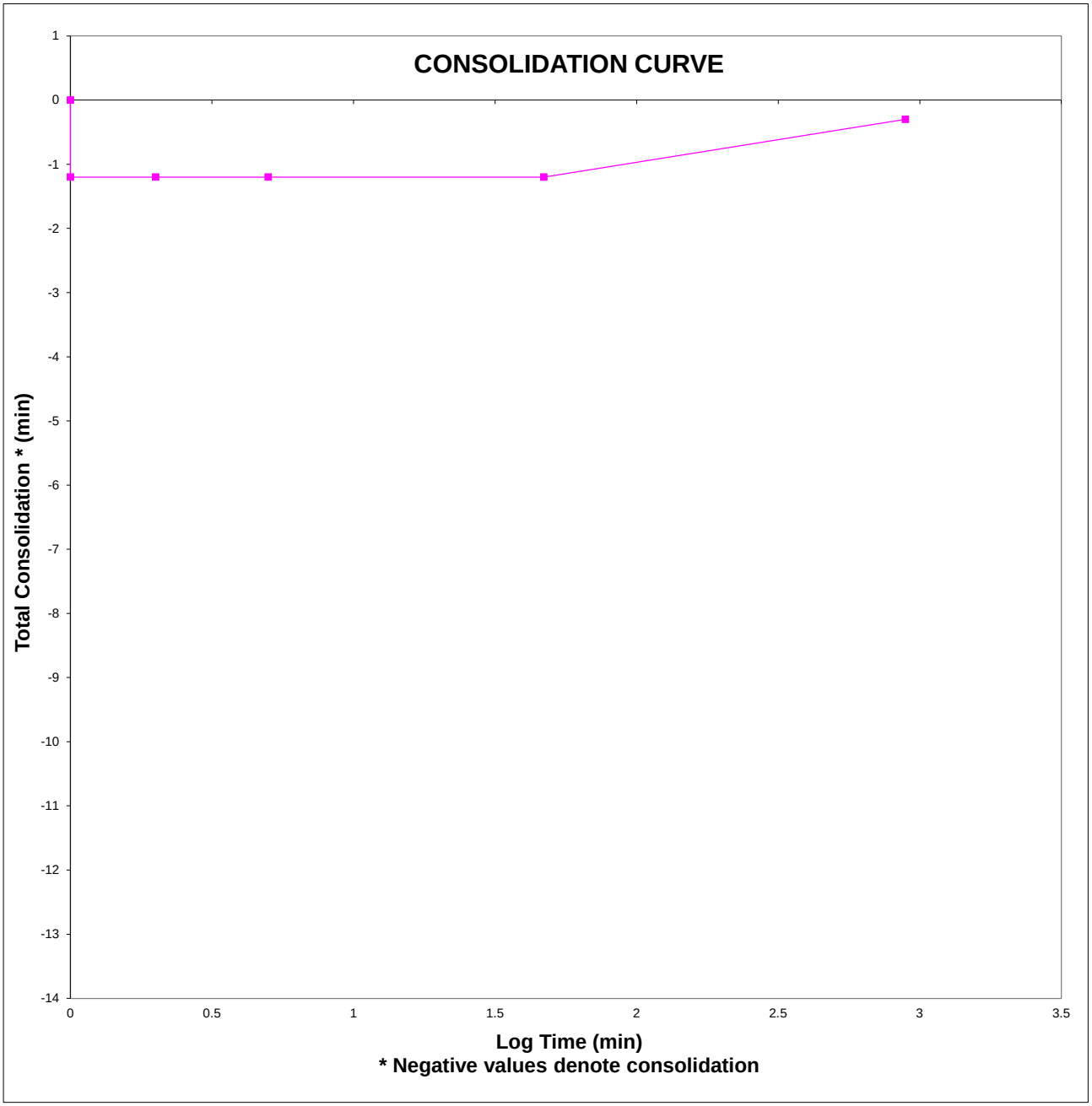
CELL PRESSURE: 65 psi **BACK PRESSURE:** 55 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
7 / 29 / 15	JDM	17 : 3	0	0	0	24.0	24.0	0.0
7 / 29 / 15	JDM	17 : 4	1	1	0.00	23.4	23.4	1.2
7 / 29 / 15	JDM	17 : 5	1	2	0.30	23.4	23.4	1.2
7 / 29 / 15	JDM	17 : 8	3	5	0.70	23.4	23.4	1.2
7 / 29 / 15	JDM	17 : 50	42	47	1.67	23.4	23.4	1.2
7 / 30 / 15	JDM	7 : 53	843	890	2.95	24.0	23.7	0.3

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A241_PM
SAMPLE No.:	BW19-15-20150721-11 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	7/28/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A241_PM
SAMPLE No.:	BW19-15-20150721-11 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	7/28/15		

			ELAPSED	HYDRAULIC			GAUGE		
	TESTED	TIME	TIME	HEAD (cm)		TEMP.	PRESSURE (psi)		
DATE	BY	(military)	(minutes)	INFLUENT	EFFLUENT	C°	CELL	INFLUENT	EFFLUENT
7 / 30 / 15	JDM	9 : 5	0	1.0	24.0	20.0	65.0	55.0	55.0
7 / 30 / 15	JDM	13 : 32	267	1.5	23.5	20.0	65.0	55.0	55.0
7 / 31 / 15	JDM	8 : 8	RESET	1.0	24.0	20.0	65.0	55.0	55.0
7 / 31 / 15	JDM	13 : 56	348	1.5	23.5	20.0	65.0	55.0	55.0
8 / 1 / 15	JDM	10 : 17	RESET	1.0	24.0	20.0	65.0	55.0	55.0
8 / 1 / 15	JDM	17 : 45	448	1.5	23.5	20.0	65.0	55.0	55.0
8 / 3 / 15	JDM	15 : 52	RESET	1.0	24.0	20.0	65.0	55.0	55.0
8 / 4 / 15	JDM	7 : 55	963	1.8	23.2	20.0	65.0	55.0	55.0
8 / 5 / 15	JDM	7 : 42	1427	2.8	22.2	20.0	65.0	55.0	55.0
8 / 5 / 15	JDM	9 : 3	RESET	1.0	24.0	20.0	65.0	55.0	54.0
8 / 5 / 15	JDM	12 : 25	202	1.5	23.5	20.0	65.0	55.0	54.0
8 / 5 / 15	JDM	15 : 50	205	2.0	23.0	20.0	65.0	55.0	54.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A241_PM
SAMPLE No.:	BW19-15-20150721-11 (7-Da	EQUIPMENT No.:	1
TEST DATE:	7/28/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				6.347		
267	0.5	0.5	1.00	6.071	1.10E-07	1.11E-07
RESET				6.347		
348	0.5	0.5	1.00	6.071	8.44E-08	8.48E-08
RESET				6.347		
448	0.5	0.5	1.00	6.071	6.56E-08	6.59E-08
RESET				6.347		
963	0.8	0.8	1.00	5.906	4.95E-08	4.97E-08
1427	1.0	1.0	1.00	5.354	4.54E-08	4.56E-08
RESET				25.758		
202	0.5	0.5	1.00	25.482	3.52E-08	3.54E-08
205	0.5	0.5	1.00	25.206	3.51E-08	3.53E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A241_PM
SAMPLE No.:	BW19-15-20150721-11 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	7/28/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**94.8 lb/ft³**	**95.8 lb/ft³**
DRY UNIT WEIGHT	**55.2 lb/ft³**	**55.2 lb/ft³**
MOISTURE CONTENT	**71.7 %**	**73.5 %**
PERMEABILITY @ 20°C	**4.1E-08 cm/sec**	

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	Macon, GA		
GTX #:	GTX-303551		
Start Date:	8/19/2015	Tested By:	jm
End Date:	8/24/2015	Checked By:	mcm
Boring	---	Test #:	
Sample #:	BW19-15-20150721-11 (28 day)		
Depth:	---		
Visual Description:	Moist, Stabilized soil/cement		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084 Increasing Tailwater

Sample Type:	Core	Permeant Fluid:	de-aired tap water
Orientation:	Vertical	Cell #:	P2

Sample Preparation: Sample placed into permeameter at as-received density and moisture content, (28 day cure).

Parameter	Initial	Final
Height, in	1.49	1.49
Diameter, in	2.99	2.99
Area, in^2	7.04	7.04
Volume, in^3	10.5	10.5
Mass, g	263	266
Bulk Density, pcf	95	96
Moisture Content, %	71.6	73.6
Dry Density, pcf	55.5	55.5
Degree of Saturation, %	---	98

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90	Pressure Increment, psi:	9.6
Sample Pressure, psi:	80	B Coefficient:	0.96

FLOW DATA

Date	Trial #	Pressure, psi		Head readings			Elapsed Time,	Gradient	Permeability K,	Temp,		Permeability K @ 20 °C,
		Cell	Sample	H_1	H_2	H_1-H_2	sec		cm/sec	°C	R_t	cm/sec
8/21	3	90	80	212.3	211.6	0.7	960	56.0	2.3E-08	21	0.976	2.3E-08
8/21	4	90	80	211.6	210.1	1.5	2040	55.8	2.4E-08	21	0.976	2.3E-08
8/21	5	90	80	210.1	209.0	1.1	1980	55.4	1.8E-08	21	0.976	1.8E-08
8/21	6	90	80	209.0	207.4	1.6	2940	55.2	1.8E-08	21	0.976	1.7E-08

PERMEABILITY AT 20° C: 2.0 x 10^{-8} cm/sec (@ 10 psi effective stress)

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A244_PM
SAMPLE No.:	BU19-5-20150722-12 (7-Day)	EQUIPMENT No.:	6
TEST DATE:	7/29/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	342.03 ***g***
3. WT WET SOIL + TARE	295.75 ***g***	640.90 ***g***
4. WT DRY SOIL + TARE	187.88 ***g***	529.91 ***g***
5. WT WATER, Ww	107.87 g	110.99 g
6. WT DRY SOIL, Ws	187.88 g	187.88 g
7. MOISTURE CONTENT, W	57.41 %	59.07 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***2.99 in.***	***3.00 in.***	***1.57 in.***	***1.61 in.***
No. 2	***2.99 in.***	***2.99 in.***	***1.62 in.***	***1.61 in.***
No. 3	***2.99 in.***	***2.99 in.***	***1.58 in.***	***1.57 in.***
Average	2.99 in.	2.99 in.	1.59 in.	1.60 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***295.75 g***	***298.87 g***
Area, Ao	7.00 in^2	7.04 in^2
Volume, Vo	11.13 in^3	11.24 in^3
Bulk Unit Weight	101.2 lb/ft^3	101.3 lb/ft^3
Dry Unit Weight	64.3 lb/ft^3	63.7 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A244_PM
SAMPLE No.:	BU19-5-20150722-12 (7-Day)	EQUIPMENT No.:	6
TEST DATE:	7/29/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
08/17/15	12 : 30	JDM	7.0	5.0	5.4				
08/17/15	13 : 0	JDM	17.0	15.0	15.4	9.5	10.0	4.1	0.41
08/17/15	13 : 26	JDM	27.0	25.0	25.4	21.1	10.0	5.7	0.57
08/17/15	14 : 10	JDM	37.0	35.0	35.6	32.5	10.0	7.1	0.71
08/17/15	14 : 42	JDM	47.0	45.0	45.5	43.4	10.0	7.8	0.78
08/17/15	15 : 37	JDM	57.0	55.0	55.6	53.9	10.0	8.4	0.84
08/17/15	16 : 0	JDM	67.0	65.0	*	65.1	10.0	9.5	0.95
08/17/15	16 : 0	JDM	57.0	55.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A244_PM
SAMPLE No.:	BU19-5-20150722-12 (7-Day)	EQUIPMENT No.:	6
TEST DATE:	7/29/15		

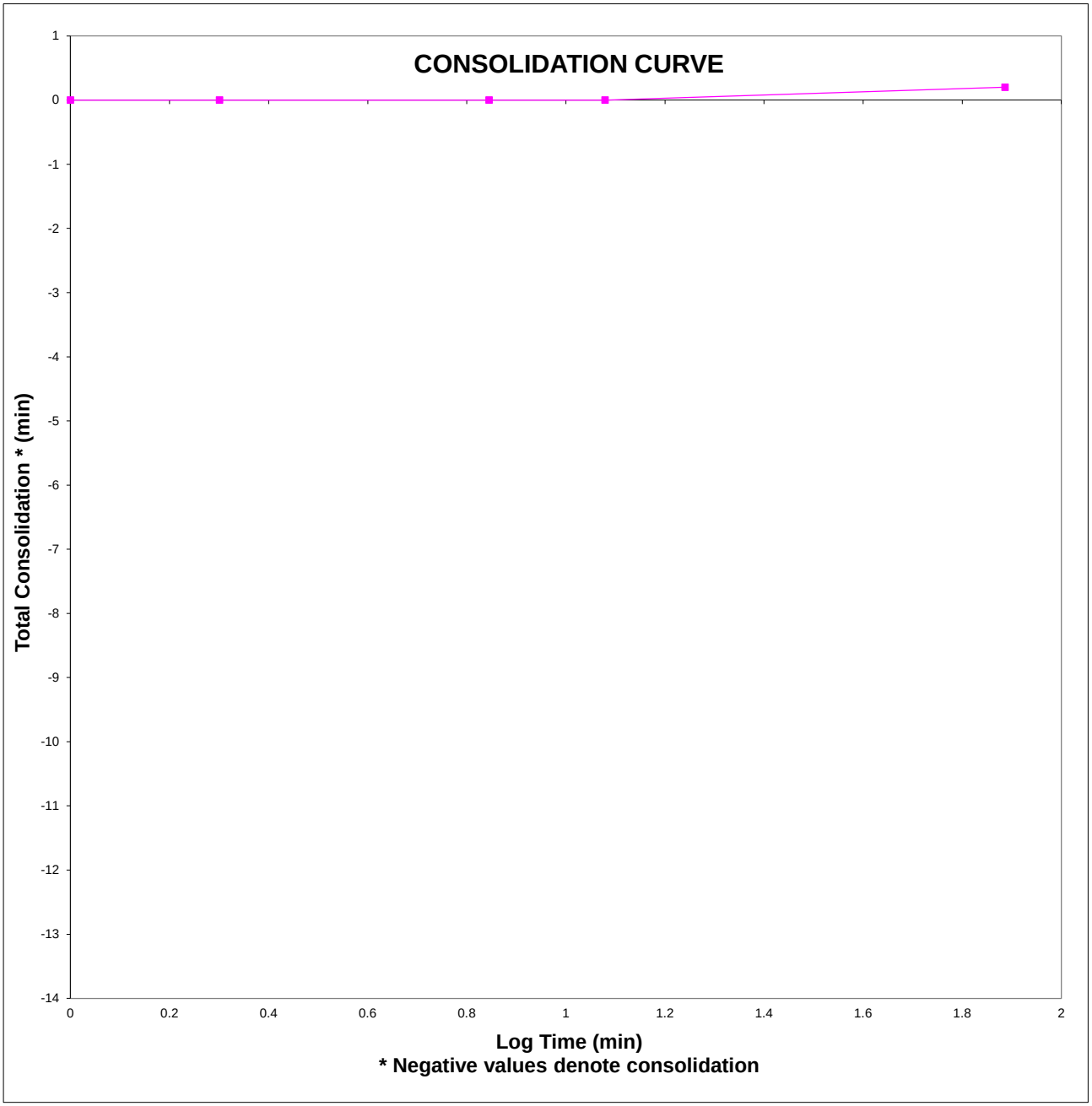
CELL PRESSURE: psi **BACK PRESSURE:** psi **EFFECTIVE STRESS:** 0 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
8 / 19 / 15	JDM	9 : 53	0	0	0	23.0	23.0	0.0
8 / 19 / 15	JDM	9 : 55	2	2	0.30	23.0	23.0	0.0
8 / 19 / 15	JDM	10 : 0	5	7	0.85	23.0	23.0	0.0
8 / 19 / 15	JDM	10 : 5	5	12	1.08	23.0	23.0	0.0
8 / 19 / 15	JDM	11 : 10	65	77	1.89	23.1	23.1	-0.2

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A244_PM
SAMPLE No.:	BU19-5-20150722-12 (7-Day)	EQUIPMENT No.:	6
TEST DATE:	7/29/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A244_PM
SAMPLE No.:	BU19-5-20150722-12 (7-Day)	EQUIPMENT No.:	6
TEST DATE:	7/29/15		

			ELAPSED	HYDRAULIC			GAUGE		
	TESTED	TIME	TIME	HEAD (cm)		TEMP.	PRESSURE (psi)		
DATE	BY	(military)	(minutes)	INFLUENT	EFFLUENT	C°	CELL	INFLUENT	EFFLUENT
8 / 19 / 15	JDM	14 : 38	0	1.0	24.0	20.0	65.0	55.0	52.0
8 / 20 / 15	JDM	7 : 47	1029	2.1	22.9	20.0	65.0	55.0	52.0
8 / 20 / 15	JDM	15 : 41	474	2.7	22.3	20.0	65.0	55.0	52.0
8 / 21 / 15	JDM	8 : 5	984	4.0	21.0	20.0	65.0	55.0	52.0
8 / 21 / 15	JDM	14 : 19	374	4.5	20.5	20.0	65.0	55.0	52.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A244_PM
SAMPLE No.:	BU19-5-20150722-12 (7-Day)	EQUIPMENT No.:	6
TEST DATE:	7/29/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				57.934		
1029	1.1	1.1	1.00	57.389	6.84E-09	6.87E-09
474	0.6	0.6	1.00	57.092	8.16E-09	8.20E-09
984	1.3	1.3	1.00	56.448	8.59E-09	8.63E-09
374	0.5	0.5	1.00	56.201	8.76E-09	8.80E-09

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A244_PM
SAMPLE No.:	BU19-5-20150722-12 (7-Day)	EQUIPMENT No.:	6
TEST DATE:	7/29/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**101.2 lb/ft³**	**101.3 lb/ft³**
DRY UNIT WEIGHT	**64.3 lb/ft³**	**63.7 lb/ft³**
MOISTURE CONTENT	**57.4 %**	**59.1 %**
PERMEABILITY @ 20°C	**8.1E-09 cm/sec**	

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	Macon, GA		
GTX #:	GTX-303551		
Start Date:	8/18/2015	Tested By:	jm
End Date:	8/24/2015	Checked By:	mcm
Boring	---	Test #:	
Sample #:	BU19-5-20150722-12 (28 day)		
Depth:	---		
Visual Description:	Moist, Stabilized soil/cement		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084 Increasing Tailwater

Sample Type:	Core	Permeant Fluid:	de-aired tap water
Orientation:	Vertical	Cell #:	P2

Sample Preparation: Sample placed into permeameter at as-received density and moisture content, (28 day cure).

Parameter	Initial	Final
Height, in	1.47	1.47
Diameter, in	3.00	3.00
Area, in^2	7.07	7.07
Volume, in^3	10.4	10.4
Mass, g	273	275
Bulk Density, pcf	100	101
Moisture Content, %	56.7	57.8
Dry Density, pcf	63.8	63.8
Degree of Saturation, %	---	96

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90	Pressure Increment, psi:	9.6
Sample Pressure, psi:	80	B Coefficient:	0.96

FLOW DATA

Date	Trial #	Pressure, psi		Head readings			Elapsed Time,	Gradient	Permeability K,	Temp,		Permeability K @ 20 °C,
		Cell	Sample	H_1	H_2	H_1-H_2	sec		cm/sec	°C	R_t	cm/sec
8/21	4	90	80	195.7	195.4	0.3	7200	52.4	1.4E-09	21	0.976	1.4E-09
8/21	5	90	80	195.4	195.2	0.2	6000	52.3	1.1E-09	21	0.976	1.1E-09
8/21	6	90	80	195.2	194.5	0.7	21000	52.3	1.1E-09	21	0.976	1.1E-09
8/21	7	90	80	194.5	192.2	2.3	58800	52.1	1.3E-09	21	0.976	1.3E-09

PERMEABILITY AT 20° C: 1.2 x 10^{-9} cm/sec (@ 10 psi effective stress)

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A245_PM
SAMPLE No.:	BS17-10-20150722-13 (7-Day)	EQUIPMENT No.:	9
TEST DATE:	7/29/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	297.56 ***g***
3. WT WET SOIL + TARE	277.95 ***g***	578.97 ***g***
4. WT DRY SOIL + TARE	171.40 ***g***	468.96 ***g***
5. WT WATER, Ww	106.55 g	110.01 g
6. WT DRY SOIL, Ws	171.40 g	171.40 g
7. MOISTURE CONTENT, W	62.16 %	64.18 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.00 in.***	***3.00 in.***	***1.54 in.***	***1.54 in.***
No. 2	***2.98 in.***	***2.99 in.***	***1.52 in.***	***1.51 in.***
No. 3	***2.98 in.***	***2.99 in.***	***1.55 in.***	***1.55 in.***
Average	2.99 in.	2.99 in.	1.54 in.	1.53 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***277.95 g***	***281.41 g***
Area, Ao	7.01 in^2	7.04 in^2
Volume, Vo	10.78 in^3	10.78 in^3
Bulk Unit Weight	98.2 lb/ft^3	99.4 lb/ft^3
Dry Unit Weight	60.6 lb/ft^3	60.6 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A245_PM
SAMPLE No.:	BS17-10-20150722-13 (7-Day)	EQUIPMENT No.:	9
TEST DATE:	7/29/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
08/17/15	13 : 30	JDM	7.0	5.0	5.7				
08/17/15	14 : 6	JDM	17.0	15.0	15.8	10.4	10.0	4.7	0.47
08/17/15	14 : 46	JDM	27.0	25.0	25.7	22.3	10.0	6.5	0.65
08/17/15	15 : 35	JDM	37.0	35.0	35.8	34.3	10.0	8.6	0.86
08/18/15	7 : 50	JDM	47.0	45.0	45.9	44.0	10.0	8.2	0.82
08/18/15	8 : 8	JDM	57.0	55.0	55.9	*	*	*	*
08/19/15	11 : 40	JDM	67.0	65.0	65.6	64.6	10.0	8.7	0.87
08/19/15	14 : 10	JDM	77.0	75.0	*	75.5	10.0	9.9	0.99
08/19/15	14 : 10	JDM	67.0	65.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A245_PM
SAMPLE No.:	BS17-10-20150722-13 (7-Day)	EQUIPMENT No.:	9
TEST DATE:	7/29/15		

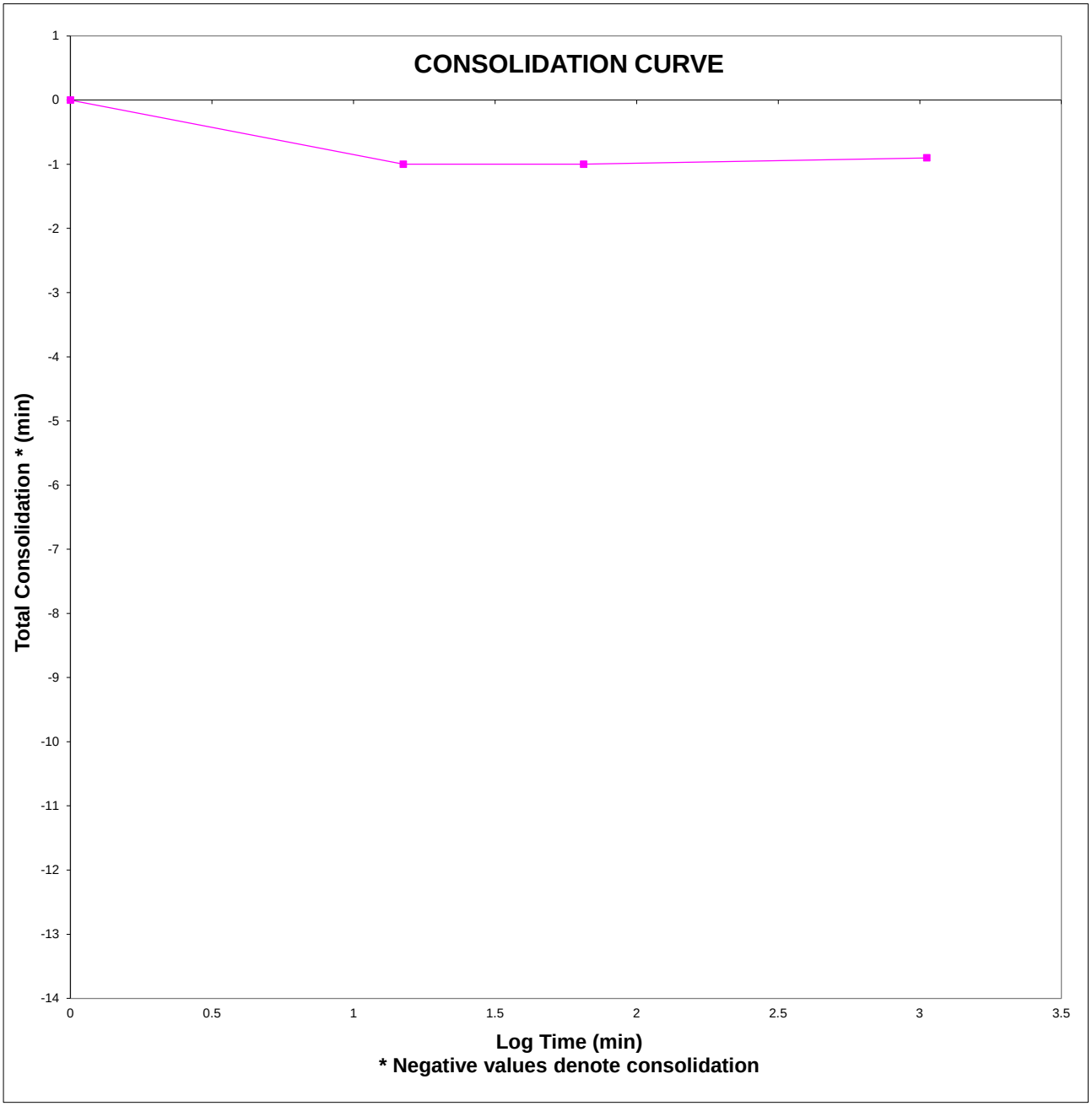
CELL PRESSURE: 75 psi **BACK PRESSURE:** 65 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
8 / 19 / 15	JDM	14 : 12	0	0	0	25.0		0.0
8 / 19 / 15	JDM	14 : 27	15	15	1.18	24.0		1.0
8 / 19 / 15	JDM	15 : 17	50	65	1.81	24.0		1.0
8 / 20 / 15	JDM	7 : 51	994	1059	3.02	24.1		0.9

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A245_PM
SAMPLE No.:	BS17-10-20150722-13 (7-Day)	EQUIPMENT No.:	9
TEST DATE:	7/29/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A245_PM
SAMPLE No.:	BS17-10-20150722-13 (7-Day)	EQUIPMENT No.:	9
TEST DATE:	7/29/15		

			ELAPSED	HYDRAULIC			GAUGE		
	TESTED	TIME	TIME	HEAD (cm)		TEMP.	PRESSURE (psi)		
DATE	BY	(military)	(minutes)	INFLUENT	EFFLUENT	C°	CELL	INFLUENT	EFFLUENT
8 / 20 / 15	JDM	14 : 47	0	1.0	24.0	20.0	75.0	65.0	62.0
8 / 21 / 15	JDM	7 : 54	1027	1.7	23.3	20.0	75.0	65.0	62.0
8 / 24 / 15	JDM	8 : 15	4341	1.0	24.0	20.0	75.0	65.0	62.0
8 / 25 / 15	JDM	11 : 15	1620	1.5	23.5	20.0	75.0	65.0	62.0
8 / 27 / 15	JDM	7 : 15	2640	2.0	23.0	20.0	75.0	65.0	62.0
8 / 29 / 15	JDM	12 : 52	3217	2.5	22.5	20.0	75.0	65.0	62.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A245_PM
SAMPLE No.:	BS17-10-20150722-13 (7-Day	EQUIPMENT No.:	9
TEST DATE:	7/29/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				59.892		
1027	0.7	0.7	1.00	59.534	4.21E-09	4.23E-09
4341				59.892		
1620	0.5	0.5	1.00	59.636	1.90E-09	1.91E-09
2640	0.5	0.5	1.00	59.380	1.17E-09	1.18E-09
3217	0.5	0.5	1.00	59.124	9.67E-10	9.71E-10

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A245_PM
SAMPLE No.:	BS17-10-20150722-13 (7-Day)	EQUIPMENT No.:	9
TEST DATE:	7/29/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**98.2 lb/ft³**	**99.4 lb/ft³**
DRY UNIT WEIGHT	**60.6 lb/ft³**	**60.6 lb/ft³**
MOISTURE CONTENT	**62.2 %**	**64.2 %**
PERMEABILITY @ 20°C	**2.1E-09 cm/sec**	

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	Macon, GA		
GTX #:	GTX-303551		
Start Date:	8/19/2015	Tested By:	jm
End Date:	8/29/2015	Checked By:	mcm
Boring	---	Test #:	
Sample #:	BS17-10-20150722-13 (28 day)		
Depth:	---		
Visual Description:	Moist, Stabilized soil/cement		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084 Increasing Tailwater

Sample Type:	Core	Permeant Fluid:	de-aired tap water
Orientation:	Vertical	Cell #:	P9

Sample Preparation: Sample placed into permeameter at as-received density and moisture content, (28 day cure).

Parameter	Initial	Final
Height, in	1.47	1.47
Diameter, in	2.99	2.99
Area, in^2	7.02	7.02
Volume, in^3	10.3	10.3
Mass, g	269	271
Bulk Density, pcf	99	100
Moisture Content, %	62.8	63.7
Dry Density, pcf	60.9	60.9
Degree of Saturation, %	---	98

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90	Pressure Increment, psi:	9.5
Sample Pressure, psi:	80	B Coefficient:	0.95

FLOW DATA

Date	Trial #	Pressure, psi		Head readings			Elapsed Time, sec	Gradient	Permeability K, cm/sec	Temp, °C	R_t	Permeability K @ 20 °C, cm/sec
		Cell	Sample	H_1	H_2	H_1-H_2						
8/25	3	90	80	191.8	190.9	0.9	960	51.4	3.3E-08	21	0.976	3.2E-08
8/25	4	90	80	190.9	190.3	0.6	660	51.1	3.0E-08	21	0.976	2.9E-08
8/25	5	90	80	190.3	189.3	1.0	960	51.0	3.5E-08	21	0.976	3.4E-08
8/25	6	90	80	189.3	188.3	1.0	960	50.7	3.5E-08	21	0.976	3.4E-08

PERMEABILITY AT 20° C: 3.2 x 10^{-8} cm/sec (@ 10 psi effective stress)

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	Macon, GA		
GTX #:	GTX-303551		
Start Date:	7/30/2015	Tested By:	jm
End Date:	8/7/2015	Checked By:	mcm
Boring	---	Test #:	
Sample #:	BS15-5-20150723-14		
Depth:	---		
Visual Description:	Moist, Stabilized soil/cement		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084 Increasing Tailwater

Sample Type:	Core	Permeant Fluid:	de-aired tap water
Orientation:	Vertical	Cell #:	P2

Sample Preparation: Sample placed into permeameter at as-received density and moisture content, (7 day cure).

Parameter	Initial	Final
Height, in	1.55	1.55
Diameter, in	2.99	2.99
Area, in^2	7.02	7.02
Volume, in^3	10.9	10.9
Mass, g	281	283
Bulk Density, pcf	98	99
Moisture Content, %	62.4	63.8
Dry Density, pcf	60.4	60.4
Degree of Saturation, %	---	97

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90	Pressure Increment, psi:	9.6
Sample Pressure, psi:	80	B Coefficient:	0.96

FLOW DATA

Date	Trial #	Pressure, psi		Head readings			Elapsed Time,	Gradient	Permeability K,	Temp,		Permeability K @ 20 °C,
		Cell	Sample	H_1	H_2	H_1-H_2	sec		cm/sec	°C	R_t	cm/sec
8/6	4	90	80	182.5	181.0	1.5	120	46.4	4.9E-07	21	0.976	4.7E-07
8/6	5	90	80	181.0	179.3	1.7	120	46.0	5.6E-07	21	0.976	5.4E-07
8/6	6	90	80	179.3	178.5	0.8	60	45.6	5.3E-07	21	0.976	5.1E-07
8/6	7	90	80	178.5	177.1	1.4	120	45.4	4.6E-07	21	0.976	4.5E-07

PERMEABILITY AT 20° C: 5.0 x 10^{-7} cm/sec (@ 10 psi effective stress)

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	Macon, GA		
GTX #:	GTX-303551		
Start Date:	8/19/2015	Tested By:	jm
End Date:	8/24/2015	Checked By:	mcm
Boring	---	Test #:	
Sample #:	BS15-5-20150723-14 (28 day)		
Depth:	---		
Visual Description:	Moist, Stabilized soil/cement		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084 Increasing Tailwater

Sample Type:	Core	Permeant Fluid:	de-aired tap water
Orientation:	Vertical	Cell #:	P2

Sample Preparation: Sample placed into permeameter at as-received density and moisture content, (28 day cure).

Parameter	Initial	Final
Height, in	1.51	1.51
Diameter, in	2.99	2.99
Area, in^2	7.00	7.00
Volume, in^3	10.6	10.6
Mass, g	273	275
Bulk Density, pcf	98	99
Moisture Content, %	63.6	64.8
Dry Density, pcf	60.0	60.0
Degree of Saturation, %	---	98

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90	Pressure Increment, psi:	9.5
Sample Pressure, psi:	80	B Coefficient:	0.95

FLOW DATA

Date	Trial #	Pressure, psi		Head readings			Elapsed Time,	Gradient	Permeability K,	Temp,		Permeability K @ 20 °C,
		Cell	Sample	H_1	H_2	H_1-H_2	sec		cm/sec	°C	R_t	cm/sec
8/22	3	90	80	208.9	207.0	1.9	2280	54.4	2.8E-08	21	0.976	2.7E-08
8/22	4	90	80	207.0	205.5	1.5	1980	53.9	2.5E-08	21	0.976	2.5E-08
8/22	5	90	80	205.5	203.4	2.1	3060	53.5	2.3E-08	21	0.976	2.3E-08
8/22	6	90	80	203.4	197.2	6.2	9000	53.0	2.4E-08	21	0.976	2.3E-08

PERMEABILITY AT 20° C: 2.4 x 10^{-8} cm/sec (@ 10 psi effective stress)

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	Macon, GA		
GTX #:	GTX-303551		
Start Date:	8/4/2015	Tested By:	jm
End Date:	8/13/2015	Checked By:	mcm
Boring	---	Test #:	
Sample #:	BS13-20-20150724-15		
Depth:	---		
Visual Description:	Moist, Stablized soil/cement		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084 Increasing Tailwater

Sample Type:	Core	Permeant Fluid:	de-aired tap water
Orientation:	Vertical	Cell #:	P2

Sample Preparation: Sample placed into permeameter at as-received density and moisture content, (7 day cure).

Parameter	Initial	Final
Height, in	1.51	1.51
Diameter, in	3.03	3.03
Area, in^2	7.21	7.21
Volume, in^3	10.9	10.9
Mass, g	284	287
Bulk Density, pcf	99	100
Moisture Content, %	58.3	59.8
Dry Density, pcf	62.8	62.8
Degree of Saturation, %	---	97

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90	Pressure Increment, psi:	9.5
Sample Pressure, psi:	80	B Coefficient:	0.95

FLOW DATA

Date	Trial #	Pressure, psi		Head readings			Elapsed Time,	Gradient	Permeability K,	Temp,		Permeability K @ 20 °C,
		Cell	Sample	H_1	H_2	H_1-H_2	sec		cm/sec	°C	R_t	cm/sec
8/11	6	90	80	176.9	175.4	1.5	180	46.1	3.2E-07	21	0.976	3.1E-07
8/11	7	90	80	175.4	173.9	1.5	90	45.7	6.4E-07	21	0.976	6.2E-07
8/6	8	90	80	173.9	171.1	2.8	180	45.4	6.0E-07	21	0.976	5.9E-07
8/6	9	90	80	171.1	168.5	2.7	180	44.6	5.9E-07	21	0.976	5.7E-07

PERMEABILITY AT 20° C: 4.1 x 10^{-7} cm/sec (@ 10 psi effective stress)

Client:	Kemron Environmental		
Project Name:	Macon ABL		
Project Location:	Macon, GA		
GTX #:	GTX-303551		
Start Date:	8/21/2015	Tested By:	jm
End Date:	8/30/2015	Checked By:	mcm
Boring	---	Test #:	
Sample #:	BS13-20-20150724-15		
Depth:	---		
Visual Description:	Moist, Stabilized soil/cement		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084 Increasing Tailwater

Sample Type:	Core	Permeant Fluid:	de-aired tap water
Orientation:	Vertical	Cell #:	K9

Sample Preparation: Sample placed into permeameter at as-received density and moisture content, (28 day cure).

Parameter	Initial	Final
Height, in	1.53	1.53
Diameter, in	3.05	3.05
Area, in^2	7.31	7.31
Volume, in^3	11.2	11.2
Mass, g	256	259
Bulk Density, pcf	87	88
Moisture Content, %	97.9	100.0
Dry Density, pcf	44.1	44.1
Degree of Saturation, %	---	96

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90	Pressure Increment, psi:	9.5
Sample Pressure, psi:	80	B Coefficient:	0.95

FLOW DATA

Date	Trial #	Pressure, psi		Head readings			Elapsed Time,	Gradient	Permeability K,	Temp,		Permeability K @ 20 °C,
		Cell	Sample	H_1	H_2	H_1-H_2	sec		cm/sec	°C	R_t	cm/sec
8/28	3	90	80	198.6	196.3	2.3	2160	51.1	3.6E-08	21	0.976	3.5E-08
8/28	4	90	80	196.3	193.3	3.0	3000	50.5	3.4E-08	21	0.976	3.4E-08
8/28	5	90	80	193.3	176.6	16.7	18000	49.7	3.4E-08	21	0.976	3.3E-08
8/28	6	90	80	176.6	174.4	2.2	2400	45.4	3.5E-08	21	0.976	3.4E-08

PERMEABILITY AT 20° C: 3.4 x 10^{-8} cm/sec (@ 10 psi effective stress)

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	8/25/2015	Tested By:	jcw
End Date:	9/8/2015	Checked By:	mcm
Boring #:	---		
Sample #:	BO11-15-20150725-16 (7-day)		
Depth:	---		
Visual Description:	Moist, yellowish brown soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084

Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	8/13

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.80

Parameter	Initial	Final
Height, in	1.40	1.40
Diameter, in	3.02	3.02
Area, in^2	7.16	7.16
Volume, in^3	10.0	10.0
Mass, g	279	281
Bulk Density, pcf	106	106
Moisture Content, %	54.9	56.0
Dry Density, pcf	68.3	68.3
Degree of Saturation, %	98	100

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90.02	Increased Cell Pressure, psi:	95.03	Cell Pressure Increment, psi:	5.01
Sample Pressure, psi:	79.93	Corresponding Sample Pressure, psi:	83.60	Sample Pressure Increment, psi:	3.67
				B Coefficient:	0.73

*B value did not increase with increase in pressure.
Final degree of saturation >95%.

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time, sec	Gradient	Permeability K, cm/sec	Temp, °C	R_t	Permeability K @ 20 °C, cm/sec
		Cell	Sample	Z_1	Z_2	Z_1-Z_2						
9/3	1	90.0	79.9	8.4	8.2	0.2	121	29.8	3.8E-08	20	1.000	3.8E-08
9/3	2	90.0	79.9	8.4	8.2	0.2	127	29.8	3.6E-08	20	1.000	3.6E-08
9/3	3	90.0	79.9	8.4	8.2	0.2	130	29.8	3.6E-08	20	1.000	3.6E-08
9/3	4	90.0	79.9	8.4	8.2	0.2	135	29.8	3.4E-08	20	1.000	3.4E-08

PERMEABILITY AT 20° C: 3.6×10^{-8} cm/sec (@ 10 psi effective stress)

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	Macon, GA		
GTX #:	GTX-303551		
Start Date:	8/20/2015	Tested By:	jm
End Date:	8/30/2015	Checked By:	mcm
Boring	---	Test #:	
Sample #:	BO11-15-20150725-16 (28 day)		
Depth:	---		
Visual Description:	Moist, Stabilized soil/cement		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084 Increasing Tailwater

Sample Type:	Core	Permeant Fluid:	de-aired tap water
Orientation:	Vertical	Cell #:	P2

Sample Preparation: Sample placed into permeameter at as-received density and moisture content, (28 day cure).

Parameter	Initial	Final
Height, in	1.55	1.55
Diameter, in	3.02	3.02
Area, in^2	7.16	7.16
Volume, in^3	11.1	11.1
Mass, g	299	302
Bulk Density, pcf	102	103
Moisture Content, %	53.0	54.3
Dry Density, pcf	67.0	67.0
Degree of Saturation, %	---	98

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90	Pressure Increment, psi:	9.5
Sample Pressure, psi:	80	B Coefficient:	0.95

FLOW DATA

Date	Trial #	Pressure, psi		Head readings			Elapsed Time,	Gradient	Permeability K,	Temp,		Permeability K @ 20 °C,
		Cell	Sample	H_1	H_2	H_1-H_2	sec		cm/sec	°C	R_t	cm/sec
8/26	5	90	80	195.4	194.6	0.8	660	49.6	4.3E-08	21	0.976	4.2E-08
8/26	6	90	80	194.6	188.8	5.8	5460	49.4	3.8E-08	21	0.976	3.7E-08
8/26	7	90	80	188.8	188.1	0.7	660	48.0	3.9E-08	21	0.976	3.8E-08
8/26	8	90	80	188.1	187.4	0.7	660	47.8	3.9E-08	21	0.976	3.8E-08

PERMEABILITY AT 20° C: 3.9 x 10^{-8} cm/sec (@ 10 psi effective stress)

Client:	Kemron Environmental		
Project Name:	Macon ABL		
Project Location:	Macon, GA		
GTX #:	GTX-303551		
Start Date:	8/4/2015	Tested By:	jm
End Date:	8/13/2015	Checked By:	mcm
Boring	---	Test #:	
Sample #:	BM9-10-20150727-17		
Depth:	---		
Visual Description:	Moist, Stablized soil/cement		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084 Increasing Tailwater

Sample Type:	Core	Permeant Fluid:	de-aired tap water
Orientation:	Vertical	Cell #:	P2

Sample Preparation: Sample placed into permeameter at as-received density and moisture content, (7 day cure).

Parameter	Initial	Final
Height, in	1.51	1.51
Diameter, in	3.03	3.03
Area, in^2	7.21	7.21
Volume, in^3	10.9	10.9
Mass, g	284	287
Bulk Density, pcf	99	100
Moisture Content, %	58.3	59.8
Dry Density, pcf	62.8	62.8
Degree of Saturation, %	---	97

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90	Pressure Increment, psi:	9.5
Sample Pressure, psi:	80	B Coefficient:	0.95

FLOW DATA

Date	Trial #	Pressure, psi		Head readings			Elapsed Time,	Gradient	Permeability K,	Temp,		Permeability K @ 20 °C,
		Cell	Sample	H_1	H_2	H_1-H_2	sec		cm/sec	°C	R_t	cm/sec
8/11	4	90	80	176.9	175.4	1.5	1620	46.1	3.5E-08	21	0.976	3.4E-08
8/11	5	90	80	175.4	173.9	1.5	1620	45.7	3.6E-08	21	0.976	3.5E-08
8/11	6	90	80	173.9	171.1	2.8	3120	45.4	3.5E-08	21	0.976	3.4E-08
8/11	7	90	80	171.1	168.5	2.7	3000	44.6	3.5E-08	21	0.976	3.4E-08

PERMEABILITY AT 20° C: 3.4 x 10^{-8} cm/sec (@ 10 psi effective stress)

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	8/25/2015	Tested By:	jcw
End Date:	9/8/2015	Checked By:	mcm
Boring #:	---		
Sample #:	BM9-10-20150728-18 (28-day)		
Depth:	---		
Visual Description:	Moist, yellowish brown soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084

Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	1/1

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.70

Parameter	Initial	Final
Height, in	1.73	1.73
Diameter, in	3.02	3.02
Area, in^2	7.16	7.16
Volume, in^3	12.4	12.4
Mass, g	334	338
Bulk Density, pcf	102	104
Moisture Content, %	56.2	58.0
Dry Density, pcf	65.5	65.5
Degree of Saturation, %	97	100

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90.02	Increased Cell Pressure, psi:	94.94	Cell Pressure Increment, psi:	4.92
Sample Pressure, psi:	79.90	Corresponding Sample Pressure, psi:	83.62	Sample Pressure Increment, psi:	3.72
				B Coefficient:	0.76

*B value did not increase with increase in pressure.
Final degree of saturation >95%.

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time, sec	Gradient	Permeability K, cm/sec	Temp, °C	R_t	Permeability K @ 20 °C, cm/sec
		Cell	Sample	Z_1	Z_2	Z_1-Z_2						
9/3	1	90.0	79.9	23.0	22.8	0.2	678	66.0	3.1E-09	20	1.000	3.1E-09
9/3	2	90.0	79.9	23.0	22.8	0.2	693	66.0	3.0E-09	20	1.000	3.0E-09
9/3	3	90.0	79.9	23.0	22.8	0.2	710	66.0	2.9E-09	20	1.000	2.9E-09
9/3	4	90.0	79.9	23.0	22.8	0.2	726	66.0	2.9E-09	20	1.000	2.9E-09

PERMEABILITY AT 20° C: 3.0 x 10^{-9} cm/sec (@ 10 psi effective stress)

Client:	Kemron Environmental		
Project Name:	Macon ABL		
Project Location:	Macon, GA		
GTX #:	GTX-303551		
Start Date:	8/3/2015	Tested By:	jm
End Date:	8/10/2015	Checked By:	mcm
Boring	---	Test #:	
Sample #:	BJ8-5-20150728-18		
Depth:	---		
Visual Description:	Moist, Stablized soil/cement		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084 Increasing Tailwater

Sample Type:	Core	Permeant Fluid:	de-aired tap water
Orientation:	Vertical	Cell #:	P2

Sample Preparation: Sample placed into permeameter at as-received density and moisture content, (7 day cure).

Parameter	Initial	Final
Height, in	1.42	1.42
Diameter, in	3.01	3.01
Area, in^2	7.12	7.12
Volume, in^3	10.1	10.1
Mass, g	255	257
Bulk Density, pcf	96	97
Moisture Content, %	68.6	70.0
Dry Density, pcf	56.8	56.8
Degree of Saturation, %	---	97

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90	Pressure Increment, psi:	9.5
Sample Pressure, psi:	80	B Coefficient:	0.95

FLOW DATA

Date	Trial #	Pressure, psi		Head readings			Elapsed Time,	Gradient	Permeability K,	Temp,		Permeability K @ 20 °C,
		Cell	Sample	H_1	H_2	H_1-H_2	sec		cm/sec	°C	R_t	cm/sec
8/8	4	90	80	169.2	167.0	2.2	1800	46.9	4.6E-08	21	0.976	4.5E-08
8/8	5	90	80	167.0	165.1	1.9	1620	46.3	4.5E-08	21	0.976	4.4E-08
8/8	6	90	80	165.1	161.7	3.4	3120	45.8	4.3E-08	21	0.976	4.2E-08
8/8	7	90	80	161.7	158.5	3.2	3000	44.8	4.3E-08	21	0.976	4.2E-08

PERMEABILITY AT 20° C: 4.3 x 10^{-8} cm/sec (@ 10 psi effective stress)

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	8/25/2015	Tested By:	jcw
End Date:	9/2/2015	Checked By:	mcm
Boring #:	SH0578		
Sample #:	BJ8-5-20150728-18 (28-day)		
Depth:	28 day		
Visual Description:	Moist, yellowish brown soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084
Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	6/7

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.65

Parameter	Initial	Final
Height, in	1.58	1.58
Diameter, in	3.02	3.02
Area, in^2	7.16	7.16
Volume, in^3	11.3	11.3
Mass, g	288	291
Bulk Density, pcf	97	98
Moisture Content, %	68.3	70.0
Dry Density, pcf	57.5	57.5
Degree of Saturation, %	96	99

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90.04	Increased Cell Pressure, psi:	95.05	Cell Pressure Increment, psi:	5.01
Sample Pressure, psi:	79.92	Corresponding Sample Pressure, psi:	82.79	Sample Pressure Increment, psi:	2.87
				B Coefficient:	0.57

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time, sec	Gradient	Permeability K, cm/sec	Temp, °C	R_t	Permeability K @ 20 °C, cm/sec
		Cell	Sample	Z_1	Z_2	Z_1-Z_2						
8/31	1	90.0	79.9	16.0	15.8	0.2	243	50.2	1.1E-08	20	1.000	1.1E-08
8/31	2	90.0	79.9	16.0	15.8	0.2	254	50.2	1.1E-08	20	1.000	1.1E-08
8/31	3	90.0	79.9	16.0	15.8	0.2	266	50.2	1.0E-08	20	1.000	1.0E-08
8/31	4	90.0	79.9	16.0	15.8	0.2	276	50.2	9.9E-09	20	1.000	9.9E-09

PERMEABILITY AT 20° C: 1.1 x 10^{-8} cm/sec (@ 10 psi effective stress)

Client:	Kemron Environmental		
Project Name:	Macon ABL		
Project Location:	Macon, GA		
GTX #:	GTX-303551		
Start Date:	8/3/2015	Tested By:	jm
End Date:	8/10/2015	Checked By:	mcm
Boring	---	Test #:	
Sample #:	BD8-10-20150729-19		
Depth:	---		
Visual Description:	Moist, Stablized soil/cement		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084 Increasing Tailwater

Sample Type:	Core	Permeant Fluid:	de-aired tap water
Orientation:	Vertical	Cell #:	P2

Sample Preparation: Sample placed into permeameter at as-received density and moisture content, (7 day cure).

Parameter	Initial	Final
Height, in	1.46	1.46
Diameter, in	3.01	3.01
Area, in^2	7.12	7.12
Volume, in^3	10.4	10.4
Mass, g	277	284
Bulk Density, pcf	101	104
Moisture Content, %	48.2	51.5
Dry Density, pcf	68.5	68.5
Degree of Saturation, %	---	96

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90	Pressure Increment, psi:	9.5
Sample Pressure, psi:	80	B Coefficient:	0.95

FLOW DATA

Date	Trial #	Pressure, psi		Head readings			Elapsed Time,	Gradient	Permeability K,	Temp,		Permeability K @ 20 °C,
		Cell	Sample	H_1	H_2	H_1-H_2	sec		cm/sec	°C	R_t	cm/sec
8/8	4	90	80	181.4	180.3	1.1	1680	48.9	2.4E-08	21	0.976	2.3E-08
8/8	5	90	80	180.3	179.0	1.3	1920	48.6	2.5E-08	21	0.976	2.4E-08
8/8	6	90	80	179.0	171.5	7.5	12900	48.3	2.2E-08	21	0.976	2.1E-08
8/8	7	90	80	171.5	166.4	5.1	9000	46.3	2.2E-08	21	0.976	2.2E-08

PERMEABILITY AT 20° C: 2.3 x 10^{-8} cm/sec (@ 10 psi effective stress)

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	8/26/2015	Tested By:	jcw
End Date:	9/8/2015	Checked By:	mcm
Boring #:	---		
Sample #:	BD8-10-20150729-19 (28-day)		
Depth:	---		
Visual Description:	Moist, yellowish brown soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084

Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	9/15

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.65

Parameter	Initial	Final
Height, in	1.71	1.71
Diameter, in	3.02	3.02
Area, in^2	7.16	7.16
Volume, in^3	12.2	12.2
Mass, g	317	323
Bulk Density, pcf	98	100
Moisture Content, %	59.9	62.6
Dry Density, pcf	61.6	61.6
Degree of Saturation, %	94	98

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	94.98	Increased Cell Pressure, psi:	99.98	Cell Pressure Increment, psi:	5.00
Sample Pressure, psi:	84.91	Corresponding Sample Pressure, psi:	89.64	Sample Pressure Increment, psi:	4.73
				B Coefficient:	0.95

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time, sec	Gradient	Permeability K, cm/sec	Temp, °C	R_t	Permeability K @ 20 °C, cm/sec
		Cell	Sample	Z_1	Z_2	Z_1-Z_2						
9/4	1	95.0	84.9	23.0	22.8	0.2	421	66.7	4.9E-09	20	1.000	4.9E-09
9/4	2	95.0	84.9	23.0	22.8	0.2	447	66.7	4.6E-09	20	1.000	4.6E-09
9/4	3	95.0	84.9	23.0	22.8	0.2	466	66.7	4.4E-09	20	1.000	4.4E-09
9/4	4	95.0	84.9	23.0	22.8	0.2	478	66.7	4.3E-09	20	1.000	4.3E-09

PERMEABILITY AT 20° C: 4.5×10^{-9} cm/sec (@ 10 psi effective stress)

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	8/25/2015	Tested By:	jcw
End Date:	9/8/2015	Checked By:	mcm
Boring #:	---		
Sample #:	AY7-15-20150730-20 (7-day)		
Depth:	---		
Visual Description:	Moist, yellowish brown soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084

Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	0

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.65

Parameter	Initial	Final
Height, in	1.57	1.57
Diameter, in	3.02	3.02
Area, in^2	7.16	7.16
Volume, in^3	11.2	11.2
Mass, g	300	302
Bulk Density, pcf	101	102
Moisture Content, %	58.8	59.7
Dry Density, pcf	63.8	63.8
Degree of Saturation, %	98	99

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	89.68	Increased Cell Pressure, psi:	94.87	Cell Pressure Increment, psi:	5.19
Sample Pressure, psi:	79.84	Corresponding Sample Pressure, psi:	84.80	Sample Pressure Increment, psi:	4.96
				B Coefficient:	0.96

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time,	Gradient	Permeability K,	Temp,		Permeability K @ 20 °C,
		Cell	Sample	Z_1	Z_2	Z_1-Z_2	sec		cm/sec	°C	R_t	cm/sec
9/3	1	89.7	79.8	9.5	9.3	0.2	134	30.0	3.4E-08	20	1.000	3.4E-08
9/3	2	89.7	79.8	9.5	9.3	0.2	142	30.0	3.2E-08	20	1.000	3.2E-08
9/3	3	89.7	79.8	9.5	9.3	0.2	154	30.0	3.0E-08	20	1.000	3.0E-08
9/3	4	89.7	79.8	9.5	9.3	0.2	162	30.0	2.8E-08	20	1.000	2.8E-08

PERMEABILITY AT 20° C: 3.1 x 10^{-8} cm/sec (@ 10 psi effective stress)

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	9/1/2015	Tested By:	jcw
End Date:	9/8/2015	Checked By:	mcm
Boring #:	---		
Sample #:	AY7-15-20150730-20 (28-day)		
Depth:	---		
Visual Description:	Moist, yellowish brown soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084

Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	5/16

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.65

Parameter	Initial	Final
Height, in	1.54	1.54
Diameter, in	3.02	3.02
Area, in^2	7.16	7.16
Volume, in^3	11.0	11.0
Mass, g	294	297
Bulk Density, pcf	101	102
Moisture Content, %	59.2	60.7
Dry Density, pcf	63.6	63.6
Degree of Saturation, %	98	100

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90.07	Increased Cell Pressure, psi:	95.19	Cell Pressure Increment, psi:	5.11
Sample Pressure, psi:	79.98	Corresponding Sample Pressure, psi:	84.97	Sample Pressure Increment, psi:	4.99
				B Coefficient:	0.98

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time, sec	Gradient	Permeability K, cm/sec	Temp, °C	R_t	Permeability K @ 20 °C, cm/sec
		Cell	Sample	Z_1	Z_2	Z_1-Z_2						
9/4	1	90.1	80.0	9.3	9.1	0.2	181	30.0	2.5E-08	20	1.000	2.5E-08
9/4	2	90.1	80.0	9.3	9.1	0.2	189	30.0	2.4E-08	20	1.000	2.4E-08
9/4	3	90.1	80.0	9.3	9.1	0.2	196	30.0	2.3E-08	20	1.000	2.3E-08
9/4	4	90.1	80.0	9.3	9.1	0.2	203	30.0	2.3E-08	20	1.000	2.3E-08

PERMEABILITY AT 20° C: 2.4 x 10^{-8} cm/sec (@ 10 psi effective stress)

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A291_PM
SAMPLE No.:	AR10-(5)-20150731-21 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	8/7/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	393.12 ***g***
3. WT WET SOIL + TARE	292.68 ***g***	690.50 ***g***
4. WT DRY SOIL + TARE	189.78 ***g***	582.90 ***g***
5. WT WATER, Ww	102.90 g	107.60 g
6. WT DRY SOIL, Ws	189.78 g	189.78 g
7. MOISTURE CONTENT, W	54.22 %	56.70 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.02 in.***	***3.04 in.***	***1.56 in.***	***1.53 in.***
No. 2	***3.02 in.***	***3.03 in.***	***1.51 in.***	***1.55 in.***
No. 3	***3.02 in.***	***3.02 in.***	***1.54 in.***	***1.52 in.***
Average	3.02 in.	3.03 in.	1.54 in.	1.54 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***292.68 g***	***297.38 g***
Area, Ao	7.16 in^2	7.20 in^2
Volume, Vo	11.02 in^3	11.06 in^3
Bulk Unit Weight	101.1 lb/ft^3	102.4 lb/ft^3
Dry Unit Weight	65.6 lb/ft^3	65.4 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A291_PM
SAMPLE No.:	AR10-(5)-20150731-21 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	8/7/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
08/07/15	14 : 47	JDM	7.0	5.0	5.6				
08/07/15	15 : 35	JDM	17.0	15.0	15.6	10.2	10.0	4.6	0.46
08/07/15	16 : 43	JDM	27.0	25.0	25.5	22.0	10.0	6.4	0.64
01/15/15	8 : 50	JDM	37.0	35.0	35.3	33.5	10.0	8.0	0.80
08/11/15	9 : 38	JDM	47.0	45.0	45.5	45.0	10.0	9.7	0.97
01/15/15	11 : 10	JDM	57.0	55.0	*	55.3	10.0	9.8	0.98
08/11/15	11 : 10	JDM	47.0	45.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A291_PM
SAMPLE No.:	AR10-(5)-20150731-21 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	8/7/15		

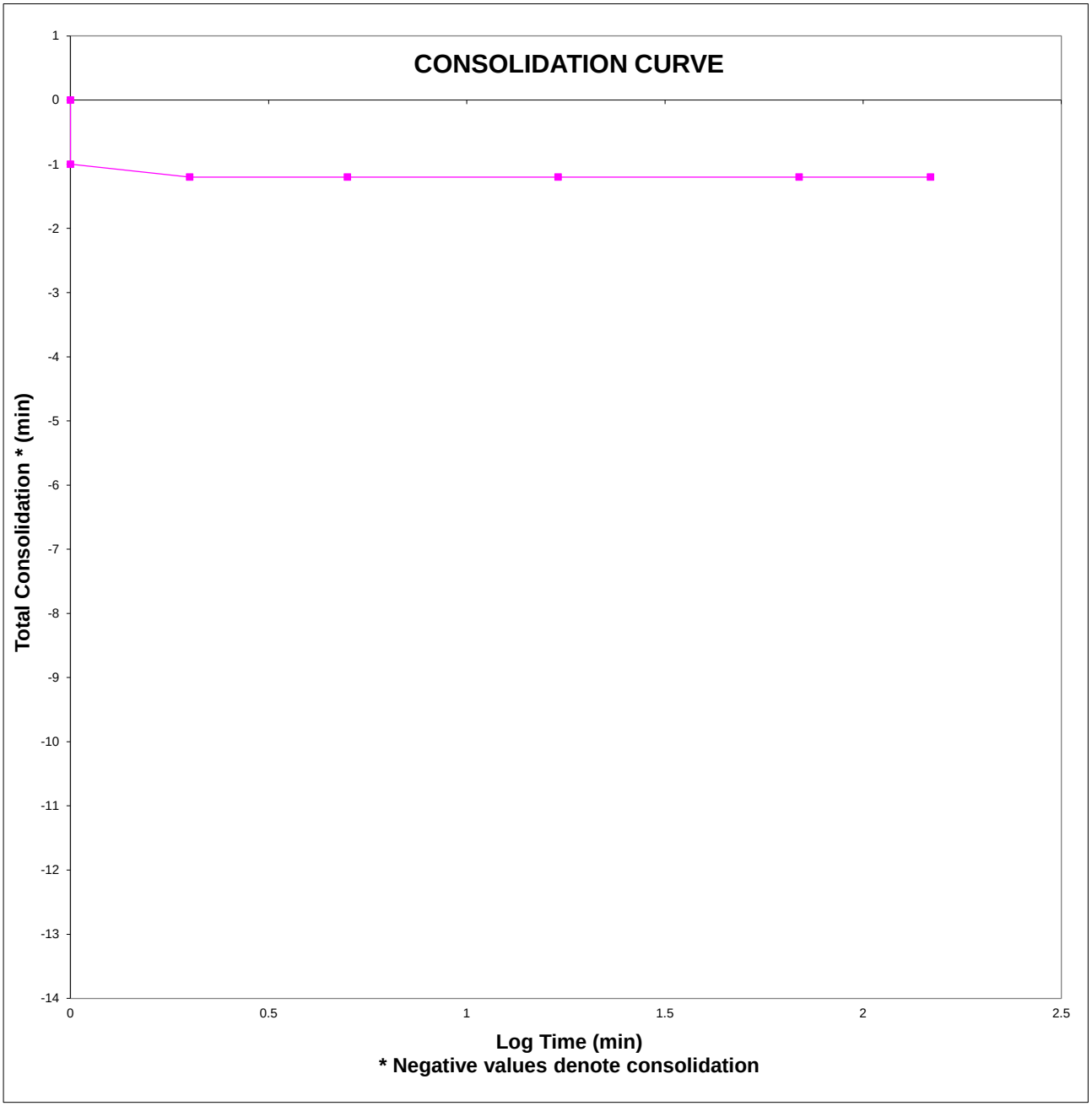
CELL PRESSURE: 55 psi **BACK PRESSURE:** 45 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
8 / 11 / 15	JDM	11 : 40	0	0	0	23.0	23.0	0.0
8 / 11 / 15	JDM	11 : 41	1	1	0.00	22.5	22.5	1.0
8 / 11 / 15	JDM	11 : 42	1	2	0.30	22.4	22.4	1.2
8 / 11 / 15	JDM	11 : 45	3	5	0.70	22.4	22.4	1.2
8 / 11 / 15	JDM	11 : 57	12	17	1.23	22.4	22.4	1.2
8 / 11 / 15	JDM	12 : 49	52	69	1.84	22.4	22.4	1.2
8 / 11 / 15	JDM	14 : 8	79	148	2.17	22.4	22.4	1.2

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A291_PM
SAMPLE No.:	AR10-(5)-20150731-21 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	8/7/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A291_PM
SAMPLE No.:	AR10-(5)-20150731-21 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	8/7/15		

			ELAPSED	HYDRAULIC			GAUGE		
	TESTED	TIME	TIME	HEAD (cm)		TEMP.	PRESSURE (psi)		
DATE	BY	(military)	(minutes)	INFLUENT	EFFLUENT	C°	CELL	INFLUENT	EFFLUENT
8 / 11 / 15	JDM	17 : 40	0	1.0	24.0	20.0	55.0	45.0	43.0
8 / 12 / 15	JDM	9 : 12	932	2.9	22.1	20.0	55.0	45.0	43.0
8 / 12 / 15	JDM	15 : 12	360	3.5	21.5	20.0	55.0	45.0	43.0
8 / 13 / 15	JDM	7 : 40	988	4.9	20.1	20.0	55.0	45.0	43.0
8 / 13 / 15	JDM	14 : 49	429	5.4	19.6	20.0	55.0	45.0	43.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A291_PM
SAMPLE No.:	AR10-(5)-20150731-21 (7-Day	EQUIPMENT No.:	2
TEST DATE:	8/7/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				41.881		
932	1.9	1.9	1.00	40.909	1.78E-08	1.78E-08
360	0.6	0.6	1.00	40.602	1.47E-08	1.48E-08
988	1.4	1.4	1.00	39.885	1.27E-08	1.28E-08
429	0.5	0.5	1.00	39.629	1.06E-08	1.06E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A291_PM
SAMPLE No.:	AR10-(5)-20150731-21 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	8/7/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**101.1 lb/ft³**	**102.4 lb/ft³**
DRY UNIT WEIGHT	**65.6 lb/ft³**	**65.4 lb/ft³**
MOISTURE CONTENT	**54.2 %**	**56.7 %**
PERMEABILITY @ 20°C	**1.4E-08 cm/sec**	

Client:	Kemron Environmental
Project Name:	Macon AGL
Project Location:	---
GTX #:	303565
Start Date:	9/1/2015
End Date:	9/8/2015
Tested By:	jcw
Checked By:	mcm
Boring #:	---
Sample #:	AR10-5-20150731-21 (28-day)
Depth:	---
Visual Description:	Moist, yellowish brown soil cement mix

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084

Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	9

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.65

Parameter	Initial	Final
Height, in	1.65	1.65
Diameter, in	3.03	3.03
Area, in^2	7.21	7.21
Volume, in^3	11.9	11.9
Mass, g	314	321
Bulk Density, pcf	100	103
Moisture Content, %	53.0	56.5
Dry Density, pcf	65.5	65.5
Degree of Saturation, %	92	98

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	89.78	Increased Cell Pressure, psi:	94.89	Cell Pressure Increment, psi:	5.11
Sample Pressure, psi:	79.97	Corresponding Sample Pressure, psi:	84.71	Sample Pressure Increment, psi:	4.74
				B Coefficient:	0.93

*B value did not increase with increase in pressure.
Final degree of saturation >95%.

FLOW DATA

Date	Trial #	Pressure, psi Cell	Pressure, psi Sample	Manometer Readings Z_1	Manometer Readings Z_2	Manometer Readings Z_1-Z_2	Elapsed Time, sec	Gradient	Permeability K, cm/sec	Temp, °C	R_t	Permeability K @ 20 °C, cm/sec
9/4	1	89.8	80.0	22.0	21.8	0.2	244	66.1	8.4E-09	20	1.000	8.4E-09
9/4	2	89.8	80.0	22.0	21.8	0.2	261	66.1	7.9E-09	20	1.000	7.9E-09
9/4	3	89.8	80.0	22.0	21.8	0.2	273	66.1	7.5E-09	20	1.000	7.5E-09
9/4	4	89.8	80.0	22.0	21.8	0.2	288	66.1	7.1E-09	20	1.000	7.1E-09

PERMEABILITY AT 20° C: 7.7×10^{-9} cm/sec (@ 10 psi effective stress)

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	8/11/2015	Tested By:	jcw
End Date:	8/25/2015	Checked By:	mcm
Boring #:	---		
Sample #:	AP10-10-20150801-22 (7-day)		
Depth:	---		
Visual Description:	Moist, yellowish brown soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084

Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	1/1

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.75

Parameter	Initial	Final
Height, in	1.74	1.74
Diameter, in	3.03	3.02
Area, in^2	7.21	7.16
Volume, in^3	12.5	12.5
Mass, g	334	341
Bulk Density, pcf	101	104
Moisture Content, %	55.7	59.0
Dry Density, pcf	65.1	65.5
Degree of Saturation, %	94	100

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90.08	Increased Cell Pressure, psi:	94.97	Cell Pressure Increment, psi:	4.89
Sample Pressure, psi:	79.92	Corresponding Sample Pressure, psi:	84.40	Sample Pressure Increment, psi:	4.48
				B Coefficient:	0.92

*B value did not increase with increase in pressure.
Final degree of saturation >95%.

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time, sec	Gradient	Permeability K, cm/sec	Temp, °C	R_t	Permeability K @ 20 °C, cm/sec
		Cell	Sample	Z_1	Z_2	Z_1-Z_2						
8/23	1	90.1	79.9	22.0	21.8	0.2	68	62.7	3.2E-08	20	1.000	3.2E-08
8/23	2	90.1	79.9	22.0	21.8	0.2	71	62.7	3.1E-08	20	1.000	3.1E-08
8/23	3	90.1	79.9	22.0	21.8	0.2	73	62.7	3.0E-08	20	1.000	3.0E-08
8/23	4	90.1	79.9	22.0	21.8	0.2	75	62.7	2.9E-08	20	1.000	2.9E-08

PERMEABILITY AT 20° C: 3.0 x 10^{-8} cm/sec (@ 10 psi effective stress)

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	9/1/2015	Tested By:	jcw
End Date:	9/8/2015	Checked By:	mcm
Boring #:	---		
Sample #:	AP10-10-20150801-22 (28-day)		
Depth:	---		
Visual Description:	Moist, yellowish brown soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084

Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	2/5

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.65

Parameter	Initial	Final
Height, in	1.53	1.53
Diameter, in	3.03	3.03
Area, in^2	7.21	7.21
Volume, in^3	11.0	11.0
Mass, g	297	300
Bulk Density, pcf	102	103
Moisture Content, %	54.7	56.1
Dry Density, pcf	66.1	66.1
Degree of Saturation, %	96	99

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90.05	Increased Cell Pressure, psi:	95.60	Cell Pressure Increment, psi:	5.55
Sample Pressure, psi:	80.00	Corresponding Sample Pressure, psi:	84.96	Sample Pressure Increment, psi:	4.96
				B Coefficient:	0.89

*B value did not increase with increase in pressure.
Final degree of saturation >95%.

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time, sec	Gradient	Permeability K, cm/sec	Temp, °C	R_t	Permeability K @ 20 °C, cm/sec
		Cell	Sample	Z_1	Z_2	Z_1-Z_2						
9/4	1	90.1	80.0	9.2	9.0	0.2	165	29.8	2.8E-08	20	1.000	2.8E-08
9/4	2	90.1	80.0	9.2	9.0	0.2	172	29.8	2.7E-08	20	1.000	2.7E-08
9/4	3	90.1	80.0	9.2	9.0	0.2	179	29.8	2.6E-08	20	1.000	2.6E-08
9/4	4	90.1	80.0	9.2	9.0	0.2	185	29.8	2.5E-08	20	1.000	2.5E-08

PERMEABILITY AT 20° C: 2.6 x 10^{-8} cm/sec (@ 10 psi effective stress)

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	8/14/2015	Tested By:	jcw
End Date:	8/25/2015	Checked By:	mcm
Boring #:	---		
Sample #:	AH10-12-20150803-23 (7-day)		
Depth:	---		
Visual Description:	Moist, yellowish brown soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084

Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	7/3

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.65

Parameter	Initial	Final
Height, in	1.74	1.74
Diameter, in	3.02	3.02
Area, in^2	7.16	7.16
Volume, in^3	12.5	12.5
Mass, g	334	341
Bulk Density, pcf	102	104
Moisture Content, %	52.1	55.0
Dry Density, pcf	67.1	67.1
Degree of Saturation, %	94	99

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90.05	Increased Cell Pressure, psi:	95.10	Cell Pressure Increment, psi:	5.05
Sample Pressure, psi:	79.92	Corresponding Sample Pressure, psi:	84.43	Sample Pressure Increment, psi:	4.50
				B Coefficient:	0.89

*B value did not increase with increase in pressure.
Final degree of saturation >95%.

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time, sec	Gradient	Permeability K, cm/sec	Temp, °C	R_t	Permeability K @ 20 °C, cm/sec
		Cell	Sample	Z_1	Z_2	Z_1-Z_2						
8/23	1	90.0	79.9	22.0	21.8	0.2	86	62.7	2.5E-08	20	1.000	2.5E-08
8/23	2	90.0	79.9	22.0	21.8	0.2	89	62.7	2.4E-08	20	1.000	2.4E-08
8/23	3	90.0	79.9	22.0	21.8	0.2	92	62.7	2.4E-08	20	1.000	2.4E-08
8/23	4	90.0	79.9	22.0	21.8	0.2	96	62.7	2.3E-08	20	1.000	2.3E-08

PERMEABILITY AT 20° C: 2.4 x 10^{-8} cm/sec (@ 10 psi effective stress)

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	9/1/2015	Tested By:	jcw
End Date:	9/8/2015	Checked By:	mcm
Boring #:	---		
Sample #:	AH10-12-20150803-23 (28-day)		
Depth:	---		
Visual Description:	Moist, yellowish brown soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084

Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	15/4

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.65

Parameter	Initial	Final
Height, in	1.41	1.41
Diameter, in	3.03	3.03
Area, in^2	7.21	7.21
Volume, in^3	10.2	10.2
Mass, g	276	281
Bulk Density, pcf	103	105
Moisture Content, %	50.7	53.2
Dry Density, pcf	68.5	68.5
Degree of Saturation, %	95	100

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90.04	Increased Cell Pressure, psi:	94.93	Cell Pressure Increment, psi:	4.89
Sample Pressure, psi:	79.89	Corresponding Sample Pressure, psi:	84.15	Sample Pressure Increment, psi:	4.26
				B Coefficient:	0.87

*B value did not increase with increase in pressure.
Final degree of saturation >95%.

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time, sec	Gradient	Permeability K, cm/sec	Temp, °C	R_t	Permeability K @ 20 °C, cm/sec
		Cell	Sample	Z_1	Z_2	Z_1-Z_2						
9/4	1	90.0	79.9	8.5	8.3	0.2	218	29.9	2.1E-08	20	1.000	2.1E-08
9/4	2	90.0	79.9	8.5	8.3	0.2	234	29.9	2.0E-08	20	1.000	2.0E-08
9/4	3	90.0	79.9	8.5	8.3	0.2	246	29.9	1.9E-08	20	1.000	1.9E-08
9/4	4	90.0	79.9	8.5	8.3	0.2	258	29.9	1.8E-08	20	1.000	1.8E-08

PERMEABILITY AT 20° C: 1.9 x 10^{-8} cm/sec (@ 10 psi effective stress)

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A306_PM
SAMPLE No.:	AB10-5-20150810-24 (7-Day)	EQUIPMENT No.:	10
TEST DATE:	8/17/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	342.04 ***g***
3. WT WET SOIL + TARE	328.49 ***g***	675.00 ***g***
4. WT DRY SOIL + TARE	214.57 ***g***	556.61 ***g***
5. WT WATER, Ww	113.92 g	118.39 g
6. WT DRY SOIL, Ws	214.57 g	214.57 g
7. MOISTURE CONTENT, W	53.09 %	55.18 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.01 in.***	***3.02 in.***	***1.72 in.***	***1.72 in.***
No. 2	***3.02 in.***	***3.02 in.***	***1.71 in.***	***1.70 in.***
No. 3	***3.02 in.***	***3.03 in.***	***1.70 in.***	***1.74 in.***
Average	3.02 in.	3.02 in.	1.71 in.	1.72 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***328.49 g***	***332.96 g***
Area, Ao	7.16 in^2	7.18 in^2
Volume, Vo	12.24 in^3	12.35 in^3
Bulk Unit Weight	102.2 lb/ft^3	102.7 lb/ft^3
Dry Unit Weight	66.8 lb/ft^3	66.2 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A306_PM
SAMPLE No.:	AB10-5-20150810-24 (7-Day)	EQUIPMENT No.:	10
TEST DATE:	8/17/15		

			TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
TEST DATE	TIME (military)	TESTED BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
08/19/15	11 : 38	JDM	7.0	5.0	5.8				
08/19/15	14 : 28	JDM	17.0	15.0	15.7	8.7	10.0	2.9	0.29
08/19/15	15 : 18	JDM	27.0	25.0	27.1	21.2	10.0	5.5	0.55
08/20/15	8 : 4	JDM	37.0	35.0	37.0	33.4	10.0	6.3	0.63
08/20/15	8 : 43	JDM	47.0	45.0	47.1	46.0	10.0	9.0	0.90
08/20/15	9 : 38	JDM	57.0	55.0	57.1	56.3	10.0	9.2	0.92
08/20/15	10 : 34	JDM	67.0	65.0	66.9	66.4	10.0	9.3	0.93
08/20/15	11 : 5	JDM	77.0	75.0	*	76.7	10.0	9.8	0.98
08/20/15	11 : 5	JDM	67.0	65.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A306_PM
SAMPLE No.:	AB10-5-20150810-24 (7-Day)	EQUIPMENT No.:	10
TEST DATE:	8/17/15		

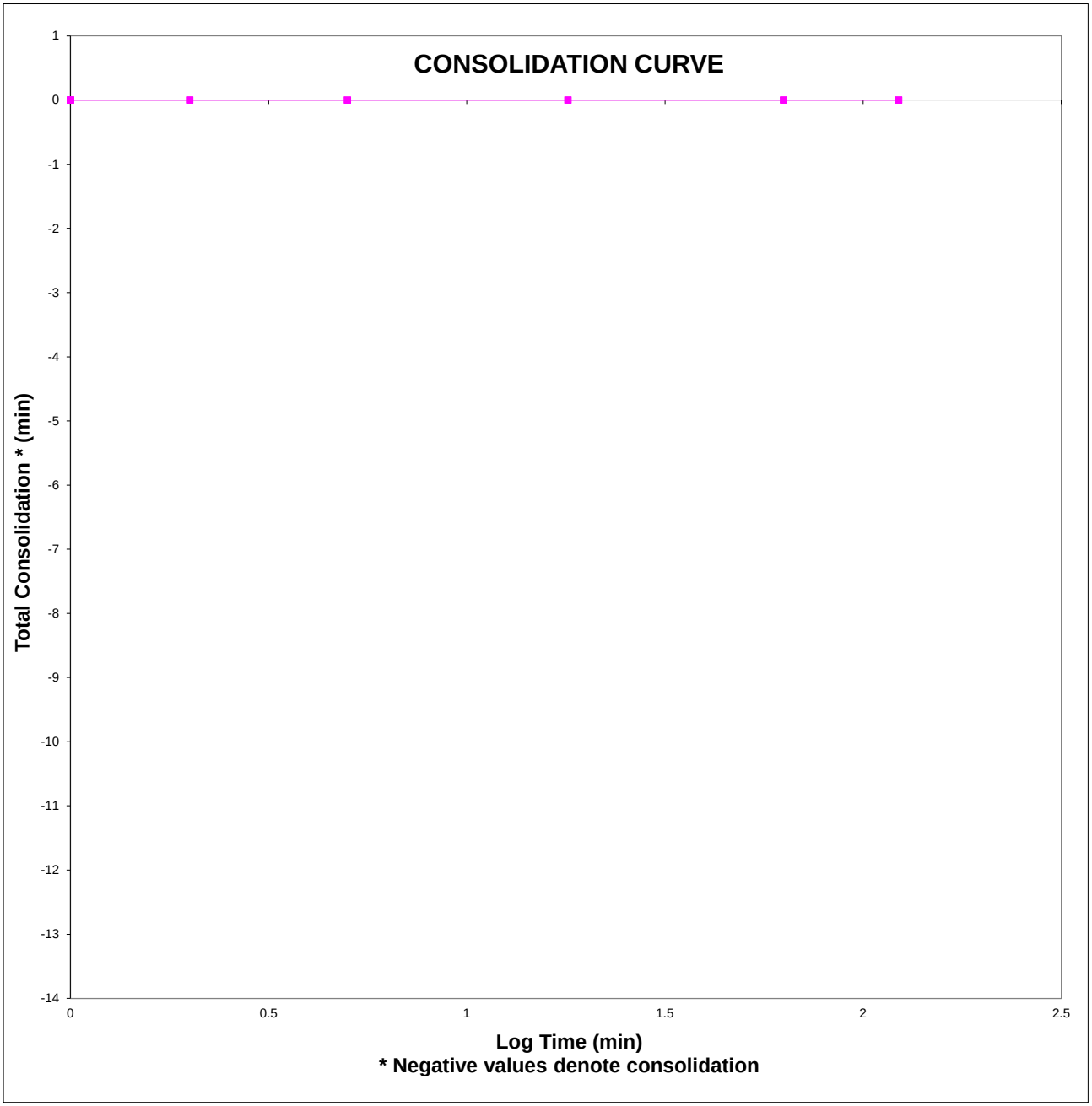
CELL PRESSURE: psi **BACK PRESSURE:** psi **EFFECTIVE STRESS:** 0 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
8 / 20 / 15	JDM	13 : 40	0	0	0	25.0	25.0	0.0
8 / 20 / 15	JDM	13 : 41	1	1	0.00	25.0	25.0	0.0
8 / 20 / 15	JDM	13 : 42	1	2	0.30	25.0	25.0	0.0
8 / 20 / 15	JDM	13 : 45	3	5	0.70	25.0	25.0	0.0
8 / 20 / 15	JDM	13 : 58	13	18	1.26	25.0	25.0	0.0
8 / 20 / 15	JDM	14 : 43	45	63	1.80	25.0	25.0	0.0
8 / 20 / 15	JDM	15 : 43	60	123	2.09	25.0	25.0	0.0

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A306_PM
SAMPLE No.:	AB10-5-20150810-24 (7-Day)	EQUIPMENT No.:	10
TEST DATE:	8/17/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A306_PM
SAMPLE No.:	AB10-5-20150810-24 (7-Day)	EQUIPMENT No.:	10
TEST DATE:	8/17/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
8 / 21 / 15	JDM	8 : 29	0	1.0	24.0	20.0	75.0	65.0	62.0
8 / 21 / 15	JDM	13 : 18	289	2.7	22.3	20.0	75.0	65.0	62.0
8 / 21 / 15	JDM	13 : 57	39	3.2	21.8	20.0	75.0	65.0	62.0
8 / 24 / 15	JDM	8 : 23	RESET	1.0	24.0	20.0	75.0	65.0	62.0
8 / 24 / 15	JDM	12 : 13	230	1.6	23.4	20.0	75.0	65.0	62.0
8 / 24 / 15	JDM	14 : 49	156	2.1	22.9	20.0	75.0	65.0	62.0
8 / 25 / 15	JDM	8 : 9	RESET	1.0	24.0	20.0	75.0	65.0	62.0
8 / 25 / 15	JDM	11 : 46	217	1.5	23.5	20.0	75.0	65.0	62.0
8 / 26 / 15	JDM	7 : 40	1194	3.5	21.5	20.0	75.0	65.0	62.0
8 / 26 / 15	JDM	:							

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A306_PM
SAMPLE No.:	AB10-5-20150810-24 (7-Day)	EQUIPMENT No.:	10
TEST DATE:	8/17/15		

ELAPSED TIME	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT*	*HYDRAULIC GRADIENT*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
(minutes)	*INFLUENT*	*EFFLUENT*	*RATIO*	*(cm/cm)*	*@ Temp.*	*@ 20° C*
RESET				53.895		
289	1.7	1.7	1.00	53.112	3.97E-08	3.99E-08
39	0.5	0.5	1.00	52.882	8.73E-08	8.77E-08
RESET				53.895		
230	0.6	0.6	1.00	53.619	1.75E-08	1.76E-08
156	0.5	0.5	1.00	53.389	2.16E-08	2.17E-08
RESET				53.895		
217	0.5	0.5	1.00	53.665	1.55E-08	1.55E-08
1194	2.0	2.0	1.00	52.744	1.14E-08	1.14E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A306_PM
SAMPLE No.:	AB10-5-20150810-24 (7-Day)	EQUIPMENT No.:	10
TEST DATE:	8/17/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**102.2 lb/ft³**	**102.7 lb/ft³**
DRY UNIT WEIGHT	**66.8 lb/ft³**	**66.2 lb/ft³**
MOISTURE CONTENT	**53.1 %**	**55.2 %**
PERMEABILITY @ 20°C	**1.7E-08 cm/sec**	

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	9/9/2015	Tested By:	jcw
End Date:	9/15/2015	Checked By:	mcm
Boring #:	---		
Sample #:	AB10-5-20150810-24 (28-day)		
Depth:	---		
Visual Description:	Moist, yellowish brown soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084

Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	3/14

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.65

Parameter	Initial	Final
Height, in	1.67	1.67
Diameter, in	3.04	3.04
Area, in^2	7.26	7.26
Volume, in^3	12.1	12.1
Mass, g	317	320
Bulk Density, pcf	99	100
Moisture Content, %	55.6	57.4
Dry Density, pcf	63.8	63.8
Degree of Saturation, %	93	95

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90.04	Increased Cell Pressure, psi:	95.10	Cell Pressure Increment, psi:	5.06
Sample Pressure, psi:	79.95	Corresponding Sample Pressure, psi:	84.08	Sample Pressure Increment, psi:	4.13
				B Coefficient:	0.82

*B value did not increase with increase in pressure.
Final degree of saturation >95%.

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time, sec	Gradient	Permeability K, cm/sec	Temp, °C	R_t	Permeability K @ 20 °C, cm/sec
		Cell	Sample	Z_1	Z_2	Z_1-Z_2						
9/11	1	90.0	80.0	10.1	9.9	0.2	61	30.0	7.4E-08	20	1.000	7.4E-08
9/11	2	90.0	80.0	10.1	9.9	0.2	64	30.0	7.1E-08	20	1.000	7.1E-08
9/11	3	90.0	80.0	10.1	9.9	0.2	66	30.0	6.8E-08	20	1.000	6.8E-08
9/11	4	90.0	80.0	10.1	9.9	0.2	68	30.0	6.6E-08	20	1.000	6.6E-08

PERMEABILITY AT 20° C: 7.0 x 10^{-8} cm/sec (@ 10 psi effective stress)

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	8/20/2015	Tested By:	jcw
End Date:	8/28/2015	Checked By:	mcm
Boring #:	---		
Sample #:	C11-25-20150811-25 (7 day)		
Depth:	---		
Visual Description:	Moist, yellowish brown soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084

Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	2/5

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.65

Parameter	Initial	Final
Height, in	1.69	1.69
Diameter, in	3.02	3.02
Area, in^2	7.16	7.16
Volume, in^3	12.1	12.1
Mass, g	317	322
Bulk Density, pcf	100	101
Moisture Content, %	58.8	61.2
Dry Density, pcf	62.7	62.7
Degree of Saturation, %	95	99

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90.06	Increased Cell Pressure, psi:	95.18	Cell Pressure Increment, psi:	5.12
Sample Pressure, psi:	79.87	Corresponding Sample Pressure, psi:	84.61	Sample Pressure Increment, psi:	4.74
				B Coefficient:	0.93

*B value did not increase with increase in pressure.
Final degree of saturation >95%.

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time, sec	Gradient	Permeability K, cm/sec	Temp, °C	R_t	Permeability K @ 20 °C, cm/sec
		Cell	Sample	Z_1	Z_2	Z_1-Z_2						
8/26	1	90.1	79.9	20.5	20.3	0.2	106	60.2	2.1E-08	20	1.000	2.1E-08
8/26	2	90.1	79.9	20.5	20.3	0.2	110	60.2	2.1E-08	20	1.000	2.1E-08
8/26	3	90.1	79.9	20.5	20.3	0.2	116	60.2	2.0E-08	20	1.000	2.0E-08
8/26	4	90.1	79.9	20.5	20.3	0.2	120	60.2	1.9E-08	20	1.000	1.9E-08

PERMEABILITY AT 20° C: 2.0 x 10^{-8} cm/sec (@ 10 psi effective stress)

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	9/9/2015	Tested By:	jcw
End Date:	9/15/2015	Checked By:	mcm
Boring #:	---		
Sample #:	C11-25-20150811-25 (28-day)		
Depth:	---		
Visual Description:	Moist, yellowish brown soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084

Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	16/4

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.65

Parameter	Initial	Final
Height, in	1.65	1.65
Diameter, in	3.04	3.04
Area, in^2	7.26	7.26
Volume, in^3	12.0	12.0
Mass, g	309	314
Bulk Density, pcf	98	100
Moisture Content, %	58.2	60.9
Dry Density, pcf	62.0	62.0
Degree of Saturation, %	92	97

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	89.88	Increased Cell Pressure, psi:	94.83	Cell Pressure Increment, psi:	4.95
Sample Pressure, psi:	79.94	Corresponding Sample Pressure, psi:	84.33	Sample Pressure Increment, psi:	4.39
				B Coefficient:	0.89

*B value did not increase with increase in pressure.
Final degree of saturation >95%.

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time,	Gradient	Permeability K,	Temp,		Permeability K @ 20 °C,
		Cell	Sample	Z_1	Z_2	Z_1-Z_2	sec		cm/sec	°C	R_t	cm/sec
9/11	1	89.9	79.9	9.8	9.6	0.2	48	29.5	9.6E-08	20	1.000	9.6E-08
9/11	2	89.9	79.9	9.8	9.6	0.2	49	29.5	9.4E-08	20	1.000	9.4E-08
9/11	3	89.9	79.9	9.8	9.6	0.2	50	29.5	9.2E-08	20	1.000	9.2E-08
9/11	4	89.9	79.9	9.8	9.6	0.2	51	29.5	9.0E-08	20	1.000	9.0E-08

PERMEABILITY AT 20° C: 9.3×10^{-8} cm/sec (@ 10 psi effective stress)

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	8/21/2015	Tested By:	jcw
End Date:	8/28/2015	Checked By:	mcm
Boring #:	---		
Sample #:	H10-5-20150812-26 (7 day)		
Depth:	---		
Visual Description:	Moist, reddish yellowish soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084

Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	11/6

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.65

Parameter	Initial	Final
Height, in	1.63	1.63
Diameter, in	3.02	3.02
Area, in^2	7.16	7.16
Volume, in^3	11.7	11.7
Mass, g	294	299
Bulk Density, pcf	96	97
Moisture Content, %	64.7	67.6
Dry Density, pcf	58.1	58.1
Degree of Saturation, %	93	97

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90.05	Increased Cell Pressure, psi:	95.16	Cell Pressure Increment, psi:	5.11
Sample Pressure, psi:	79.51	Corresponding Sample Pressure, psi:	84.45	Sample Pressure Increment, psi:	4.94
				B Coefficient:	0.97

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time, sec	Gradient	Permeability K, cm/sec	Temp, °C	R_t	Permeability K @ 20 °C, cm/sec
		Cell	Sample	Z_1	Z_2	Z_1-Z_2						
8/26	1	90.1	79.5	20.5	20.2	0.3	160	62.4	2.1E-08	20	1.000	2.1E-08
8/26	2	90.1	79.5	20.5	20.2	0.3	175	62.4	1.9E-08	20	1.000	1.9E-08
8/26	3	90.1	79.5	20.5	20.2	0.3	185	62.4	1.8E-08	20	1.000	1.8E-08
8/26	4	90.1	79.5	20.5	20.2	0.3	199	62.4	1.7E-08	20	1.000	1.7E-08

PERMEABILITY AT 20° C: 1.8×10^{-8} cm/sec (@ 10 psi effective stress)

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	9/9/2015	Tested By:	jcw
End Date:	9/15/2015	Checked By:	mcm
Boring #:	---		
Sample #:	H10-5-20150812-26 (28-day)		
Depth:	---		
Visual Description:	Moist, yellowish brown soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084
Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	6/7

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.65

Parameter	Initial	Final
Height, in	1.60	1.60
Diameter, in	3.04	3.04
Area, in^2	7.26	7.26
Volume, in^3	11.6	11.6
Mass, g	295	300
Bulk Density, pcf	97	98
Moisture Content, %	63.9	66.9
Dry Density, pcf	58.9	58.9
Degree of Saturation, %	94	98

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	89.99	Increased Cell Pressure, psi:	95.05	Cell Pressure Increment, psi:	5.06
Sample Pressure, psi:	79.82	Corresponding Sample Pressure, psi:	83.89	Sample Pressure Increment, psi:	4.07
				B Coefficient:	0.80

*B value did not increase with increase in pressure.
Final degree of saturation >95%.

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time, sec	Gradient	Permeability K, cm/sec	Temp, °C	R_t	Permeability K @ 20 °C, cm/sec
		Cell	Sample	Z_1	Z_2	Z_1-Z_2						
9/11	1	90.0	79.8	9.6	9.4	0.2	80	29.8	5.7E-08	20	1.000	5.7E-08
9/11	2	90.0	79.8	9.6	9.4	0.2	87	29.8	5.2E-08	20	1.000	5.2E-08
9/11	3	90.0	79.8	9.6	9.4	0.2	96	29.8	4.7E-08	20	1.000	4.7E-08
9/11	4	90.0	79.8	9.6	9.4	0.2	102	29.8	4.5E-08	20	1.000	4.5E-08

PERMEABILITY AT 20° C: 5.0 x 10^{-8} cm/sec (@ 10 psi effective stress)

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	8/20/2015	Tested By:	jcw
End Date:	8/28/2015	Checked By:	mcm
Boring #:	---		
Sample #:	S9-10-20150813-27 (7 day)		
Depth:	---		
Visual Description:	Moist, yellowish brown soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084

Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	4/5

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.65

Parameter	Initial	Final
Height, in	1.69	1.69
Diameter, in	3.03	3.03
Area, in^2	7.21	7.21
Volume, in^3	12.2	12.2
Mass, g	313	319
Bulk Density, pcf	98	99
Moisture Content, %	57.2	59.8
Dry Density, pcf	62.2	62.2
Degree of Saturation, %	91	95

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	89.99	Increased Cell Pressure, psi:	94.99	Cell Pressure Increment, psi:	5.00
Sample Pressure, psi:	80.05	Corresponding Sample Pressure, psi:	84.73	Sample Pressure Increment, psi:	4.68
				B Coefficient:	0.94

*B value did not increase with increase in pressure.
Final degree of saturation >95%.

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time, sec	Gradient	Permeability K, cm/sec	Temp, °C	R_t	Permeability K @ 20 °C, cm/sec
		Cell	Sample	Z_1	Z_2	Z_1-Z_2						
8/26	1	90.0	80.0	20.5	20.3	0.2	216	60.2	1.0E-08	20	1.000	1.0E-08
8/26	2	90.0	80.0	20.5	20.3	0.2	229	60.2	9.9E-09	20	1.000	9.9E-09
8/26	3	90.0	80.0	20.5	20.3	0.2	240	60.2	9.4E-09	20	1.000	9.4E-09
8/26	4	90.0	80.0	20.5	20.3	0.2	251	60.2	9.0E-09	20	1.000	9.0E-09

PERMEABILITY AT 20° C: 9.7×10^{-9} cm/sec (@ 10 psi effective stress)

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	Macon, GA		
GTX #:	GTX-303551		
Start Date:	9/10/2015	Tested By:	jm
End Date:	9/15/2015	Checked By:	mcm
Boring	---	Test #:	
Sample #:	S9-10-20150813-27 (28 day)		
Depth:	---		
Visual Description:	Moist, Stabilized soil/cement		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084 Increasing Tailwater

Sample Type:	Core	Permeant Fluid:	de-aired tap water
Orientation:	Vertical	Cell #:	K9

Sample Preparation: Sample placed into permeameter at as-received density and moisture content, (28 day cure).

Parameter	Initial	Final
Height, in	1.46	1.46
Diameter, in	3.03	3.03
Area, in^2	7.21	7.21
Volume, in^3	10.5	10.5
Mass, g	278	280
Bulk Density, pcf	100	101
Moisture Content, %	57.1	58.1
Dry Density, pcf	63.9	63.9
Degree of Saturation, %	---	97

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90	Pressure Increment, psi:	9.5
Sample Pressure, psi:	80	B Coefficient:	0.95

FLOW DATA

Date	Trial #	Pressure, psi		Head readings			Elapsed Time,	Gradient	Permeability K,	Temp,		Permeability K @ 20 °C,
		Cell	Sample	H_1	H_2	H_1-H_2	sec		cm/sec	°C	R_t	cm/sec
9/14	2	90	80	211.1	210.5	0.6	2280	56.9	8.1E-09	21	0.976	7.9E-09
9/14	3	90	80	210.5	210.1	0.4	1860	56.8	6.6E-09	21	0.976	6.5E-09
9/14	4	90	80	210.1	209.8	0.3	1260	56.7	7.3E-09	21	0.976	7.2E-09
9/14	5	90	80	209.8	209.3	0.5	2400	56.6	6.4E-09	21	0.976	6.3E-09

PERMEABILITY AT 20° C: 7.0 x 10^{-9} cm/sec (@ 10 psi effective stress)

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	8/21/2015	Tested By:	jcw
End Date:	8/28/2015	Checked By:	mcm
Boring #:	---		
Sample #:	E13-5-20150814-28 (7 day)		
Depth:	---		
Visual Description:	Moist, yellowish brown soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084
Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	9/15

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.65

Parameter	Initial	Final
Height, in	1.68	1.68
Diameter, in	3.03	3.03
Area, in^2	7.21	7.21
Volume, in^3	12.1	12.1
Mass, g	303	308
Bulk Density, pcf	95	97
Moisture Content, %	66.9	69.7
Dry Density, pcf	56.9	56.9
Degree of Saturation, %	93	97

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	89.97	Increased Cell Pressure, psi:	95.18	Cell Pressure Increment, psi:	5.21
Sample Pressure, psi:	79.82	Corresponding Sample Pressure, psi:	84.77	Sample Pressure Increment, psi:	4.95
				B Coefficient:	0.95

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time,	Gradient	Permeability K,	Temp,		Permeability K @ 20 °C,
		Cell	Sample	Z_1	Z_2	Z_1-Z_2	sec		cm/sec	°C	R_t	cm/sec
8/26	1	90.0	79.8	20.5	20.3	0.2	184	60.5	1.2E-08	20	1.000	1.2E-08
8/26	2	90.0	79.8	20.5	20.3	0.2	209	60.5	1.1E-08	20	1.000	1.1E-08
8/26	3	90.0	79.8	20.5	20.3	0.2	215	60.5	1.0E-08	20	1.000	1.0E-08
8/26	4	90.0	79.8	20.5	20.3	0.2	221	60.5	1.0E-08	20	1.000	1.0E-08

PERMEABILITY AT 20° C: 1.1 x 10^{-8} cm/sec (@ 10 psi effective stress)

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	Macon, GA		
GTX #:	GTX-303551		
Start Date:	9/11/2015	Tested By:	jm
End Date:	9/20/2015	Checked By:	mcm
Boring	---	Test #:	
Sample #:	E13-5-20150814-28		
Depth:	---		
Visual Description:	Moist, Stabilized soil/cement		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084 Increasing Tailwater

Sample Type:	Core	Permeant Fluid:	de-aired tap water
Orientation:	Vertical	Cell #:	P2

Sample Preparation: Sample placed into permeameter at as-received density and moisture content, (28 day cure).

Parameter	Initial	Final
Height, in	1.37	1.37
Diameter, in	3.04	3.04
Area, in^2	7.26	7.26
Volume, in^3	9.9	9.9
Mass, g	251	254
Bulk Density, pcf	96	97
Moisture Content, %	66.1	68.0
Dry Density, pcf	57.8	57.8
Degree of Saturation, %	---	97

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90	Pressure Increment, psi:	9.6
Sample Pressure, psi:	80	B Coefficient:	0.96

FLOW DATA

Date	Trial #	Pressure, psi		Head readings			Elapsed Time,	Gradient	Permeability K,	Temp,		Permeability K @ 20 °C,
		Cell	Sample	H_1	H_2	H_1-H_2	sec		cm/sec	°C	R_t	cm/sec
9/15	1	90	80	189.1	188.9	0.2	3200	54.3	2.0E-09	21	0.976	2.0E-09
9/15	2	90	80	188.9	187.9	0.9	12000	54.3	2.5E-09	21	0.976	2.5E-09
9/16	3	90	80	187.9	183.6	4.3	64260	54.0	2.2E-09	21	0.976	2.1E-09
9/17	4	90	80	183.6	177.9	5.7	82200	52.8	2.3E-09	21	0.976	2.3E-09

PERMEABILITY AT 20° C: 2.2 x 10^{-9} cm/sec (@ 10 psi effective stress)

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	8/25/2015	Tested By:	jcw
End Date:	9/2/2015	Checked By:	mcm
Boring #:	SH0578		
Sample #:	C17-10-20150815-29 (7-day)		
Depth:	7 day		
Visual Description:	Moist, redish yellow soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084

Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	15/4

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.70

Parameter	Initial	Final
Height, in	1.56	1.56
Diameter, in	3.02	3.02
Area, in^2	7.16	7.16
Volume, in^3	11.2	11.2
Mass, g	298	302
Bulk Density, pcf	101	103
Moisture Content, %	58.0	60.3
Dry Density, pcf	64.1	64.1
Degree of Saturation, %	96	100

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90.02	Increased Cell Pressure, psi:	94.94	Cell Pressure Increment, psi:	4.92
Sample Pressure, psi:	79.99	Corresponding Sample Pressure, psi:	84.64	Sample Pressure Increment, psi:	4.65
				B Coefficient:	0.95

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time, sec	Gradient	Permeability K, cm/sec	Temp, °C	R_t	Permeability K @ 20 °C, cm/sec
		Cell	Sample	Z_1	Z_2	Z_1-Z_2						
8/31	1	90.0	80.0	6.3	6.0	0.3	37	20.0	2.8E-07	20	1.000	2.8E-07
8/31	2	90.0	80.0	6.3	6.0	0.3	38	20.0	2.7E-07	20	1.000	2.7E-07
8/31	3	90.0	80.0	6.3	6.0	0.3	39	20.0	2.7E-07	20	1.000	2.7E-07
8/31	4	90.0	80.0	6.3	6.0	0.3	40	20.0	2.6E-07	20	1.000	2.6E-07

PERMEABILITY AT 20° C: 2.7 x 10^{-7} cm/sec (@ 10 psi effective stress)

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	Macon, GA		
GTX #:	GTX-303551		
Start Date:	9/11/2015	Tested By:	jm
End Date:	9/20/2015	Checked By:	mcm
Boring	---	Test #:	
Sample #:	C17-10-20150815-29		
Depth:	---		
Visual Description:	Moist, Stabilized soil/cement		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084 Increasing Tailwater

Sample Type:	Core	Permeant Fluid:	de-aired tap water
Orientation:	Vertical	Cell #:	K5

Sample Preparation: Sample placed into permeameter at as-received density and moisture content, (28 day cure).

Parameter	Initial	Final
Height, in	1.50	1.50
Diameter, in	3.04	3.04
Area, in^2	7.26	7.26
Volume, in^3	10.9	10.9
Mass, g	284	287
Bulk Density, pcf	99	100
Moisture Content, %	57.5	59.5
Dry Density, pcf	62.9	62.9
Degree of Saturation, %	---	97

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90	Pressure Increment, psi:	9.6
Sample Pressure, psi:	80	B Coefficient:	0.96

FLOW DATA

Date	Trial #	Pressure, psi		Head readings			Elapsed Time,	Gradient	Permeability K,	Temp,		Permeability K @ 20 °C,
		Cell	Sample	H_1	H_2	H_1-H_2	sec		cm/sec	°C	R_t	cm/sec
9/18	1	90	80	198.7	197.1	1.6	5580	52.1	9.6E-09	21	0.976	9.4E-09
9/18	2	90	80	197.1	195.3	1.8	6000	51.7	1.0E-08	21	0.976	9.9E-09
9/18	3	90	80	195.3	193.8	1.5	5160	51.3	9.9E-09	21	0.976	9.7E-09
9/18	4	90	80	193.8	192.2	1.6	5460	50.9	1.0E-08	21	0.976	9.8E-09

PERMEABILITY AT 20° C: 9.7×10^{-9} cm/sec (@ 10 psi effective stress)

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	8/25/2015	Tested By:	jcw
End Date:	9/8/2015	Checked By:	mcm
Boring #:	---		
Sample #:	H18-5-210150817-30 (7-day)		
Depth:	---		
Visual Description:	Moist, reddish yellow soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084

Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	4/5

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.65

Parameter	Initial	Final
Height, in	1.70	1.70
Diameter, in	3.03	3.03
Area, in^2	7.21	7.21
Volume, in^3	12.3	12.3
Mass, g	326	332
Bulk Density, pcf	101	103
Moisture Content, %	53.6	56.5
Dry Density, pcf	65.9	65.9
Degree of Saturation, %	94	99

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	94.97	Increased Cell Pressure, psi:	99.97	Cell Pressure Increment, psi:	5.00
Sample Pressure, psi:	84.94	Corresponding Sample Pressure, psi:	89.78	Sample Pressure Increment, psi:	4.84
				B Coefficient:	0.97

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time, sec	Gradient	Permeability K, cm/sec	Temp, °C	R_t	Permeability K @ 20 °C, cm/sec
		Cell	Sample	Z_1	Z_2	Z_1-Z_2						
9/4	1	95.0	84.9	10.2	10.0	0.2	160	29.8	2.9E-08	20	1.000	2.9E-08
9/4	2	95.0	84.9	10.2	10.0	0.2	164	29.8	2.8E-08	20	1.000	2.8E-08
9/4	3	95.0	84.9	10.2	10.0	0.2	172	29.8	2.7E-08	20	1.000	2.7E-08
9/4	4	95.0	84.9	10.2	10.0	0.2	178	29.8	2.6E-08	20	1.000	2.6E-08

PERMEABILITY AT 20° C: 2.7 x 10^{-8} cm/sec (@ 10 psi effective stress)

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A385_PM
SAMPLE No.:	H18-5-20150817-30 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	9/14/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	341.99 ***g***
3. WT WET SOIL + TARE	248.75 ***g***	590.53 ***g***
4. WT DRY SOIL + TARE	158.67 ***g***	500.66 ***g***
5. WT WATER, Ww	90.08 g	89.87 g
6. WT DRY SOIL, Ws	158.67 g	158.67 g
7. MOISTURE CONTENT, W	56.77 %	56.64 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.02 in.***	***3.02 in.***	***1.30 in.***	***1.29 in.***
No. 2	***3.02 in.***	***3.02 in.***	***1.28 in.***	***1.31 in.***
No. 3	***3.01 in.***	***3.05 in.***	***1.29 in.***	***1.30 in.***
Average	3.02 in.	3.03 in.	1.29 in.	1.30 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***248.75 g***	***248.54 g***
Area, Ao	7.14 in^2	7.21 in^2
Volume, Vo	9.22 in^3	9.38 in^3
Bulk Unit Weight	102.8 lb/ft^3	100.9 lb/ft^3
Dry Unit Weight	65.6 lb/ft^3	64.4 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A385_PM
SAMPLE No.:	H18-5-20150817-30 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	9/14/15		

			TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
TEST DATE	TIME (military)	TESTED BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
09/14/15	11 : 21	JDM	7.0	5.0	5.8				
09/14/15	12 : 8	JDM	17.0	15.0	15.8	8.8	10.0	3.0	0.30
09/14/15	13 : 15	JDM	27.0	25.0	26.0	21.1	10.0	5.3	0.53
09/14/15	14 : 47	JDM	37.0	35.0	35.9	33.6	10.0	7.6	0.76
09/14/15	15 : 30	JDM	47.0	45.0	45.9	44.3	10.0	8.4	0.84
09/15/15	8 : 2	JDM	57.0	55.0	55.8	55.2	10.0	9.3	0.93
09/15/15	9 : 31	JDM	67.0	65.0	*	65.3	10.0	9.5	0.95
09/15/15	9 : 31	JDM	57.0	55.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A385_PM
SAMPLE No.:	H18-5-20150817-30 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	9/14/15		

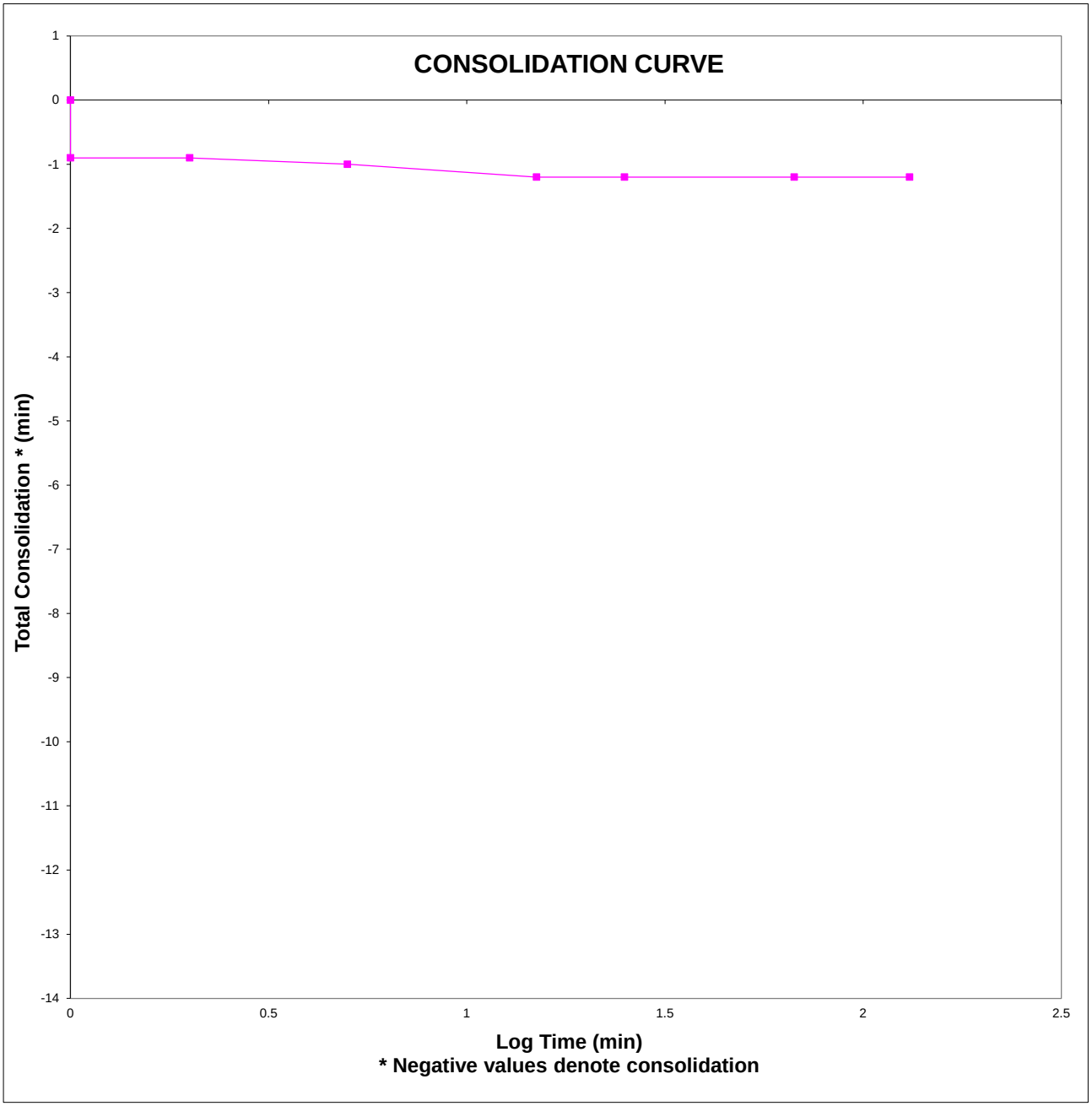
CELL PRESSURE: 65 psi **BACK PRESSURE:** 55 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
9 / 15 / 15	JDM	9 : 40	0	0	0	23.0	23.0	0.0
9 / 15 / 15	JDM	9 : 41	1	1	0.00	22.5	22.6	0.9
9 / 15 / 15	JDM	9 : 42	1	2	0.30	22.5	22.6	0.9
9 / 15 / 15	JDM	9 : 45	3	5	0.70	22.5	22.5	1.0
9 / 15 / 15	JDM	9 : 55	10	15	1.18	22.3	22.5	1.2
9 / 15 / 15	JDM	10 : 5	10	25	1.40	22.3	22.5	1.2
9 / 15 / 15	JDM	10 : 47	42	67	1.83	22.3	22.5	1.2
9 / 15 / 15	JDM	11 51	64	131	2.12	22.3	22.5	1.2

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A385_PM
SAMPLE No.:	H18-5-20150817-30 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	9/14/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A385_PM
SAMPLE No.:	H18-5-20150817-30 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	9/14/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
9 / 15 / 15	JDM	11 : 51	0	1.0	24.0	20.0	65.0	55.0	52.0
9 / 15 / 15	JDM	13 : 27	96	1.6	23.4	20.0	65.0	55.0	52.0
9 / 15 / 15	JDM	15 : 21	114	2.2	22.8	20.0	65.0	55.0	52.0
9 / 16 / 15	JDM	8 : 45	1044	6.5	18.5	20.0	65.0	55.0	52.0
9 / 16 / 15	JDM	10 : 8	RESET	1.0	24.0	20.0	65.0	55.0	52.0
9 / 16 / 15	JDM	12 : 6	118	1.5	23.5	20.0	65.0	55.0	52.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A385_PM
SAMPLE No.:	H18-5-20150817-30 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	9/14/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				71.394		
96	0.6	0.6	1.00	71.028	3.17E-08	3.19E-08
114	0.6	0.6	1.00	70.662	2.69E-08	2.70E-08
1044	4.3	4.3	1.00	68.038	2.15E-08	2.16E-08
RESET				71.394		
118	0.5	0.5	1.00	71.089	2.15E-08	2.16E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A385_PM
SAMPLE No.:	H18-5-20150817-30 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	9/14/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**102.8 lb/ft³**	**100.9 lb/ft³**
DRY UNIT WEIGHT	**65.6 lb/ft³**	**64.4 lb/ft³**
MOISTURE CONTENT	**56.8 %**	**56.6 %**
PERMEABILITY @ 20°C	**2.6E-08 cm/sec**	

Client:	Kemron Environmental
Project Name:	Macon AGL
Project Location:	Macon, GA
GTX #:	GTX-303551
Start Date:	9/2/2015
End Date:	9/11/2015
Tested By:	jm
Checked By:	mcm
Boring	---
Test #:	
Sample #:	K21-10-20150818-31 (7 day)
Depth:	---
Visual Description:	Moist, Stabilized soil/cement

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084 Increasing Tailwater

Sample Type:	Core	Permeant Fluid:	de-aired tap water
Orientation:	Vertical	Cell #:	P7

Sample Preparation: Sample placed into permeameter at as-received density and moisture content, (7 day cure).

Parameter	Initial	Final
Height, in	1.64	1.64
Diameter, in	3.02	3.02
Area, in^2	7.16	7.16
Volume, in^3	11.7	11.7
Mass, g	314	318
Bulk Density, pcf	102	103
Moisture Content, %	53.0	54.8
Dry Density, pcf	66.4	66.4
Degree of Saturation, %	---	97

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90	Pressure Increment, psi:	9.5
Sample Pressure, psi:	80	B Coefficient:	0.95

FLOW DATA

Date	Trial #	Pressure, psi		Head readings			Elapsed Time,	Gradient	Permeability K,	Temp,		Permeability K @ 20 °C,
		Cell	Sample	H_1	H_2	H_1-H_2	sec		cm/sec	°C	R_t	cm/sec
9/4	2	90	80	190.8	190.6	0.2	48000	45.8	1.6E-10	21	0.976	1.6E-10
10/2	3	90	80	190.6	190.1	0.5	156480	45.7	1.2E-10	21	0.976	1.2E-10
10/2	4	90	80	190.1	189.5	0.6	155340	45.6	1.5E-10	21	0.976	1.5E-10
10/2	5	90	80	189.5	189.1	0.3	86820	45.5	1.4E-10	21	0.976	1.4E-10

PERMEABILITY AT 20° C: 1.4 x 10^{-10} cm/sec (@ 10 psi effective stress)

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A386_PM
SAMPLE No.:	K21-10-20150818-31 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	9/15/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	298.40 ***g***
3. WT WET SOIL + TARE	262.41 ***g***	564.41 ***g***
4. WT DRY SOIL + TARE	170.92 ***g***	469.32 ***g***
5. WT WATER, Ww	91.49 g	95.09 g
6. WT DRY SOIL, Ws	170.92 g	170.92 g
7. MOISTURE CONTENT, W	53.53 %	55.63 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.01 in.***	***3.03 in.***	***1.40 in.***	***1.38 in.***
No. 2	***3.02 in.***	***3.02 in.***	***1.35 in.***	***1.38 in.***
No. 3	***3.03 in.***	***3.04 in.***	***1.38 in.***	***1.37 in.***
Average	3.02 in.	3.03 in.	1.37 in.	1.38 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***262.41 g***	***266.01 g***
Area, Ao	7.15 in^2	7.22 in^2
Volume, Vo	9.83 in^3	9.94 in^3
Bulk Unit Weight	101.7 lb/ft^3	101.9 lb/ft^3
Dry Unit Weight	66.3 lb/ft^3	65.5 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A386_PM
SAMPLE No.:	K21-10-20150818-31 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	9/15/15		

			TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
TEST DATE	TIME (military)	TESTED BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
09/15/15	12 : 43	JDM	7.0	5.0	5..9				
09/15/15	13 : 28	JDM	17.0	15.0	15.8	9.7	10.0	#VALUE!	#VALUE!
09/15/15	13 : 58	JDM	27.0	25.0	25.8	21.8	10.0	6.0	0.60
09/15/15	14 : 28	JDM	37.0	35.0	35.9	33.0	10.0	7.2	0.72
09/15/15	15 : 24	JDM	47.0	45.0	45.7	43.9	10.0	8.0	0.80
09/16/15	8 : 46	JDM	57.0	55.0	55.8	54.8	10.0	9.1	0.91
09/16/15	10 : 7	JDM	67.0	65.0	65.8	65.0	10.0	9.2	0.92
09/16/15	10 : 37	JDM	77.0	75.0	*	75.3	10.0	9.5	0.95
09/16/15	10 : 37	JDM	67.0	65.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A386_PM
SAMPLE No.:	K21-10-20150818-31 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	9/15/15		

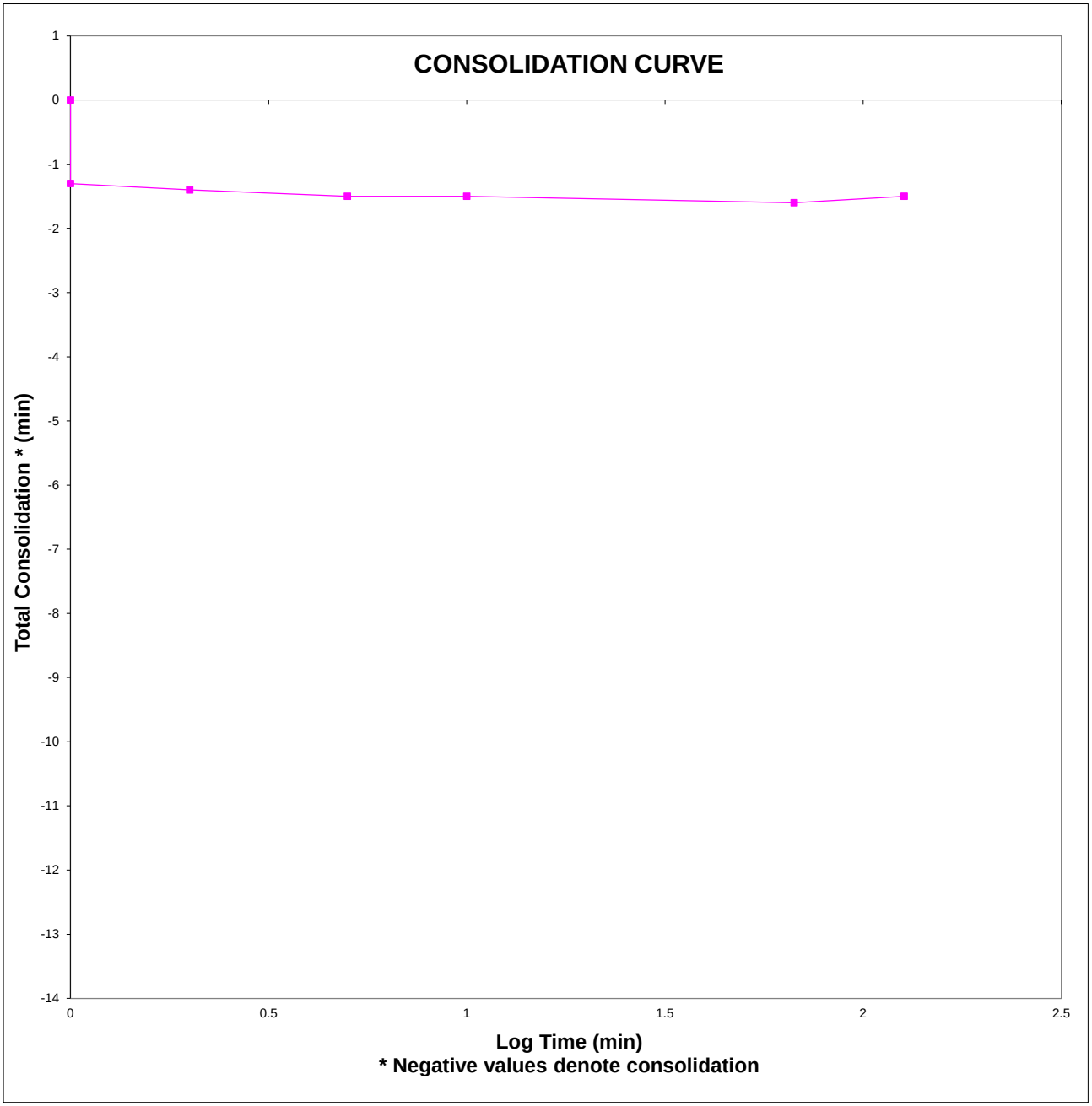
CELL PRESSURE: 65 psi **BACK PRESSURE:** 55 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
9 / 16 / 15	JDM	10 : 58	0	0	0	24.0	24.0	0.0
9 / 16 / 15	JDM	10 : 59	1	1	0.00	23.5	23.2	1.3
9 / 16 / 15	JDM	11 : 0	1	2	0.30	23.4	23.2	1.4
9 / 16 / 15	JDM	11 : 3	3	5	0.70	23.3	23.2	1.5
9 / 16 / 15	JDM	11 : 8	5	10	1.00	23.3	23.2	1.5
9 / 16 / 15	JDM	12 : 5	57	67	1.83	23.3	23.1	1.6
9 / 16 / 15	JDM	13 : 5	60	127	2.10	23.3	23.2	1.5

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A386_PM
SAMPLE No.:	K21-10-20150818-31 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	9/15/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A386_PM
SAMPLE No.:	K21-10-20150818-31 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	9/15/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
9 / 16 / 15	JDM	14 : 22	0	1.0	24.0	20.0	75.0	65.0	62.0
9 / 17 / 15	JDM	7 : 50	1048	4.4	20.6	20.0	75.0	65.0	62.0
9 / 17 / 15	JDM	11 : 5	195	4.9	20.1	20.0	75.0	65.0	62.0
9 / 18 / 15	JDM	7 : 44	1239	8.0	17.0	20.0	75.0	65.0	62.0
9 / 18 / 15	JDM	7 : 45	RESET	1.0	24.0	20.0	75.0	65.0	62.0
9 / 18 / 15	JDM	11 : 7	202	1.5	23.5	20.0	75.0	65.0	62.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A386_PM
SAMPLE No.:	K21-10-20150818-31 (28-Day	EQUIPMENT No.:	1
TEST DATE:	9/15/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				67.031		
1048	3.4	3.4	1.00	65.083	1.77E-08	1.78E-08
195	0.5	0.5	1.00	64.797	1.43E-08	1.43E-08
1239	3.1	3.1	1.00	63.021	1.41E-08	1.42E-08
RESET				67.031		
202	0.5	0.5	1.00	66.744	1.34E-08	1.34E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A386_PM
SAMPLE No.:	K21-10-20150818-31 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	9/15/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**101.7 lb/ft³**	**101.9 lb/ft³**
DRY UNIT WEIGHT	**66.3 lb/ft³**	**65.5 lb/ft³**
MOISTURE CONTENT	**53.5 %**	**55.6 %**
PERMEABILITY @ 20°C	**1.5E-08 cm/sec**	

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	Macon, GA		
GTX #:	GTX-303551		
Start Date:	8/28/2015	Tested By:	jm
End Date:	9/3/2015	Checked By:	mcm
Boring	---	Test #:	
Sample #:	S21-15-20150819-32		
Depth:	---		
Visual Description:	Moist, Stabilized soil/cement		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084 Increasing Tailwater

Sample Type:	Core	Permeant Fluid:	de-aired tap water
Orientation:	Vertical	Cell #:	K9

Sample Preparation: Sample placed into permeameter at as-received density and moisture content, (7 day cure).

Parameter	Initial	Final
Height, in	1.69	1.69
Diameter, in	3.03	3.03
Area, in^2	7.21	7.21
Volume, in^3	12.2	12.2
Mass, g	308	310
Bulk Density, pcf	96	97
Moisture Content, %	67.4	68.4
Dry Density, pcf	57.4	57.4
Degree of Saturation, %	---	96

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90	Pressure Increment, psi:	9.5
Sample Pressure, psi:	80	B Coefficient:	0.95

FLOW DATA

Date	Trial #	Pressure, psi		Head readings			Elapsed Time,	Gradient	Permeability K,	Temp,		Permeability K @ 20 °C,
		Cell	Sample	H_1	H_2	H_1-H_2	sec		cm/sec	°C	R_t	cm/sec
9/1	3	90	80	187.5	187.2	0.3	6060	43.7	2.0E-09	21	0.976	1.9E-09
9/1	4	90	80	187.2	186.7	0.5	9000	43.6	2.2E-09	21	0.976	2.2E-09
9/1	5	90	80	186.7	185.9	0.8	13560	43.5	2.4E-09	21	0.976	2.3E-09
9/2	6	90	80	185.9	183.3	2.6	51000	43.3	2.1E-09	21	0.976	2.0E-09

PERMEABILITY AT 20° C: 2.1 x 10^{-9} cm/sec (@ 10 psi effective stress)

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	9/16/2015	Tested By:	jcw
End Date:	9/21/2015	Checked By:	mcm
Boring #:	---		
Sample #:	S21-15-20150819-32 (28-day)		
Depth:	---		
Visual Description:	Moist, light yellowish brown soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084
Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	7/3

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.55

Parameter	Initial	Final
Height, in	1.51	1.51
Diameter, in	3.01	3.01
Area, in^2	7.12	7.12
Volume, in^3	10.7	10.7
Mass, g	274	277
Bulk Density, pcf	97	98
Moisture Content, %	65.7	67.3
Dry Density, pcf	58.5	58.5
Degree of Saturation, %	97	100

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90.08	Increased Cell Pressure, psi:	95.13	Cell Pressure Increment, psi:	5.05
Sample Pressure, psi:	79.82	Corresponding Sample Pressure, psi:	84.70	Sample Pressure Increment, psi:	4.88
				B Coefficient:	0.97

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time,	Gradient	Permeability K,	Temp,		Permeability K @ 20 °C,
		Cell	Sample	Z_1	Z_2	Z_1-Z_2	sec		cm/sec	°C	R_t	cm/sec
9/18	1	90.1	79.8	9.1	8.9	0.2	179	29.9	2.6E-08	20	1.000	2.6E-08
9/18	2	90.1	79.8	9.1	8.9	0.2	187	29.9	2.5E-08	20	1.000	2.5E-08
9/18	3	90.1	79.8	9.1	8.9	0.2	189	29.9	2.5E-08	20	1.000	2.5E-08
9/18	4	90.1	79.8	9.1	8.9	0.2	193	29.9	2.4E-08	20	1.000	2.4E-08

PERMEABILITY AT 20° C: 2.5 x 10^{-8} cm/sec (@ 10 psi effective stress)

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	Macon, GA		
GTX #:	GTX-303551		
Start Date:	9/8/2015	Tested By:	jm
End Date:	9/15/2015	Checked By:	mcm
Boring	---	Test #:	
Sample #:	X20-5-20150820-33		
Depth:	---		
Visual Description:	Moist, Stabilized soil/cement		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084 Increasing Tailwater

Sample Type:	Core	Permeant Fluid:	de-aired tap water
Orientation:	Vertical	Cell #:	P2

Sample Preparation: Sample placed into permeameter at as-received density and moisture content, (7 day cure).

Parameter	Initial	Final
Height, in	1.56	1.56
Diameter, in	3.03	3.03
Area, in^2	7.21	7.21
Volume, in^3	11.2	11.2
Mass, g	280	284
Bulk Density, pcf	95	96
Moisture Content, %	67.7	70.0
Dry Density, pcf	56.4	56.4
Degree of Saturation, %	---	96

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90	Pressure Increment, psi:	9.6
Sample Pressure, psi:	80	B Coefficient:	0.96

FLOW DATA

Date	Trial #	Pressure, psi		Head readings			Elapsed Time,	Gradient	Permeability K,	Temp,		Permeability K @ 20 °C,
		Cell	Sample	H_1	H_2	$H_1.H_2$	sec		cm/sec	°C	R_t	cm/sec
9/10	1	90	80	197.3	197.1	0.2	27000	49.8	2.6E-10	21	0.976	2.5E-10
9/10	2	90	80	197.1	197.0	0.1	13920	49.7	2.5E-10	21	0.976	2.5E-10
9/11	3	90	80	197.0	196.7	0.3	51420	49.7	2.1E-10	21	0.976	2.0E-10
9/12	4	90	80	196.7	196.2	0.5	86880	49.6	2.0E-10	21	0.976	2.0E-10

PERMEABILITY AT 20° C: 2.3 x 10^{-10} cm/sec (@ 10 psi effective stress)

Client:	Kemron Environmental
Project Name:	Macon AGL
Project Location:	---
GTX #:	303565
Start Date:	9/16/2015
End Date:	9/21/2015
Tested By:	jcw
Checked By:	mcm
Boring #:	---
Sample #:	X20-5-20150820-33 (28 day)
Depth:	---
Visual Description:	Moist, light yellowish brown soil cement mix

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084

Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	14/11

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.55

Parameter	Initial	Final
Height, in	1.43	1.43
Diameter, in	3.03	3.03
Area, in^2	7.21	7.21
Volume, in^3	10.3	10.3
Mass, g	257	261
Bulk Density, pcf	95	96
Moisture Content, %	66.8	69.0
Dry Density, pcf	56.9	56.9
Degree of Saturation, %	95	98

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90.04	Increased Cell Pressure, psi:	95.09	Cell Pressure Increment, psi:	5.05
Sample Pressure, psi:	79.78	Corresponding Sample Pressure, psi:	84.01	Sample Pressure Increment, psi:	4.23
				B Coefficient:	0.84

*B value did not increase with increase in pressure.
Final degree of saturation >95%.

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time, sec	Gradient	Permeability K, cm/sec	Temp, °C	R_t	Permeability K @ 20 °C, cm/sec
		Cell	Sample	Z_1	Z_2	Z_1-Z_2						
9/18	1	90.0	79.8	20.0	19.8	0.2	467	69.4	4.2E-09	20	1.000	4.2E-09
9/18	2	90.0	79.8	20.0	19.8	0.2	494	69.4	4.0E-09	20	1.000	4.0E-09
9/18	3	90.0	79.8	20.0	19.8	0.2	517	69.4	3.8E-09	20	1.000	3.8E-09
9/18	4	90.0	79.8	20.0	19.8	0.2	548	69.4	3.6E-09	20	1.000	3.6E-09

PERMEABILITY AT 20° C: 3.9 x 10^{-9} cm/sec (@ 10 psi effective stress)

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	Macon, GA		
GTX #:	GTX-303551		
Start Date:	9/2/2015	Tested By:	jm
End Date:	9/6/2015	Checked By:	mcm
Boring	---	Test #:	
Sample #:	AG23-10-20150822-34		
Depth:	---		
Visual Description:	Moist, Stabilized soil/cement		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084 Increasing Tailwater

Sample Type:	Core	Permeant Fluid:	de-aired tap water
Orientation:	Vertical	Cell #:	K9

Sample Preparation: Sample placed into permeameter at as-received density and moisture content, (7 day cure).

Parameter	Initial	Final
Height, in	1.76	1.76
Diameter, in	3.04	3.04
Area, in^2	7.26	7.26
Volume, in^3	12.8	12.8
Mass, g	326	331
Bulk Density, pcf	97	99
Moisture Content, %	59.6	62.1
Dry Density, pcf	60.9	60.9
Degree of Saturation, %	---	96

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90	Pressure Increment, psi:	9.5
Sample Pressure, psi:	80	B Coefficient:	0.95

FLOW DATA

Date	Trial #	Pressure, psi		Head readings			Elapsed Time,	Gradient	Permeability K,	Temp,		Permeability K @ 20 °C,
		Cell	Sample	H_1	H_2	H_1-H_2	sec		cm/sec	°C	R_t	cm/sec
9/4	4	90	80	205.3	205.1	0.2	6960	45.9	1.1E-09	21	0.976	1.1E-09
9/4	5	90	80	205.1	204.8	0.3	9000	45.9	1.3E-09	21	0.976	1.2E-09
9/4	6	90	80	204.8	204.5	0.3	10200	45.8	1.1E-09	21	0.976	1.1E-09
9/5	7	90	80	204.5	203.0	1.5	54060	45.7	1.1E-09	21	0.976	1.0E-09

PERMEABILITY AT 20° C: 1.1 x 10^{-9} cm/sec (@ 10 psi effective stress)

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A394_PM
SAMPLE No.:	AG23-10-20150822-34 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	9/21/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	342.04 ***g***
3. WT WET SOIL + TARE	316.89 ***g***	662.60 ***g***
4. WT DRY SOIL + TARE	201.24 ***g***	543.28 ***g***
5. WT WATER, Ww	115.65 g	119.32 g
6. WT DRY SOIL, Ws	201.24 g	201.24 g
7. MOISTURE CONTENT, W	57.47 %	59.29 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.02 in.***	***3.01 in.***	***1.71 in.***	***1.73 in.***
No. 2	***3.03 in.***	***3.02 in.***	***1.68 in.***	***1.68 in.***
No. 3	***3.04 in.***	***3.03 in.***	***1.76 in.***	***1.77 in.***
Average	3.03 in.	3.02 in.	1.72 in.	1.73 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***316.89 g***	***320.56 g***
Area, Ao	7.19 in^2	7.16 in^2
Volume, Vo	12.36 in^3	12.36 in^3
Bulk Unit Weight	97.7 lb/ft^3	98.8 lb/ft^3
Dry Unit Weight	62.0 lb/ft^3	62.0 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A394_PM
SAMPLE No.:	AG23-10-20150822-34 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	9/21/15		

			TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
TEST DATE	TIME (military)	TESTED BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
09/21/15	11 : 33	JDM	7.0	5.0	5.5				
09/21/15	12 : 20	JDM	17.0	15.0	15.2	8.8	10.0	3.3	0.33
09/21/15	13 : 0	JDM	27.0	25.0	25.1	20.9	10.0	5.7	0.57
09/21/15	13 : 42	JDM	37.0	35.0	35.0	32.4	10.0	7.3	0.73
09/21/15	14 : 15	JDM	47.0	45.0	44.8	43.3	10.0	8.3	0.83
09/21/15	14 : 57	JDM	57.0	55.0	54.8	53.7	10.0	8.9	0.89
09/21/15	15 : 29	JDM	67.0	65.0	64.8	64.1	10.0	9.3	0.93
09/22/15	7 : 53	JDM	77.0	75.0	*	74.4	10.0	9.6	0.96
09/22/15	7 : 53	JDM	67.0	65.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A394_PM
SAMPLE No.:	AG23-10-20150822-34 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	9/21/15		

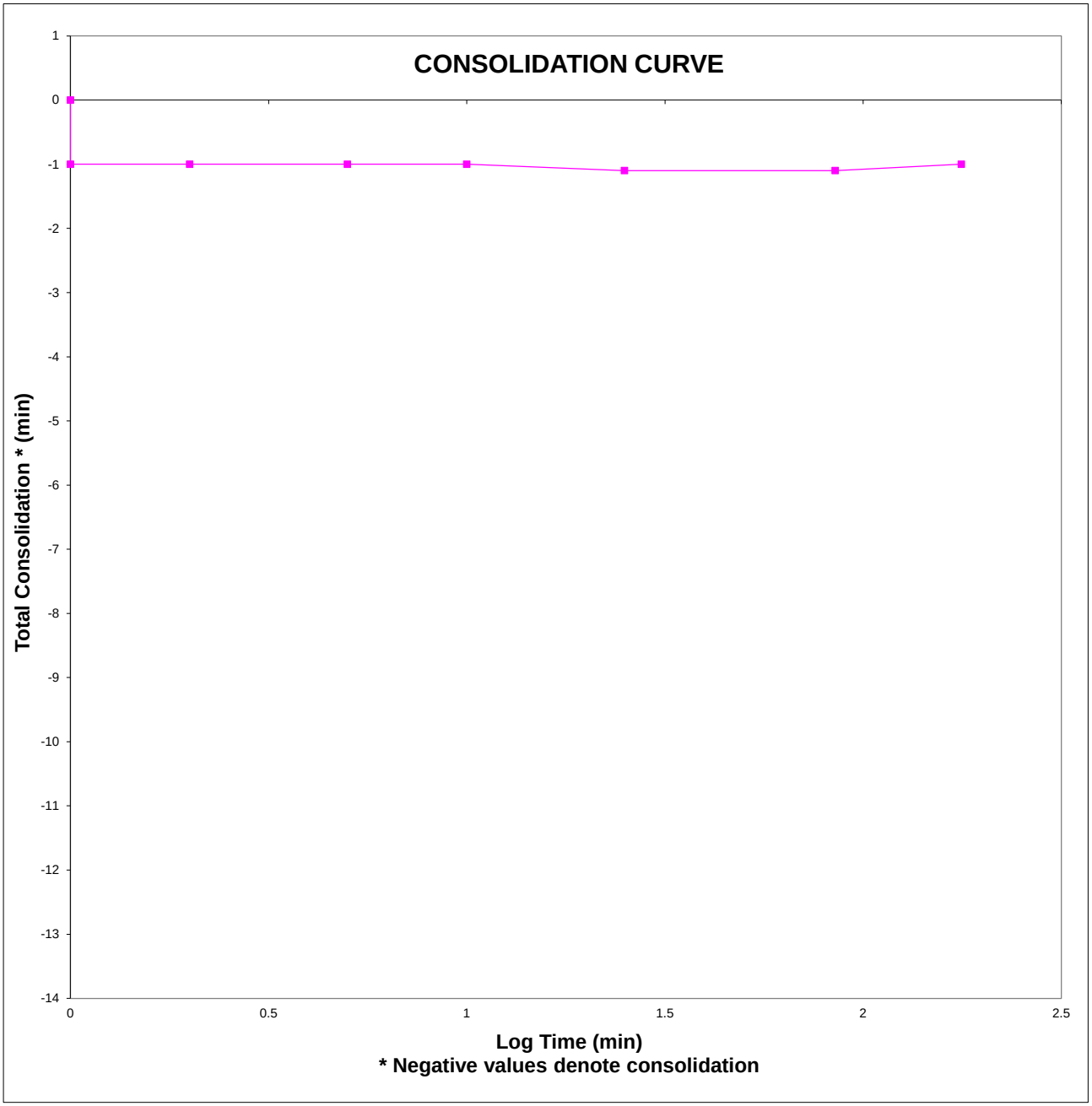
CELL PRESSURE: 75 psi **BACK PRESSURE:** 65 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
9 / 22 / 15	JDM	8 : 5	0	0	0	24.0	24.0	0.0
9 / 22 / 15	JDM	8 : 6	1	1	0.00	23.5	23.5	1.0
9 / 22 / 15	JDM	8 : 7	1	2	0.30	23.5	23.5	1.0
9 / 22 / 15	JDM	8 : 10	3	5	0.70	23.5	23.5	1.0
9 / 22 / 15	JDM	8 : 15	5	10	1.00	23.5	23.5	1.0
9 / 22 / 15	JDM	8 : 30	15	25	1.40	23.5	23.4	1.1
9 / 22 / 15	JDM	9 : 30	60	85	1.93	23.5	23.4	1.1
9 / 22 / 15	JDM	11 2	92	177	2.25	23.5	23.5	1.0

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A394_PM
SAMPLE No.:	AG23-10-20150822-34 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	9/21/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A394_PM
SAMPLE No.:	AG23-10-20150822-34 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	9/21/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
9 / 22 / 15	JDM	11 : 4	0	1.0	24.0	20.0	75.0	65.0	62.0
9 / 22 / 15	JDM	13 : 43	159	1.6	23.4	20.0	75.0	65.0	62.0
9 / 23 / 15	JDM	8 : 12	1109	4.1	20.9	20.0	75.0	65.0	62.0
9 / 23 / 15	JDM	13 : 22	310	4.8	20.2	20.0	75.0	65.0	62.0
9 / 24 / 15	JDM	7 : 50	1108	6.3	18.7	20.0	75.0	65.0	62.0
9 / 24 / 15	JDM	12 : 42	292	6.8	18.2	20.0	75.0	65.0	62.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A394_PM
SAMPLE No.:	AG23-10-20150822-34 (28-Da	EQUIPMENT No.:	2
TEST DATE:	9/21/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				53.639		
159	0.6	0.6	1.00	53.364	2.53E-08	2.54E-08
1109	2.5	2.5	1.00	52.218	1.53E-08	1.54E-08
310	0.7	0.7	1.00	51.897	1.56E-08	1.56E-08
1108	1.5	1.5	1.00	51.209	9.43E-09	9.47E-09
292	0.5	0.5	1.00	50.980	1.20E-08	1.21E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A394_PM
SAMPLE No.:	AG23-10-20150822-34 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	9/21/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	97.7 lb/ft³	98.8 lb/ft³
DRY UNIT WEIGHT	62.0 lb/ft³	62.0 lb/ft³
MOISTURE CONTENT	57.5 %	59.3 %
PERMEABILITY @ 20°C	1.3E-08 cm/sec	

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	Macon, GA		
GTX #:	GTX-303551		
Start Date:	8/28/2015	Tested By:	jm
End Date:	9/3/2015	Checked By:	mcm
Boring	---	Test #:	
Sample #:	AN24-15-20150824-35		
Depth:	---		
Visual Description:	Moist, Stabilized soil/cement		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084 Increasing Tailwater

Sample Type:	Core	Permeant Fluid:	de-aired tap water
Orientation:	Vertical	Cell #:	K4

Sample Preparation: Sample placed into permeameter at as-received density and moisture content, (7 day cure).

Parameter	Initial	Final
Height, in	1.65	1.65
Diameter, in	3.04	3.04
Area, in^2	7.26	7.26
Volume, in^3	12.0	12.0
Mass, g	308	312
Bulk Density, pcf	98	99
Moisture Content, %	59.7	62.0
Dry Density, pcf	61.2	61.2
Degree of Saturation, %	---	96

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90	Pressure Increment, psi:	9.5
Sample Pressure, psi:	80	B Coefficient:	0.95

FLOW DATA

Date	Trial #	Pressure, psi		Head readings			Elapsed Time,	Gradient	Permeability K,	Temp,		Permeability K @ 20 °C,
		Cell	Sample	H_1	H_2	H_1-H_2	sec		cm/sec	°C	R_t	cm/sec
9/2	2	90	80	207.5	207.2	0.3	1980	49.5	5.3E-09	21	0.976	5.2E-09
9/2	3	90	80	207.2	206.5	0.7	4200	49.4	5.9E-09	21	0.976	5.7E-09
9/2	4	90	80	206.5	206.1	0.4	2400	49.3	5.9E-09	21	0.976	5.7E-09
9/2	5	90	80	206.1	205.5	0.6	3600	49.2	5.9E-09	21	0.976	5.8E-09

PERMEABILITY AT 20° C: 5.61 x 10^{-9} cm/sec (@ 10 psi effective stress)

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A395_PM
SAMPLE No.:	AN24-15-20150824-35 (28-Day)	EQUIPMENT No.:	4
TEST DATE:	9/21/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	297.90 ***g***
3. WT WET SOIL + TARE	299.80 ***g***	600.82 ***g***
4. WT DRY SOIL + TARE	187.60 ***g***	485.50 ***g***
5. WT WATER, Ww	112.20 g	115.32 g
6. WT DRY SOIL, Ws	187.60 g	187.60 g
7. MOISTURE CONTENT, W	59.81 %	61.47 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.03 in.***	***3.01 in.***	***1.62 in.***	***1.67 in.***
No. 2	***3.03 in.***	***3.03 in.***	***1.65 in.***	***1.64 in.***
No. 3	***3.05 in.***	***3.03 in.***	***1.68 in.***	***1.66 in.***
Average	3.04 in.	3.02 in.	1.65 in.	1.66 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***299.80 g***	***302.92 g***
Area, Ao	7.25 in^2	7.17 in^2
Volume, Vo	11.94 in^3	11.89 in^3
Bulk Unit Weight	95.6 lb/ft^3	97.1 lb/ft^3
Dry Unit Weight	59.8 lb/ft^3	60.1 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A395_PM
SAMPLE No.:	AN24-15-20150824-35 (28-Day)	EQUIPMENT No.:	4
TEST DATE:	9/21/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
09/21/15	11 : 37	JDM	7.0	5.0	5.3				
09/21/15	12 : 18	JDM	17.0	15.0	15.3	10.7	10.0	5.4	0.54
09/21/15	12 : 59	JDM	27.0	25.0	25.3	22.6	10.0	7.3	0.73
09/21/15	13 : 41	JDM	37.0	35.0	35.4	33.6	10.0	8.3	0.83
09/21/15	14 : 11	JDM	47.0	45.0	45.3	44.3	10.0	8.9	0.89
09/21/15	14 : 59	JDM	57.0	55.0	55.4	54.7	10.0	9.4	0.94
09/21/15	15 : 30	JDM	67.0	65.0	*	65.0	10.0	9.6	0.96
09/21/15	15 : 30	JDM	77.0	75.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A395_PM
SAMPLE No.:	AN24-15-20150824-35 (28-Day)	EQUIPMENT No.:	4
TEST DATE:	9/21/15		

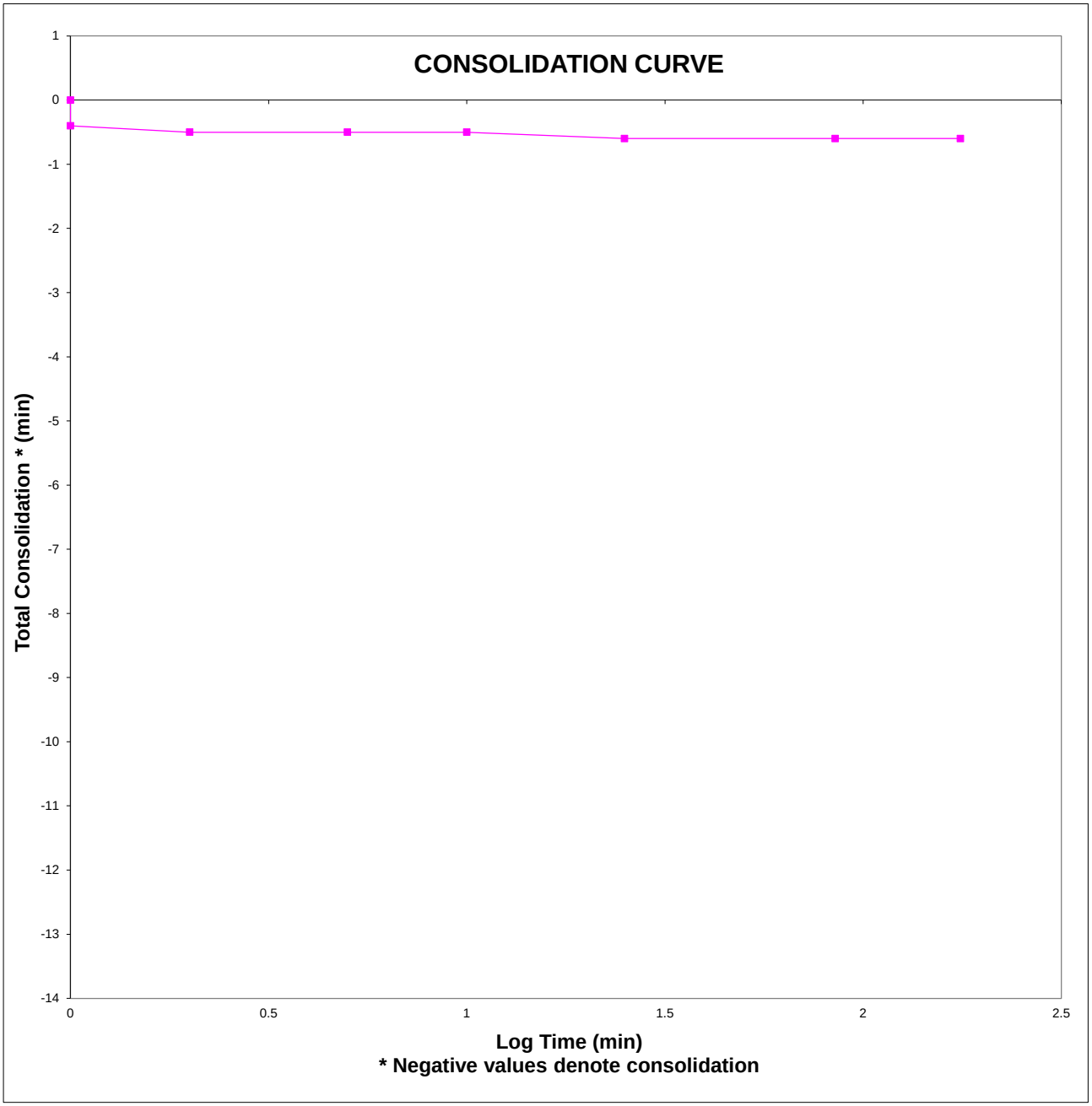
CELL PRESSURE: 65 psi **BACK PRESSURE:** 55 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
9 / 22 / 15	JDM	8 : 5	0	0	0	24.0	24.0	0.0
9 / 22 / 15	JDM	8 : 6	1	1	0.00	23.9	23.7	0.4
9 / 22 / 15	JDM	8 : 7	1	2	0.30	23.9	23.6	0.5
9 / 22 / 15	JDM	8 : 10	3	5	0.70	23.9	23.6	0.5
9 / 22 / 15	JDM	8 : 15	5	10	1.00	23.9	23.6	0.5
9 / 22 / 15	JDM	8 : 30	15	25	1.40	23.8	23.6	0.6
9 / 22 / 15	JDM	9 : 30	60	85	1.93	23.8	23.6	0.6
9 / 22 / 15	JDM	11 1	91	176	2.25	23.8	23.6	0.6

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A395_PM
SAMPLE No.:	AN24-15-20150824-35 (28-Day)	EQUIPMENT No.:	4
TEST DATE:	9/21/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A395_PM
SAMPLE No.:	AN24-15-20150824-35 (28-Day)	EQUIPMENT No.:	4
TEST DATE:	9/21/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
9 / 22 / 15	JDM	11 : 6	0	1.0	24.0	20.0	65.0	55.0	52.0
9 / 22 / 15	JDM	12 : 39	93	1.5	23.5	20.0	65.0	55.0	52.0
9 / 22 / 15	JDM	14 : 41	122	2.0	23.0	20.0	65.0	55.0	52.0
9 / 23 / 15	JDM	8 : 10	1049	5.8	19.2	20.0	65.0	55.0	52.0
9 / 23 / 15	JDM	11 : 39	209	6.4	18.6	20.0	65.0	55.0	52.0
9 / 23 / 15	JDM	15 : 2	203	7.0	18.0	20.0	65.0	55.0	52.0
9 / 24 / 15	JDM	7 : 51	1009	9.2	15.8	20.0	65.0	55.0	52.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A395_PM
SAMPLE No.:	AN24-15-20150824-35 (28-Da	EQUIPMENT No.:	4
TEST DATE:	9/21/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				55.906		
93	0.5	0.5	1.00	55.668	3.44E-08	3.45E-08
122	0.5	0.5	1.00	55.429	2.63E-08	2.64E-08
1049	3.8	3.8	1.00	53.613	2.37E-08	2.38E-08
209	0.6	0.6	1.00	53.326	1.91E-08	1.92E-08
203	0.6	0.6	1.00	53.040	1.98E-08	1.99E-08
1009	2.2	2.2	1.00	51.989	1.48E-08	1.49E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A395_PM
SAMPLE No.:	AN24-15-20150824-35 (28-Day)	EQUIPMENT No.:	4
TEST DATE:	9/21/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	95.6 lb/ft³	97.1 lb/ft³
DRY UNIT WEIGHT	59.8 lb/ft³	60.1 lb/ft³
MOISTURE CONTENT	59.8 %	61.5 %
PERMEABILITY @ 20°C	1.9E-08 cm/sec	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A360_PM
SAMPLE No.:	AV24-5-20150825-36 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	9/1/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	289.46 ***g***
3. WT WET SOIL + TARE	308.70 ***g***	613.20 ***g***
4. WT DRY SOIL + TARE	225.61 ***g***	515.07 ***g***
5. WT WATER, Ww	83.09 g	98.13 g
6. WT DRY SOIL, Ws	225.61 g	225.61 g
7. MOISTURE CONTENT, W	36.83 %	43.50 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.04 in.***	***3.04 in.***	***1.54 in.***	***1.54 in.***
No. 2	***3.03 in.***	***3.03 in.***	***1.55 in.***	***1.57 in.***
No. 3	***3.01 in.***	***3.01 in.***	***1.53 in.***	***1.53 in.***
Average	3.03 in.	3.03 in.	1.54 in.	1.55 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***308.70 g***	***323.74 g***
Area, Ao	7.19 in^2	7.20 in^2
Volume, Vo	11.06 in^3	11.15 in^3
Bulk Unit Weight	106.3 lb/ft^3	110.6 lb/ft^3
Dry Unit Weight	77.7 lb/ft^3	77.1 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A360_PM
SAMPLE No.:	AV24-5-20150825-36 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	9/1/15		

			TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
TEST DATE	TIME (military)	TESTED BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
09/02/15	11 : 34	JDM	7.0	5.0	5.8				
09/02/15	12 : 35	JDM	17.0	15.0	16.1	9.5	10.0	3.7	0.37
09/02/15	14 : 21	JDM	27.0	25.0	25.9	22.6	10.0	6.5	0.65
09/03/15	7 : 55	JDM	37.0	35.0	35.6	34.5	10.0	8.6	0.86
09/03/15	9 : 14	JDM	47.0	45.0	45.7	44.0	10.0	8.4	0.84
09/03/15	10 : 16	JDM	57.0	55.0	*	55.2	10.0	9.5	0.95
09/03/15	10 : 16	JDM	47.0	45.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A360_PM
SAMPLE No.:	AV24-5-20150825-36 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	9/1/15		

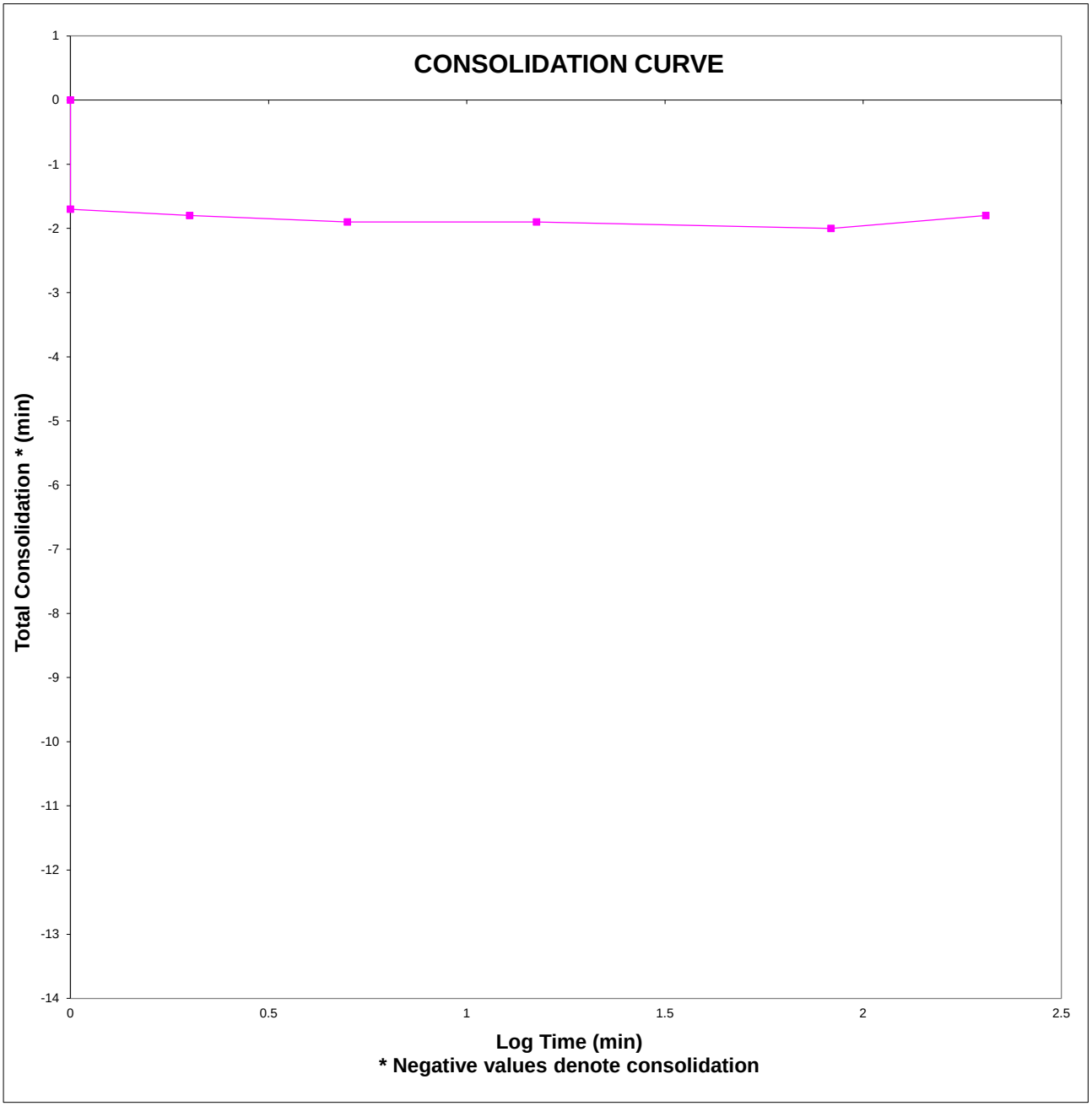
CELL PRESSURE: 55 psi **BACK PRESSURE:** 45 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
9 / 3 / 15	JDM	10 : 20	0	0	0	24.0	24.0	0.0
9 / 3 / 15	JDM	10 : 21	1	1	0.00	23.1	23.2	1.7
9 / 3 / 15	JDM	10 : 22	1	2	0.30	23.0	23.2	1.8
9 / 3 / 15	JDM	10 : 25	3	5	0.70	23.0	23.1	1.9
9 / 3 / 15	JDM	10 : 35	10	15	1.18	23.0	23.1	1.9
9 / 3 / 15	JDM	11 : 43	68	83	1.92	22.9	23.1	2.0
9 / 3 / 15	JDM	13 : 44	121	204	2.31	23.0	23.2	1.8

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A360_PM
SAMPLE No.:	AV24-5-20150825-36 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	9/1/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A360_PM
SAMPLE No.:	AV24-5-20150825-36 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	9/1/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
9 / 3 / 15	JDM	13 : 52	0	1.0	24.0	20.0	55.0	45.0	43.0
9 / 4 / 15	JDM	7 : 56	1084	3.8	21.2	20.0	55.0	45.0	43.0
9 / 4 / 15	JDM	11 : 50	234	4.3	20.7	20.0	55.0	45.0	43.0
9 / 4 / 15	JDM	12 : 9	RESET	1.0	24.0	20.0	55.0	45.0	43.0
9 / 8 / 15	JDM	7 : 41	5492	8.8	17.2	20.0	55.0	45.0	43.0
9 / 8 / 15	JDM	8 : 13	RESET	1.0	24.0	20.0	55.0	45.0	43.0
9 / 9 / 15	JDM	7 : 45	1412	1.7	23.2	20.0	55.0	45.0	43.0
9 / 10 / 15	JDM	7 : 43	1438	2.3	22.7	20.0	55.0	45.0	43.0
9 / 11 / 15	JDM	7 : 50	1447	2.8	22.2	20.0	55.0	45.0	43.0
9 / 14 / 15	JDM	9 : 55	RESET	1.0	24.0	20.0	55.0	45.0	42.0
9 / 15 / 15	JDM	8 : 4	1329	1.6	23.4	20.0	55.0	45.0	42.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A360_PM
SAMPLE No.:	AV24-5-20150825-36 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	9/1/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				41.867		
1084	2.8	2.8	1.00	40.435	2.26E-08	2.27E-08
234	0.5	0.5	1.00	40.179	1.91E-08	1.91E-08
RESET				41.867		
5492	7.8	6.8	0.87	38.133	1.20E-08	1.20E-08
RESET				41.867		
1412	0.7	0.8	1.14	41.484	4.58E-09	4.60E-09
1438	0.6	0.5	0.83	41.202	3.33E-09	3.34E-09
1447	0.5	0.5	1.00	40.947	3.02E-09	3.04E-09
RESET				59.860		
1329	0.6	0.6	1.00	59.553	2.72E-09	2.73E-09

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A360_PM
SAMPLE No.:	AV24-5-20150825-36 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	9/1/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**106.3 lb/ft³**	**110.6 lb/ft³**
DRY UNIT WEIGHT	**77.7 lb/ft³**	**77.1 lb/ft³**
MOISTURE CONTENT	**36.8 %**	**43.5 %**
PERMEABILITY @ 20°C	**3.4E-09 cm/sec**	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A396_PM
SAMPLE No.:	AV24-5-20180825-36 (28-Day)	EQUIPMENT No.:	5
TEST DATE:	9/22/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	298.46 ***g***
3. WT WET SOIL + TARE	312.13 ***g***	613.40 ***g***
4. WT DRY SOIL + TARE	218.90 ***g***	517.36 ***g***
5. WT WATER, Ww	93.23 g	96.04 g
6. WT DRY SOIL, Ws	218.90 g	218.90 g
7. MOISTURE CONTENT, W	42.59 %	43.87 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.01 in.***	***3.01 in.***	***1.59 in.***	***1.54 in.***
No. 2	***3.03 in.***	***3.03 in.***	***1.54 in.***	***1.61 in.***
No. 3	***3.04 in.***	***3.03 in.***	***1.52 in.***	***1.60 in.***
Average	3.02 in.	3.02 in.	1.55 in.	1.58 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***312.13 g***	***314.94 g***
Area, Ao	7.18 in^2	7.17 in^2
Volume, Vo	11.14 in^3	11.35 in^3
Bulk Unit Weight	106.7 lb/ft^3	105.7 lb/ft^3
Dry Unit Weight	74.8 lb/ft^3	73.5 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A396_PM
SAMPLE No.:	AV24-5-20180825-36 (28-Day)	EQUIPMENT No.:	5
TEST DATE:	9/22/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
09/22/15	12 : 0	JDM	7.0	5.0	5.5				
09/22/15	12 : 46	JDM	17.0	15.0	15.5	10.5	10.0	5.0	0.50
09/22/15	13 : 50	JDM	27.0	25.0	25.5	22.1	10.0	6.6	0.66
09/22/15	14 : 30	JDM	37.0	35.0	35.5	34.1	10.0	8.6	0.86
09/22/15	15 : 7	JDM	47.0	45.0	45.5	44.6	10.0	9.1	0.91
09/22/15	15 : 40	JDM	57.0	55.0	55.5	54.9	10.0	9.4	0.94
09/23/15	8 : 10	JDM	67.0	65.0	*	65.4	10.0	9.9	0.99
09/23/15	8 : 10	JDM	57.0	55.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A396_PM
SAMPLE No.:	AV24-5-20180825-36 (28-Day)	EQUIPMENT No.:	5
TEST DATE:	9/22/15		

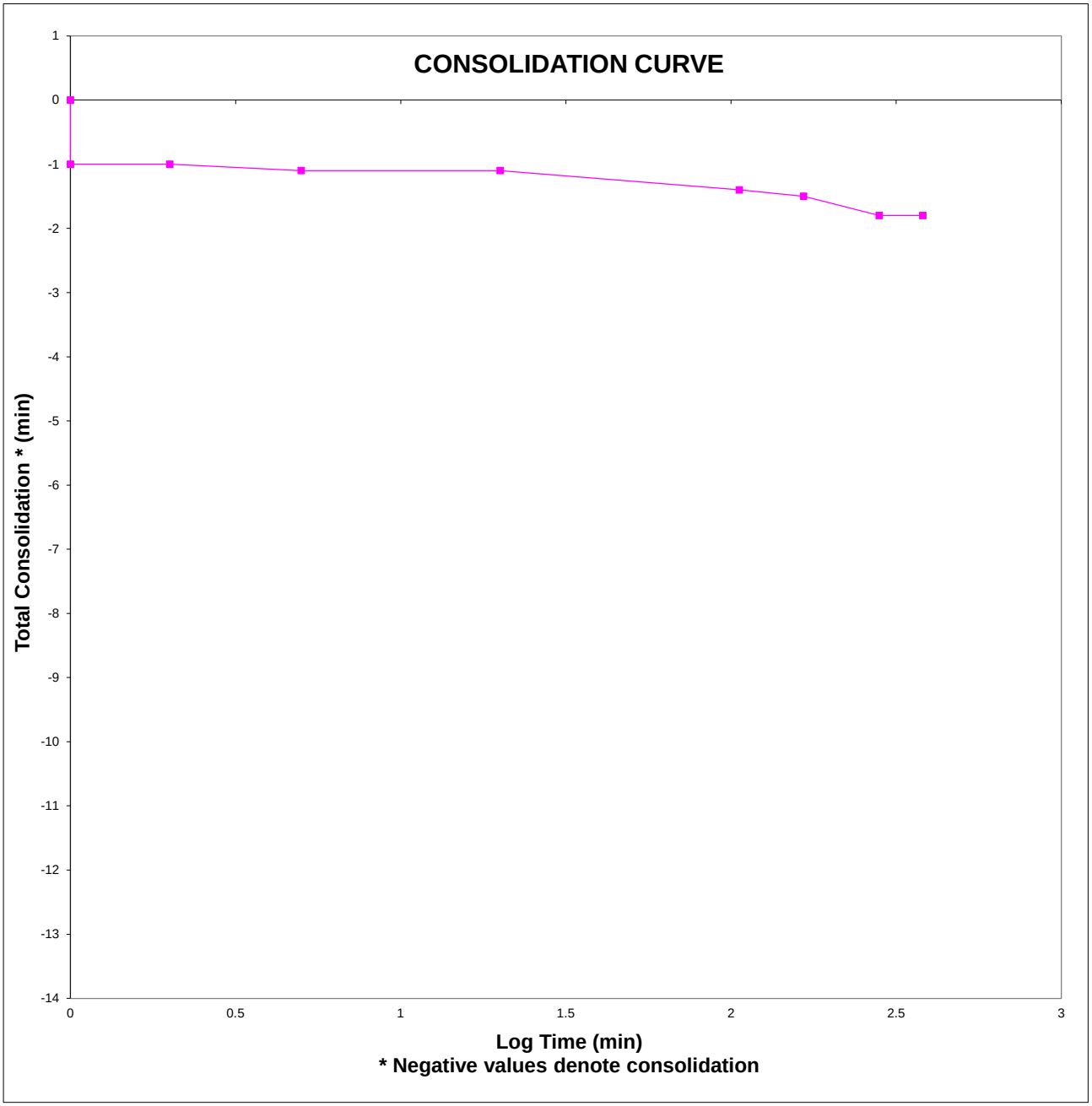
CELL PRESSURE: 65 psi **BACK PRESSURE:** 55 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
9 / 23 / 15	JDM	8 : 39	0	0	0	23.0	23.0	0.0
9 / 23 / 15	JDM	8 : 40	1	1	0.00	22.5	22.5	1.0
9 / 23 / 15	JDM	8 : 41	1	2	0.30	22.5	22.5	1.0
9 / 23 / 15	JDM	8 : 44	3	5	0.70	22.5	22.4	1.1
9 / 23 / 15	JDM	8 : 59	15	20	1.30	22.5	22.4	1.1
9 / 23 / 15	JDM	10 : 25	86	106	2.03	22.5	22.1	1.4
9 / 23 / 15	JDM	11 : 25	60	166	2.22	22.5	22.0	1.5
9 / 23 / 15	JDM	13 20	115	281	2.45	22.5	21.7	1.8
9 / 23 / 15	JDM	15 0	100	381	2.58	22.5	21.7	1.8

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A396_PM
SAMPLE No.:	AV24-5-20180825-36 (28-Day)	EQUIPMENT No.:	5
TEST DATE:	9/22/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A396_PM
SAMPLE No.:	AV24-5-20180825-36 (28-Day)	EQUIPMENT No.:	5
TEST DATE:	9/22/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
9 / 24 / 15	JDM	8 : 4	0	0.0	25.0	20.0	65.0	55.0	52.0
9 / 24 / 15	JDM	9 : 57	113	0.5	24.5	20.0	65.0	55.0	52.0
9 / 24 / 15	JDM	12 : 30	153	1.2	23.8	20.0	65.0	55.0	52.0
9 / 24 / 15	JDM	14 : 40	130	1.8	23.2	20.0	65.0	55.0	52.0
9 / 25 / 15	JDM	7 : 54	1034	5.5	19.5	20.0	65.0	55.0	52.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A396_PM
SAMPLE No.:	AV24-5-20180825-36 (28-Day	EQUIPMENT No.:	5
TEST DATE:	9/22/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				59.904		
113	0.5	0.5	1.00	59.650	2.66E-08	2.67E-08
153	0.7	0.7	1.00	59.295	2.77E-08	2.78E-08
130	0.6	0.6	1.00	58.990	2.81E-08	2.82E-08
1034	3.7	3.7	1.00	57.112	2.22E-08	2.23E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A396_PM
SAMPLE No.:	AV24-5-20180825-36 (28-Day)	EQUIPMENT No.:	5
TEST DATE:	9/22/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**106.7 lb/ft³**	**105.7 lb/ft³**
DRY UNIT WEIGHT	**74.8 lb/ft³**	**73.5 lb/ft³**
MOISTURE CONTENT	**42.6 %**	**43.9 %**
PERMEABILITY @ 20°C	**2.6E-08 cm/sec**	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A361_PM
SAMPLE No.:	BG23-10-20150826-37 (7-Day)	EQUIPMENT No.:	
TEST DATE:	9/2/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	297.58 ***g***
3. WT WET SOIL + TARE	319.41 ***g***	624.40 ***g***
4. WT DRY SOIL + TARE	214.16 ***g***	511.74 ***g***
5. WT WATER, Ww	105.25 g	112.66 g
6. WT DRY SOIL, Ws	214.16 g	214.16 g
7. MOISTURE CONTENT, W	49.15 %	52.61 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.01 in.***	***3.02 in.***	***1.66 in.***	***1.66 in.***
No. 2	***3.04 in.***	***3.02 in.***	***1.62 in.***	***1.66 in.***
No. 3	***3.05 in.***	***3.03 in.***	***1.65 in.***	***1.63 in.***
Average	3.03 in.	3.02 in.	1.64 in.	1.65 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***319.41 g***	***326.82 g***
Area, Ao	7.22 in^2	7.17 in^2
Volume, Vo	11.87 in^3	11.81 in^3
Bulk Unit Weight	102.5 lb/ft^3	105.4 lb/ft^3
Dry Unit Weight	68.7 lb/ft^3	69.1 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A361_PM
SAMPLE No.:	BG23-10-20150826-37 (7-Day)	EQUIPMENT No.:	0
TEST DATE:	9/2/15		

			TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
TEST DATE	TIME (military)	TESTED BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
09/02/15	13 : 25	JDM	7.0	5.0	5.5				
09/02/15	14 : 20	JDM	17.0	15.0	15.5	10.6	10.0	5.1	0.51
09/03/15	10 : 16	JDM	27.0	25.0	25.0	22.9	10.0	7.4	0.74
09/03/15	11 : 10	JDM	37.0	35.0	34.8	34.0	10.0	9.0	0.90
09/03/15	11 : 45	JDM	47.0	45.0	44.7	44.0	10.0	9.2	0.92
09/03/15	13 : 54	JDM	57.0	55.0	54.7	54.0	10.0	9.3	0.93
09/03/15	8 : 35	JDM	67.0	65.0	*	64.3	10.0	9.6	0.96
09/03/15	8 : 35	JDM	77.0	75.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A361_PM
SAMPLE No.:	BG23-10-20150826-37 (7-Day)	EQUIPMENT No.:	0
TEST DATE:	9/2/15		

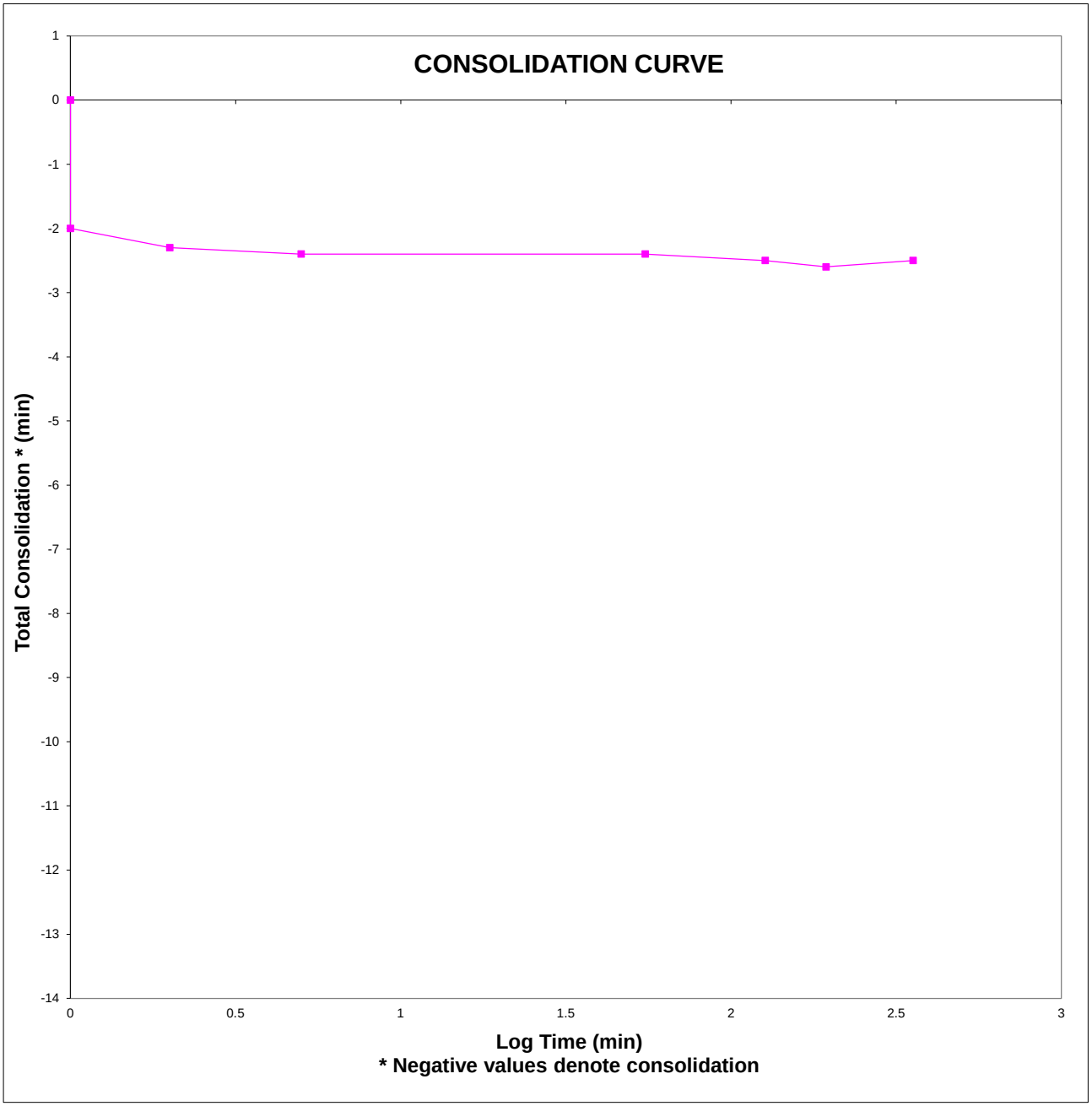
CELL PRESSURE: 65 psi **BACK PRESSURE:** 55 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
9 / 4 / 15	JDM	8 : 36	0	0	0	24.0	24.0	0.0
9 / 4 / 15	JDM	8 : 37	1	1	0.00	23.0	23.0	2.0
9 / 4 / 15	JDM	8 : 38	1	2	0.30	22.9	22.8	2.3
9 / 4 / 15	JDM	8 : 41	3	5	0.70	22.9	22.7	2.4
9 / 4 / 15	JDM	9 : 31	50	55	1.74	22.9	22.7	2.4
9 / 4 / 15	JDM	10 : 43	72	127	2.10	22.9	22.6	2.5
9 / 4 / 15	JDM	11 : 50	67	194	2.29	22.9	22.5	2.6
9 / 4 / 15	JDM	14 32	162	356	2.55	23.0	22.5	2.5

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A361_PM
SAMPLE No.:	BG23-10-20150826-37 (7-Day)	EQUIPMENT No.:	0
TEST DATE:	9/2/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A361_PM
SAMPLE No.:	BG23-10-20150826-37 (7-Day)	EQUIPMENT No.:	0
TEST DATE:	9/2/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
9 / 8 / 15	JDM	10 : 7	0	1.0	24.0	20.0	65.0	55.0	53.0
9 / 9 / 15	JDM	7 : 45	1298	1.6	23.4	20.0	65.0	55.0	53.0
9 / 10 / 15	JDM	7 : 42	1437	2.1	22.9	20.0	65.0	55.0	53.0
9 / 14 / 15	JDM	9 : 51	RESET	1.0	24.0	20.0	65.0	55.0	52.0
9 / 15 / 15	JDM	8 : 5	1334	1.6	23.4	20.0	65.0	55.0	52.0
9 / 16 / 15	JDM	8 : 8	1443	2.4	22.6	20.0	65.0	55.0	52.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A361_PM
SAMPLE No.:	BG23-10-20150826-37 (7-Day	EQUIPMENT No.:	0
TEST DATE:	9/2/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				39.202		
1298	0.6	0.6	1.00	38.914	4.23E-09	4.25E-09
1437	0.5	0.5	1.00	38.675	3.21E-09	3.22E-09
RESET				56.048		
1334	0.6	0.6	1.00	55.761	2.88E-09	2.89E-09
1443	0.8	0.8	1.00	55.378	3.57E-09	3.59E-09

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A361_PM
SAMPLE No.:	BG23-10-20150826-37 (7-Day)	EQUIPMENT No.:	0
TEST DATE:	9/2/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**102.5 lb/ft³**	**105.4 lb/ft³**
DRY UNIT WEIGHT	**68.7 lb/ft³**	**69.1 lb/ft³**
MOISTURE CONTENT	**49.1 %**	**52.6 %**
PERMEABILITY @ 20°C	**3.5E-09 cm/sec**	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A399_PM
SAMPLE No.:	BG23-10-20150826-37 (28-Day)	EQUIPMENT No.:	8
TEST DATE:	9/23/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	297.90 ***g***
3. WT WET SOIL + TARE	305.70 ***g***	610.42 ***g***
4. WT DRY SOIL + TARE	204.24 ***g***	502.14 ***g***
5. WT WATER, Ww	101.46 g	108.28 g
6. WT DRY SOIL, Ws	204.24 g	204.24 g
7. MOISTURE CONTENT, W	49.68 %	53.02 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.01 in.***	***3.02 in.***	***1.65 in.***	***1.56 in.***
No. 2	***3.02 in.***	***3.02 in.***	***1.57 in.***	***1.57 in.***
No. 3	***3.03 in.***	***3.03 in.***	***1.57 in.***	***1.62 in.***
Average	3.02 in.	3.02 in.	1.60 in.	1.58 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***305.70 g***	***312.52 g***
Area, Ao	7.17 in^2	7.17 in^2
Volume, Vo	11.46 in^3	11.34 in^3
Bulk Unit Weight	101.6 lb/ft^3	105.0 lb/ft^3
Dry Unit Weight	67.9 lb/ft^3	68.6 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A399_PM
SAMPLE No.:	BG23-10-20150826-37 (28-Day)	EQUIPMENT No.:	8
TEST DATE:	9/23/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
09/23/15	10 : 28	JDM	7.0	5.0	5.9				
09/23/15	11 : 3	JDM	17.0	15.0	16.0	11.9	10.0	6.0	0.60
09/23/15	11 : 53	JDM	27.0	25.0	25.9	22.8	10.0	6.8	0.68
09/23/15	12 : 26	JDM	37.0	35.0	35.8	34.3	10.0	8.4	0.84
09/23/15	13 : 22	JDM	47.0	45.0	45.8	44.9	10.0	9.1	0.91
09/23/15	14 : 6	JDM	57.0	55.0	55.6	55.1	10.0	9.3	0.93
09/23/15	14 : 58	JDM	67.0	65.0	*	65.3	10.0	9.7	0.97
09/23/15	14 : 58	JDM	57.0	55.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A399_PM
SAMPLE No.:	BG23-10-20150826-37 (28-Day)	EQUIPMENT No.:	8
TEST DATE:	9/23/15		

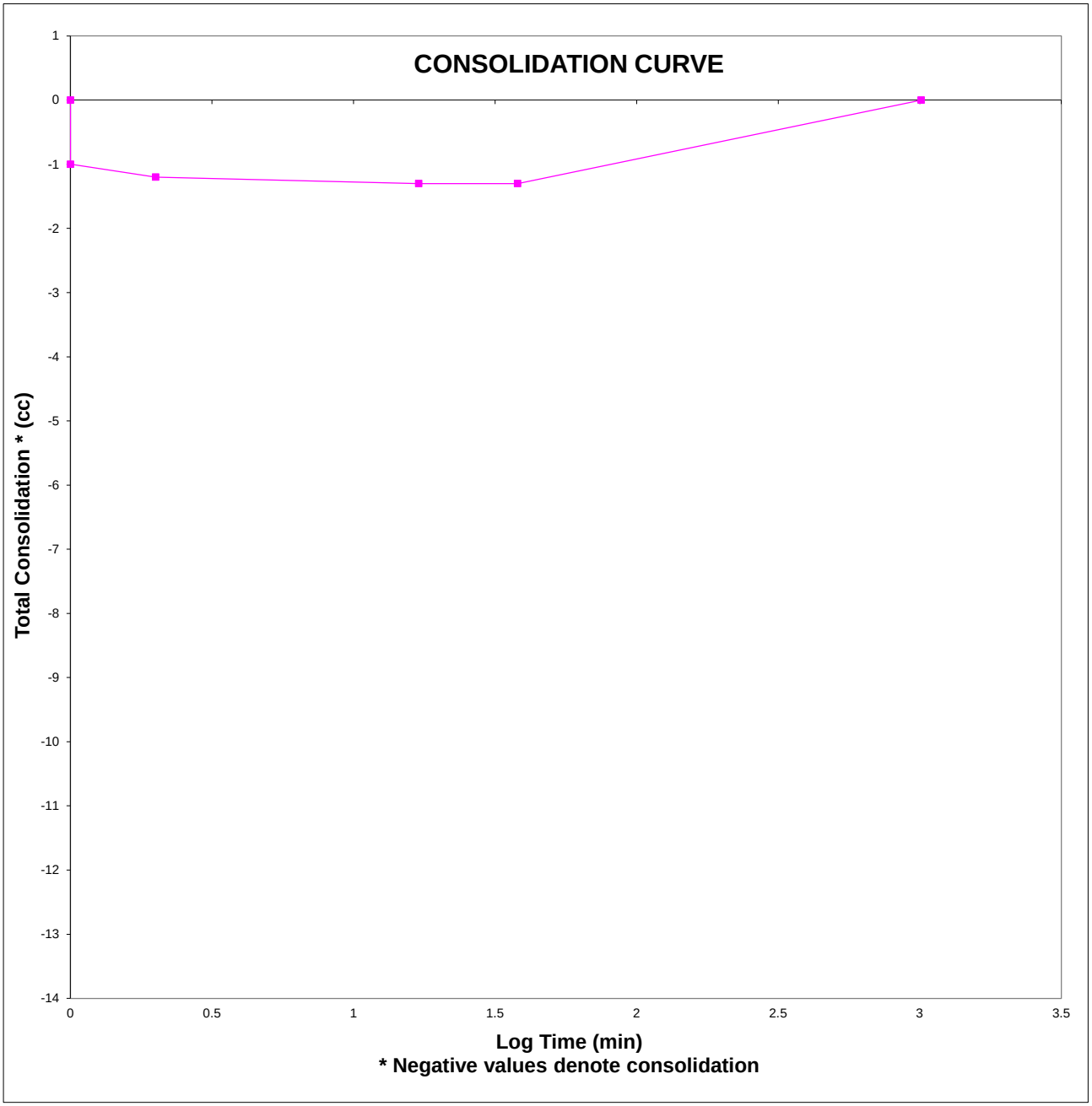
CELL PRESSURE: 65 psi **BACK PRESSURE:** 55 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
9 / 23 / 15	JDM	14 : 58	0	0	0	25.0	25.0	0.0
9 / 23 / 15	JDM	14 : 59	1	1	0.00	24.6	24.4	1.0
9 / 23 / 15	JDM	15 : 0	1	2	0.30	24.5	24.3	1.2
9 / 23 / 15	JDM	15 : 15	15	17	1.23	24.5	24.2	1.3
9 / 23 / 15	JDM	15 : 36	21	38	1.58	24.5	24.2	1.3
9 / 24 / 15	JDM	7 : 50	974	1012	3.01	25.0	25.0	0.0

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A399_PM
SAMPLE No.:	BG23-10-20150826-37 (28-Day)	EQUIPMENT No.:	8
TEST DATE:	9/23/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A399_PM
SAMPLE No.:	BG23-10-20150826-37 (28-Day)	EQUIPMENT No.:	8
TEST DATE:	9/23/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
9 / 28 / 15	JDM	8 : 15	0	0.0	25.0	20.0	65.0	55.0	52.0
9 / 29 / 15	JDM	7 : 58	1423	0.6	24.4	20.0	65.0	55.0	52.0
9 / 30 / 15	JDM	8 : 11	1453	1.1	23.9	20.0	65.0	55.0	52.0
10 / 1 / 15	JDM	7 : 52	1421	1.6	23.4	20.0	65.0	55.0	52.0
10 / 2 / 15	JDM	7 : 50	1438	2.1	22.9	20.0	65.0	55.0	52.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A399_PM
SAMPLE No.:	BG23-10-20150826-37 (28-Da	EQUIPMENT No.:	8
TEST DATE:	9/23/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
0				58.179		
1423	0.6	0.6	1.00	57.883	2.62E-09	2.63E-09
1453	0.5	0.5	1.00	57.637	2.15E-09	2.16E-09
1421	0.5	0.5	1.00	57.390	2.20E-09	2.21E-09
1438	0.5	0.5	1.00	57.144	2.19E-09	2.20E-09

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A399_PM
SAMPLE No.:	BG23-10-20150826-37 (28-Day)	EQUIPMENT No.:	8
TEST DATE:	9/23/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	101.6 lb/ft³	105.0 lb/ft³
DRY UNIT WEIGHT	67.9 lb/ft³	68.6 lb/ft³
MOISTURE CONTENT	49.7 %	53.0 %
PERMEABILITY @ 20°C	2.2E-09 cm/sec	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A362_PM
SAMPLE No.:	CM27-15-20150828-38 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	9/4/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	297.89 ***g***
3. WT WET SOIL + TARE	343.02 ***g***	647.10 ***g***
4. WT DRY SOIL + TARE	245.61 ***g***	543.50 ***g***
5. WT WATER, Ww	97.41 g	103.60 g
6. WT DRY SOIL, Ws	245.61 g	245.61 g
7. MOISTURE CONTENT, W	39.66 %	42.18 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.00 in.***	***3.01 in.***	***1.67 in.***	***1.70 in.***
No. 2	***3.02 in.***	***3.01 in.***	***1.69 in.***	***1.65 in.***
No. 3	***3.03 in.***	***3.03 in.***	***1.64 in.***	***1.65 in.***
Average	3.02 in.	3.02 in.	1.67 in.	1.67 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***343.02 g***	***349.21 g***
Area, Ao	7.16 in^2	7.14 in^2
Volume, Vo	11.92 in^3	11.91 in^3
Bulk Unit Weight	109.6 lb/ft^3	111.7 lb/ft^3
Dry Unit Weight	78.5 lb/ft^3	78.6 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A362_PM
SAMPLE No.:	CM27-15-20150828-38 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	9/4/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
09/04/15	11 : 48	JDM	7.0	5.0	5.7				
09/04/15	14 : 32	JDM	17.0	15.0	15.9	8.8	10.0	3.1	0.31
09/08/15	8 : 11	JDM	27.0	25.0	25.7	22.0	10.0	6.1	0.61
09/08/15	9 : 26	JDM	37.0	35.0	35.7	33.2	10.0	7.5	0.75
09/08/15	10 : 9	JDM	47.0	45.0	45.6	43.9	10.0	8.2	0.82
09/08/15	11 : 15	JDM	57.0	55.0	55.8	54.6	10.0	9.0	0.90
09/08/15	12 : 5	JDM	67.0	65.0	65.8	64.9	10.0	9.1	0.91
09/08/15	13 : 25	JDM	77.0	75.0	75.8	75.2	10.0	9.4	0.94
09/09/15	7 : 45	JDM	87.0	85.0	*	85.6	10.0	9.8	0.98
09/09/15	7 : 45	JDM	77.0	75.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A362_PM
SAMPLE No.:	CM27-15-20150828-38 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	9/4/15		

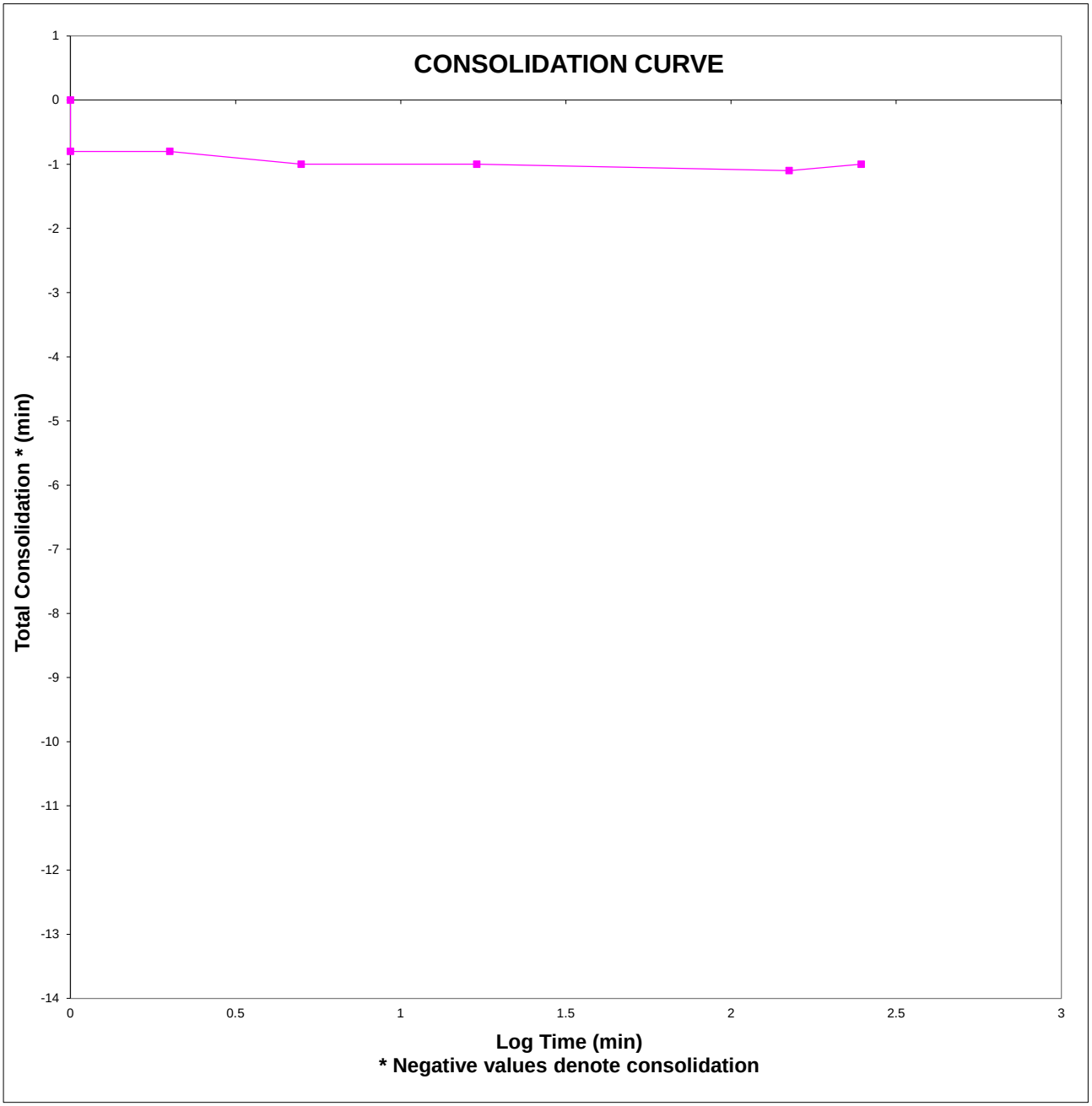
CELL PRESSURE: 85 psi **BACK PRESSURE:** 75 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
9 / 9 / 15	JDM	9 : 3	0	0	0	23.0	23.0	0.0
9 / 9 / 15	JDM	9 : 4	1	1	0.00	22.6	22.6	0.8
9 / 9 / 15	JDM	9 : 5	1	2	0.30	22.6	22.6	0.8
9 / 9 / 15	JDM	9 : 8	3	5	0.70	22.5	22.5	1.0
9 / 9 / 15	JDM	9 : 20	12	17	1.23	22.5	22.5	1.0
9 / 9 / 15	JDM	11 : 33	133	150	2.18	22.4	22.5	1.1
9 / 9 / 15	JDM	13 : 11	98	248	2.39	22.5	22.5	1.0

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A362_PM
SAMPLE No.:	CM27-15-20150828-38 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	9/4/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A362_PM
SAMPLE No.:	CM27-15-20150828-38 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	9/4/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
9 / 9 / 15	JDM	13 : 25	0	1.0	24.0	20.0	85.0	75.0	73.0
9 / 9 / 15	JDM	15 : 8	103	1.5	23.5	20.0	85.0	75.0	73.0
9 / 10 / 15	JDM	7 : 43	995	6.8	18.2	20.0	85.0	75.0	73.0
9 / 10 / 15	JDM	9 : 11	88	7.3	17.7	20.0	85.0	75.0	73.0
9 / 10 / 15	JDM	10 : 44	93	7.8	17.2	20.0	85.0	75.0	73.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A362_PM
SAMPLE No.:	CM27-15-20150828-38 (7-Day	EQUIPMENT No.:	2
TEST DATE:	9/4/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				38.672		
103	0.5	0.5	1.00	38.436	4.55E-08	4.57E-08
995	5.3	5.3	1.00	35.932	5.17E-08	5.20E-08
88	0.5	0.5	1.00	35.695	5.73E-08	5.75E-08
93	0.5	0.5	1.00	35.459	5.46E-08	5.48E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A362_PM
SAMPLE No.:	CM27-15-20150828-38 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	9/4/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**109.6 lb/ft³**	**111.7 lb/ft³**
DRY UNIT WEIGHT	**78.5 lb/ft³**	**78.6 lb/ft³**
MOISTURE CONTENT	**39.7 %**	**42.2 %**
PERMEABILITY @ 20°C	**5.2E-08 cm/sec**	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A401_PM
SAMPLE No.:	CM27-15-20150828-38 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	9/25/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	298.45 ***g***
3. WT WET SOIL + TARE	338.74 ***g***	643.80 ***g***
4. WT DRY SOIL + TARE	240.98 ***g***	539.43 ***g***
5. WT WATER, Ww	97.76 g	104.37 g
6. WT DRY SOIL, Ws	240.98 g	240.98 g
7. MOISTURE CONTENT, W	40.57 %	43.31 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.03 in.***	***3.03 in.***	***1.70 in.***	***1.69 in.***
No. 2	***3.03 in.***	***3.03 in.***	***1.67 in.***	***1.66 in.***
No. 3	***3.01 in.***	***3.02 in.***	***1.68 in.***	***1.67 in.***
Average	3.02 in.	3.03 in.	1.68 in.	1.67 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***338.74 g***	***345.35 g***
Area, Ao	7.16 in^2	7.20 in^2
Volume, Vo	12.06 in^3	12.06 in^3
Bulk Unit Weight	107.0 lb/ft^3	109.1 lb/ft^3
Dry Unit Weight	76.1 lb/ft^3	76.1 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A401_PM
SAMPLE No.:	CM27-15-20150828-38 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	9/25/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
09/28/15	8 : 21	JDM	7.0	5.0	5.9				
09/28/15	10 : 0	JDM	17.0	15.0	15.8	8.6	10.0	2.7	0.27
09/28/15	10 : 80	JDM	27.0	25.0	25.8	20.5	10.0	4.7	0.47
09/28/15	11 : 49	JDM	37.0	35.0	35.8	32.3	10.0	6.5	0.65
09/28/15	13 : 32	JDM	47.0	45.0	45.7	43.4	10.0	7.6	0.76
09/28/15	14 : 40	JDM	57.0	55.0	55.7	54.3	10.0	8.6	0.86
09/28/15	15 : 18	JDM	67.0	65.0	65.2	64.6	10.0	8.9	0.89
09/28/15	8 : 10	JDM	77.0	75.0	75.3	74.5	10.0	9.3	0.93
09/28/15	8 : 54	JDM	87.0	85.0	85.4	84.6	10.0	9.3	0.93
09/29/15	9 : 28	JDM	97.0	95.0	*	94.9	10.0	9.5	0.95
09/29/15	9 : 28	JDM	87.0	85.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A401_PM
SAMPLE No.:	CM27-15-20150828-38 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	9/25/15		

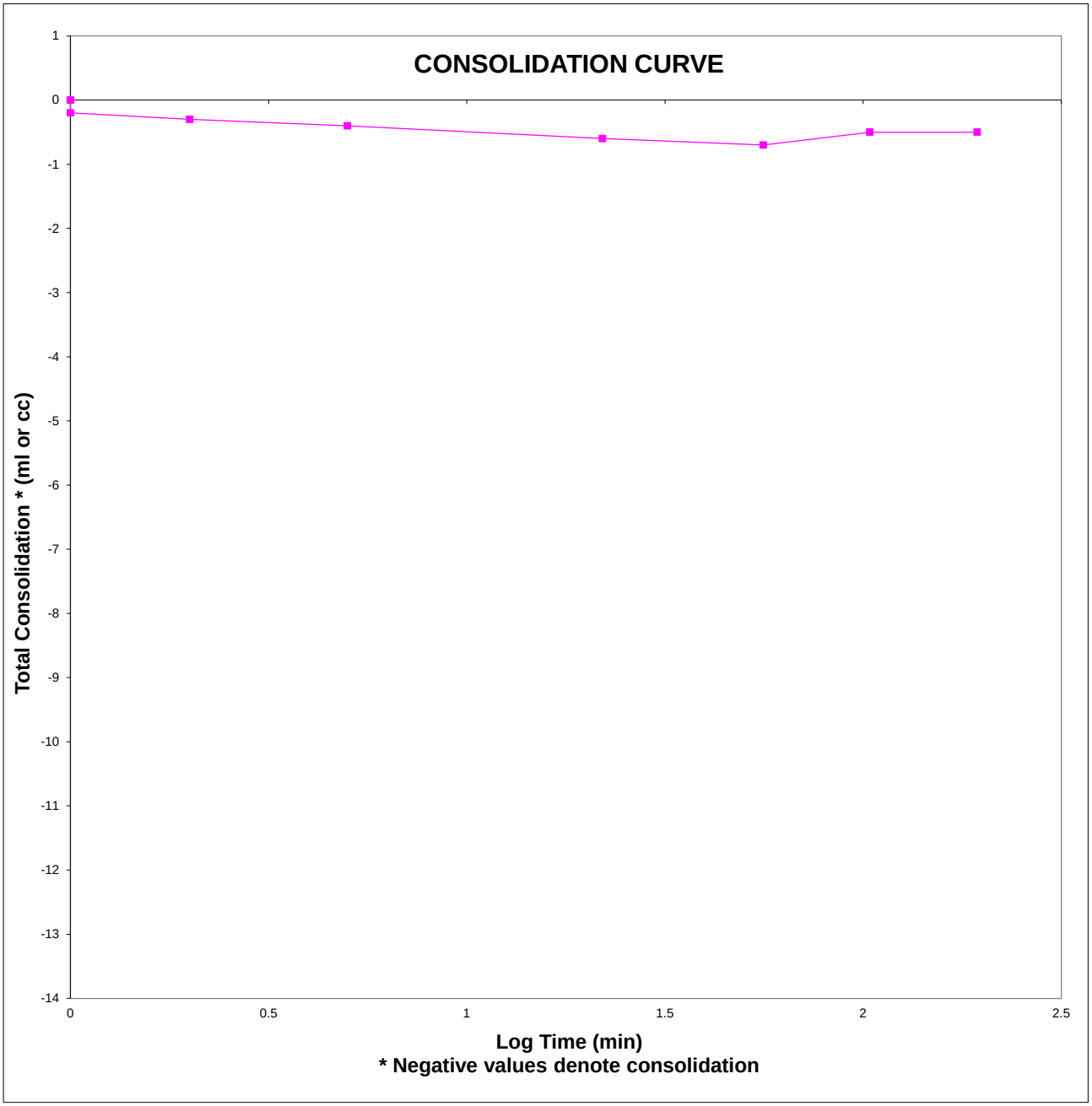
CELL PRESSURE: 95 psi **BACK PRESSURE:** 85 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
9 / 29 / 15	JDM	9 : 31	0	0	0	24.0	24.0	0.0
9 / 29 / 15	JDM	9 : 32	1	1	0.00	24.3	23.5	0.2
9 / 29 / 15	JDM	9 : 33	1	2	0.30	24.3	23.4	0.3
9 / 29 / 15	JDM	9 : 36	3	5	0.70	24.3	23.3	0.4
9 / 29 / 15	JDM	9 : 53	17	22	1.34	24.1	23.3	0.6
9 / 29 / 15	JDM	10 : 27	34	56	1.75	24.1	23.2	0.7
9 / 29 / 15	JDM	11 : 15	48	104	2.02	24.3	23.2	0.5
9 / 29 / 15	JDM	12 45	90	194	2.29	24.3	23.2	0.5

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A401_PM
SAMPLE No.:	CM27-15-20150828-38 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	9/25/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A401_PM
SAMPLE No.:	CM27-15-20150828-38 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	9/25/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
9 / 29 / 15	JDM	13 : 28	0	1.0	24.0	20.0	95.0	85.0	82.0
9 / 29 / 15	JDM	15 : 40	132	1.5	23.5	20.0	95.0	85.0	82.0
9 / 30 / 15	JDM	8 : 12	992	5.1	19.9	20.0	95.0	85.0	82.0
9 / 30 / 15	JDM	10 : 24	132	5.6	19.4	20.0	95.0	85.0	82.0
9 / 30 / 15	JDM	13 : 1	157	6.1	18.9	20.0	95.0	85.0	82.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A401_PM
SAMPLE No.:	CM27-15-20150828-38 (28-Da	EQUIPMENT No.:	1
TEST DATE:	9/25/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				54.733		
132	0.5	0.5	1.00	54.499	2.50E-08	2.51E-08
992	3.6	3.6	1.00	52.815	2.44E-08	2.45E-08
132	0.5	0.5	1.00	52.581	2.59E-08	2.60E-08
157	0.5	0.5	1.00	52.347	2.19E-08	2.20E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A401_PM
SAMPLE No.:	CM27-15-20150828-38 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	9/25/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	107.0 lb/ft³	109.1 lb/ft³
DRY UNIT WEIGHT	76.1 lb/ft³	76.1 lb/ft³
MOISTURE CONTENT	40.6 %	43.3 %
PERMEABILITY @ 20°C	2.4E-08 cm/sec	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A363_PM
SAMPLE No.:	CC25-10-20150829-39 (7-Day)	EQUIPMENT No.:	8
TEST DATE:	9/4/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	297.57 ***g***
3. WT WET SOIL + TARE	251.66 ***g***	553.94 ***g***
4. WT DRY SOIL + TARE	152.69 ***g***	450.26 ***g***
5. WT WATER, Ww	98.97 g	103.68 g
6. WT DRY SOIL, Ws	152.69 g	152.69 g
7. MOISTURE CONTENT, W	64.82 %	67.90 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.03 in.***	***3.04 in.***	***1.38 in.***	***1.38 in.***
No. 2	***3.03 in.***	***3.03 in.***	***1.37 in.***	***1.36 in.***
No. 3	***3.02 in.***	***3.02 in.***	***1.36 in.***	***1.38 in.***
Average	3.03 in.	3.03 in.	1.37 in.	1.37 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***251.66 g***	***256.37 g***
Area, Ao	7.19 in^2	7.21 in^2
Volume, Vo	9.86 in^3	9.91 in^3
Bulk Unit Weight	97.3 lb/ft^3	98.6 lb/ft^3
Dry Unit Weight	59.0 lb/ft^3	58.7 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A363_PM
SAMPLE No.:	CC25-10-20150829-39 (7-Day)	EQUIPMENT No.:	8
TEST DATE:	9/4/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
09/08/15	8 : 36	JDM	7.0	5.0	5.9				
09/08/15	9 : 25	JDM	17.0	15.0	16.0	12.4	10.0	6.5	0.65
09/08/15	10 : 4	JDM	27.0	25.0	25.9	24.1	10.0	8.1	0.81
09/08/15	11 : 13	JDM	37.0	35.0	35.9	35.0	10.0	9.1	0.91
09/08/15	12 : 3	JDM	47.0	45.0	45.8	45.3	10.0	9.4	0.94
09/08/15	13 : 26	JDM	57.0	55.0	*	55.4	10.0	9.6	0.96
09/08/15	13 : 26	JDM	47.0	45.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A363_PM
SAMPLE No.:	CC25-10-20150829-39 (7-Day)	EQUIPMENT No.:	8
TEST DATE:	9/4/15		

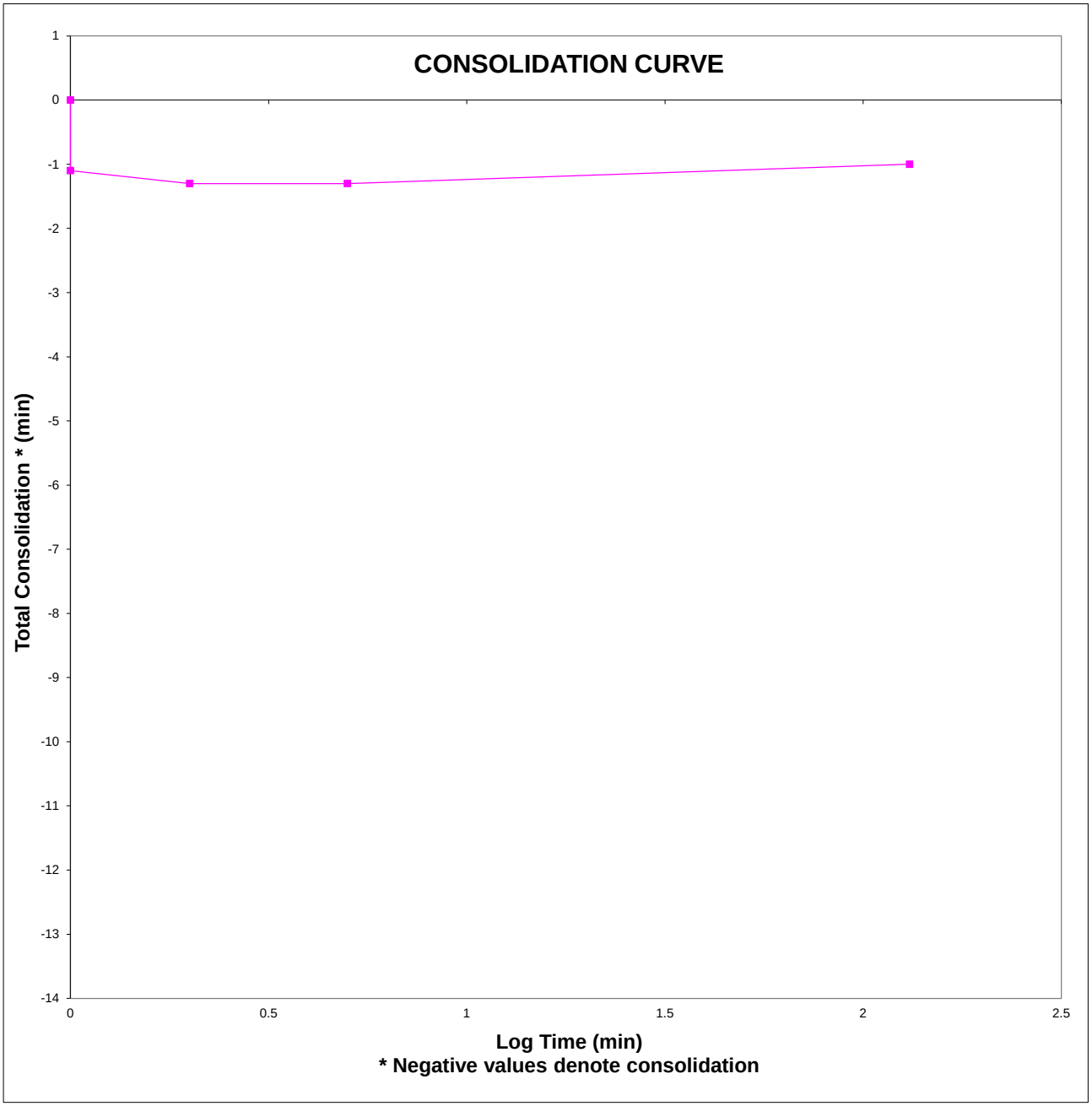
CELL PRESSURE: 55 psi **BACK PRESSURE:** 45 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
9 / 8 / 15	JDM	13 : 29	0	0	0	25.0	25.0	0.0
9 / 8 / 15	JDM	13 : 30	1	1	0.00	24.6	24.3	1.1
9 / 8 / 15	JDM	13 : 31	1	2	0.30	24.5	24.2	1.3
9 / 8 / 15	JDM	13 : 34	3	5	0.70	24.5	24.2	1.3
9 / 8 / 15	JDM	15 : 40	126	131	2.12	24.6	24.4	1.0

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A363_PM
SAMPLE No.:	CC25-10-20150829-39 (7-Day)	EQUIPMENT No.:	8
TEST DATE:	9/4/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A363_PM
SAMPLE No.:	CC25-10-20150829-39 (7-Day)	EQUIPMENT No.:	8
TEST DATE:	9/4/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
9 / 9 / 15	JDM	9 : 22	0	0.0	25.0	20.0	55.0	45.0	43.0
9 / 10 / 15	JDM	7 : 41	1339	1.1	23.9	20.0	55.0	45.0	43.0
9 / 14 / 15	JDM	9 : 39	RESET	0.0	25.0	20.0	55.0	45.0	42.0
9 / 15 / 15	JDM	8 : 11	1352	1.0	24.0	20.0	55.0	45.0	42.0
9 / 16 / 15	JDM	8 : 3	1432	2.1	22.9	20.0	55.0	45.0	42.0
9 / 17 / 15	JDM	9 : 20	1517	2.8	22.2	20.0	55.0	45.0	42.0
9 / 18 / 15	JDM	7 : 50	1350	3.7	21.3	20.0	55.0	45.0	42.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A363_PM
SAMPLE No.:	CC25-10-20150829-39 (7-Day	EQUIPMENT No.:	8
TEST DATE:	9/4/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				47.571		
1339	1.1	1.1	1.00	46.940	6.25E-09	6.28E-09
RESET				67.768		
1352	1.0	1.0	1.00	67.194	3.94E-09	3.96E-09
1432	1.1	1.1	1.00	66.562	4.13E-09	4.15E-09
1517	0.7	0.7	1.00	66.160	2.50E-09	2.51E-09
1350	0.9	0.9	1.00	65.643	3.64E-09	3.65E-09

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A363_PM
SAMPLE No.:	CC25-10-20150829-39 (7-Day)	EQUIPMENT No.:	8
TEST DATE:	9/4/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	97.3 lb/ft³	98.6 lb/ft³
DRY UNIT WEIGHT	59.0 lb/ft³	58.7 lb/ft³
MOISTURE CONTENT	64.8 %	67.9 %
PERMEABILITY @ 20°C	3.6E-09 cm/sec	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A402_PM
SAMPLE No.:	CC25-10-20150829-39 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	9/25/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	342.00 ***g***
3. WT WET SOIL + TARE	299.89 ***g***	644.80 ***g***
4. WT DRY SOIL + TARE	180.46 ***g***	522.46 ***g***
5. WT WATER, Ww	119.43 g	122.34 g
6. WT DRY SOIL, Ws	180.46 g	180.46 g
7. MOISTURE CONTENT, W	66.18 %	67.79 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.04 in.***	***3.03 in.***	***1.67 in.***	***1.68 in.***
No. 2	***3.02 in.***	***3.03 in.***	***1.65 in.***	***1.64 in.***
No. 3	***3.02 in.***	***3.01 in.***	***1.64 in.***	***1.64 in.***
Average	3.03 in.	3.02 in.	1.65 in.	1.66 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***299.89 g***	***302.80 g***
Area, Ao	7.19 in^2	7.18 in^2
Volume, Vo	11.88 in^3	11.87 in^3
Bulk Unit Weight	96.2 lb/ft^3	97.1 lb/ft^3
Dry Unit Weight	57.9 lb/ft^3	57.9 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A402_PM
SAMPLE No.:	CC25-10-20150829-39 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	9/25/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
09/29/15	9 : 27	JDM	7.0	5.0	5.6				
09/29/15	9 : 53	JDM	17.0	15.0	15.5	14.5	10.0	8.9	0.89
09/29/15	10 : 27	JDM	27.0	25.0	25.5	25.0	10.0	9.5	0.95
09/29/15	11 : 15	JDM	37.0	35.0	35.5	35.2	10.0	9.7	0.97
09/29/15	12 : 45	JDM	47.0	45.0	45.4	45.3	10.0	9.8	0.98
09/29/15	13 : 25	JDM	57.0	55.0	*	55.4	10.0	10.0	1.00
09/29/15	13 : 25	JDM	47.0	45.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A402_PM
SAMPLE No.:	CC25-10-20150829-39 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	9/25/15		

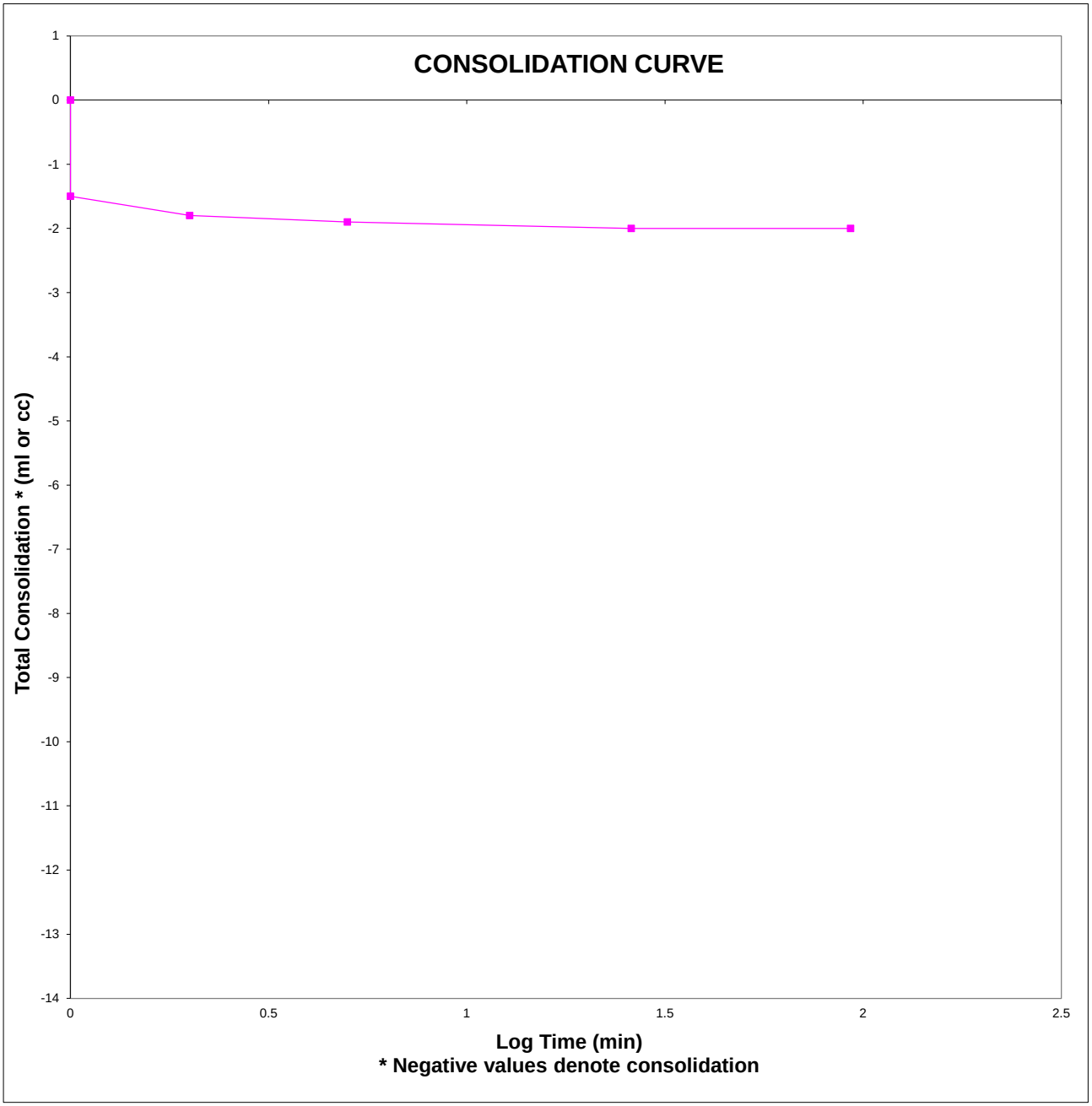
CELL PRESSURE: 55 psi **BACK PRESSURE:** 45 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
9 / 29 / 15	JDM	13 : 26	0	0	0	24.0	24.0	0.0
9 / 29 / 15	JDM	13 : 27	1	1	0.00	23.3	23.2	1.5
9 / 29 / 15	JDM	13 : 28	1	2	0.30	23.1	23.1	1.8
9 / 29 / 15	JDM	13 : 31	3	5	0.70	23.1	23.0	1.9
9 / 29 / 15	JDM	13 : 52	21	26	1.41	23.0	23.0	2.0
9 / 29 / 15	JDM	14 : 59	67	93	1.97	23.0	23.0	2.0

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A402_PM
SAMPLE No.:	CC25-10-20150829-39 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	9/25/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A402_PM
SAMPLE No.:	CC25-10-20150829-39 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	9/25/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
9 / 29 / 15	JDM	14 : 59	0	1.0	24.0	20.0	55.0	45.0	42.0
9 / 30 / 15	JDM	8 : 12	1033	2.6	22.4	20.0	55.0	45.0	42.0
9 / 30 / 15	JDM	15 : 9	417	3.1	21.9	20.0	55.0	45.0	42.0
10 / 1 / 15	JDM	7 : 51	1002	4.1	20.9	20.0	55.0	45.0	42.0
10 / 1 / 15	JDM	15 : 10	439	4.6	20.4	20.0	55.0	45.0	42.0
10 / 2 / 15	JDM	7 : 55	1005	5.4	19.6	20.0	55.0	45.0	42.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A402_PM
SAMPLE No.:	CC25-10-20150829-39 (28-Da	EQUIPMENT No.:	2
TEST DATE:	9/25/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				55.765		
1033	1.6	1.6	1.00	55.003	1.01E-08	1.01E-08
417	0.5	0.5	1.00	54.765	7.85E-09	7.89E-09
1002	1.0	1.0	1.00	54.288	6.58E-09	6.61E-09
439	0.5	0.5	1.00	54.050	7.56E-09	7.59E-09
1005	0.8	0.8	1.00	53.668	5.31E-09	5.34E-09

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A402_PM
SAMPLE No.:	CC25-10-20150829-39 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	9/25/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**96.2 lb/ft³**	**97.1 lb/ft³**
DRY UNIT WEIGHT	**57.9 lb/ft³**	**57.9 lb/ft³**
MOISTURE CONTENT	**66.2 %**	**67.8 %**
PERMEABILITY @ 20°C	**6.9E-09 cm/sec**	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A364_PM
SAMPLE No.:	BV26-5-20150901-40 (7-Day)	EQUIPMENT No.:	7
TEST DATE:	9/8/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	297.90 ***g***
3. WT WET SOIL + TARE	287.83 ***g***	592.05 ***g***
4. WT DRY SOIL + TARE	166.52 ***g***	464.42 ***g***
5. WT WATER, Ww	121.31 g	127.63 g
6. WT DRY SOIL, Ws	166.52 g	166.52 g
7. MOISTURE CONTENT, W	72.85 %	76.65 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.01 in.***	***3.01 in.***	***1.60 in.***	***1.62 in.***
No. 2	***3.02 in.***	***3.02 in.***	***1.62 in.***	***1.60 in.***
No. 3	***3.03 in.***	***3.04 in.***	***1.62 in.***	***1.63 in.***
Average	3.02 in.	3.03 in.	1.61 in.	1.62 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***287.83 g***	***294.15 g***
Area, Ao	7.17 in^2	7.19 in^2
Volume, Vo	11.57 in^3	11.64 in^3
Bulk Unit Weight	94.7 lb/ft^3	96.3 lb/ft^3
Dry Unit Weight	54.8 lb/ft^3	54.5 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A364_PM
SAMPLE No.:	BV26-5-20150901-40 (7-Day)	EQUIPMENT No.:	7
TEST DATE:	9/8/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
09/08/15	10 : 5	JDM	7.0	5.0	5.9				
09/08/15	11 : 13	JDM	17.0	15.0	15.8	11.4	10.0	5.5	0.55
09/08/15	12 : 4	JDM	27.0	25.0	25.9	23.0	10.0	7.2	0.72
09/08/15	13 : 26	JDM	37.0	35.0	36.0	34.4	10.0	8.5	0.85
09/08/15	15 : 41	JDM	47.0	45.0	46.2	45.1	10.0	9.1	0.91
09/09/15	7 : 45	JDM	57.0	55.0	*	56.1	10.0	9.9	0.99
09/09/15	7 : 45	JDM	47.0	45.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A364_PM
SAMPLE No.:	BV26-5-20150901-40 (7-Day)	EQUIPMENT No.:	7
TEST DATE:	9/8/15		

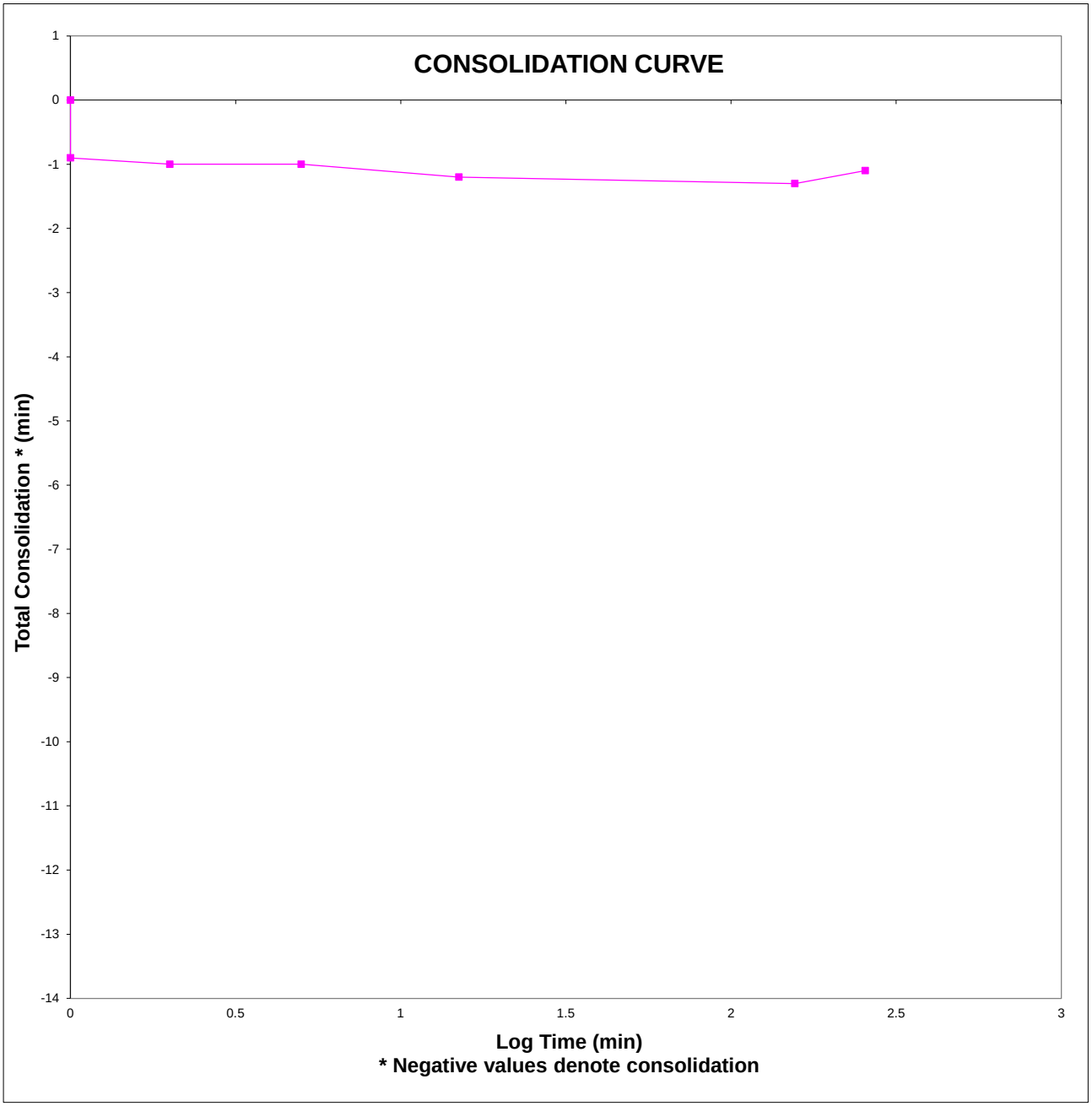
CELL PRESSURE: 55 psi **BACK PRESSURE:** 45 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
9 / 9 / 15	JDM	8 : 55	0	0	0	24.0	24.0	0.0
9 / 9 / 15	JDM	8 : 56	1	1	0.00	23.6	23.5	0.9
9 / 9 / 15	JDM	8 : 57	1	2	0.30	23.5	23.5	1.0
9 / 9 / 15	JDM	9 : 0	3	5	0.70	23.5	23.5	1.0
9 / 9 / 15	JDM	9 : 10	10	15	1.18	23.4	23.4	1.2
9 / 9 / 15	JDM	11 : 31	141	156	2.19	23.4	23.3	1.3
9 / 9 / 15	JDM	13 : 10	99	255	2.41	23.5	23.4	1.1

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A364_PM
SAMPLE No.:	BV26-5-20150901-40 (7-Day)	EQUIPMENT No.:	7
TEST DATE:	9/8/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A364_PM
SAMPLE No.:	BV26-5-20150901-40 (7-Day)	EQUIPMENT No.:	7
TEST DATE:	9/8/15		

				HYDRAULIC			GAUGE		
	TESTED	TIME	ELAPSED TIME	HEAD (cm)		TEMP.	PRESSURE (psi)		
DATE	BY	(military)	(minutes)	INFLUENT	EFFLUENT	C°	CELL	INFLUENT	EFFLUENT
9 / 9 / 15	JDM	13 : 27	0	1.0	24.0	20.0	55.0	45.0	43.0
9 / 10 / 15	JDM	7 : 42	1095	1.6	23.4	20.0	55.0	45.0	43.0
9 / 11 / 15	JDM	7 : 53	1451	2.1	22.9	20.0	55.0	45.0	43.0
9 / 14 / 15	JDM	9 : 43	RESET	1.0	24.0	20.0	55.0	45.0	42.0
9 / 15 / 15	JDM	8 : 10	1347	1.6	23.4	20.0	55.0	45.0	42.0
9 / 16 / 15	JDM	8 5	1435	2.2	22.8	20.0	55.0	45.0	42.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A364_PM
SAMPLE No.:	BV26-5-20150901-40 (7-Day)	EQUIPMENT No.:	7
TEST DATE:	9/8/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				39.918		
1095	0.6	0.6	1.00	39.625	4.96E-09	4.99E-09
1451	0.5	0.5	1.00	39.381	3.14E-09	3.16E-09
RESET				57.072		
1347	0.6	0.6	1.00	56.780	2.82E-09	2.83E-09
1435	0.6	0.6	1.00	56.487	2.66E-09	2.67E-09

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A364_PM
SAMPLE No.:	BV26-5-20150901-40 (7-Day)	EQUIPMENT No.:	7
TEST DATE:	9/8/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**94.7 lb/ft³**	**96.3 lb/ft³**
DRY UNIT WEIGHT	**54.8 lb/ft³**	**54.5 lb/ft³**
MOISTURE CONTENT	**72.9 %**	**76.6 %**
PERMEABILITY @ 20°C	**3.4E-09 cm/sec**	

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	Macon, GA		
GTX #:	GTX-303551		
Start Date:	10/4/2015	Tested By:	jm
End Date:	10/9/2015	Checked By:	mcm
Boring	---	Test #:	
Sample #:	BV26-5-20150901-40 (28 day)		
Depth:	---		
Visual Description:	Moist, Stabilized soil/cement		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084 Increasing Tailwater

Sample Type:	Core	Permeant Fluid:	de-aired tap water
Orientation:	Vertical	Cell #:	K5

Sample Preparation: Sample placed into permeameter at as-received density and moisture content, (28 day cure).

Parameter	Initial	Final
Height, in	1.66	1.66
Diameter, in	3.03	3.03
Area, in^2	7.21	7.21
Volume, in^3	12.0	12.0
Mass, g	294	301
Bulk Density, pcf	93	95
Moisture Content, %	73.7	77.6
Dry Density, pcf	53.8	53.8
Degree of Saturation, %	---	99

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90	Pressure Increment, psi:	9.6
Sample Pressure, psi:	80	B Coefficient:	0.96

FLOW DATA

Date	Trial #	Pressure, psi		Head readings			Elapsed Time,	Gradient	Permeability K,	Temp,		Permeability K @ 20 °C,
		Cell	Sample	H_1	H_2	H_1-H_2	sec		cm/sec	°C	R_t	cm/sec
10/9	3	90	80	201.3	200.6	0.7	5400	47.7	4.8E-09	21	0.976	4.6E-09
10/6	4	90	80	200.6	200.1	0.5	4080	47.6	4.5E-09	21	0.976	4.4E-09
10/6	5	90	80	200.1	199.5	0.6	5400	47.5	4.1E-09	21	0.976	4.0E-09
10/7	6	90	80	199.5	191.5	8.0	68400	47.3	4.4E-09	21	0.976	4.3E-09

PERMEABILITY AT 20° C: 4.3 x 10^{-9} cm/sec (@ 10 psi effective stress)

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A381_PM
SAMPLE No.:	BU21-15-20150902-41 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	9/10/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	342.04 ***g***
3. WT WET SOIL + TARE	322.82 ***g***	670.70 ***g***
4. WT DRY SOIL + TARE	207.12 ***g***	549.16 ***g***
5. WT WATER, Ww	115.70 g	121.54 g
6. WT DRY SOIL, Ws	207.12 g	207.12 g
7. MOISTURE CONTENT, W	55.86 %	58.68 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.03 in.***	***3.04 in.***	***1.71 in.***	***1.69 in.***
No. 2	***3.03 in.***	***3.03 in.***	***1.67 in.***	***1.67 in.***
No. 3	***3.02 in.***	***3.02 in.***	***1.71 in.***	***1.71 in.***
Average	3.03 in.	3.03 in.	1.70 in.	1.69 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***322.82 g***	***328.66 g***
Area, Ao	7.20 in^2	7.20 in^2
Volume, Vo	12.21 in^3	12.16 in^3
Bulk Unit Weight	100.7 lb/ft^3	103.0 lb/ft^3
Dry Unit Weight	64.6 lb/ft^3	64.9 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A381_PM
SAMPLE No.:	BU21-15-20150902-41 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	9/10/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
09/10/15	11 : 19	JDM	7.0	5.0	5.9				
09/10/15	11 : 59	JDM	17.0	15.0	15.9	10.3	10.0	4.4	0.44
09/10/15	12 : 42	JDM	27.0	25.0	25.9	22.3	10.0	6.4	0.64
09/10/15	13 : 48	JDM	37.0	35.0	35.9	33.8	10.0	7.9	0.79
09/10/15	14 : 41	JDM	47.0	45.0	45.8	44.4	10.0	8.5	0.85
09/10/15	15 : 20	JDM	57.0	55.0	56.1	54.8	10.0	9.0	0.90
09/11/15	7 : 59	JDM	67.0	65.0	66.1	65.5	10.0	9.4	0.94
09/11/15	8 : 40	JDM	77.0	75.0	*	75.6	10.0	9.5	0.95
09/11/15	8 : 10	JDM	67.0	65.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A381_PM
SAMPLE No.:	BU21-15-20150902-41 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	9/10/15		

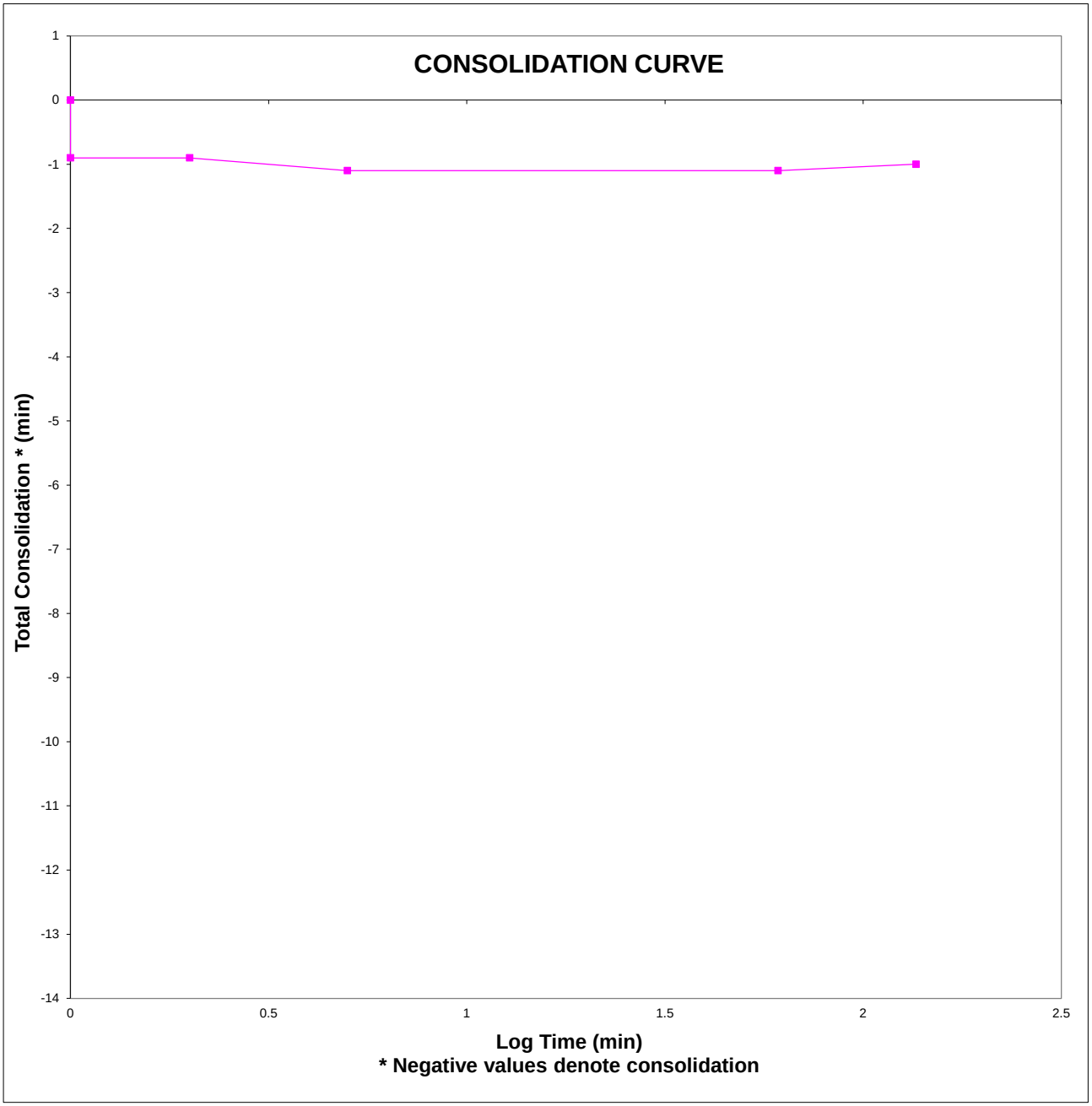
CELL PRESSURE: 75 psi **BACK PRESSURE:** 65 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
9 / 11 / 15	JDM	8 : 41	0	0	0	24.0	24.0	0.0
9 / 11 / 15	JDM	8 : 42	1	1	0.00	23.6	23.5	0.9
9 / 11 / 15	JDM	8 : 43	1	2	0.30	23.6	23.5	0.9
9 / 11 / 15	JDM	8 : 46	3	5	0.70	23.5	23.4	1.1
9 / 11 / 15	JDM	9 : 42	56	61	1.79	23.5	23.4	1.1
9 / 11 / 15	JDM	10 : 57	75	136	2.13	23.5	23.5	1.0

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A381_PM
SAMPLE No.:	BU21-15-20150902-41 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	9/10/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A381_PM
SAMPLE No.:	BU21-15-20150902-41 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	9/10/15		

			ELAPSED	HYDRAULIC			GAUGE		
	TESTED	TIME	TIME	HEAD (cm)		TEMP.	PRESSURE (psi)		
DATE	BY	(military)	(minutes)	INFLUENT	EFFLUENT	C°	CELL	INFLUENT	EFFLUENT
9 / 14 / 15	JDM	9 : 48	0	1.0	24.0	20.0	75.0	65.0	62.0
9 / 15 / 15	JDM	8 : 5	1337	1.5	23.5	20.0	75.0	65.0	62.0
9 / 16 / 15	JDM	8 : 8	1443	2.1	22.9	20.0	75.0	65.0	62.0
9 / 17 / 15	JDM	9 : 43	1535	2.8	22.2	20.0	75.0	65.0	62.0
9 / 18 / 15	JDM	7 : 47	1324	3.5	21.5	20.0	75.0	65.0	62.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A381_PM
SAMPLE No.:	BU21-15-20150902-41 (7-Day	EQUIPMENT No.:	4
TEST DATE:	9/10/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				54.340		
1337	0.5	0.5	1.00	54.108	2.47E-09	2.48E-09
1443	0.6	0.6	1.00	53.829	2.76E-09	2.78E-09
1535	0.7	0.7	1.00	53.504	3.05E-09	3.06E-09
1324	0.7	0.7	1.00	53.179	3.55E-09	3.57E-09

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A381_PM
SAMPLE No.:	BU21-15-20150902-41 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	9/10/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**100.7 lb/ft³**	**103.0 lb/ft³**
DRY UNIT WEIGHT	**64.6 lb/ft³**	**64.9 lb/ft³**
MOISTURE CONTENT	**55.9 %**	**58.7 %**
PERMEABILITY @ 20°C	**3.0E-09 cm/sec**	

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	Macon, GA		
GTX #:	GTX-303551		
Start Date:	10/4/2015	Tested By:	jm
End Date:	10/8/2015	Checked By:	mcm
Boring	---	Test #:	
Sample #:	BU21-15-20150902-41 (28 day)		
Depth:	---		
Visual Description:	Moist, Stabilized soil/cement		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084 Increasing Tailwater

Sample Type:	Core	Permeant Fluid:	de-aired tap water
Orientation:	Vertical	Cell #:	k2

Sample Preparation: Sample placed into permeameter at as-received density and moisture content, (28 day cure).

Parameter	Initial	Final
Height, in	1.50	1.50
Diameter, in	2.99	2.99
Area, in^2	7.02	7.02
Volume, in^3	10.5	10.5
Mass, g	270	271
Bulk Density, pcf	97	98
Moisture Content, %	63.0	63.7
Dry Density, pcf	59.7	59.7
Degree of Saturation, %	---	95

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90	Pressure Increment, psi:	9.5
Sample Pressure, psi:	80	B Coefficient:	0.95

FLOW DATA

Date	Trial #	Pressure, psi		Head readings			Elapsed Time,	Gradient	Permeability K,	Temp,		Permeability K @ 20 °C,
		Cell	Sample	H_1	H_2	H_1-H_2	sec		cm/sec	°C	R_t	cm/sec
10/6	3	90	80	193.2	190.9	2.3	2700	50.7	3.0E-08	21	0.976	2.9E-08
10/6	4	90	80	190.9	188.7	2.2	2700	50.1	2.9E-08	21	0.976	2.9E-08
10/6	5	90	80	188.7	185.6	3.1	3600	49.5	3.2E-08	21	0.976	3.1E-08
10/6	6	90	80	185.6	183.7	1.9	2400	48.7	2.9E-08	21	0.976	2.9E-08

PERMEABILITY AT 20° C: 2.9 x 10^{-8} cm/sec (@ 10 psi effective stress)

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A372_PM
SAMPLE No.:	BK21-10-20150903-42 (7-Day)	EQUIPMENT No.:	6
TEST DATE:	9/10/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	297.90 ***g***
3. WT WET SOIL + TARE	312.44 ***g***	617.60 ***g***
4. WT DRY SOIL + TARE	189.14 ***g***	487.04 ***g***
5. WT WATER, Ww	123.30 g	130.56 g
6. WT DRY SOIL, Ws	189.14 g	189.14 g
7. MOISTURE CONTENT, W	65.19 %	69.03 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.04 in.***	***3.04 in.***	***1.69 in.***	***1.70 in.***
No. 2	***3.03 in.***	***3.02 in.***	***1.71 in.***	***1.72 in.***
No. 3	***3.02 in.***	***3.01 in.***	***1.72 in.***	***1.68 in.***
Average	3.03 in.	3.03 in.	1.71 in.	1.70 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***312.44 g***	***319.70 g***
Area, Ao	7.21 in^2	7.20 in^2
Volume, Vo	12.29 in^3	12.25 in^3
Bulk Unit Weight	96.8 lb/ft^3	99.4 lb/ft^3
Dry Unit Weight	58.6 lb/ft^3	58.8 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A372_PM
SAMPLE No.:	BK21-10-20150903-42 (7-Day)	EQUIPMENT No.:	6
TEST DATE:	9/10/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
09/10/15	11 : 15	JDM	7.0	5.0	6.1				
09/10/15	12 : 0	JDM	17.0	15.0	16.2	11.6	10.0	5.5	0.55
09/10/15	12 : 44	JDM	27.0	25.0	26.1	23.7	10.0	7.5	0.75
09/10/15	13 : 52	JDM	37.0	35.0	36.1	35.3	10.0	9.2	0.92
09/10/15	14 : 45	JDM	47.0	45.0	46.0	45.3	10.0	9.2	0.92
09/10/15	15 : 21	JDM	57.0	55.0	56.0	55.2	10.0	9.2	0.92
09/11/15	7 : 56	JDM	67.0	65.0	*	65.9	10.0	9.9	0.99
09/11/15	7 : 56	JDM	57.0	55.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A372_PM
SAMPLE No.:	BK21-10-20150903-42 (7-Day)	EQUIPMENT No.:	6
TEST DATE:	9/10/15		

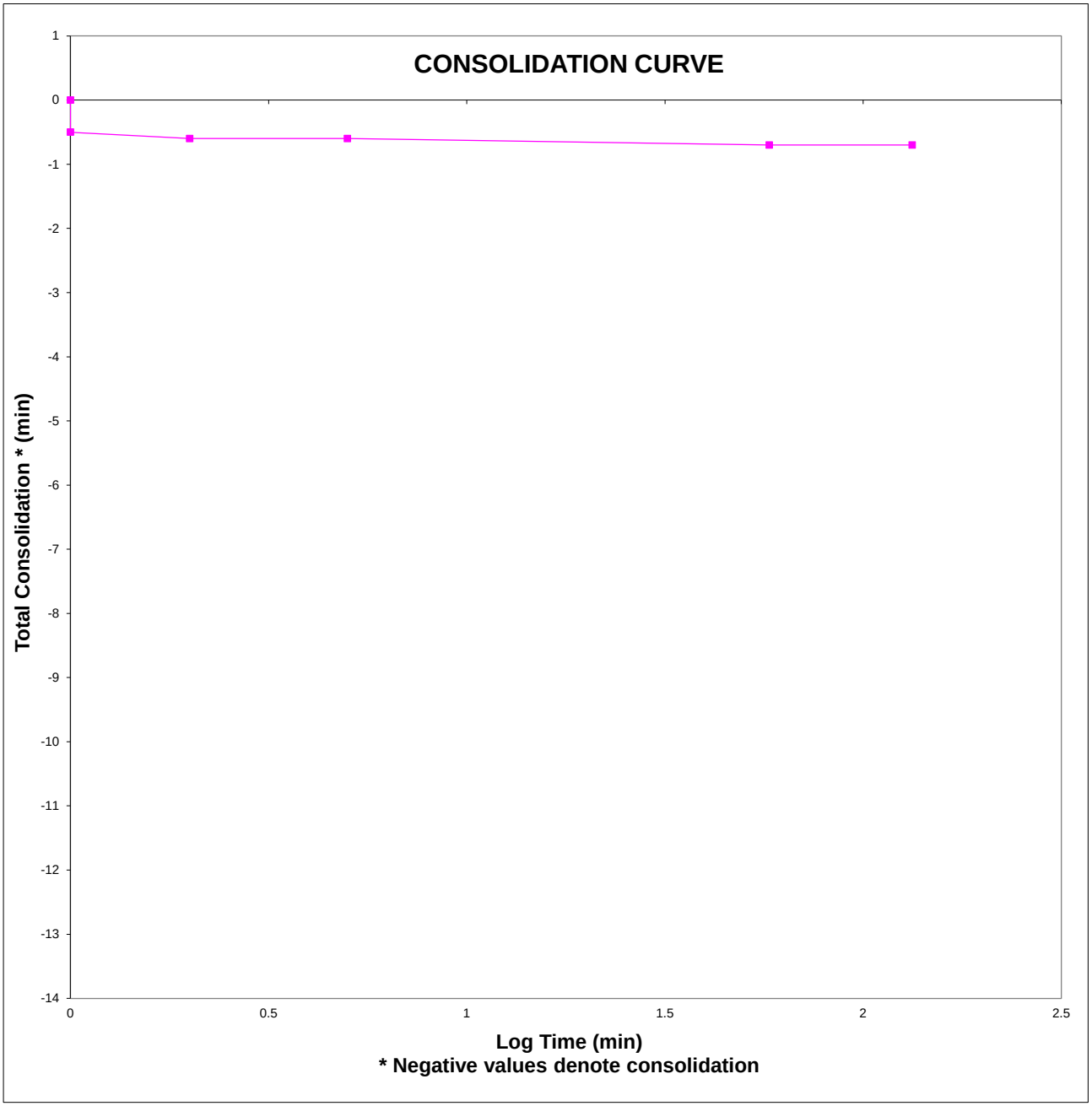
CELL PRESSURE: 65 psi **BACK PRESSURE:** 55 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
9 / 11 / 15	JDM	8 : 45	0	0	0	24.0	24.0	0.0
9 / 11 / 15	JDM	8 : 46	1	1	0.00	23.8	23.7	0.5
9 / 11 / 15	JDM	8 : 47	1	2	0.30	23.7	23.7	0.6
9 / 11 / 15	JDM	8 : 50	3	5	0.70	23.7	23.7	0.6
9 / 11 / 15	JDM	9 : 43	53	58	1.76	23.6	23.7	0.7
9 / 11 / 15	JDM	10 : 58	75	133	2.12	23.6	23.7	0.7

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A372_PM
SAMPLE No.:	BK21-10-20150903-42 (7-Day)	EQUIPMENT No.:	6
TEST DATE:	9/10/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A372_PM
SAMPLE No.:	BK21-10-20150903-42 (7-Day)	EQUIPMENT No.:	6
TEST DATE:	9/10/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
9 / 14 / 15	JDM	9 : 45	0	1.0	24.0	20.0	65.0	55.0	52.0
9 / 15 / 15	JDM	8 : 6	1341	1.8	23.2	20.0	65.0	55.0	52.0
9 / 16 / 15	JDM	8 : 6	1440	2.7	22.3	20.0	65.0	55.0	52.0
9 / 17 / 15	JDM	9 : 41	1535	3.6	21.4	20.0	65.0	55.0	52.0
9 / 18 / 15	JDM	7 : 48	1327	4.4	20.6	20.0	65.0	55.0	52.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A372_PM
SAMPLE No.:	BK21-10-20150903-42 (7-Day	EQUIPMENT No.:	6
TEST DATE:	9/10/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				54.027		
1341	0.8	0.8	1.00	53.658	3.97E-09	3.99E-09
1440	0.9	0.9	1.00	53.242	4.19E-09	4.21E-09
1535	0.9	0.9	1.00	52.826	3.96E-09	3.98E-09
1327	0.8	0.8	1.00	52.457	4.10E-09	4.12E-09

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A372_PM
SAMPLE No.:	BK21-10-20150903-42 (7-Day)	EQUIPMENT No.:	6
TEST DATE:	9/10/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**96.8 lb/ft³**	**99.4 lb/ft³**
DRY UNIT WEIGHT	**58.6 lb/ft³**	**58.8 lb/ft³**
MOISTURE CONTENT	**65.2 %**	**69.0 %**
PERMEABILITY @ 20°C	**4.1E-09 cm/sec**	

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	10/5/2015	Tested By:	jcw
End Date:	10/9/2015	Checked By:	mcm
Boring #:	---		
Sample #:	BK21-10-20150903-42(28 day)		
Depth:	---		
Visual Description:	Moist, brownish yellow soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084
Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	8/13

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.55

Parameter	Initial	Final
Height, in	1.62	1.62
Diameter, in	3.04	3.04
Area, in^2	7.26	7.26
Volume, in^3	11.8	11.8
Mass, g	295	301
Bulk Density, pcf	95	97
Moisture Content, %	64.8	68.0
Dry Density, pcf	57.9	57.9
Degree of Saturation, %	94	99

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90.03	Increased Cell Pressure, psi:	95.07	Cell Pressure Increment, psi:	5.04
Sample Pressure, psi:	79.91	Corresponding Sample Pressure, psi:	84.66	Sample Pressure Increment, psi:	4.75
				B Coefficient:	0.94

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time, sec	Gradient	Permeability K, cm/sec	Temp, °C	R_t	Permeability K @ 20 °C, cm/sec
		Cell	Sample	Z_1	Z_2	Z_1-Z_2						
10/7	1	90.0	79.9	19.5	19.4	0.1	176	59.7	6.4E-09	20	1.000	6.4E-09
10/7	2	90.0	79.9	19.5	19.4	0.1	181	59.7	6.2E-09	20	1.000	6.2E-09
10/7	3	90.0	79.9	19.5	19.4	0.1	189	59.7	6.0E-09	20	1.000	6.0E-09
10/7	4	90.0	79.9	19.5	19.4	0.1	197	59.7	5.7E-09	20	1.000	5.7E-09

PERMEABILITY AT 20° C: 6.1 x 10^{-9} cm/sec (@ 10 psi effective stress)

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	9/24/2015	Tested By:	jcw
End Date:	9/28/2015	Checked By:	mcm
Boring #:	---		
Sample #:	AZ18-5-20150909-43 (7 day)		
Depth:	---		
Visual Description:	Moist, brownish yellow soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084

Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	7/3

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.85

Parameter	Initial	Final
Height, in	1.45	1.45
Diameter, in	3.03	3.03
Area, in^2	7.21	7.21
Volume, in^3	10.5	10.5
Mass, g	284	289
Bulk Density, pcf	103	105
Moisture Content, %	57.1	60.0
Dry Density, pcf	65.6	65.6
Degree of Saturation, %	95	100

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90.03	Increased Cell Pressure, psi:	94.99	Cell Pressure Increment, psi:	4.96
Sample Pressure, psi:	79.95	Corresponding Sample Pressure, psi:	84.66	Sample Pressure Increment, psi:	4.72
				B Coefficient:	0.95

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time,	Gradient	Permeability K,	Temp,		Permeability K @ 20 °C,
		Cell	Sample	Z_1	Z_2	Z_1-Z_2	sec		cm/sec	°C	R_t	cm/sec
9/25	1	90.0	79.9	8.7	8.5	0.2	134	29.8	3.4E-08	20	1.000	3.4E-08
9/25	2	90.0	79.9	8.7	8.5	0.2	143	29.8	3.2E-08	20	1.000	3.2E-08
9/25	3	90.0	79.9	8.7	8.5	0.2	150	29.8	3.1E-08	20	1.000	3.1E-08
9/25	4	90.0	79.9	8.7	8.5	0.2	157	29.8	2.9E-08	20	1.000	2.9E-08

PERMEABILITY AT 20° C: 3.2×10^{-8} cm/sec (@ 10 psi effective stress)

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A431_PM
SAMPLE No.:	AZ18-5-20150909-43 (28-Day)	EQUIPMENT No.:	4
TEST DATE:	10/7/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	341.96 ***g***
3. WT WET SOIL + TARE	315.31 ***g***	661.50 ***g***
4. WT DRY SOIL + TARE	199.60 ***g***	541.56 ***g***
5. WT WATER, Ww	115.71 g	119.94 g
6. WT DRY SOIL, Ws	199.60 g	199.60 g
7. MOISTURE CONTENT, W	57.97 %	60.09 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.04 in.***	***3.04 in.***	***1.68 in.***	***1.71 in.***
No. 2	***3.02 in.***	***3.03 in.***	***1.65 in.***	***1.71 in.***
No. 3	***3.01 in.***	***3.01 in.***	***1.68 in.***	***1.67 in.***
Average	3.02 in.	3.03 in.	1.67 in.	1.70 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***315.31 g***	***319.54 g***
Area, Ao	7.18 in^2	7.20 in^2
Volume, Vo	12.00 in^3	12.20 in^3
Bulk Unit Weight	100.1 lb/ft^3	99.7 lb/ft^3
Dry Unit Weight	63.4 lb/ft^3	62.3 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A431_PM
SAMPLE No.:	AZ18-5-20150909-43 (28-Day)	EQUIPMENT No.:	4
TEST DATE:	10/7/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
10/07/15	13 : 3	JDM	7.0	5.0	5.4				
10/07/15	14 : 4	JDM	17.0	15.0	15.5	8.9	10.0	3.5	0.35
10/08/15	9 : 3	JDM	27.0	25.0	25.5	22.7	10.0	7.2	0.72
10/08/15	10 : 20	JDM	37.0	35.0	35.5	33.6	10.0	8.1	0.81
10/08/15	13 : 22	JDM	47.0	45.0	45.3	44.5	10.0	9.0	0.90
10/08/15	14 : 53	JDM	57.0	55.0	*	54.8	10.0	9.5	0.95
10/08/15	14 : 53	JDM	47.0	45.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A431_PM
SAMPLE No.:	AZ18-5-20150909-43 (28-Day)	EQUIPMENT No.:	4
TEST DATE:	10/7/15		

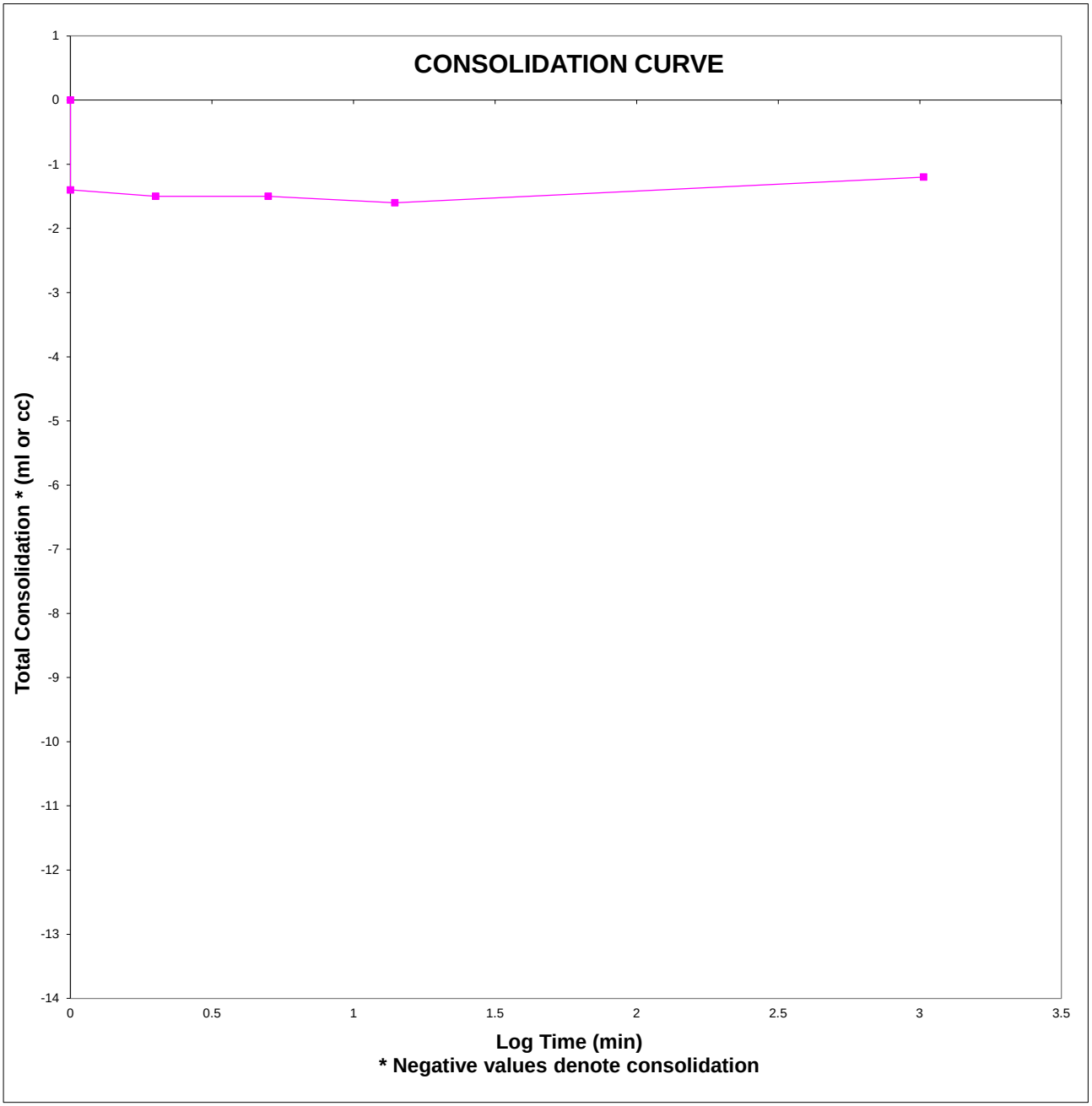
CELL PRESSURE: 55 psi **BACK PRESSURE:** 45 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
10 / 8 / 15	JDM	14 : 58	0	0	0	24.0	24.0	0.0
10 / 8 / 15	JDM	14 : 59	1	1	0.00	23.5	23.1	1.4
10 / 8 / 15	JDM	15 : 0	1	2	0.30	23.5	23.0	1.5
10 / 8 / 15	JDM	15 : 3	3	5	0.70	23.5	23.0	1.5
10 / 8 / 15	JDM	15 : 12	9	14	1.15	23.4	23.0	1.6
10 / 9 / 15	JDM	8 : 10	1018	1032	3.01	23.6	23.2	1.2

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A431_PM
SAMPLE No.:	AZ18-5-20150909-43 (28-Day)	EQUIPMENT No.:	4
TEST DATE:	10/7/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A431_PM
SAMPLE No.:	AZ18-5-20150909-43 (28-Day)	EQUIPMENT No.:	4
TEST DATE:	10/7/15		

			ELAPSED	HYDRAULIC			GAUGE		
	TESTED	TIME	TIME	HEAD (cm)		TEMP.	PRESSURE (psi)		
DATE	BY	(military)	(minutes)	INFLUENT	EFFLUENT	C°	CELL	INFLUENT	EFFLUENT
10 / 9 / 15	JDM	8 : 13	0	1.0	24.0	20.0	55.0	45.0	43.0
10 / 9 / 15	JDM	12 : 56	283	1.6	23.6	20.0	55.0	45.0	43.0
10 / 12 / 15	JDM	9 : 33	RESET	1.0	24.0	20.0	55.0	45.0	42.0
10 / 13 / 15	JDM	9 : 46	1453	1.5	23.5	20.0	55.0	45.0	42.0
10 / 14 / 15	JDM	10 : 20	1474	2.0	23.0	20.0	55.0	45.0	42.0
10 / 15 / 15	JDM	11 : 11	1491	2.6	22.4	20.0	55.0	45.0	42.0
10 / 16 / 15	JDM	11 : 59	1488	3.1	21.9	20.0	55.0	45.0	42.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A431_PM
SAMPLE No.:	AZ18-5-20150909-43 (28-Day	EQUIPMENT No.:	4
TEST DATE:	10/7/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				38.560		
283	0.6	0.4	0.67	38.325	1.65E-08	1.66E-08
RESET				55.131		
1453	0.5	0.5	1.00	54.896	2.25E-09	2.26E-09
1474	0.5	0.5	1.00	54.660	2.23E-09	2.24E-09
1491	0.6	0.6	1.00	54.378	2.66E-09	2.67E-09
1488	0.5	0.5	1.00	54.142	2.23E-09	2.24E-09

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A431_PM
SAMPLE No.:	AZ18-5-20150909-43 (28-Day)	EQUIPMENT No.:	4
TEST DATE:	10/7/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**100.1 lb/ft³**	**99.7 lb/ft³**
DRY UNIT WEIGHT	**63.4 lb/ft³**	**62.3 lb/ft³**
MOISTURE CONTENT	**58.0 %**	**60.1 %**
PERMEABILITY @ 20°C	**2.4E-09 cm/sec**	

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	9/24/2015	Tested By:	jcw
End Date:	9/28/2015	Checked By:	mcm
Boring #:	---		
Sample #:	AR18-15-20150910-44 (7 day)		
Depth:	---		
Visual Description:	Moist, brownish yellow soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084

Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	14/11

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.55

Parameter	Initial	Final
Height, in	1.46	1.46
Diameter, in	3.04	3.04
Area, in^2	7.26	7.26
Volume, in^3	10.6	10.6
Mass, g	287	293
Bulk Density, pcf	103	105
Moisture Content, %	44.9	47.8
Dry Density, pcf	71.1	71.1
Degree of Saturation, %	92	98

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90.02	Increased Cell Pressure, psi:	95.00	Cell Pressure Increment, psi:	4.98
Sample Pressure, psi:	79.88	Corresponding Sample Pressure, psi:	83.45	Sample Pressure Increment, psi:	3.57
				B Coefficient:	0.72

*B value did not increase with increase in pressure.
Final degree of saturation >95%.

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time, sec	Gradient	Permeability K, cm/sec	Temp, °C	R_t	Permeability K @ 20 °C, cm/sec
		Cell	Sample	Z_1	Z_2	Z_1-Z_2						
9/25	1	90.0	79.9	5.9	5.7	0.2	70	20.0	9.7E-08	20	1.000	9.7E-08
9/25	2	90.0	79.9	5.9	5.7	0.2	70	20.0	9.7E-08	20	1.000	9.7E-08
9/25	3	90.0	79.9	5.9	5.7	0.2	71	20.0	9.6E-08	20	1.000	9.6E-08
9/25	4	90.0	79.9	5.9	5.7	0.2	72	20.0	9.5E-08	20	1.000	9.5E-08

PERMEABILITY AT 20° C: 9.6×10^{-8} cm/sec (@ 10 psi effective stress)

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A432_PM
SAMPLE No.:	AR18-15-20150910-44 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	10/8/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	341.97 ***g***
3. WT WET SOIL + TARE	346.77 ***g***	693.30 ***g***
4. WT DRY SOIL + TARE	239.12 ***g***	581.09 ***g***
5. WT WATER, Ww	107.65 g	112.21 g
6. WT DRY SOIL, Ws	239.12 g	239.12 g
7. MOISTURE CONTENT, W	45.02 %	46.93 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.03 in.***	***3.03 in.***	***1.74 in.***	***1.76 in.***
No. 2	***3.03 in.***	***3.03 in.***	***1.75 in.***	***1.76 in.***
No. 3	***3.03 in.***	***3.01 in.***	***1.75 in.***	***1.73 in.***
Average	3.03 in.	3.02 in.	1.75 in.	1.75 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***346.77 g***	***351.33 g***
Area, Ao	7.20 in^2	7.17 in^2
Volume, Vo	12.56 in^3	12.56 in^3
Bulk Unit Weight	105.1 lb/ft^3	106.5 lb/ft^3
Dry Unit Weight	72.5 lb/ft^3	72.5 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A432_PM
SAMPLE No.:	AR18-15-20150910-44 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	10/8/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
10/08/15	9 : 15	JDM	7.0	5.0	5.5				
10/08/15	10 : 20	JDM	17.0	15.0	15.0	9.9	10.0	4.4	0.44
10/08/15	13 : 23	JDM	27.0	25.0	25.6	21.5	10.0	6.5	0.65
10/08/15	14 : 54	JDM	37.0	35.0	34.9	32.8	10.0	7.2	0.72
10/08/15	15 : 30	JDM	47.0	45.0	44.9	43.3	10.0	8.4	0.84
10/09/15	8 : 16	JDM	57.0	55.0	55.0	54.0	10.0	9.1	0.91
10/09/15	10 : 5	JDM	67.0	65.0	*	64.6	10.0	9.6	0.96
10/09/15	10 : 5	JDM	57.0	55.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A432_PM
SAMPLE No.:	AR18-15-20150910-44 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	10/8/15		

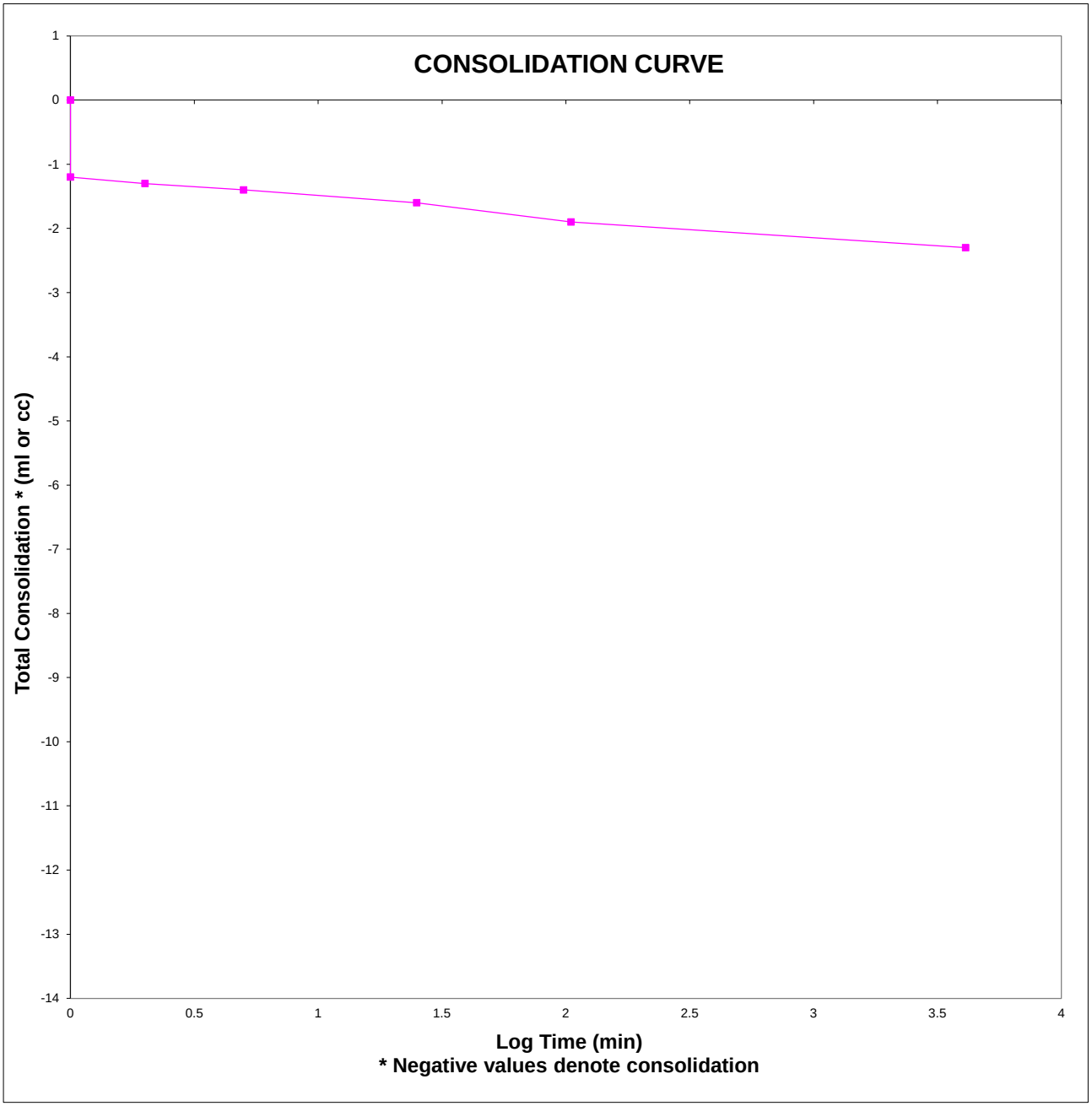
CELL PRESSURE: 65 psi **BACK PRESSURE:** 55 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
10 / 9 / 15	JDM	13 : 0	0	0	0	25.0	25.0	0.0
10 / 9 / 15	JDM	13 : 1	1	1	0.00	24.4	24.4	1.2
10 / 9 / 15	JDM	13 : 2	1	2	0.30	24.3	24.4	1.3
10 / 9 / 15	JDM	13 : 5	3	5	0.70	24.3	24.3	1.4
10 / 9 / 15	JDM	13 : 25	20	25	1.40	24.2	24.2	1.6
10 / 9 / 15	JDM	14 : 45	80	105	2.02	24.2	23.9	1.9
10 / 12 / 15	JDM	9 : 30	4005	4110	3.61	24.4	23.3	2.3

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A432_PM
SAMPLE No.:	AR18-15-20150910-44 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	10/8/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A432_PM
SAMPLE No.:	AR18-15-20150910-44 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	10/8/15		

			ELAPSED	HYDRAULIC			GAUGE		
	TESTED	TIME	TIME	HEAD (cm)		TEMP.	PRESSURE (psi)		
DATE	BY	(military)	(minutes)	INFLUENT	EFFLUENT	C°	CELL	INFLUENT	EFFLUENT
10 / 13 / 15	JDM	8 : 1	0	1.0	24.0	20.0	65.0	55.0	53.0
10 / 13 / 15	JDM	9 : 47	106	1.7	23.3	20.0	65.0	55.0	53.0
10 / 13 / 15	JDM	11 : 1	74	2.2	22.8	20.0	65.0	55.0	53.0
10 / 13 / 15	JDM	13 : 7	126	3.0	22.0	20.0	65.0	55.0	53.0
10 / 13 / 15	JDM	14 : 41	94	3.5	21.5	20.0	65.0	55.0	53.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A432_PM
SAMPLE No.:	AR18-15-20150910-44 (28-Da	EQUIPMENT No.:	3
TEST DATE:	10/8/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				36.911		
106	0.7	0.7	1.00	36.596	6.45E-08	6.48E-08
74	0.5	0.5	1.00	36.370	6.65E-08	6.68E-08
126	0.8	0.8	1.00	36.009	6.30E-08	6.33E-08
94	0.5	0.5	1.00	35.784	5.32E-08	5.34E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A432_PM
SAMPLE No.:	AR18-15-20150910-44 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	10/8/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**105.1 lb/ft³**	**106.5 lb/ft³**
DRY UNIT WEIGHT	**72.5 lb/ft³**	**72.5 lb/ft³**
MOISTURE CONTENT	**45.0 %**	**46.9 %**
PERMEABILITY @ 20°C	**6.2E-08 cm/sec**	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A392_PM
SAMPLE No.:	L16-10-20150911-45 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	9/18/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	297.88 ***g***
3. WT WET SOIL + TARE	322.98 ***g***	624.10 ***g***
4. WT DRY SOIL + TARE	210.64 ***g***	508.52 ***g***
5. WT WATER, Ww	112.34 g	115.58 g
6. WT DRY SOIL, Ws	210.64 g	210.64 g
7. MOISTURE CONTENT, W	53.33 %	54.87 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.03 in.***	***3.03 in.***	***1.71 in.***	***1.70 in.***
No. 2	***3.03 in.***	***3.02 in.***	***1.67 in.***	***1.67 in.***
No. 3	***3.02 in.***	***3.02 in.***	***1.66 in.***	***1.67 in.***
Average	3.03 in.	3.02 in.	1.68 in.	1.68 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***322.98 g***	***326.22 g***
Area, Ao	7.20 in^2	7.18 in^2
Volume, Vo	12.10 in^3	12.07 in^3
Bulk Unit Weight	101.7 lb/ft^3	103.0 lb/ft^3
Dry Unit Weight	66.3 lb/ft^3	66.5 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A392_PM
SAMPLE No.:	L16-10-20150911-45 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	9/18/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
09/18/15	10 : 47	JDM	7.0	5.0	5.5				
09/18/15	11 : 31	JDM	17.0	15.0	15.3	8.1	10.0	2.6	0.26
09/18/15	12 : 5	JDM	27.0	25.0	25.0	19.6	10.0	4.3	0.43
09/18/15	13 : 0	JDM	37.0	35.0	34.9	31.6	10.0	6.6	0.66
09/18/15	13 : 34	JDM	47.0	45.0	44.6	42.3	10.0	7.4	0.74
09/18/15	14 : 18	JDM	57.0	55.0	54.7	52.9	10.0	8.3	0.83
09/18/15	15 : 0	JDM	67.0	65.0	64.9	63.3	10.0	8.6	0.86
09/21/15	7 : 55	JDM	77.0	75.0	74.8	74.1	10.0	9.2	0.92
09/21/15	8 : 51	JDM	87.0	85.0	84.8	84.1	10.0	9.3	0.93
09/21/15	10 : 0	JDM	97.0	95.0	*	94.4	10.0	9.6	0.96
09/21/15	10 : 0	JDM	87.0	85.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A392_PM
SAMPLE No.:	L16-10-20150911-45 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	9/18/15		

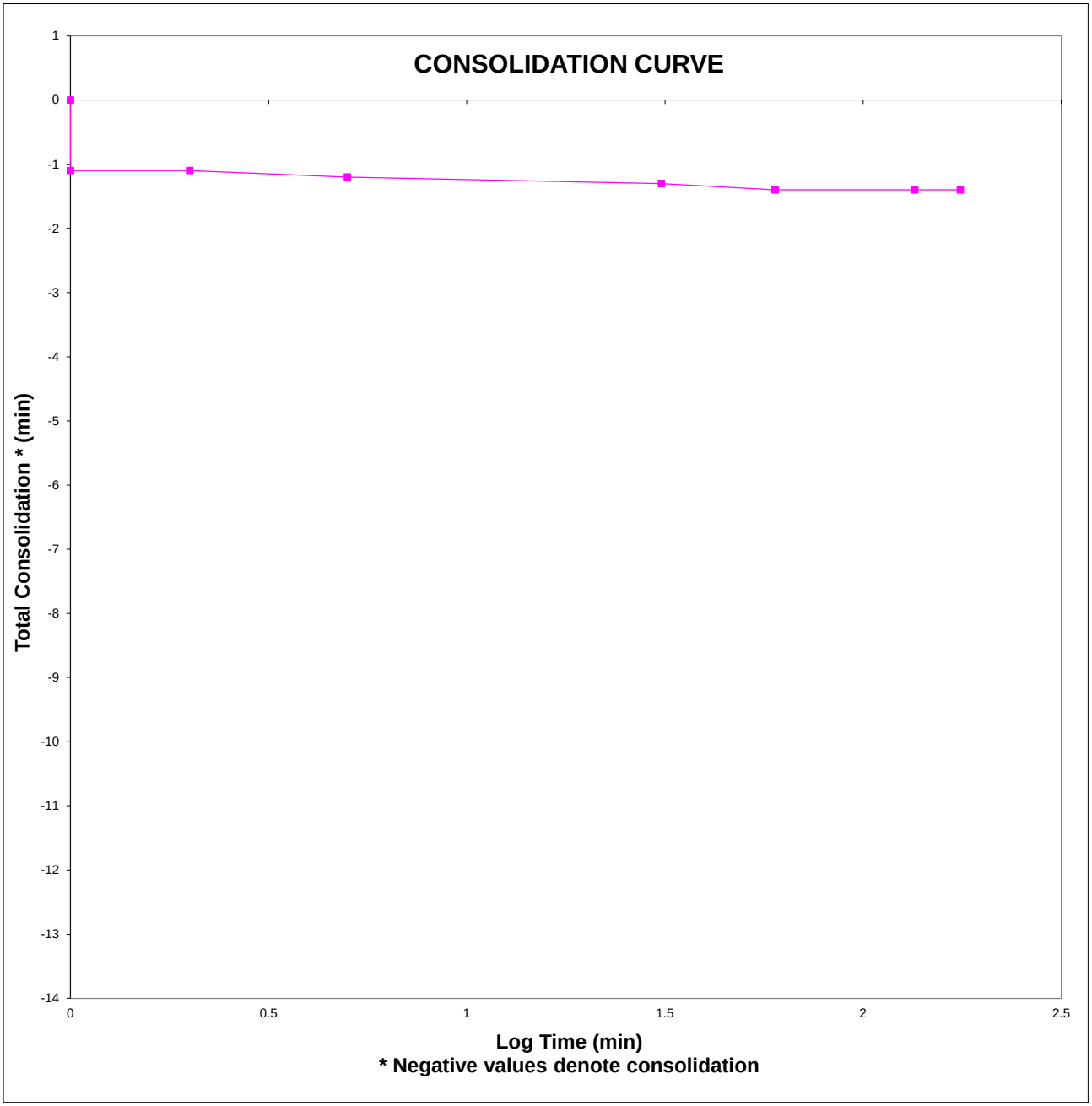
CELL PRESSURE: 95 psi **BACK PRESSURE:** 85 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
9 / 21 / 15	JDM	10 : 3	0	0	0	25.0	25.0	0.0
9 / 21 / 15	JDM	10 : 4	1	1	0.00	24.6	24.3	1.1
9 / 21 / 15	JDM	10 : 5	1	2	0.30	24.6	24.3	1.1
9 / 21 / 15	JDM	10 : 8	3	5	0.70	24.5	24.3	1.2
9 / 21 / 15	JDM	10 : 34	26	31	1.49	24.5	24.2	1.3
9 / 21 / 15	JDM	11 : 3	29	60	1.78	24.5	24.1	1.4
9 / 21 / 15	JDM	12 : 18	75	135	2.13	24.5	24.1	1.4
9 / 21 / 15	JDM	12 59	41	176	2.25	24.5	24.1	1.4

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A392_PM
SAMPLE No.:	L16-10-20150911-45 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	9/18/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A392_PM
SAMPLE No.:	L16-10-20150911-45 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	9/18/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
9 / 21 / 15	JDM	14 : 12	0	1.0	24.0	20.0	95.0	85.0	82.0
9 / 22 / 15	JDM	7 : 51	1059	2.0	23.0	20.0	95.0	85.0	82.0
9 / 23 / 15	JDM	8 : 5	1454	3.1	21.9	20.0	95.0	85.0	82.0
9 / 24 / 15	JDM	7 : 50	1425	3.6	21.4	20.0	95.0	85.0	82.0
9 / 25 / 15	JDM	8 : 55	1505	4.5	20.5	20.0	95.0	85.0	82.0
9 / 28 / 15	JDM	8 : 0	4265	7.8	17.2	20.0	95.0	85.0	82.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A392_PM
SAMPLE No.:	L16-10-20150911-45 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	9/18/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				54.831		
1059	1.0	1.0	1.00	54.362	6.20E-09	6.23E-09
1454	1.1	1.1	1.00	53.847	5.02E-09	5.04E-09
1425	0.5	0.5	1.00	53.612	2.34E-09	2.35E-09
1505	0.9	0.9	1.00	53.191	4.02E-09	4.04E-09
4265	3.3	3.3	1.00	51.644	5.30E-09	5.32E-09

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A392_PM
SAMPLE No.:	L16-10-20150911-45 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	9/18/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**101.7 lb/ft³**	**103.0 lb/ft³**
DRY UNIT WEIGHT	**66.3 lb/ft³**	**66.5 lb/ft³**
MOISTURE CONTENT	**53.3 %**	**54.9 %**
PERMEABILITY @ 20°C	**5.2E-09 cm/sec**	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A453_PM
SAMPLE No.:	L16-10-20150911-45 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	10/9/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	297.54 ***g***
3. WT WET SOIL + TARE	322.04 ***g***	621.50 ***g***
4. WT DRY SOIL + TARE	219.27 ***g***	516.81 ***g***
5. WT WATER, Ww	102.77 g	104.69 g
6. WT DRY SOIL, Ws	219.27 g	219.27 g
7. MOISTURE CONTENT, W	46.87 %	47.74 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.05 in.***	***3.02 in.***	***1.67 in.***	***1.66 in.***
No. 2	***3.02 in.***	***3.03 in.***	***1.64 in.***	***1.72 in.***
No. 3	***3.02 in.***	***3.03 in.***	***1.71 in.***	***1.66 in.***
Average	3.03 in.	3.03 in.	1.68 in.	1.68 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***322.04 g***	***323.96 g***
Area, Ao	7.21 in^2	7.19 in^2
Volume, Vo	12.08 in^3	12.07 in^3
Bulk Unit Weight	101.6 lb/ft^3	102.3 lb/ft^3
Dry Unit Weight	69.1 lb/ft^3	69.2 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A453_PM
SAMPLE No.:	L16-10-20150911-45 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	10/9/15		

			TEST PRESSURES (psi)						
TEST	*TIME*	*TESTED*	*APPLIED*		*PORE*		*PRESSURE CHANGE*		
DATE	*(military)*	*BY*	*CELL*	*BACK*	*SAT.*	*TEST*	*CELL*	*PORE*	*B-Value*
10/09/15	13 : 50	JDM	7.0	5.0	5.8				
10/09/15	14 : 48	JDM	17.0	15.0	15.8	9.9	10.0	4.1	0.41
10/12/15	9 : 41	JDM	27.0	25.0	25.9	21.3	10.0	5.5	0.55
10/13/15	8 : 0	JDM	37.0	35.0	35.9	34.3	10.0	8.4	0.84
10/13/15	9 : 50	JDM	47.0	45.0	45.8	45.0	10.0	9.1	0.91
10/13/15	11 : 5	JDM	57.0	55.0	*	55.3	10.0	9.5	0.95
10/13/15	11 : 5	JDM	47.0	45.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A453_PM
SAMPLE No.:	L16-10-20150911-45 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	10/9/15		

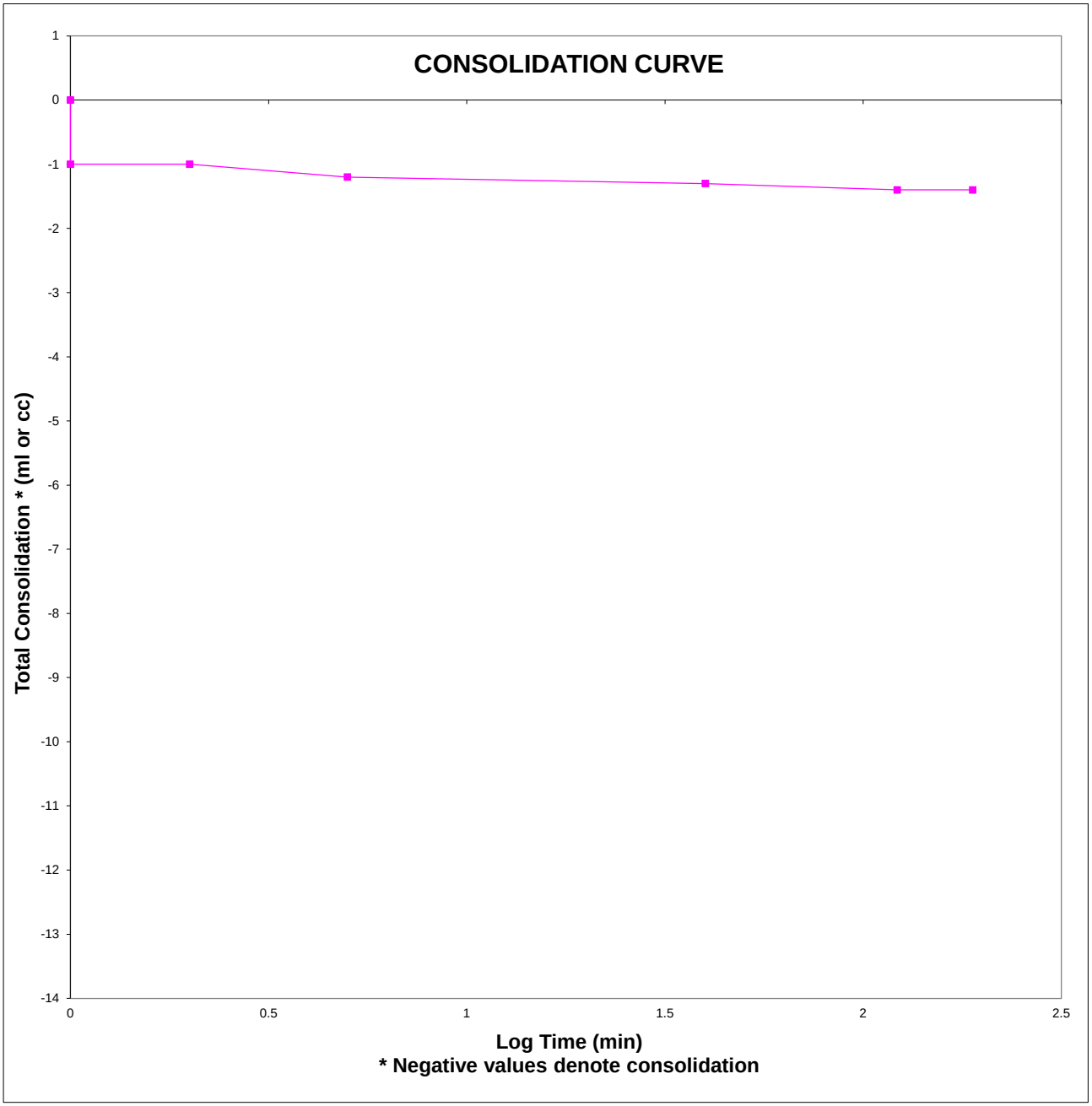
CELL PRESSURE: 55 psi **BACK PRESSURE:** 45 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
10 / 13 / 15	JDM	11 : 5	0	0	0	24.0	24.0	0.0
10 / 13 / 15	JDM	11 : 6	1	1	0.00	23.5	23.5	1.0
10 / 13 / 15	JDM	11 : 7	1	2	0.30	23.5	23.5	1.0
10 / 13 / 15	JDM	11 : 10	3	5	0.70	23.4	23.4	1.2
10 / 13 / 15	JDM	11 : 45	35	40	1.60	23.3	23.4	1.3
10 / 13 / 15	JDM	13 : 7	82	122	2.09	23.3	23.3	1.4
10 / 13 / 15	JDM	14 : 14	67	189	2.28	23.3	23.3	1.4

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A453_PM
SAMPLE No.:	L16-10-20150911-45 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	10/9/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A453_PM
SAMPLE No.:	L16-10-20150911-45 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	10/9/15		

			ELAPSED	HYDRAULIC			GAUGE		
	TESTED	TIME	TIME	HEAD (cm)		TEMP.	PRESSURE (psi)		
DATE	BY	(military)	(minutes)	INFLUENT	EFFLUENT	C°	CELL	INFLUENT	EFFLUENT
10 / 13 / 15	JDM	14 : 28	0	1.0	24.0	20.0	55.0	45.0	43.0
10 / 14 / 15	JDM	8 : 13	1065	8.4	16.6	20.0	55.0	45.0	43.0
10 / 14 / 15	JDM	8 : 15	RESET	1.0	24.0	20.0	55.0	45.0	43.0
10 / 14 / 15	JDM	9 : 42	87	1.5	23.5	20.0	55.0	45.0	43.0
10 / 14 / 15	JDM	11 : 0	78	2.0	23.0	20.0	55.0	45.0	43.0
10 / 14 / 15	JDM	12 : 35	95	2.6	22.4	20.0	55.0	45.0	43.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A453_PM
SAMPLE No.:	L16-10-20150911-45 (28-Day	EQUIPMENT No.:	2
TEST DATE:	10/9/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				38.457		
1065	7.4	7.4	1.00	34.980	6.79E-08	6.82E-08
RESET				38.457		
87	0.5	0.5	1.00	38.222	5.37E-08	5.40E-08
78	0.5	0.5	1.00	37.987	6.03E-08	6.06E-08
95	0.6	0.6	1.00	37.705	5.98E-08	6.01E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A453_PM
SAMPLE No.:	L16-10-20150911-45 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	10/9/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	101.6 lb/ft³	102.3 lb/ft³
DRY UNIT WEIGHT	69.1 lb/ft³	69.2 lb/ft³
MOISTURE CONTENT	46.9 %	47.7 %
PERMEABILITY @ 20°C	6.1E-08 cm/sec	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A393_PM
SAMPLE No.:	W17-10-20150914-46 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	9/21/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	297.59 ***g***
3. WT WET SOIL + TARE	312.99 ***g***	615.70 ***g***
4. WT DRY SOIL + TARE	216.13 ***g***	513.72 ***g***
5. WT WATER, Ww	96.86 g	101.98 g
6. WT DRY SOIL, Ws	216.13 g	216.13 g
7. MOISTURE CONTENT, W	44.82 %	47.18 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.03 in.***	***3.03 in.***	***1.58 in.***	***1.58 in.***
No. 2	***3.02 in.***	***3.02 in.***	***1.58 in.***	***1.59 in.***
No. 3	***3.01 in.***	***3.01 in.***	***1.56 in.***	***1.57 in.***
Average	3.02 in.	3.02 in.	1.57 in.	1.58 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***312.99 g***	***318.11 g***
Area, Ao	7.16 in^2	7.16 in^2
Volume, Vo	11.27 in^3	11.28 in^3
Bulk Unit Weight	105.8 lb/ft^3	107.4 lb/ft^3
Dry Unit Weight	73.0 lb/ft^3	73.0 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A393_PM
SAMPLE No.:	W17-10-20150914-46 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	9/21/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
09/21/15	10 : 7	JDM	7.0	5.0	5.8				
09/21/15	10 : 47	JDM	17.0	15.0	15.7	8.5	10.0	2.7	0.27
09/21/15	11 : 34	JDM	27.0	25.0	25.8	21.3	10.0	5.6	0.56
09/21/15	12 : 21	JDM	37.0	35.0	35.8	33.0	10.0	7.2	0.72
09/21/15	13 : 1	JDM	47.0	45.0	45.7	43.8	10.0	8.0	0.80
09/21/15	13 : 44	JDM	57.0	55.0	55.8	54.6	10.0	8.9	0.89
09/21/15	14 : 16	JDM	67.0	65.0	65.8	65.2	10.0	9.4	0.94
09/21/15	14 : 55	JDM	77.0	75.0	*	75.5	10.0	9.7	0.97
09/21/15	14 : 55	JDM	67.0	65.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A393_PM
SAMPLE No.:	W17-10-20150914-46 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	9/21/15		

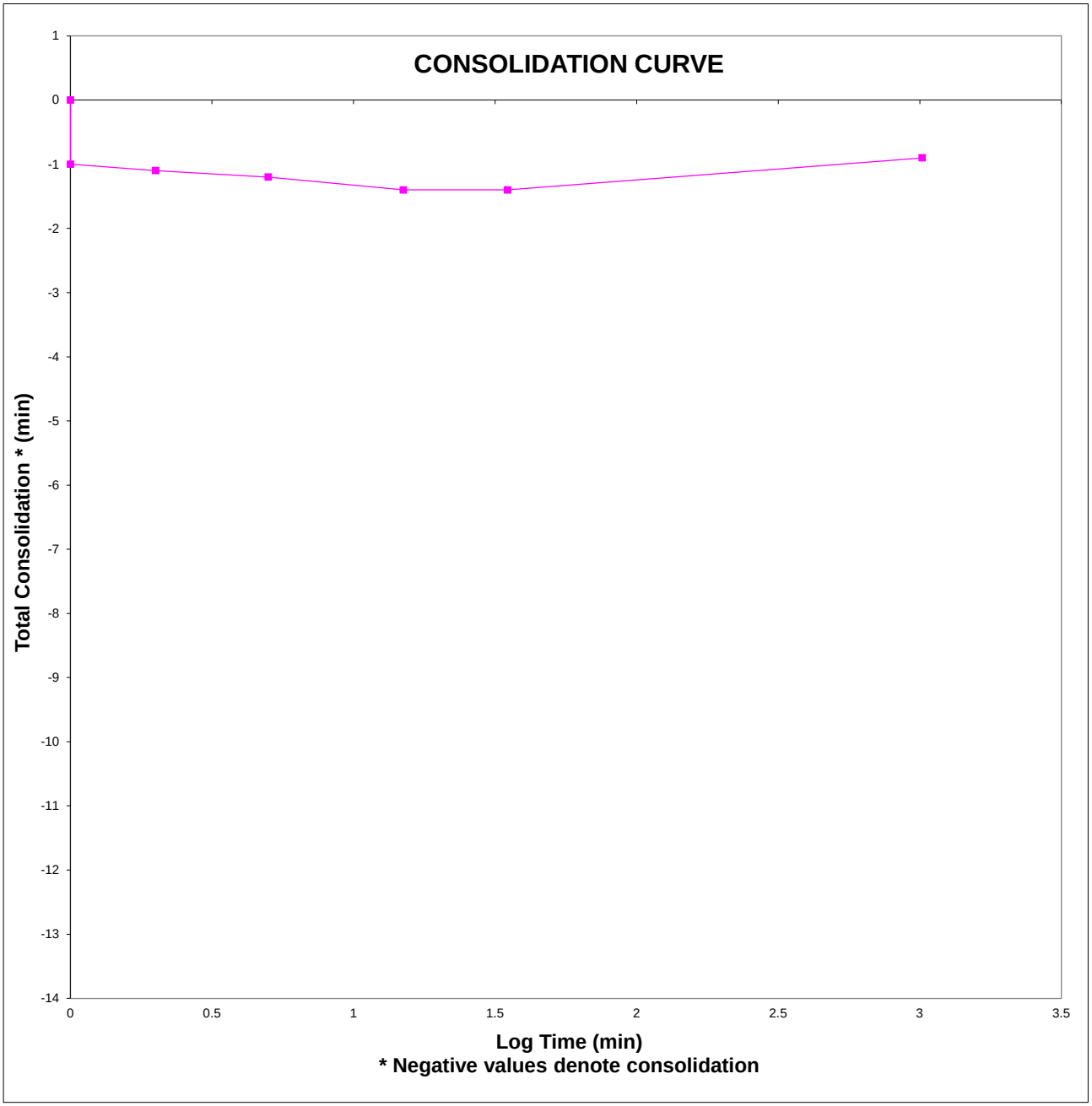
CELL PRESSURE: 75 psi **BACK PRESSURE:** 65 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
9 / 21 / 15	JDM	14 : 55	0	0	0	24.0	24.0	0.0
9 / 21 / 15	JDM	14 : 56	1	1	0.00	23.5	23.5	1.0
9 / 21 / 15	JDM	14 : 57	1	2	0.30	23.5	23.4	1.1
9 / 21 / 15	JDM	15 : 0	3	5	0.70	23.4	23.4	1.2
9 / 21 / 15	JDM	15 : 10	10	15	1.18	23.3	23.3	1.4
9 / 21 / 15	JDM	15 : 30	20	35	1.54	23.3	23.3	1.4
9 / 22 / 15	JDM	7 : 55	985	1020	3.01	23.5	23.6	0.9

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A393_PM
SAMPLE No.:	W17-10-20150914-46 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	9/21/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A393_PM
SAMPLE No.:	W17-10-20150914-46 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	9/21/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
9 / 22 / 15	JDM	7 : 58	0	1.0	24.0	20.0	75.0	65.0	62.0
9 / 22 / 15	JDM	9 : 54	116	1.5	23.5	20.0	75.0	65.0	62.0
9 / 22 / 15	JDM	12 : 54	180	2.0	23.0	20.0	75.0	65.0	62.0
9 / 23 / 15	JDM	8 : 13	1159	4.4	20.6	20.0	75.0	65.0	62.0
9 / 23 / 15	JDM	13 : 22	309	5.0	20.0	20.0	75.0	65.0	62.0
9 / 24 / 15	JDM	7 : 51	1109	6.6	18.4	20.0	75.0	65.0	62.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A393_PM
SAMPLE No.:	W17-10-20150914-46 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	9/21/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				58.541		
116	0.5	0.5	1.00	58.291	2.66E-08	2.67E-08
180	0.5	0.5	1.00	58.041	1.72E-08	1.73E-08
1159	2.4	2.4	1.00	56.840	1.30E-08	1.31E-08
309	0.6	0.6	1.00	56.540	1.24E-08	1.24E-08
1109	1.6	1.6	1.00	55.739	9.27E-09	9.31E-09

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A393_PM
SAMPLE No.:	W17-10-20150914-46 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	9/21/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	105.8 lb/ft³	107.4 lb/ft³
DRY UNIT WEIGHT	73.0 lb/ft³	73.0 lb/ft³
MOISTURE CONTENT	44.8 %	47.2 %
PERMEABILITY @ 20°C	1.4E-08 cm/sec	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A454_PM
SAMPLE No.:	W17-10-20150914-46 (28-Day)	EQUIPMENT No.:	5
TEST DATE:	10/12/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	297.86 ***g***
3. WT WET SOIL + TARE	352.95 ***g***	656.00 ***g***
4. WT DRY SOIL + TARE	243.92 ***g***	541.78 ***g***
5. WT WATER, Ww	109.03 g	114.22 g
6. WT DRY SOIL, Ws	243.92 g	243.92 g
7. MOISTURE CONTENT, W	44.70 %	46.83 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.02 in.***	***3.02 in.***	***1.75 in.***	***1.75 in.***
No. 2	***3.02 in.***	***3.02 in.***	***1.74 in.***	***1.77 in.***
No. 3	***3.03 in.***	***3.03 in.***	***1.81 in.***	***1.83 in.***
Average	3.02 in.	3.02 in.	1.77 in.	1.78 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***352.95 g***	***358.14 g***
Area, Ao	7.18 in^2	7.18 in^2
Volume, Vo	12.68 in^3	12.79 in^3
Bulk Unit Weight	106.0 lb/ft^3	106.7 lb/ft^3
Dry Unit Weight	73.3 lb/ft^3	72.7 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A454_PM
SAMPLE No.:	W17-10-20150914-46 (28-Day)	EQUIPMENT No.:	5
TEST DATE:	10/12/15		

			TEST PRESSURES (psi)						
TEST	*TIME*	*TESTED*	*APPLIED*		*PORE*		*PRESSURE CHANGE*		
DATE	*(military)*	*BY*	*CELL*	*BACK*	*SAT.*	*TEST*	*CELL*	*PORE*	*B-Value*
10/12/15	10 : 15	JDM	7.0	5.0	5.4				
10/13/15	8 : 5	JDM	17.0	15.0	15.4	10.9	10.0	5.5	0.55
10/13/15	9 : 48	JDM	27.0	25.0	25.4	23.7	10.0	8.3	0.83
10/13/15	11 : 4	JDM	37.0	35.0	35.4	34.5	10.0	9.1	0.91
10/13/15	11 : 47	JDM	47.0	45.0	45.4	44.8	10.0	9.4	0.94
10/13/15	13 : 6	JDM	57.0	55.0	*	55.2	10.0	9.8	0.98
10/13/15	13 : 6	JDM	47.0	45.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A454_PM
SAMPLE No.:	W17-10-20150914-46 (28-Day)	EQUIPMENT No.:	5
TEST DATE:	10/12/15		

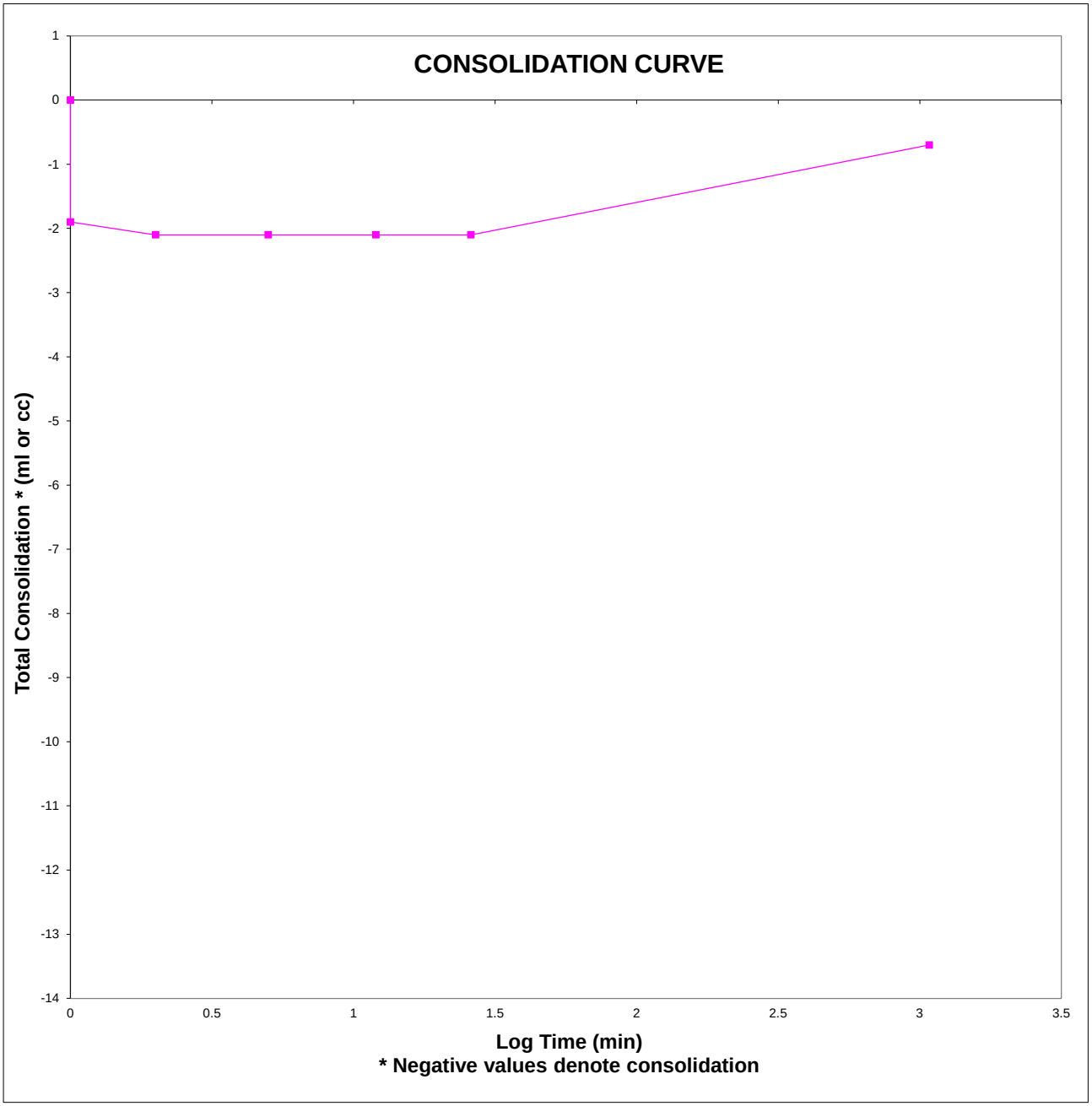
CELL PRESSURE: 55 psi **BACK PRESSURE:** 45 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
10 / 13 / 15	JDM	14 : 14	0	0	0	23.0	23.0	0.0
10 / 13 / 15	JDM	14 : 15	1	1	0.00	22.0	22.1	1.9
10 / 13 / 15	JDM	14 : 16	1	2	0.30	21.9	22.0	2.1
10 / 13 / 15	JDM	14 : 19	3	5	0.70	21.9	22.0	2.1
10 / 13 / 15	JDM	14 : 26	7	12	1.08	21.9	22.0	2.1
10 / 13 / 15	JDM	14 : 40	14	26	1.41	21.9	22.0	2.1
10 / 14 / 15	JDM	8 : 15	1055	1081	3.03	22.5	22.8	0.7

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A454_PM
SAMPLE No.:	W17-10-20150914-46 (28-Day)	EQUIPMENT No.:	5
TEST DATE:	10/12/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A454_PM
SAMPLE No.:	W17-10-20150914-46 (28-Day)	EQUIPMENT No.:	5
TEST DATE:	10/12/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
10 / 14 / 15	JDM	10 : 22	0	0.0	25.0	20.0	55.0	45.0	42.0
10 / 14 / 15	JDM	14 : 35	253	0.5	24.5	20.0	55.0	45.0	42.0
10 / 15 / 15	JDM	8 : 5	1050	2.3	22.7	20.0	55.0	45.0	42.0
10 / 15 / 15	JDM	14 : 10	365	3.0	22.0	20.0	55.0	45.0	42.0
10 / 16 / 15	JDM	7 : 59	1069	4.5	20.5	20.0	55.0	45.0	42.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A454_PM
SAMPLE No.:	W17-10-20150914-46 (28-Day	EQUIPMENT No.:	5
TEST DATE:	10/12/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				52.592		
253	0.5	0.5	1.00	52.369	1.36E-08	1.36E-08
1050	1.8	1.8	1.00	51.567	1.19E-08	1.19E-08
365	0.7	0.7	1.00	51.255	1.34E-08	1.35E-08
1069	1.5	1.5	1.00	50.587	9.92E-09	9.96E-09

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A454_PM
SAMPLE No.:	W17-10-20150914-46 (28-Day)	EQUIPMENT No.:	5
TEST DATE:	10/12/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	106.0 lb/ft³	106.7 lb/ft³
DRY UNIT WEIGHT	73.3 lb/ft³	72.7 lb/ft³
MOISTURE CONTENT	44.7 %	46.8 %
PERMEABILITY @ 20°C	1.2E-08 cm/sec	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A397_PM
SAMPLE No.:	AF18-5-20150915-47 (7-Day)	EQUIPMENT No.:	6
TEST DATE:	9/22/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	342.05 ***g***
3. WT WET SOIL + TARE	310.42 ***g***	658.50 ***g***
4. WT DRY SOIL + TARE	199.27 ***g***	541.32 ***g***
5. WT WATER, Ww	111.15 g	117.18 g
6. WT DRY SOIL, Ws	199.27 g	199.27 g
7. MOISTURE CONTENT, W	55.78 %	58.80 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.01 in.***	***3.01 in.***	***1.65 in.***	***1.66 in.***
No. 2	***3.02 in.***	***3.02 in.***	***1.66 in.***	***1.64 in.***
No. 3	***3.03 in.***	***3.03 in.***	***1.65 in.***	***1.68 in.***
Average	3.02 in.	3.02 in.	1.65 in.	1.66 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***310.42 g***	***316.45 g***
Area, Ao	7.16 in^2	7.16 in^2
Volume, Vo	11.84 in^3	11.90 in^3
Bulk Unit Weight	99.9 lb/ft^3	101.3 lb/ft^3
Dry Unit Weight	64.1 lb/ft^3	63.8 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A397_PM
SAMPLE No.:	AF18-5-20150915-47 (7-Day)	EQUIPMENT No.:	6
TEST DATE:	9/22/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
09/22/15	9 : 57	JDM	7.0	5.0	6.0				
09/22/15	10 : 31	JDM	17.0	15.0	16.1	9.8	10.0	3.8	0.38
09/22/15	11 : 9	JDM	27.0	25.0	26.0	22.0	10.0	5.9	0.59
09/22/15	11 : 58	JDM	37.0	35.0	36.0	33.5	10.0	7.5	0.75
09/22/15	12 : 45	JDM	47.0	45.0	45.9	44.6	10.0	8.6	0.86
09/22/15	13 : 59	JDM	57.0	55.0	55.8	54.9	10.0	9.0	0.90
09/22/15	14 : 30	JDM	67.0	65.0	65.8	64.8	10.0	9.0	0.90
09/22/15	15 : 11	JDM	77.0	75.0	*	75.6	10.0	9.8	0.98
09/22/15	15 : 11	JDM	67.0	65.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A397_PM
SAMPLE No.:	AF18-5-20150915-47 (7-Day)	EQUIPMENT No.:	6
TEST DATE:	9/22/15		

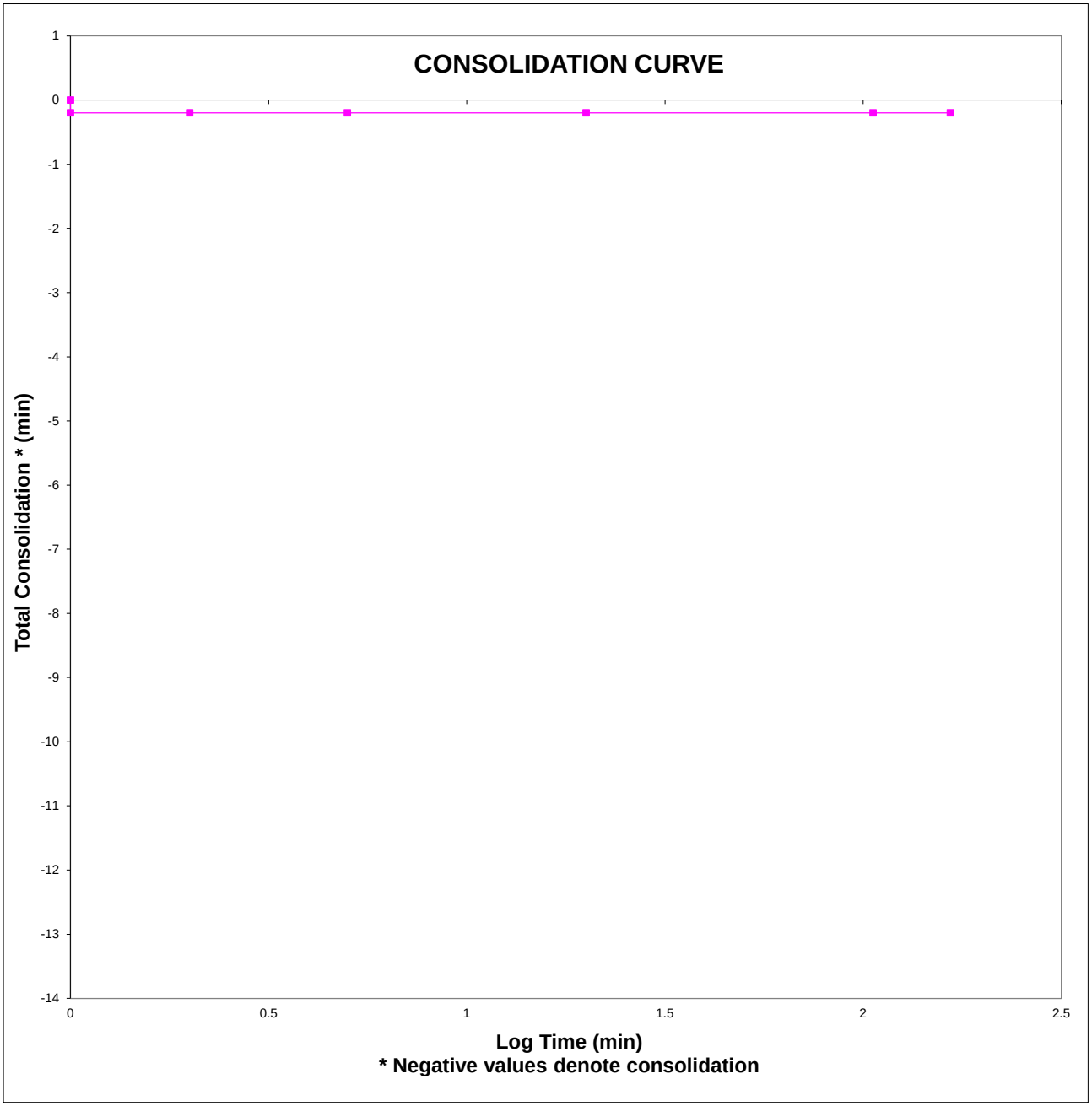
CELL PRESSURE: 75 psi **BACK PRESSURE:** 65 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
9 / 23 / 15	JDM	8 : 39	0	0	0	24.0	24.0	0.0
9 / 23 / 15	JDM	8 : 40	1	1	0.00	23.9	23.9	0.2
9 / 23 / 15	JDM	8 : 41	1	2	0.30	23.9	23.9	0.2
9 / 23 / 15	JDM	8 : 44	3	5	0.70	23.9	23.9	0.2
9 / 23 / 15	JDM	8 : 59	15	20	1.30	23.9	23.9	0.2
9 / 23 / 15	JDM	10 : 25	86	106	2.03	23.9	23.9	0.2
9 / 23 / 15	JDM	11 : 25	60	166	2.22	23.9	23.9	0.2

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A397_PM
SAMPLE No.:	AF18-5-20150915-47 (7-Day)	EQUIPMENT No.:	6
TEST DATE:	9/22/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A397_PM
SAMPLE No.:	AF18-5-20150915-47 (7-Day)	EQUIPMENT No.:	6
TEST DATE:	9/22/15		

			ELAPSED	HYDRAULIC			GAUGE		
	TESTED	TIME	TIME	HEAD (cm)		TEMP.	PRESSURE (psi)		
DATE	BY	(military)	(minutes)	INFLUENT	EFFLUENT	C°	CELL	INFLUENT	EFFLUENT
9 / 23 / 15	JDM	11 : 28	0	1.0	24.0	20.0	75.0	65.0	62.0
9 / 24 / 15	JDM	8 : 3	1235	1.9	23.1	20.0	75.0	65.0	62.0
9 / 25 / 15	JDM	7 : 56	1433	2.7	22.3	20.0	75.0	65.0	62.0
9 / 28 / 15	JDM	8 : 16	RESET	1.0	24.0	20.0	75.0	65.0	62.0
9 / 29 / 15	JDM	7 : 59	1423	1.8	23.2	20.0	75.0	65.0	62.0
9 / 30 / 15	JDM	8 : 11	1452	2.7	22.3	20.0	75.0	65.0	62.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A397_PM
SAMPLE No.:	AF18-5-20150915-47 (7-Day)	EQUIPMENT No.:	6
TEST DATE:	9/22/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				55.771		
1235	0.9	0.9	1.00	55.342	4.73E-09	4.75E-09
1433	0.8	0.8	1.00	54.961	3.65E-09	3.67E-09
RESET				55.771		
1423	0.8	0.8	1.00	55.390	3.65E-09	3.66E-09
1452	0.9	0.9	1.00	54.961	4.05E-09	4.07E-09

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A397_PM
SAMPLE No.:	AF18-5-20150915-47 (7-Day)	EQUIPMENT No.:	6
TEST DATE:	9/22/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**99.9 lb/ft³**	**101.3 lb/ft³**
DRY UNIT WEIGHT	**64.1 lb/ft³**	**63.8 lb/ft³**
MOISTURE CONTENT	**55.8 %**	**58.8 %**
PERMEABILITY @ 20°C	**4.0E-09 cm/sec**	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A456_PM
SAMPLE No.:	AF18-5-20150915-47 (28-Day)	EQUIPMENT No.:	7
TEST DATE:	10/13/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	298.45 ***g***
3. WT WET SOIL + TARE	309.52 ***g***	612.10 ***g***
4. WT DRY SOIL + TARE	200.99 ***g***	499.44 ***g***
5. WT WATER, Ww	108.53 g	112.66 g
6. WT DRY SOIL, Ws	200.99 g	200.99 g
7. MOISTURE CONTENT, W	54.00 %	56.05 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.04 in.***	***3.03 in.***	***1.63 in.***	***1.68 in.***
No. 2	***3.02 in.***	***3.02 in.***	***1.63 in.***	***1.61 in.***
No. 3	***3.01 in.***	***3.03 in.***	***1.65 in.***	***1.69 in.***
Average	3.02 in.	3.02 in.	1.64 in.	1.66 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***309.52 g***	***313.65 g***
Area, Ao	7.19 in^2	7.18 in^2
Volume, Vo	11.76 in^3	11.93 in^3
Bulk Unit Weight	100.3 lb/ft^3	100.1 lb/ft^3
Dry Unit Weight	65.1 lb/ft^3	64.2 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A456_PM
SAMPLE No.:	AF18-5-20150915-47 (28-Day)	EQUIPMENT No.:	7
TEST DATE:	10/13/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
10/13/15	11 : 1	JDM	7.0	5.0	5.6				
10/13/15	11 : 45	JDM	17.0	15.0	15.7	10.0	10.0	4.4	0.44
10/13/15	13 : 4	JDM	27.0	25.0	25.8	22.6	10.0	6.9	0.69
10/13/15	14 : 6	JDM	37.0	35.0	35.4	34.1	10.0	8.3	0.83
10/13/15	14 : 41	JDM	47.0	45.0	45.9	44.7	10.0	9.3	0.93
10/14/15	8 : 24	JDM	57.0	55.0	57.6	*	*	*	*
10/14/15	9 : 33	JDM	67.0	65.0	*	67.4	10.0	9.8	0.98
10/14/15	9 : 33	JDM	57.0	55.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A456_PM
SAMPLE No.:	AF18-5-20150915-47 (28-Day)	EQUIPMENT No.:	7
TEST DATE:	10/13/15		

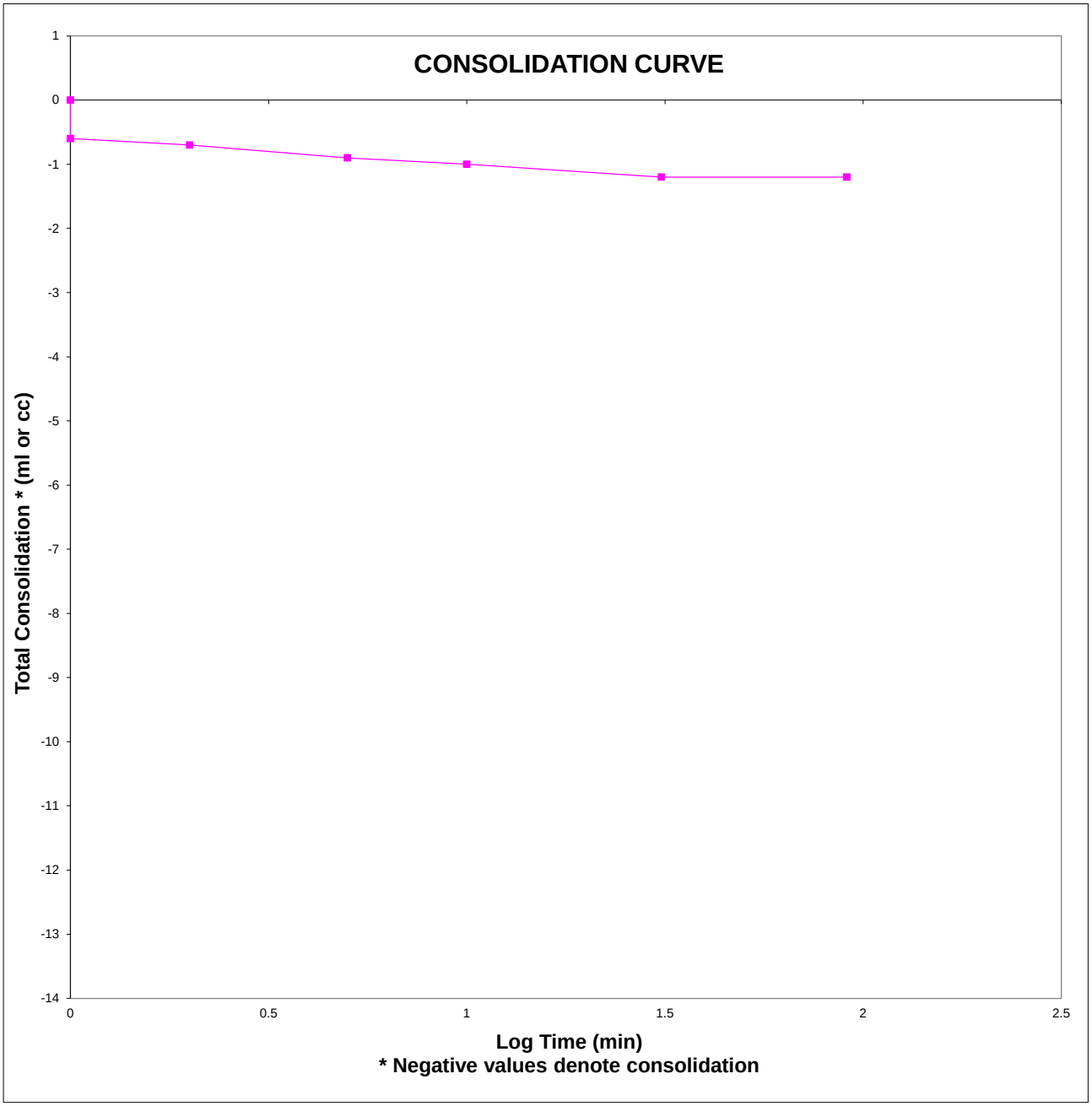
CELL PRESSURE: 65 psi **BACK PRESSURE:** 55 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
10 / 14 / 15	JDM	9 : 35	0	0	0	24.0	24.0	0.0
10 / 14 / 15	JDM	9 : 36	1	1	0.00	24.0	23.4	0.6
10 / 14 / 15	JDM	9 : 37	1	2	0.30	24.0	23.3	0.7
10 / 14 / 15	JDM	9 : 40	3	5	0.70	24.0	23.1	0.9
10 / 14 / 15	JDM	9 : 45	5	10	1.00	24.0	23.0	1.0
10 / 14 / 15	JDM	10 : 6	21	31	1.49	24.0	22.8	1.2
10 / 14 / 15	JDM	11 : 6	60	91	1.96	24.0	22.8	1.2

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A456_PM
SAMPLE No.:	AF18-5-20150915-47 (28-Day)	EQUIPMENT No.:	7
TEST DATE:	10/13/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A456_PM
SAMPLE No.:	AF18-5-20150915-47 (28-Day)	EQUIPMENT No.:	7
TEST DATE:	10/13/15		

			ELAPSED	HYDRAULIC			GAUGE		
	TESTED	TIME	TIME	HEAD (cm)		TEMP.	PRESSURE (psi)		
DATE	BY	(military)	(minutes)	INFLUENT	EFFLUENT	C°	CELL	INFLUENT	EFFLUENT
10 / 14 / 15	JDM	13 : 34	0	1.0	24.0	20.0	65.0	55.0	53.0
10 / 14 / 15	JDM	14 : 36	62	1.6	23.4	20.0	65.0	55.0	53.0
10 / 15 / 15	JDM	8 : 4	1048	4.7	20.3	20.0	65.0	55.0	53.0
10 / 15 / 15	JDM	10 : 59	175	5.5	19.5	20.0	65.0	55.0	53.0
10 / 16 / 15	JDM	8 : 1	1262	8.1	16.9	20.0	65.0	55.0	53.0
10 / 16 / 15	JDM	10 : 0	119	8.6	16.0	20.0	65.0	55.0	53.0
10 / 19 / 15	JDM	9 : 39	RESET	1.0	24.0	20.0	65.0	55.0	53.0
10 / 19 / 15	JDM	14 : 21	282	1.5	23.5	20.0	65.0	55.0	53.0
10 / 20 / 15	JDM	7 : 45	1044	3.0	22.0	20.0	65.0	55.0	53.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A456_PM
SAMPLE No.:	AF18-5-20150915-47 (28-Day	EQUIPMENT No.:	7
TEST DATE:	10/13/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				39.389		
62	0.6	0.6	1.00	39.101	8.87E-08	8.91E-08
1048	3.1	3.1	1.00	37.609	2.77E-08	2.79E-08
175	0.8	0.8	1.00	37.223	4.39E-08	4.41E-08
1262	2.6	2.6	1.00	35.972	2.02E-08	2.03E-08
119	0.5	0.9	1.80	35.635	5.91E-08	5.93E-08
RESET				39.389		
282	0.5	0.5	1.00	39.149	1.62E-08	1.63E-08
1044	1.5	1.5	1.00	38.427	1.33E-08	1.34E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A456_PM
SAMPLE No.:	AF18-5-20150915-47 (28-Day)	EQUIPMENT No.:	7
TEST DATE:	10/13/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**100.3 lb/ft³**	**100.1 lb/ft³**
DRY UNIT WEIGHT	**65.1 lb/ft³**	**64.2 lb/ft³**
MOISTURE CONTENT	**54.0 %**	**56.1 %**
PERMEABILITY @ 20°C	**1.9E-08 cm/sec**	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A398_PM
SAMPLE No.:	AL18-10-20150916-48 (7-Day)	EQUIPMENT No.:	7
TEST DATE:	9/23/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	341.99 ***g***
3. WT WET SOIL + TARE	302.76 ***g***	650.30 ***g***
4. WT DRY SOIL + TARE	194.86 ***g***	536.85 ***g***
5. WT WATER, Ww	107.90 g	113.45 g
6. WT DRY SOIL, Ws	194.86 g	194.86 g
7. MOISTURE CONTENT, W	55.37 %	58.22 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.01 in.***	***3.01 in.***	***1.60 in.***	***1.62 in.***
No. 2	***3.02 in.***	***3.02 in.***	***1.66 in.***	***1.61 in.***
No. 3	***3.03 in.***	***3.02 in.***	***1.63 in.***	***1.65 in.***
Average	3.02 in.	3.02 in.	1.63 in.	1.62 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***302.76 g***	***308.31 g***
Area, Ao	7.16 in^2	7.16 in^2
Volume, Vo	11.69 in^3	11.64 in^3
Bulk Unit Weight	98.7 lb/ft^3	100.9 lb/ft^3
Dry Unit Weight	63.5 lb/ft^3	63.8 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A398_PM
SAMPLE No.:	AL18-10-20150916-48 (7-Day)	EQUIPMENT No.:	7
TEST DATE:	9/23/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
09/23/15	10 : 30	JDM	7.0	5.0	5.9				
09/23/15	11 : 4	JDM	17.0	15.0	15.7	9.0	10.0	3.1	0.31
09/23/15	11 : 54	JDM	27.0	25.0	25.8	20.7	10.0	5.0	0.50
09/23/15	12 : 25	JDM	37.0	35.0	36.0	32.5	10.0	6.7	0.67
09/23/15	13 : 21	JDM	47.0	45.0	46.0	43.8	10.0	7.8	0.78
09/23/15	14 : 5	JDM	57.0	55.0	56.1	54.4	10.0	8.4	0.84
09/23/15	15 : 0	JDM	67.0	65.0	66.0	65.0	10.0	8.9	0.89
09/24/15	7 : 50	JDM	77.0	75.0	*	75.5	10.0	9.5	0.95
09/24/15	7 : 50	JDM	67.0	65.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A398_PM
SAMPLE No.:	AL18-10-20150916-48 (7-Day)	EQUIPMENT No.:	7
TEST DATE:	9/23/15		

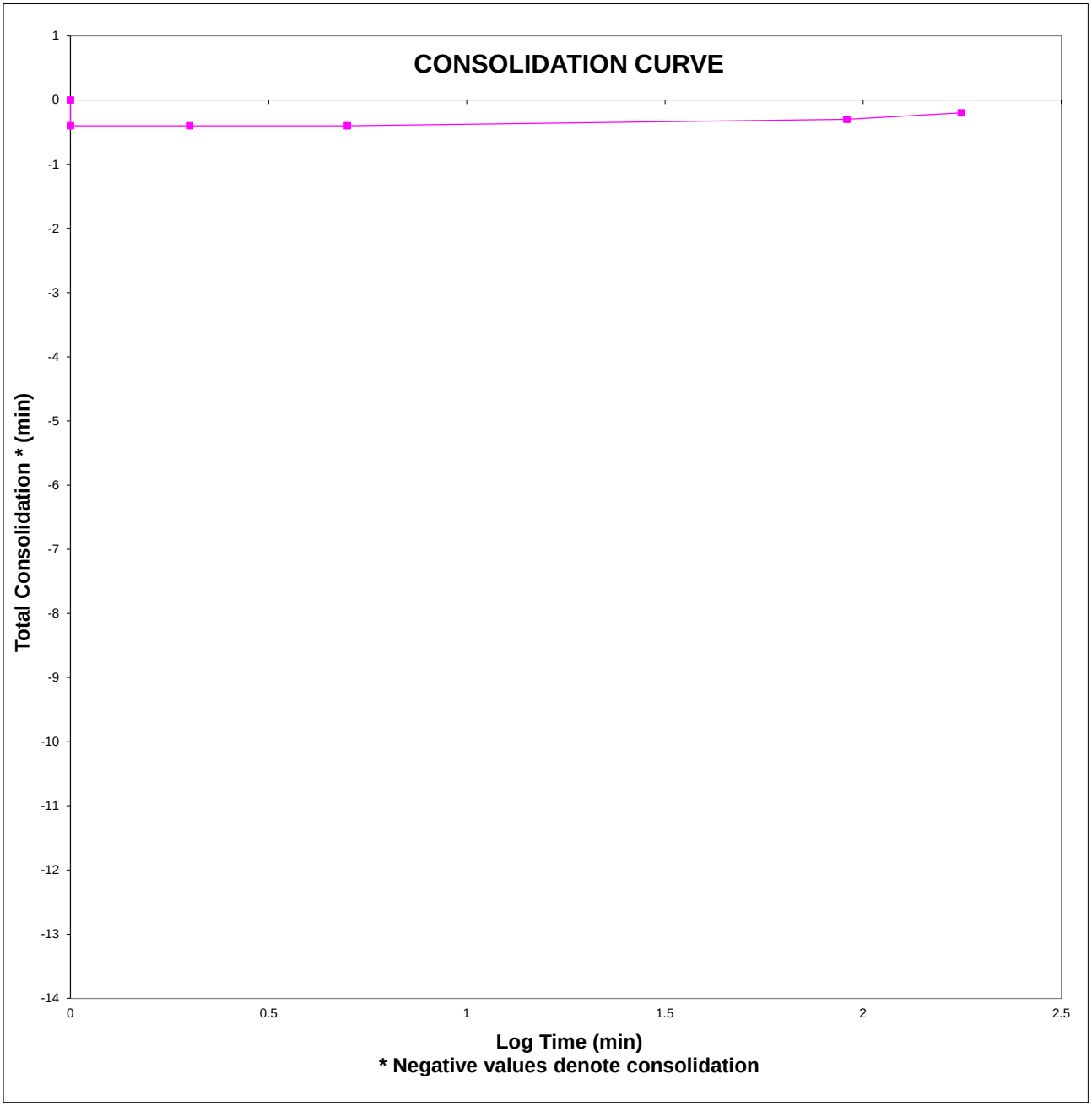
CELL PRESSURE: 75 psi **BACK PRESSURE:** 65 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
9 / 24 / 15	JDM	8 : 8	0	0	0	24.0	24.5	0.0
9 / 24 / 15	JDM	8 : 9	1	1	0.00	23.6	24.5	0.4
9 / 24 / 15	JDM	8 : 10	1	2	0.30	23.6	24.5	0.4
9 / 24 / 15	JDM	8 : 13	3	5	0.70	23.5	24.6	0.4
9 / 24 / 15	JDM	9 : 39	86	91	1.96	23.5	24.7	0.3
9 / 24 / 15	JDM	11 : 5	86	177	2.25	23.6	24.7	0.2

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A398_PM
SAMPLE No.:	AL18-10-20150916-48 (7-Day)	EQUIPMENT No.:	7
TEST DATE:	9/23/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A398_PM
SAMPLE No.:	AL18-10-20150916-48 (7-Day)	EQUIPMENT No.:	7
TEST DATE:	9/23/15		

			ELAPSED	HYDRAULIC			GAUGE		
	TESTED	TIME	TIME	HEAD (cm)		TEMP.	PRESSURE (psi)		
DATE	BY	(military)	(minutes)	INFLUENT	EFFLUENT	C°	CELL	INFLUENT	EFFLUENT
9 / 24 / 15	JDM	11 : 7	0	1.0	24.0	20.0	75.0	65.0	62.0
9 / 24 / 15	JDM	12 : 29	82	2.0	23.0	20.0	75.0	65.0	62.0
9 / 24 / 15	JDM	14 : 39	130	3.6	21.4	20.0	75.0	65.0	62.0
9 / 24 / 15	JDM	15 : 30	51	4.1	20.9	20.0	75.0	65.0	62.0
9 / 25 / 15	JDM	7 : 59	RESET	1.0	24.0	20.0	75.0	65.0	62.0
9 / 25 / 15	JDM	11 : 14	195	3.2	21.8	20.0	75.0	65.0	62.0
9 / 25 / 15	JDM	12 : 49	95	4.2	20.8	20.0	75.0	65.0	62.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A398_PM
SAMPLE No.:	AL18-10-20150916-48 (7-Day	EQUIPMENT No.:	7
TEST DATE:	9/23/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				56.466		
82	1.0	1.0	1.00	55.984	7.82E-08	7.86E-08
130	1.6	1.6	1.00	55.211	7.98E-08	8.02E-08
51	0.5	0.5	1.00	54.970	6.42E-08	6.45E-08
RESET				56.466		
195	2.2	2.2	1.00	55.404	7.27E-08	7.31E-08
95	1.0	1.0	1.00	54.922	6.88E-08	6.91E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A398_PM
SAMPLE No.:	AL18-10-20150916-48 (7-Day)	EQUIPMENT No.:	7
TEST DATE:	9/23/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	98.7 lb/ft³	100.9 lb/ft³
DRY UNIT WEIGHT	63.5 lb/ft³	63.8 lb/ft³
MOISTURE CONTENT	55.4 %	58.2 %
PERMEABILITY @ 20°C	7.1E-08 cm/sec	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A458_PM
SAMPLE No.:	AL18-10-20150916-48 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	10/14/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	297.56 ***g***
3. WT WET SOIL + TARE	338.48 ***g***	639.00 ***g***
4. WT DRY SOIL + TARE	219.04 ***g***	516.60 ***g***
5. WT WATER, Ww	119.44 g	122.40 g
6. WT DRY SOIL, Ws	219.04 g	219.04 g
7. MOISTURE CONTENT, W	54.53 %	55.88 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.05 in.***	***3.04 in.***	***1.78 in.***	***1.83 in.***
No. 2	***3.03 in.***	***3.03 in.***	***1.78 in.***	***1.79 in.***
No. 3	***3.02 in.***	***3.03 in.***	***1.80 in.***	***1.81 in.***
Average	3.03 in.	3.03 in.	1.79 in.	1.81 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***338.48 g***	***341.44 g***
Area, Ao	7.23 in^2	7.21 in^2
Volume, Vo	12.95 in^3	13.07 in^3
Bulk Unit Weight	99.6 lb/ft^3	99.5 lb/ft^3
Dry Unit Weight	64.4 lb/ft^3	63.9 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A458_PM
SAMPLE No.:	AL18-10-20150916-48 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	10/14/15		

			TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
TEST DATE	TIME (military)	TESTED BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
10/14/15	10 : 48	JDM	7.0	5.0	5.4				
10/14/15	11 : 27	JDM	17.0	15.0	15.2	8.3	10.0	2.9	0.29
10/14/15	12 : 1	JDM	27.0	25.0	25.1	19.7	10.0	4.5	0.45
10/14/15	12 : 36	JDM	37.0	35.0	35.0	31.7	10.0	6.6	0.66
10/14/15	13 : 11	JDM	47.0	45.0	44.8	42.5	10.0	7.5	0.75
10/14/15	13 : 45	JDM	57.0	55.0	54.7	53.2	10.0	8.4	0.84
10/14/15	14 : 35	JDM	67.0	65.0	64.8	63.6	10.0	8.9	0.89
10/14/15	15 : 17	JDM	77.0	75.0	74.7	74.0	10.0	9.2	0.92
10/15/15	8 : 7	JDM	87.0	85.0	*	84.4	10.0	9.7	0.97
10/15/15	8 : 7	JDM	77.0	75.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A458_PM
SAMPLE No.:	AL18-10-20150916-48 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	10/14/15		

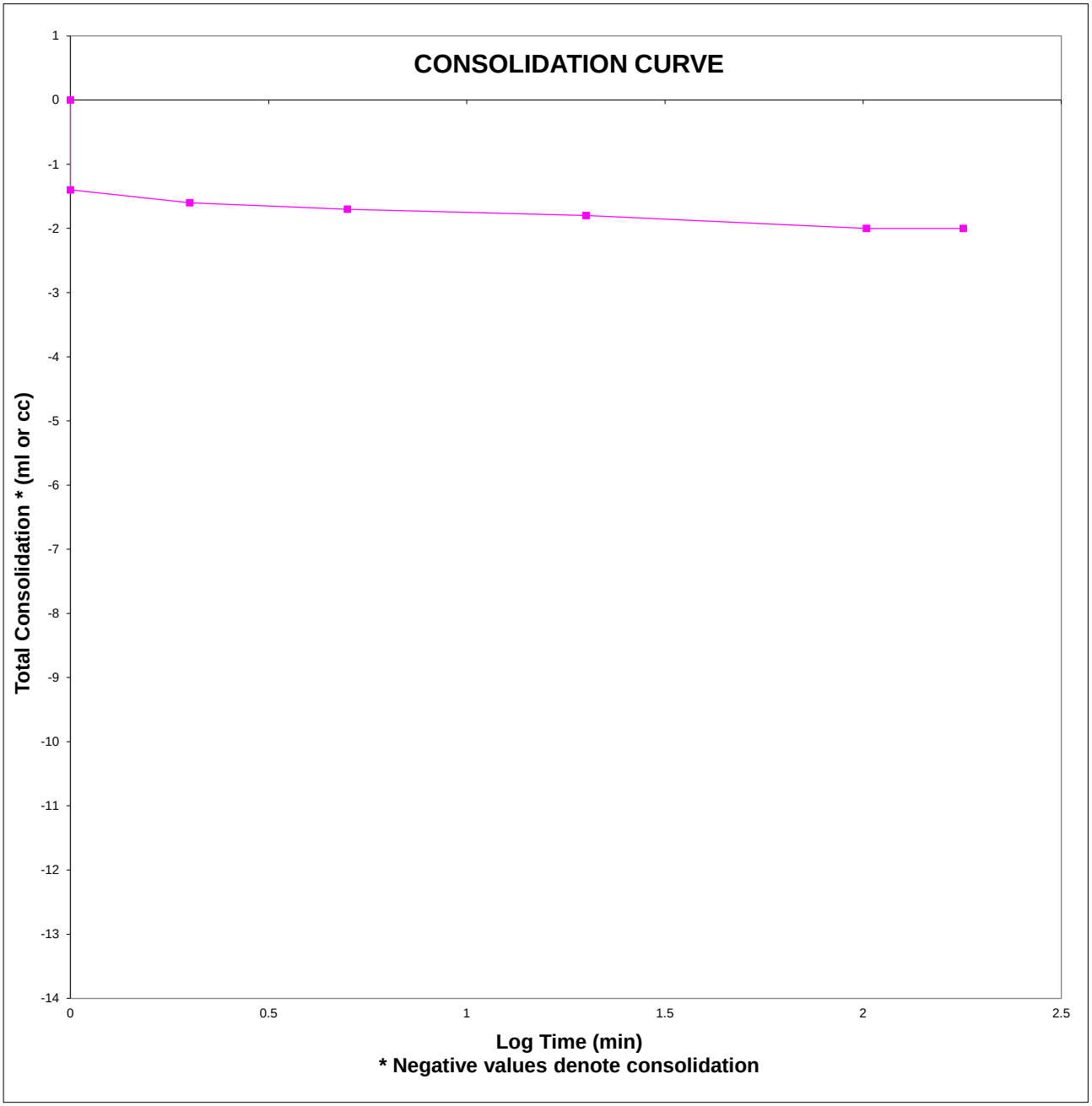
CELL PRESSURE: 85 psi **BACK PRESSURE:** 75 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
10 / 15 / 15	JDM	9 : 30	0	0	0	25.0	25.0	0.0
10 / 15 / 15	JDM	9 : 31	1	1	0.00	24.5	24.1	1.4
10 / 15 / 15	JDM	9 : 32	1	2	0.30	24.4	24.0	1.6
10 / 15 / 15	JDM	9 : 35	3	5	0.70	24.3	24.0	1.7
10 / 15 / 15	JDM	9 : 50	15	20	1.30	24.3	23.9	1.8
10 / 15 / 15	JDM	11 : 12	82	102	2.01	24.2	23.8	2.0
10 / 15 / 15	JDM	12 : 29	77	179	2.25	24.2	23.8	2.0

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A458_PM
SAMPLE No.:	AL18-10-20150916-48 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	10/14/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A458_PM
SAMPLE No.:	AL18-10-20150916-48 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	10/14/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
10 / 15 / 15	JDM	12 : 30	0	1.0	24.0	20.0	85.0	75.0	73.0
10 / 15 / 15	JDM	13 : 0	30	1.5	23.5	20.0	85.0	75.0	73.0
10 / 15 / 15	JDM	13 : 52	52	2.2	22.8	20.0	85.0	75.0	73.0
10 / 15 / 15	JDM	14 : 59	67	3.1	21.9	20.0	85.0	75.0	73.0
10 / 15 / 15	JDM	15 : 43	44	3.7	21.3	20.0	85.0	75.0	73.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A458_PM
SAMPLE No.:	AL18-10-20150916-48 (28-Da	EQUIPMENT No.:	3
TEST DATE:	10/14/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				35.997		
30	0.5	0.5	1.00	35.777	1.66E-07	1.67E-07
52	0.7	0.7	1.00	35.469	1.35E-07	1.36E-07
67	0.9	0.9	1.00	35.073	1.36E-07	1.37E-07
44	0.6	0.6	1.00	34.810	1.39E-07	1.40E-07

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A458_PM
SAMPLE No.:	AL18-10-20150916-48 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	10/14/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**99.6 lb/ft³**	**99.5 lb/ft³**
DRY UNIT WEIGHT	**64.4 lb/ft³**	**63.9 lb/ft³**
MOISTURE CONTENT	**54.5 %**	**55.9 %**
PERMEABILITY @ 20°C	**1.4E-07 cm/sec**	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A400_PM
SAMPLE No.:	BC11-15-20150917-49 (7-Day)	EQUIPMENT No.:	9
TEST DATE:	9/24/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	342.01 ***g***
3. WT WET SOIL + TARE	345.18 ***g***	693.40 ***g***
4. WT DRY SOIL + TARE	233.77 ***g***	575.78 ***g***
5. WT WATER, Ww	111.41 g	117.62 g
6. WT DRY SOIL, Ws	233.77 g	233.77 g
7. MOISTURE CONTENT, W	47.66 %	50.31 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.01 in.***	***3.01 in.***	***1.76 in.***	***1.78 in.***
No. 2	***3.02 in.***	***3.02 in.***	***1.76 in.***	***1.79 in.***
No. 3	***3.03 in.***	***3.03 in.***	***1.78 in.***	***1.76 in.***
Average	3.02 in.	3.02 in.	1.77 in.	1.78 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***345.18 g***	***351.39 g***
Area, Ao	7.16 in^2	7.18 in^2
Volume, Vo	12.64 in^3	12.75 in^3
Bulk Unit Weight	104.0 lb/ft^3	105.0 lb/ft^3
Dry Unit Weight	70.4 lb/ft^3	69.8 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A400_PM
SAMPLE No.:	BC11-15-20150917-49 (7-Day)	EQUIPMENT No.:	9
TEST DATE:	9/24/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
09/24/15	9 : 40	JDM	7.0	5.0	6.4				
09/24/15	10 : 18	JDM	17.0	15.0	16.6	10.9	10.0	4.5	0.45
09/24/15	11 : 5	JDM	27.0	25.0	26.4	24.0	10.0	7.4	0.74
09/24/15	12 : 40	JDM	37.0	35.0	36.3	34.3	10.0	7.9	0.79
09/24/15	13 : 55	JDM	47.0	45.0	46.2	45.7	10.0	9.4	0.94
09/24/15	14 : 40	JDM	57.0	55.0	*	55.7	10.0	9.5	0.95
09/24/15	14 : 40	JDM	47.0	45.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A400_PM
SAMPLE No.:	BC11-15-20150917-49 (7-Day)	EQUIPMENT No.:	9
TEST DATE:	9/24/15		

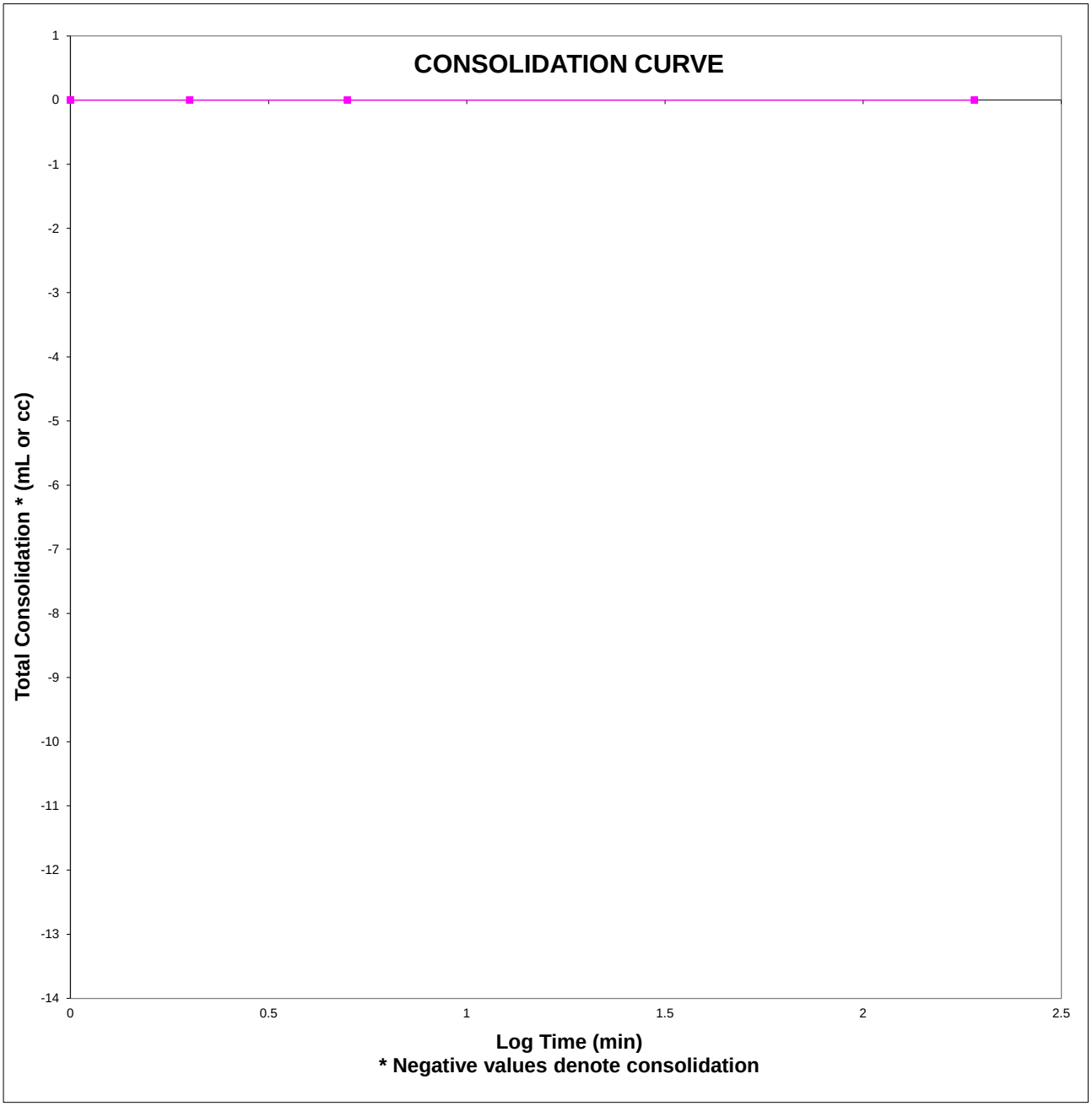
CELL PRESSURE: 55 psi **BACK PRESSURE:** 45 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
9 / 25 / 15	JDM	8 : 4	0	0	0	25.0	25.0	0.0
9 / 25 / 15	JDM	8 : 5	1	1	0.00	25.0	25.0	0.0
9 / 25 / 15	JDM	8 : 6	1	2	0.30	25.0	25.0	0.0
9 / 25 / 15	JDM	8 : 9	3	5	0.70	25.0	25.0	0.0
9 / 25 / 15	JDM	11 : 15	186	191	2.28	25.0	25.0	0.0

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A400_PM
SAMPLE No.:	BC11-15-20150917-49 (7-Day)	EQUIPMENT No.:	9
TEST DATE:	9/24/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A400_PM
SAMPLE No.:	BC11-15-20150917-49 (7-Day)	EQUIPMENT No.:	9
TEST DATE:	9/24/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
9 / 25 / 15	JDM	11 : 17	0	1.0	24.0	20.0	55.0	45.0	43.0
9 / 25 / 15	JDM	14 : 50	213	1.5	23.5	20.0	55.0	45.0	43.0
9 / 28 / 15	JDM	8 : 14	RESET	1.0	24.0	20.0	55.0	45.0	42.0
9 / 28 / 15	JDM	15 : 28	434	1.5	23.5	20.0	55.0	45.0	42.0
9 / 29 / 15	JDM	7 : 57	989	2.3	22.7	20.0	55.0	45.0	42.0
9 / 30 / 15	JDM	8 : 10	1453	3.2	21.8	20.0	55.0	45.0	42.0
10 / 1 / 15	JDM	7 : 50	1420	3.7	21.1	20.0	55.0	45.0	42.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A400_PM
SAMPLE No.:	BC11-15-20150917-49 (7-Day	EQUIPMENT No.:	9
TEST DATE:	9/24/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				36.479		
213	0.5	0.5	1.00	36.257	2.33E-08	2.34E-08
RESET				52.156		
434	0.5	0.5	1.00	51.933	7.99E-09	8.03E-09
989	0.8	0.8	1.00	51.577	5.64E-09	5.67E-09
1453	0.9	0.9	1.00	51.176	4.35E-09	4.37E-09
1420	0.5	0.7	1.40	50.908	2.99E-09	3.00E-09

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A400_PM
SAMPLE No.:	BC11-15-20150917-49 (7-Day)	EQUIPMENT No.:	9
TEST DATE:	9/24/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**104.0 lb/ft³**	**105.0 lb/ft³**
DRY UNIT WEIGHT	**70.4 lb/ft³**	**69.8 lb/ft³**
MOISTURE CONTENT	**47.7 %**	**50.3 %**
PERMEABILITY @ 20°C	**5.3E-09 cm/sec**	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A459_PM
SAMPLE No.:	BC11-15-20150917-49 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	10/15/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	342.00 ***g***
3. WT WET SOIL + TARE	367.00 ***g***	712.70 ***g***
4. WT DRY SOIL + TARE	247.90 ***g***	589.90 ***g***
5. WT WATER, Ww	119.10 g	122.80 g
6. WT DRY SOIL, Ws	247.90 g	247.90 g
7. MOISTURE CONTENT, W	48.04 %	49.54 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.04 in.***	***3.03 in.***	***1.87 in.***	***1.90 in.***
No. 2	***3.03 in.***	***3.03 in.***	***1.88 in.***	***1.91 in.***
No. 3	***3.02 in.***	***3.03 in.***	***1.86 in.***	***1.88 in.***
Average	3.03 in.	3.03 in.	1.87 in.	1.89 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***367.00 g***	***370.70 g***
Area, Ao	7.19 in^2	7.22 in^2
Volume, Vo	13.45 in^3	13.67 in^3
Bulk Unit Weight	103.9 lb/ft^3	103.3 lb/ft^3
Dry Unit Weight	70.2 lb/ft^3	69.1 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A459_PM
SAMPLE No.:	BC11-15-20150917-49 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	10/15/15		

			TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
TEST DATE	TIME (military)	TESTED BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
10/15/15	9 : 55	JDM	7.0	5.0	5.6				
10/15/15	11 : 14	JDM	17.0	15.0	15.7	9.9	10.0	4.3	0.43
10/15/15	12 : 33	JDM	27.0	25.0	25.8	22.2	10.0	6.5	0.65
10/15/15	13 : 4	JDM	37.0	35.0	35.8	34.3	10.0	8.5	0.85
10/15/15	14 : 0	JDM	47.0	45.0	45.7	45.0	10.0	9.2	0.92
10/15/15	15 : 0	JDM	57.0	55.0	*	55.3	10.0	9.6	0.96
10/15/15	15 : 0	JDM	47.0	45.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A459_PM
SAMPLE No.:	BC11-15-20150917-49 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	10/15/15		

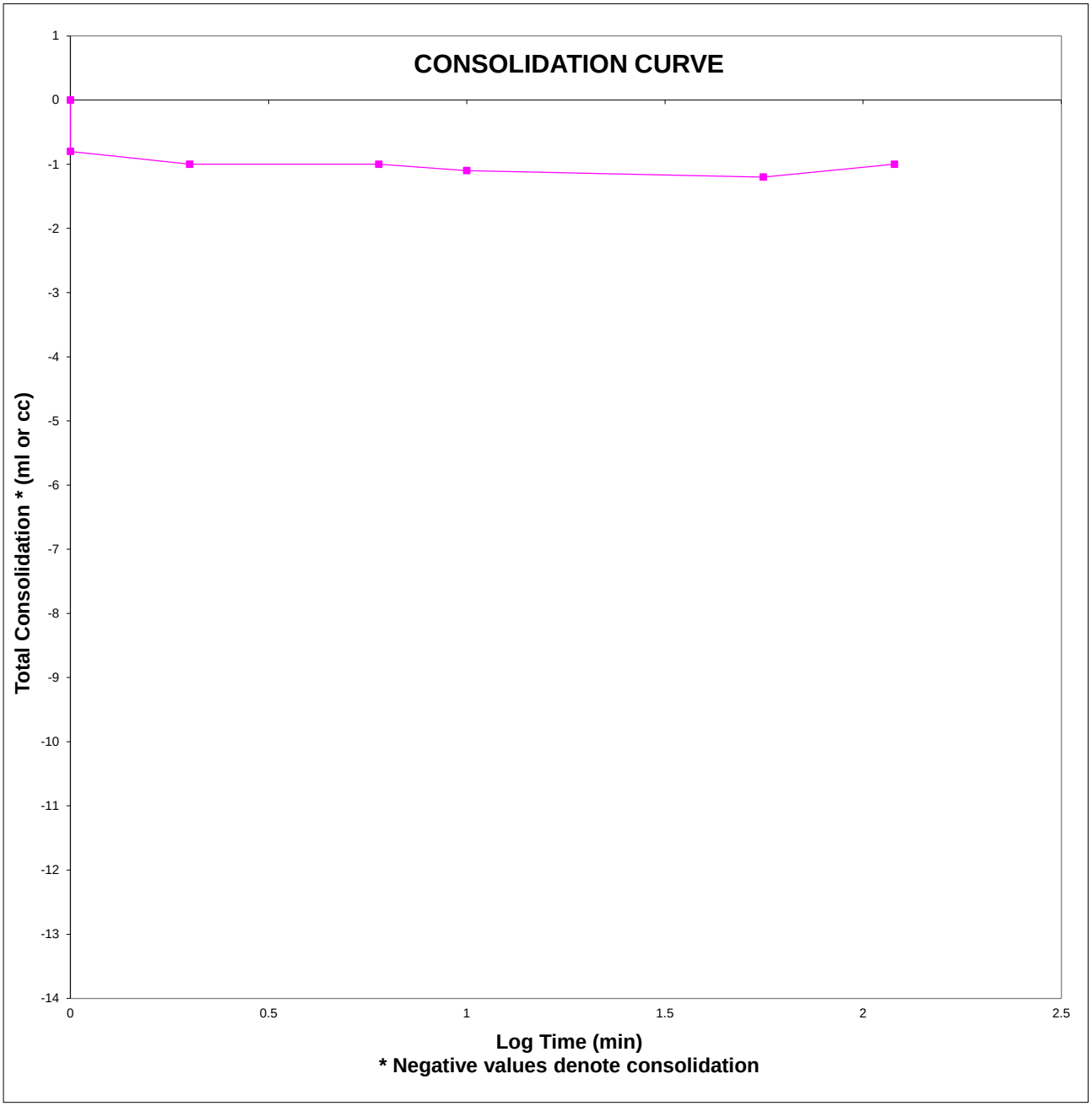
CELL PRESSURE: 55 psi **BACK PRESSURE:** 45 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
10 / 16 / 15	JDM	9 : 29	0	0	0	24.0	24.0	0.0
10 / 16 / 15	JDM	9 : 30	1	1	0.00	23.7	23.5	0.8
10 / 16 / 15	JDM	9 : 31	1	2	0.30	23.6	23.4	1.0
10 / 16 / 15	JDM	9 : 35	4	6	0.78	23.6	23.4	1.0
10 / 16 / 15	JDM	9 : 39	4	10	1.00	23.6	23.3	1.1
10 / 16 / 15	JDM	10 : 25	46	56	1.75	23.5	23.3	1.2
10 / 16 / 15	JDM	11 : 29	64	120	2.08	23.6	23.4	1.0

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A459_PM
SAMPLE No.:	BC11-15-20150917-49 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	10/15/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A459_PM
SAMPLE No.:	BC11-15-20150917-49 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	10/15/15		

				HYDRAULIC HEAD (cm)			GAUGE PRESSURE (psi)		
DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	INFLUENT	EFFLUENT	TEMP. C°	CELL	INFLUENT	EFFLUENT
10 / 16 / 15	JDM	11 : 32	0	1.0	24.0	20.0	55.0	45.0	43.0
10 / 16 / 15	JDM	14 : 34	182	1.5	23.5	20.0	55.0	45.0	43.0
10 / 19 / 15	JDM	8 : 5	3931	7.5	17.5	20.0	55.0	45.0	43.0
10 / 19 / 15	JDM	9 : 15	RESET	1.0	24.0	20.0	55.0	45.0	43.0
10 / 19 / 15	JDM	15 : 18	363	1.5	23.5	20.0	55.0	45.0	43.0
10 / 20 / 15	JDM	7 : 45	987	2.5	22.5	20.0	55.0	45.0	43.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A459_PM
SAMPLE No.:	BC11-15-20150917-49 (28-Da	EQUIPMENT No.:	2
TEST DATE:	10/15/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				34.463		
182	0.5	0.5	1.00	34.253	2.87E-08	2.88E-08
3931	6.0	6.0	1.00	31.726	1.66E-08	1.67E-08
RESET				34.463		
363	0.5	0.5	1.00	34.253	1.44E-08	1.45E-08
987	1.0	1.0	1.00	33.832	1.07E-08	1.07E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A459_PM
SAMPLE No.:	BC11-15-20150917-49 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	10/15/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	103.9 lb/ft³	103.3 lb/ft³
DRY UNIT WEIGHT	70.2 lb/ft³	69.1 lb/ft³
MOISTURE CONTENT	48.0 %	49.5 %
PERMEABILITY @ 20°C	1.8E-08 cm/sec	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A403_PM
SAMPLE No.:	K13-5-20150919-50 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	9/25/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	297.56 ***g***
3. WT WET SOIL + TARE	319.74 ***g***	621.30 ***g***
4. WT DRY SOIL + TARE	207.57 ***g***	505.13 ***g***
5. WT WATER, Ww	112.17 g	116.17 g
6. WT DRY SOIL, Ws	207.57 g	207.57 g
7. MOISTURE CONTENT, W	54.04 %	55.97 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.06 in.***	***3.03 in.***	***1.69 in.***	***1.63 in.***
No. 2	***3.02 in.***	***3.06 in.***	***1.65 in.***	***1.66 in.***
No. 3	***3.01 in.***	***3.05 in.***	***1.68 in.***	***1.67 in.***
Average	3.03 in.	3.04 in.	1.67 in.	1.65 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***319.74 g***	***323.74 g***
Area, Ao	7.21 in^2	7.28 in^2
Volume, Vo	12.06 in^3	12.03 in^3
Bulk Unit Weight	101.0 lb/ft^3	102.5 lb/ft^3
Dry Unit Weight	65.5 lb/ft^3	65.7 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A403_PM
SAMPLE No.:	K13-5-20150919-50 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	9/25/15		

			TEST PRESSURES (psi)						
TEST	*TIME*	*TESTED*	*APPLIED*		*PORE*		*PRESSURE CHANGE*		
DATE	*(military)*	*BY*	*CELL*	*BACK*	*SAT.*	*TEST*	*CELL*	*PORE*	*B-Value*
09/28/15	8 : 26	JDM	7.0	5.0	5.5				
09/28/15	10 : 1	JDM	17.0	15.0	15.3	7.7	10.0	2.2	0.22
09/28/15	10 : 48	JDM	27.0	25.0	25.2	19.5	10.0	4.2	0.42
09/28/15	11 : 47	JDM	37.0	35.0	35.0	31.7	10.0	6.5	0.65
09/28/15	12 : 31	JDM	47.0	45.0	44.9	42.9	10.0	7.9	0.79
09/28/15	13 : 38	JDM	57.0	55.0	54.9	53.4	10.0	8.5	0.85
09/28/15	15 : 18	JDM	67.0	65.0	64.9	64.0	10.0	9.1	0.91
09/29/15	8 : 7	JDM	77.0	75.0	*	74.4	10.0	9.5	0.95
09/29/15	8 : 7	JDM	67.0	65.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A403_PM
SAMPLE No.:	K13-5-20150919-50 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	9/25/15		

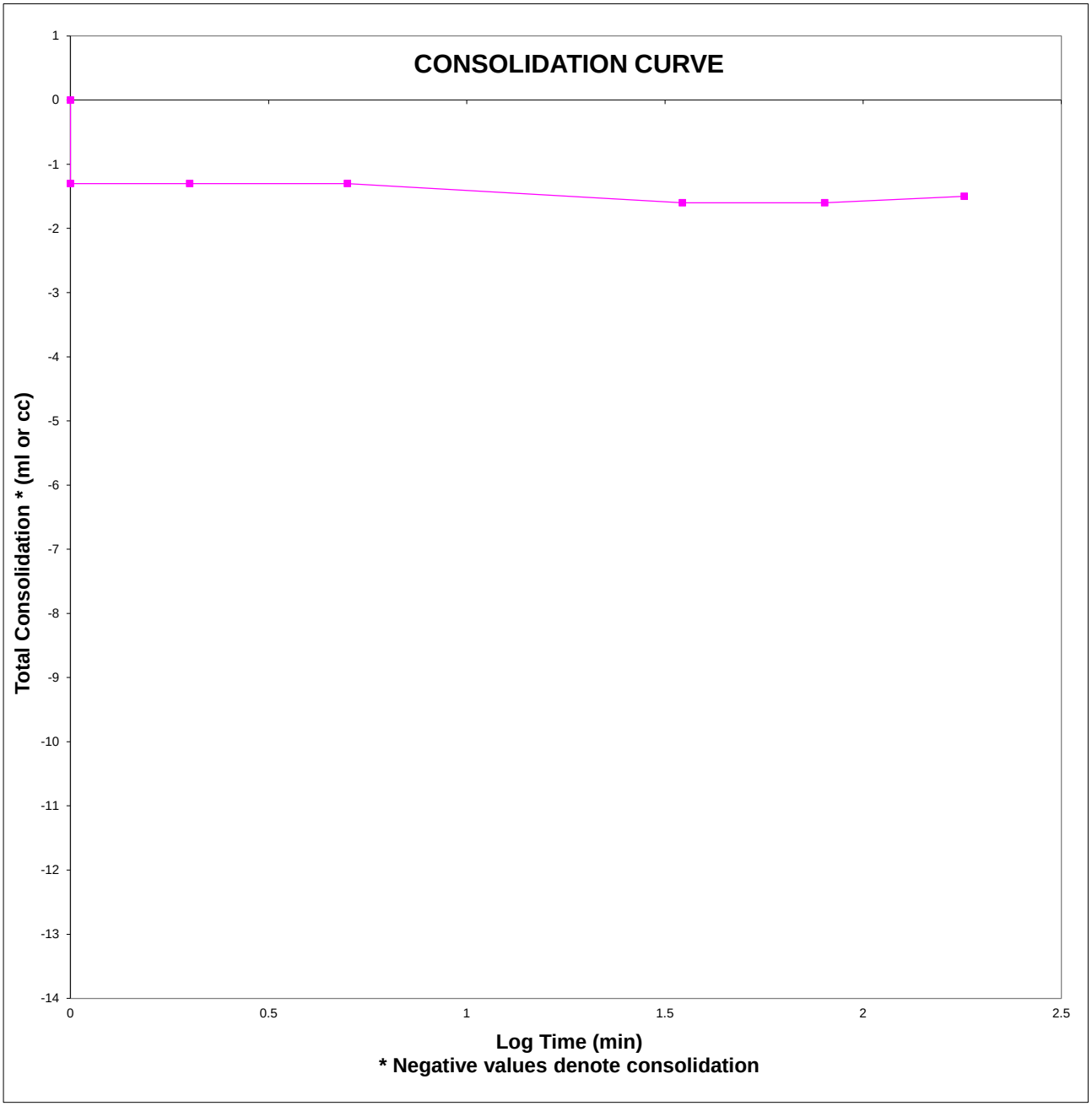
CELL PRESSURE: 75 psi **BACK PRESSURE:** 65 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
9 / 29 / 15	JDM	8 : 12	0	0	0	24.0	24.0	0.0
9 / 29 / 15	JDM	8 : 13	1	1	0.00	23.5	23.2	1.3
9 / 29 / 15	JDM	8 : 14	1	2	0.30	23.5	23.2	1.3
9 / 29 / 15	JDM	8 : 17	3	5	0.70	23.5	23.2	1.3
9 / 29 / 15	JDM	8 : 47	30	35	1.54	23.3	23.1	1.6
9 / 29 / 15	JDM	9 : 32	45	80	1.90	23.3	23.1	1.6
9 / 29 / 15	JDM	11 : 12	100	180	2.26	23.3	23.2	1.5

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A403_PM
SAMPLE No.:	K13-5-20150919-50 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	9/25/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A403_PM
SAMPLE No.:	K13-5-20150919-50 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	9/25/15		

				HYDRAULIC HEAD (cm)			GAUGE PRESSURE (psi)		
DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	INFLUENT	EFFLUENT	TEMP. C°	CELL	INFLUENT	EFFLUENT
9 / 29 / 15	JDM	11 : 16	0	1.0	24.0	20.0	75.0	65.0	63.0
9 / 29 / 15	JDM	12 : 42	86	1.7	23.3	20.0	75.0	65.0	63.0
9 / 29 / 15	JDM	14 : 40	118	2.6	22.4	20.0	75.0	65.0	63.0
9 / 30 / 15	JDM	8 : 12	1052	8.2	16.8	20.0	75.0	65.0	63.0
9 / 30 / 15	JDM	10 : 21	129	8.8	16.2	20.0	75.0	65.0	63.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A403_PM
SAMPLE No.:	K13-5-20150919-50 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	9/25/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				38.522		
86	0.7	0.7	1.00	38.193	7.60E-08	7.64E-08
118	0.9	0.9	1.00	37.769	7.19E-08	7.23E-08
1052	5.6	5.6	1.00	35.133	5.23E-08	5.26E-08
129	0.6	0.6	1.00	34.851	4.76E-08	4.78E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A403_PM
SAMPLE No.:	K13-5-20150919-50 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	9/25/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**101.0 lb/ft³**	**102.5 lb/ft³**
DRY UNIT WEIGHT	**65.5 lb/ft³**	**65.7 lb/ft³**
MOISTURE CONTENT	**54.0 %**	**56.0 %**
PERMEABILITY @ 20°C	**6.2E-08 cm/sec**	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A462_PM
SAMPLE No.:	K13-5-20150919-50 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	10/17/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	297.88 ***g***
3. WT WET SOIL + TARE	361.30 ***g***	658.50 ***g***
4. WT DRY SOIL + TARE	229.67 ***g***	527.55 ***g***
5. WT WATER, Ww	131.63 g	130.95 g
6. WT DRY SOIL, Ws	229.67 g	229.67 g
7. MOISTURE CONTENT, W	57.31 %	57.02 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.04 in.***	***3.03 in.***	***1.86 in.***	***1.85 in.***
No. 2	***3.03 in.***	***3.02 in.***	***1.88 in.***	***1.86 in.***
No. 3	***3.03 in.***	***3.03 in.***	***1.88 in.***	***1.90 in.***
Average	3.03 in.	3.03 in.	1.87 in.	1.87 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***361.30 g***	***360.62 g***
Area, Ao	7.23 in^2	7.20 in^2
Volume, Vo	13.55 in^3	13.46 in^3
Bulk Unit Weight	101.6 lb/ft^3	102.1 lb/ft^3
Dry Unit Weight	64.6 lb/ft^3	65.0 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A462_PM
SAMPLE No.:	K13-5-20150919-50 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	10/17/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
10/16/15	10 : 55	JDM	7.0	5.0	5.7				
10/16/15	11 : 31	JDM	17.0	15.0	15.2	9.9	10.0	4.2	0.42
10/16/15	12 : 9	JDM	27.0	25.0	25.2	21.5	10.0	6.3	0.63
10/16/15	13 : 14	JDM	37.0	35.0	35.0	32.4	10.0	7.2	0.72
10/16/15	14 : 4	JDM	47.0	45.0	44.8	43.0	10.0	8.0	0.80
10/16/15	14 : 35	JDM	57.0	55.0	54.8	53.3	10.0	8.5	0.85
10/16/15	15 : 13	JDM	67.0	65.0	64.8	63.7	10.0	8.9	0.89
10/19/15	9 : 16	JDM	77.0	75.0	*	74.6	10.0	9.8	0.98
10/19/15	9 : 16	JDM	67.0	65.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A462_PM
SAMPLE No.:	K13-5-20150919-50 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	10/17/15		

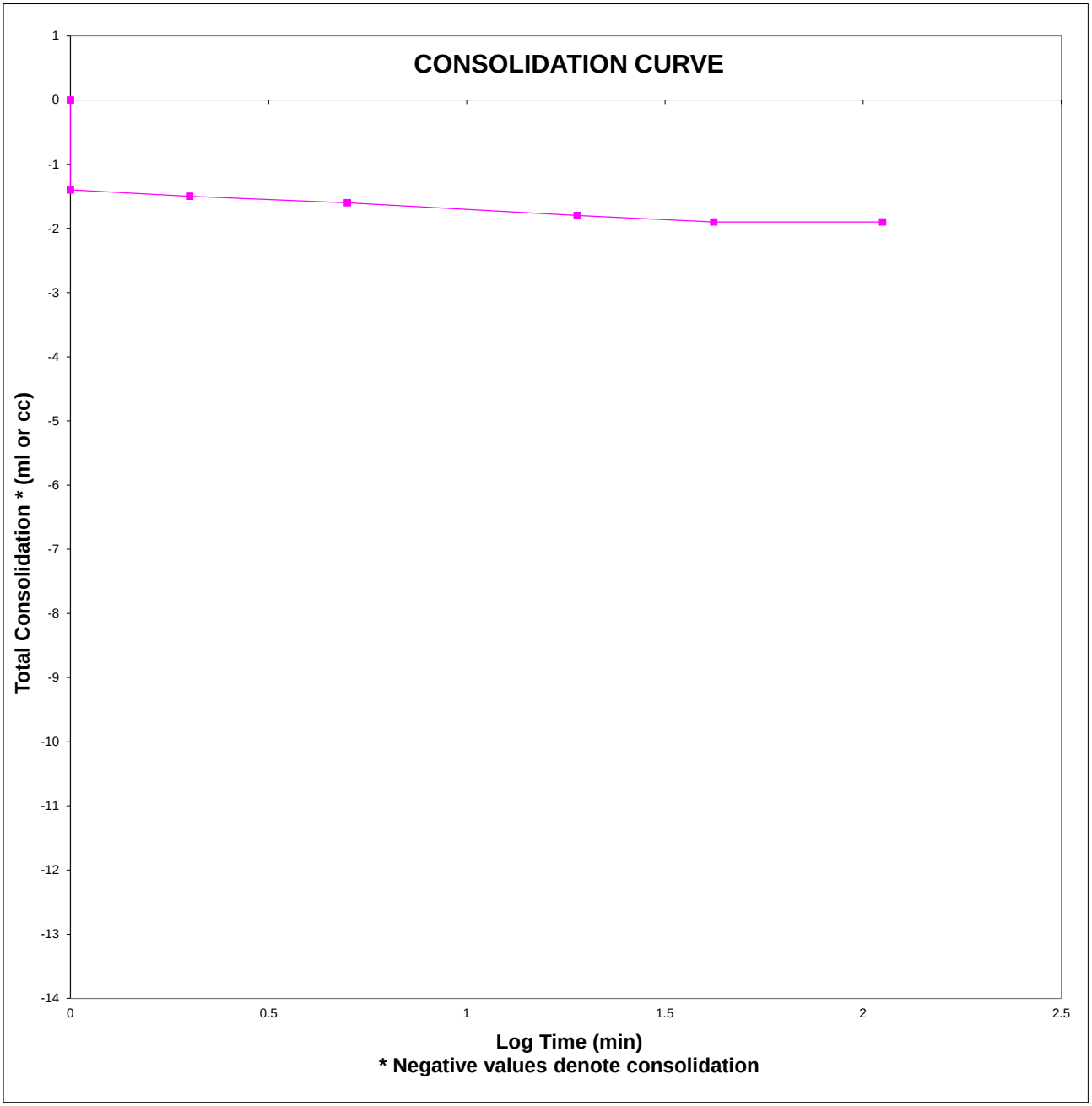
CELL PRESSURE: 75 psi **BACK PRESSURE:** 65 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
10 / 19 / 15	JDM	9 : 18	0	0	0	25.0	25.0	0.0
10 / 19 / 15	JDM	9 : 19	1	1	0.00	24.4	24.2	1.4
10 / 19 / 15	JDM	9 : 20	1	2	0.30	24.4	24.1	1.5
10 / 19 / 15	JDM	9 : 23	3	5	0.70	24.3	24.1	1.6
10 / 19 / 15	JDM	9 : 37	14	19	1.28	24.2	24.0	1.8
10 / 19 / 15	JDM	10 : 0	23	42	1.62	24.2	23.9	1.9
10 / 19 / 15	JDM	11 : 10	70	112	2.05	24.2	23.9	1.9

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A462_PM
SAMPLE No.:	K13-5-20150919-50 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	10/17/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A462_PM
SAMPLE No.:	K13-5-20150919-50 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	10/17/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
10 / 19 / 15	JDM	11 : 12	0	1.0	24.0	20.0	75.0	65.0	63.0
10 / 19 / 15	JDM	13 : 46	154	1.5	23.5	20.0	75.0	65.0	63.0
10 / 20 / 15	JDM	7 : 45	1079	4.3	20.7	20.0	75.0	65.0	63.0
10 / 20 / 15	JDM	12 : 27	282	4.9	20.1	20.0	75.0	65.0	63.0
10 / 21 / 15	JDM	8 : 10	1183	6.8	18.2	20.0	75.0	65.0	63.0
10 / 21 / 15	JDM	14 : 8	358	7.4	17.6	20.0	75.0	65.0	63.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A462_PM
SAMPLE No.:	K13-5-20150919-50 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	10/17/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				34.387		
154	0.5	0.5	1.00	34.177	3.38E-08	3.40E-08
1079	2.8	2.8	1.00	33.000	2.76E-08	2.77E-08
282	0.6	0.6	1.00	32.748	2.31E-08	2.32E-08
1183	1.9	1.9	1.00	31.950	1.77E-08	1.78E-08
358	0.6	0.6	1.00	31.698	1.88E-08	1.89E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A462_PM
SAMPLE No.:	K13-5-20150919-50 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	10/17/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**101.6 lb/ft³**	**102.1 lb/ft³**
DRY UNIT WEIGHT	**64.6 lb/ft³**	**65.0 lb/ft³**
MOISTURE CONTENT	**57.3 %**	**57.0 %**
PERMEABILITY @ 20°C	**2.2E-08 cm/sec**	

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	Macon, GA		
GTX #:	GTX-303551		
Start Date:	9/30/2015	Tested By:	jm
End Date:	10/3/2015	Checked By:	mcm
Boring	---	Test #:	
Sample #:	Z14-10-20150922-51 (7 day)		
Depth:	---		
Visual Description:	Moist, Stabilized soil/cement		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084 Increasing Tailwater

Sample Type:	Core	Permeant Fluid:	de-aired tap water
Orientation:	Vertical	Cell #:	K2

Sample Preparation: Sample placed into permeameter at as-received density and moisture content, (7 day cure).

Parameter	Initial	Final
Height, in	1.55	1.55
Diameter, in	3.02	3.02
Area, in^2	7.16	7.16
Volume, in^3	11.1	11.1
Mass, g	295	302
Bulk Density, pcf	101	104
Moisture Content, %	48.4	52.1
Dry Density, pcf	68.1	68.1
Degree of Saturation, %	---	97

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90	Pressure Increment, psi:	9.5
Sample Pressure, psi:	80	B Coefficient:	0.95

FLOW DATA

Date	Trial #	Pressure, psi		Head readings			Elapsed Time,	Gradient	Permeability K,	Temp,		Permeability K @ 20 °C,
		Cell	Sample	H_1	H_2	H_1-H_2	sec		cm/sec	°C	R_t	cm/sec
10/2	3	90	80	204.9	204.0	0.9	3900	52.0	7.8E-09	21	0.976	7.6E-09
10/2	4	90	80	204.0	203.1	0.9	4080	51.8	7.5E-09	21	0.976	7.3E-09
10/2	5	90	80	203.1	201.9	1.2	5700	51.6	7.2E-09	21	0.976	7.0E-09
10/2	6	90	80	201.9	198.5	3.4	16140	51.3	7.3E-09	21	0.976	7.1E-09

PERMEABILITY AT 20° C: 7.3 x 10^{-9} cm/sec (@ 10 psi effective stress)

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A466_PM
SAMPLE No.:	Z14-1020150922-51 (28-Day)	EQUIPMENT No.:	5
TEST DATE:	10/20/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	341.99 ***g***
3. WT WET SOIL + TARE	360.90 ***g***	709.30 ***g***
4. WT DRY SOIL + TARE	237.37 ***g***	579.36 ***g***
5. WT WATER, Ww	123.53 g	129.94 g
6. WT DRY SOIL, Ws	237.37 g	237.37 g
7. MOISTURE CONTENT, W	52.04 %	54.74 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.01 in.***	***3.03 in.***	***1.89 in.***	***1.90 in.***
No. 2	***3.03 in.***	***3.02 in.***	***1.90 in.***	***1.91 in.***
No. 3	***3.01 in.***	***3.01 in.***	***1.92 in.***	***1.93 in.***
Average	3.02 in.	3.02 in.	1.90 in.	1.91 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***360.90 g***	***367.31 g***
Area, Ao	7.15 in^2	7.17 in^2
Volume, Vo	13.62 in^3	13.72 in^3
Bulk Unit Weight	100.9 lb/ft^3	102.0 lb/ft^3
Dry Unit Weight	66.4 lb/ft^3	65.9 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A466_PM
SAMPLE No.:	Z14-1020150922-51 (28-Day)	EQUIPMENT No.:	5
TEST DATE:	10/20/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
10/20/15	11 : 37	JDM	7.0	5.0	5.8				
10/20/15	12 : 28	JDM	17.0	15.0	15.6	9.6	10.0	3.8	0.38
10/20/15	13 : 14	JDM	27.0	25.0	25.4	21.3	10.0	5.7	0.57
10/20/15	14 : 26	JDM	37.0	35.0	35.1	33.1	10.0	7.7	0.77
10/20/15	15 : 26	JDM	47.0	45.0	45.0	43.5	10.0	8.4	0.84
10/21/15	9 : 23	JDM	57.0	55.0	54.9	54.4	10.0	9.4	0.94
10/21/15	9 : 54	JDM	67.0	65.0	*	64.4	10.0	9.5	0.95
10/21/15	9 : 54	JDM	57.0	55.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A466_PM
SAMPLE No.:	Z14-1020150922-51 (28-Day)	EQUIPMENT No.:	5
TEST DATE:	10/20/15		

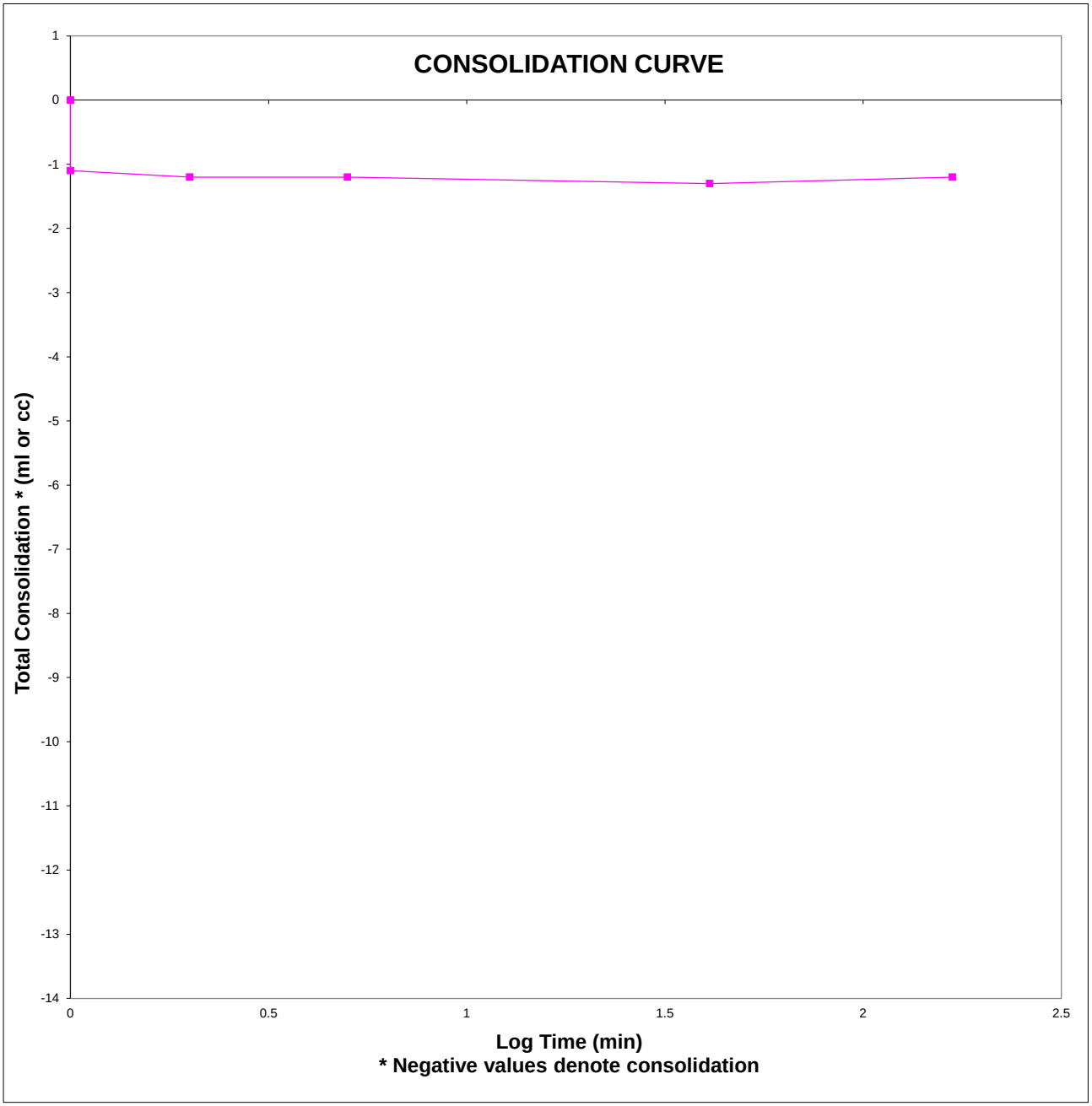
CELL PRESSURE: 65 psi **BACK PRESSURE:** 55 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
10 / 21 / 15	JDM	9 : 57	0	0	0	23.0	23.0	0.0
10 / 21 / 15	JDM	9 : 58	1	1	0.00	22.5	22.4	1.1
10 / 21 / 15	JDM	9 : 59	1	2	0.30	22.5	22.3	1.2
10 / 21 / 15	JDM	10 : 2	3	5	0.70	22.5	22.3	1.2
10 / 21 / 15	JDM	10 : 38	36	41	1.61	22.4	22.3	1.3
10 / 21 / 15	JDM	12 : 45	127	168	2.23	22.5	22.3	1.2

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A466_PM
SAMPLE No.:	Z14-1020150922-51 (28-Day)	EQUIPMENT No.:	5
TEST DATE:	10/20/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A466_PM
SAMPLE No.:	Z14-1020150922-51 (28-Day)	EQUIPMENT No.:	5
TEST DATE:	10/20/15		

				HYDRAULIC			GAUGE		
	TESTED	TIME	ELAPSED TIME	HEAD (cm)		TEMP.	PRESSURE (psi)		
DATE	BY	(military)	(minutes)	INFLUENT	EFFLUENT	C°	CELL	INFLUENT	EFFLUENT
10 / 21 / 15	JDM	15 : 6	0	0.0	25.0	20.0	65.0	55.0	53.0
10 / 22 / 15	JDM	7 : 36	990	2.9	22.1	20.0	65.0	55.0	53.0
10 / 22 / 15	JDM	11 : 41	245	3.4	21.6	20.0	65.0	55.0	53.0
10 / 23 / 15	JDM	8 : 2	1221	6.0	19.0	20.0	65.0	55.0	53.0
10 / 23 / 15	JDM	15 : 35	453	6.6	18.4	20.0	65.0	55.0	53.0
10 / 26 / 15	JDM	7 : 51	3856	11.2	13.8	20.0	65.0	55.0	53.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A466_PM
SAMPLE No.:	Z14-1020150922-51 (28-Day)	EQUIPMENT No.:	5
TEST DATE:	10/20/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				34.256		
990	2.9	2.9	1.00	33.056	3.14E-08	3.16E-08
245	0.5	0.5	1.00	32.850	2.24E-08	2.25E-08
1221	2.6	2.6	1.00	31.774	2.38E-08	2.39E-08
453	0.6	0.6	1.00	31.526	1.51E-08	1.52E-08
3856	4.6	4.6	1.00	29.624	1.41E-08	1.42E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A466_PM
SAMPLE No.:	Z14-1020150922-51 (28-Day)	EQUIPMENT No.:	5
TEST DATE:	10/20/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	100.9 lb/ft³	102.0 lb/ft³
DRY UNIT WEIGHT	66.4 lb/ft³	65.9 lb/ft³
MOISTURE CONTENT	52.0 %	54.7 %
PERMEABILITY @ 20°C	1.9E-08 cm/sec	

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	Macon, GA		
GTX #:	GTX-303551		
Start Date:	9/30/2015	Tested By:	jm
End Date:	10/4/2015	Checked By:	mcm
Boring	---	Test #:	
Sample #:	AK15-5-20150923-52 (7 day)		
Depth:	---		
Visual Description:	Moist, Stabilized soil/cement		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084 Increasing Tailwater

Sample Type:	Core	Permeant Fluid:	de-aired tap water
Orientation:	Vertical	Cell #:	P7

Sample Preparation: Sample placed into permeameter at as-received density and moisture content, (7 day cure).

Parameter	Initial	Final
Height, in	1.64	1.64
Diameter, in	3.03	3.03
Area, in^2	7.21	7.21
Volume, in^3	11.8	11.8
Mass, g	308	317
Bulk Density, pcf	99	102
Moisture Content, %	56.9	61.3
Dry Density, pcf	63.1	63.1
Degree of Saturation, %	---	100

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90	Pressure Increment, psi:	9.5
Sample Pressure, psi:	80	B Coefficient:	0.95

FLOW DATA

Date	Trial #	Pressure, psi		Head readings			Elapsed Time,	Gradient	Permeability K,	Temp,		Permeability K @ 20 °C,
		Cell	Sample	H_1	H_2	H_1-H_2	sec		cm/sec	°C	R_t	cm/sec
10/2	2	90	80	207.6	207.1	0.5	2400	49.8	7.3E-09	21	0.976	7.1E-09
10/2	3	90	80	207.1	206.3	0.8	3900	49.7	7.2E-09	21	0.976	7.1E-09
10/2	4	90	80	206.3	205.6	0.7	3300	49.5	7.5E-09	21	0.976	7.3E-09
10/2	5	90	80	205.6	204.8	0.8	3720	49.4	7.6E-09	21	0.976	7.4E-09

PERMEABILITY AT 20° C: 7.2 x 10^{-9} cm/sec (@ 10 psi effective stress)

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A467_PM
SAMPLE No.:	AK15-5-20150923-52 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	10/21/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	298.46 ***g***
3. WT WET SOIL + TARE	362.33 ***g***	666.60 ***g***
4. WT DRY SOIL + TARE	244.89 ***g***	543.35 ***g***
5. WT WATER, Ww	117.44 g	123.25 g
6. WT DRY SOIL, Ws	244.89 g	244.89 g
7. MOISTURE CONTENT, W	47.96 %	50.33 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.05 in.***	***3.04 in.***	***1.88 in.***	***1.88 in.***
No. 2	***3.03 in.***	***3.03 in.***	***1.87 in.***	***1.87 in.***
No. 3	***3.01 in.***	***3.02 in.***	***1.89 in.***	***1.88 in.***
Average	3.03 in.	3.03 in.	1.88 in.	1.88 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***362.33 g***	***368.14 g***
Area, Ao	7.20 in^2	7.20 in^2
Volume, Vo	13.53 in^3	13.51 in^3
Bulk Unit Weight	102.0 lb/ft^3	103.8 lb/ft^3
Dry Unit Weight	68.9 lb/ft^3	69.1 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A467_PM
SAMPLE No.:	AK15-5-20150923-52 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	10/21/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
10/21/15	10 : 57	JDM	7.0	5.0	5.6				
10/21/15	11 : 33	JDM	17.0	15.0	15.7	13.1	10.0	7.5	0.75
10/21/15	12 : 47	JDM	27.0	25.0	25.4	22.6	10.0	6.9	0.69
10/21/15	14 : 8	JDM	37.0	35.0	35.4	33.8	10.0	8.4	0.84
10/21/15	15 : 8	JDM	47.0	45.0	45.4	44.4	10.0	9.0	0.90
10/22/15	7 : 41	JDM	57.0	55.0	*	55.2	10.0	9.8	0.98
10/22/15	7 : 41	JDM	47.0	45.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A467_PM
SAMPLE No.:	AK15-5-20150923-52 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	10/21/15		

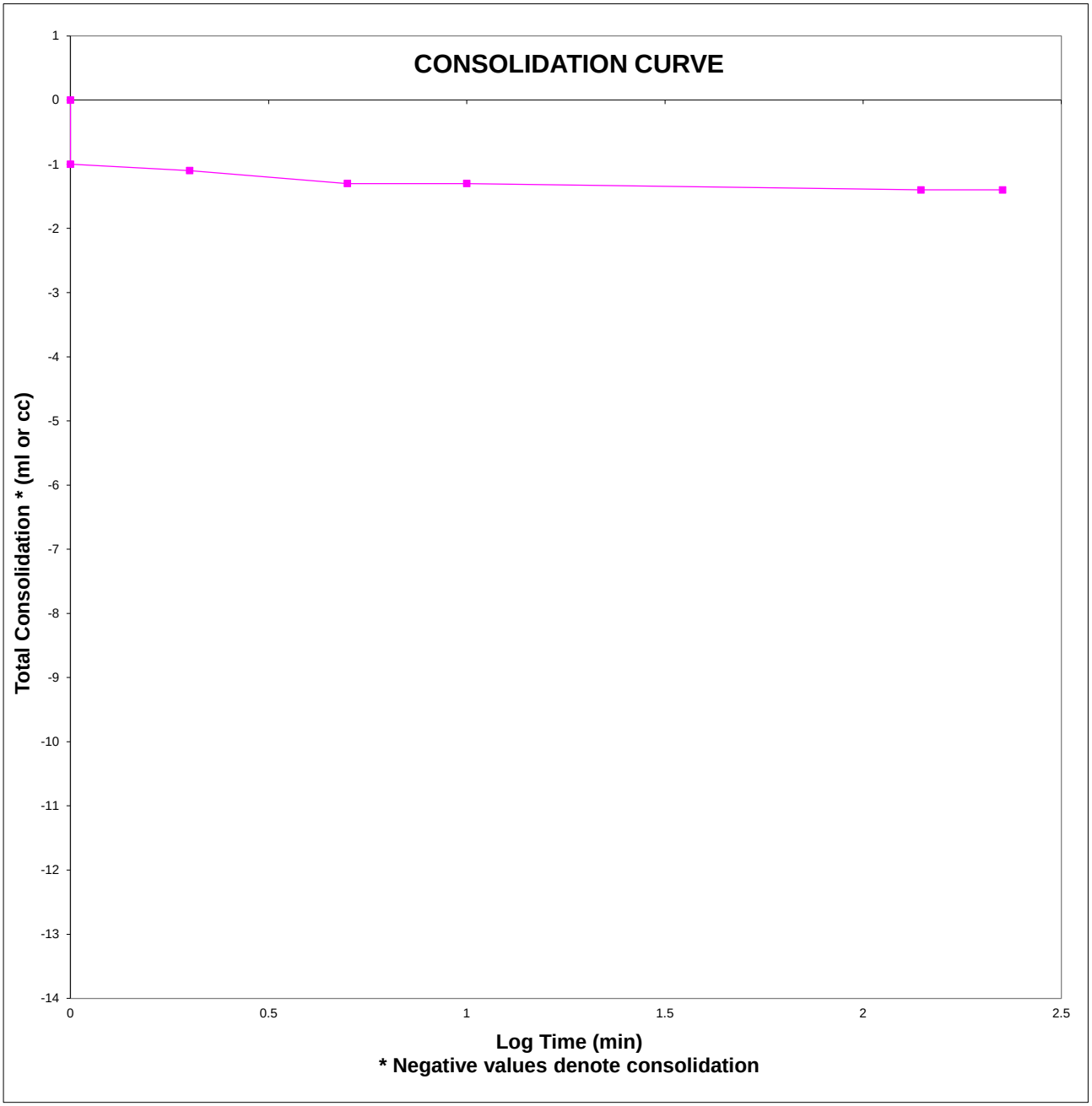
CELL PRESSURE: 95 psi **BACK PRESSURE:** 85 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
10 / 22 / 15	JDM	7 : 40	0	0	0	24.0	24.0	0.0
10 / 22 / 15	JDM	7 : 41	1	1	0.00	23.5	23.5	1.0
10 / 22 / 15	JDM	7 : 42	1	2	0.30	23.5	23.4	1.1
10 / 22 / 15	JDM	7 : 45	3	5	0.70	23.4	23.3	1.3
10 / 22 / 15	JDM	7 : 50	5	10	1.00	23.4	23.3	1.3
10 / 22 / 15	JDM	10 : 0	130	140	2.15	23.3	23.3	1.4
10 / 22 / 15	JDM	11 : 25	85	225	2.35	23.3	23.3	1.4

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A467_PM
SAMPLE No.:	AK15-5-20150923-52 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	10/21/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A467_PM
SAMPLE No.:	AK15-5-20150923-52 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	10/21/15		

			ELAPSED	HYDRAULIC			GAUGE		
	TESTED	TIME	TIME	HEAD (cm)		TEMP.	PRESSURE (psi)		
DATE	BY	(military)	(minutes)	INFLUENT	EFFLUENT	C°	CELL	INFLUENT	EFFLUENT
10 / 22 / 15	JDM	11 : 27	0	1.0	24.0	20.0	55.0	45.0	43.0
10 / 22 / 15	JDM	14 : 19	172	1.5	23.5	20.0	55.0	45.0	43.0
10 / 23 / 15	JDM	8 : 4	1065	4.0	21.0	20.0	55.0	45.0	43.0
10 / 23 / 15	JDM	15 : 35	451	4.9	20.1	20.0	55.0	45.0	43.0
10 / 26 / 15	JDM	7 : 52	3857	11.8	13.2	20.0	55.0	45.0	43.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A467_PM
SAMPLE No.:	AK15-5-20150923-52 (28-Day	EQUIPMENT No.:	2
TEST DATE:	10/21/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				34.277		
172	0.5	0.5	1.00	34.068	3.05E-08	3.07E-08
1065	2.5	2.5	1.00	33.021	2.51E-08	2.52E-08
451	0.9	0.9	1.00	32.644	2.18E-08	2.19E-08
3857	6.9	6.9	1.00	29.754	2.06E-08	2.07E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A467_PM
SAMPLE No.:	AK15-5-20150923-52 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	10/21/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	102.0 lb/ft³	103.8 lb/ft³
DRY UNIT WEIGHT	68.9 lb/ft³	69.1 lb/ft³
MOISTURE CONTENT	48.0 %	50.3 %
PERMEABILITY @ 20°C	2.5E-08 cm/sec	

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	10/5/2015	Tested By:	jcw
End Date:	10/9/2015	Checked By:	mcm
Boring #:	---		
Sample #:	BI13-10-20150924-53 (7 day)		
Depth:	---		
Visual Description:	Moist, brownish yellow soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084

Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	14/11

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.60

Parameter	Initial	Final
Height, in	1.62	1.62
Diameter, in	3.04	3.04
Area, in^2	7.26	7.26
Volume, in^3	11.8	11.8
Mass, g	309	313
Bulk Density, pcf	100	101
Moisture Content, %	57.0	59.1
Dry Density, pcf	63.7	63.7
Degree of Saturation, %	96	99

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	95.00	Increased Cell Pressure, psi:	100.12	Cell Pressure Increment, psi:	5.11
Sample Pressure, psi:	84.91	Corresponding Sample Pressure, psi:	88.78	Sample Pressure Increment, psi:	3.87
				B Coefficient:	0.76

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time,	Gradient	Permeability K,	Temp,		Permeability K @ 20 °C,
		Cell	Sample	Z_1	Z_2	Z_1-Z_2	sec		cm/sec	°C	R_t	cm/sec
10/7	1	95.0	84.9	9.8	9.6	0.2	48	30.0	9.4E-08	20	1.000	9.4E-08
10/7	2	95.0	84.9	9.8	9.6	0.2	49	30.0	9.2E-08	20	1.000	9.2E-08
10/7	3	95.0	84.9	9.8	9.6	0.2	50	30.0	9.0E-08	20	1.000	9.0E-08
10/7	4	95.0	84.9	9.8	9.6	0.2	52	30.0	8.7E-08	20	1.000	8.7E-08

PERMEABILITY AT 20° C: 9.1 x 10^{-8} cm/sec (@ 10 psi effective stress)

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A474_PM
SAMPLE No.:	BI13-10-2015-0924-53 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	10/22/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	342.01 ***g***
3. WT WET SOIL + TARE	361.37 ***g***	708.00 ***g***
4. WT DRY SOIL + TARE	247.76 ***g***	589.77 ***g***
5. WT WATER, Ww	113.61 g	118.23 g
6. WT DRY SOIL, Ws	247.76 g	247.76 g
7. MOISTURE CONTENT, W	45.85 %	47.72 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.04 in.***	***3.03 in.***	***1.85 in.***	***1.87 in.***
No. 2	***3.02 in.***	***3.02 in.***	***1.91 in.***	***1.92 in.***
No. 3	***3.02 in.***	***3.03 in.***	***1.88 in.***	***1.88 in.***
Average	3.03 in.	3.03 in.	1.88 in.	1.89 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***361.37 g***	***365.99 g***
Area, Ao	7.21 in^2	7.20 in^2
Volume, Vo	13.57 in^3	13.61 in^3
Bulk Unit Weight	101.5 lb/ft^3	102.5 lb/ft^3
Dry Unit Weight	69.6 lb/ft^3	69.4 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A474_PM
SAMPLE No.:	BI13-10-2015-0924-53 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	10/22/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
10/22/15	10 : 28	JDM	7.0	5.0	5.5				
10/22/15	10 : 59	JDM	17.0	15.0	15.4	10.3	10.0	4.8	0.48
10/22/15	11 : 43	JDM	27.0	25.0	25.3	21.7	10.0	6.3	0.63
10/22/15	12 : 31	JDM	37.0	35.0	35.3	32.6	10.0	7.3	0.73
10/22/15	13 : 21	JDM	47.0	45.0	44.9	42.9	10.0	7.6	0.76
10/22/15	14 : 21	JDM	57.0	55.0	54.8	53.8	10.0	8.9	0.89
10/22/15	14 : 56	JDM	67.0	65.0	64.8	63.8	10.0	9.0	0.90
10/23/15	9 : 30	JDM	77.0	75.0	*	74.6	10.0	9.8	0.98
10/23/15	9 : 30	JDM	67.0	65.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A474_PM
SAMPLE No.:	BI13-10-2015-0924-53 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	10/22/15		

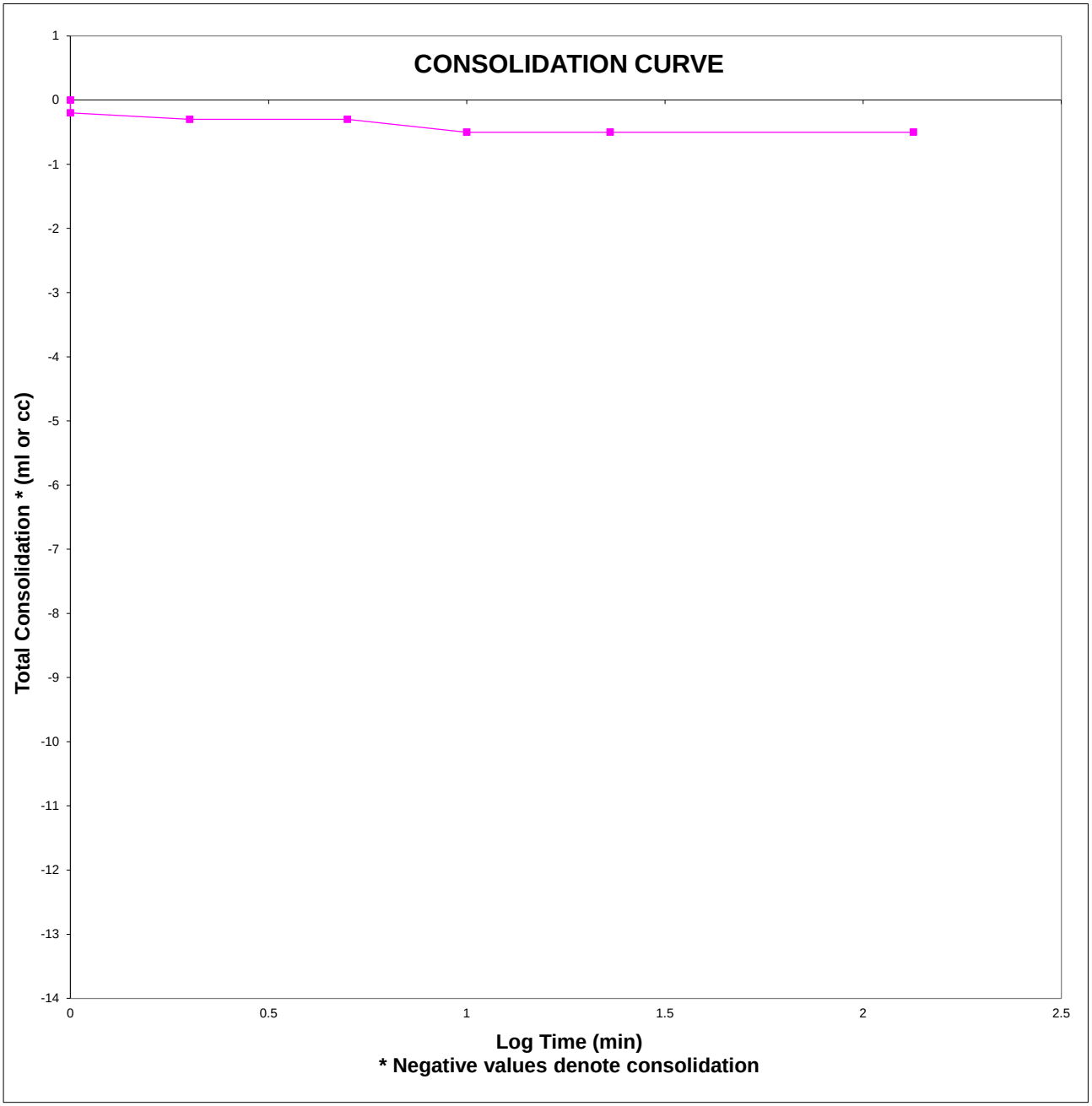
CELL PRESSURE: 75 psi **BACK PRESSURE:** 65 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
10 / 26 / 15	JDM	9 : 16	0	0	0	25.0	25.0	0.0
10 / 26 / 15	JDM	9 : 17	1	1	0.00	24.9	24.9	0.2
10 / 26 / 15	JDM	9 : 18	1	2	0.30	24.9	24.8	0.3
10 / 26 / 15	JDM	9 : 21	3	5	0.70	24.9	24.8	0.3
10 / 26 / 15	JDM	9 : 26	5	10	1.00	24.8	24.7	0.5
10 / 26 / 15	JDM	9 : 39	13	23	1.36	24.8	24.7	0.5
10 / 26 / 15	JDM	11 : 30	111	134	2.13	24.8	24.7	0.5

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A474_PM
SAMPLE No.:	BI13-10-2015-0924-53 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	10/22/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A474_PM
SAMPLE No.:	BI13-10-2015-0924-53 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	10/22/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
10 / 26 / 15	JDM	11 : 57	0	1.0	24.0	20.0	75.0	65.0	63.0
10 / 27 / 15	JDM	7 : 52	1195	2.4	22.6	20.0	75.0	65.0	63.0
10 / 27 / 15	JDM	14 : 36	404	2.9	22.1	20.0	75.0	65.0	63.0
10 / 28 / 15	JDM	7 : 51	1035	4.1	20.9	20.0	75.0	65.0	63.0
10 / 29 / 15	JDM	8 : 0	1449	4.9	20.1	20.0	75.0	65.0	63.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A474_PM
SAMPLE No.:	BI13-10-2015-0924-53 (28-Da	EQUIPMENT No.:	3
TEST DATE:	10/22/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				34.250		
1195	1.4	1.4	1.00	33.664	1.24E-08	1.24E-08
404	0.5	0.5	1.00	33.455	1.32E-08	1.33E-08
1035	1.2	1.2	1.00	32.952	1.25E-08	1.26E-08
1449	0.8	0.8	1.00	32.618	6.03E-09	6.06E-09

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A474_PM
SAMPLE No.:	BI13-10-2015-0924-53 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	10/22/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**101.5 lb/ft³**	**102.5 lb/ft³**
DRY UNIT WEIGHT	**69.6 lb/ft³**	**69.4 lb/ft³**
MOISTURE CONTENT	**45.9 %**	**47.7 %**
PERMEABILITY @ 20°C	**1.1E-08 cm/sec**	

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	10/5/2015	Tested By:	jcw
End Date:	10/9/2015	Checked By:	mcm
Boring #:	---		
Sample #:	BB14-15-20150925-54 (7 day)		
Depth:	---		
Visual Description:	Moist, brownish yellow soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084

Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	5/16

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.55

Parameter	Initial	Final
Height, in	1.72	1.72
Diameter, in	3.04	3.04
Area, in^2	7.26	7.26
Volume, in^3	12.5	12.5
Mass, g	331	336
Bulk Density, pcf	101	102
Moisture Content, %	47.3	49.6
Dry Density, pcf	68.4	68.4
Degree of Saturation, %	91	95

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	90.04	Increased Cell Pressure, psi:	95.05	Cell Pressure Increment, psi:	5.01
Sample Pressure, psi:	79.98	Corresponding Sample Pressure, psi:	84.76	Sample Pressure Increment, psi:	4.78
				B Coefficient:	0.95

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time, sec	Gradient	Permeability K, cm/sec	Temp, °C	R_t	Permeability K @ 20 °C, cm/sec
		Cell	Sample	Z_1	Z_2	Z_1-Z_2						
10/7	1	90.0	80.0	10.4	10.3	0.1	118	30.0	1.9E-08	20	1.000	1.9E-08
10/7	2	90.0	80.0	10.4	10.3	0.1	127	30.0	1.8E-08	20	1.000	1.8E-08
10/7	3	90.0	80.0	10.4	10.3	0.1	138	30.0	1.6E-08	20	1.000	1.6E-08
10/7	4	90.0	80.0	10.4	10.3	0.1	152	30.0	1.5E-08	20	1.000	1.5E-08

PERMEABILITY AT 20° C: 1.7 x 10^{-8} cm/sec (@ 10 psi effective stress)

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A477_PM
SAMPLE No.:	BB14-15-20150925-54 (28-Day)	EQUIPMENT No.:	
TEST DATE:	10/23/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	297.57 ***g***
3. WT WET SOIL + TARE	356.40 ***g***	666.10 ***g***
4. WT DRY SOIL + TARE	247.95 ***g***	545.52 ***g***
5. WT WATER, Ww	108.45 g	120.58 g
6. WT DRY SOIL, Ws	247.95 g	247.95 g
7. MOISTURE CONTENT, W	43.74 %	48.63 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.03 in.***	***3.03 in.***	***1.87 in.***	***1.89 in.***
No. 2	***3.03 in.***	***3.03 in.***	***1.89 in.***	***1.88 in.***
No. 3	***3.01 in.***	***3.02 in.***	***1.91 in.***	***1.86 in.***
Average	3.02 in.	3.03 in.	1.89 in.	1.87 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***356.40 g***	***368.53 g***
Area, Ao	7.18 in^2	7.19 in^2
Volume, Vo	13.56 in^3	13.46 in^3
Bulk Unit Weight	100.1 lb/ft^3	104.3 lb/ft^3
Dry Unit Weight	69.7 lb/ft^3	70.2 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A477_PM
SAMPLE No.:	BB14-15-20150925-54 (28-Day)	EQUIPMENT No.:	0
TEST DATE:	10/23/15		

			TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
TEST DATE	TIME (military)	TESTED BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
10/26/15	10 : 37	JDM	7.0	5.0	5.9				
10/26/15	11 : 39	JDM	17.0	15.0	16.1	10.5	10.0	4.6	0.46
10/26/15	12 : 17	JDM	27.0	25.0	26.1	22.6	10.0	6.5	0.65
10/26/15	12 : 48	JDM	37.0	35.0	36.2	34.2	10.0	8.1	0.81
10/26/15	13 : 41	JDM	47.0	45.0	46.0	44.8	10.0	8.6	0.86
10/26/15	14 : 20	JDM	57.0	55.0	56.0	55.1	10.0	9.1	0.91
10/26/15	14 : 59	JDM	67.0	65.0	*	65.8	10.0	9.8	0.98
10/26/15	14 : 59	JDM	57.0	55.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A477_PM
SAMPLE No.:	BB14-15-20150925-54 (28-Day)	EQUIPMENT No.:	0
TEST DATE:	10/23/15		

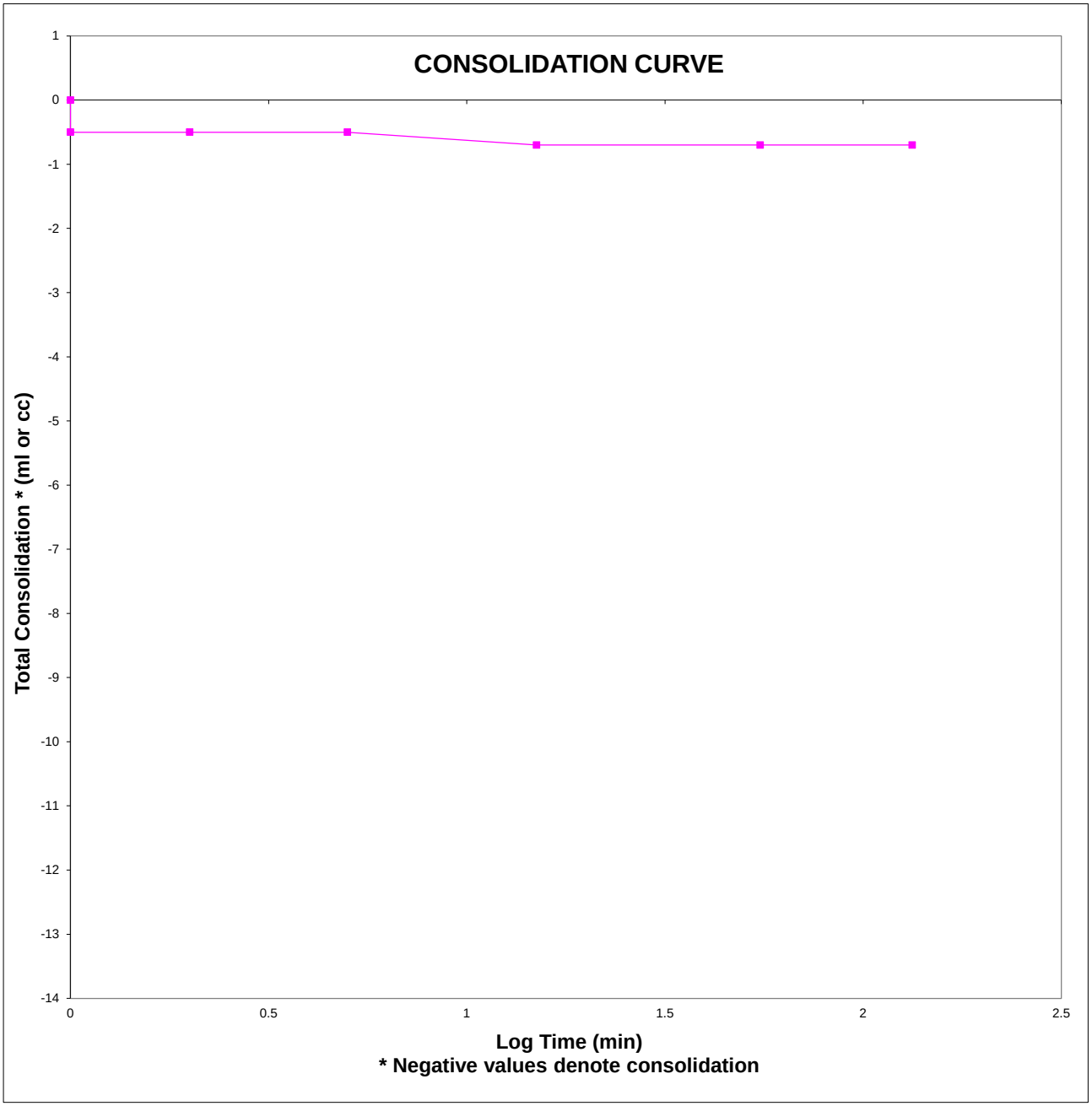
CELL PRESSURE: 65 psi **BACK PRESSURE:** 55 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
10 / 27 / 15	JDM	9 : 25	0	0	0	25.0	25.0	0.0
10 / 27 / 15	JDM	9 : 26	1	1	0.00	24.8	24.7	0.5
10 / 27 / 15	JDM	9 : 27	1	2	0.30	24.8	24.7	0.5
10 / 27 / 15	JDM	9 : 30	3	5	0.70	24.8	24.7	0.5
10 / 27 / 15	JDM	9 : 40	10	15	1.18	24.7	24.6	0.7
10 / 27 / 15	JDM	10 : 20	40	55	1.74	24.7	24.6	0.7
10 / 27 / 15	JDM	11 : 38	78	133	2.12	24.7	24.6	0.7

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A477_PM
SAMPLE No.:	BB14-15-20150925-54 (28-Day)	EQUIPMENT No.:	0
TEST DATE:	10/23/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A477_PM
SAMPLE No.:	BB14-15-20150925-54 (28-Day)	EQUIPMENT No.:	0
TEST DATE:	10/23/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
10 / 27 / 15	JDM	11 : 44	0	1.0	24.0	20.0	65.0	55.0	53.0
10 / 27 / 15	JDM	13 : 16	92	1.5	23.5	20.0	65.0	55.0	53.0
10 / 27 / 15	JDM	15 : 20	124	2.0	23.0	20.0	65.0	55.0	53.0
10 / 28 / 15	JDM	7 : 59	999	4.9	20.1	20.0	65.0	55.0	53.0
10 / 29 / 15	JDM	12 : 0	1681	5.4	19.6	20.0	65.0	55.0	53.0
10 / 30 / 15	JDM	8 : 0	1200	7.3	17.7	20.0	65.0	55.0	53.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A477_PM
SAMPLE No.:	BB14-15-20150925-54 (28-Da	EQUIPMENT No.:	0
TEST DATE:	10/23/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				34.120		
92	0.5	0.5	1.00	33.911	5.75E-08	5.78E-08
124	0.5	0.5	1.00	33.703	4.29E-08	4.31E-08
999	2.9	2.9	1.00	32.494	3.16E-08	3.17E-08
1681	0.5	0.5	1.00	32.285	3.30E-09	3.32E-09
1200	1.9	1.9	1.00	31.493	1.79E-08	1.79E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A477_PM
SAMPLE No.:	BB14-15-20150925-54 (28-Day)	EQUIPMENT No.:	0
TEST DATE:	10/23/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	100.1 lb/ft³	104.3 lb/ft³
DRY UNIT WEIGHT	69.7 lb/ft³	70.2 lb/ft³
MOISTURE CONTENT	43.7 %	48.6 %
PERMEABILITY @ 20°C	3.8E-08 cm/sec	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A430_PM
SAMPLE No.:	AQ15-5-20150928-55 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	10/5/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	298.43 ***g***
3. WT WET SOIL + TARE	351.58 ***g***	657.10 ***g***
4. WT DRY SOIL + TARE	239.67 ***g***	538.10 ***g***
5. WT WATER, Ww	111.91 g	119.00 g
6. WT DRY SOIL, Ws	239.67 g	239.67 g
7. MOISTURE CONTENT, W	46.69 %	49.65 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.01 in.***	***3.00 in.***	***1.78 in.***	***1.80 in.***
No. 2	***3.03 in.***	***3.02 in.***	***1.77 in.***	***1.80 in.***
No. 3	***3.04 in.***	***3.04 in.***	***1.81 in.***	***1.83 in.***
Average	3.02 in.	3.02 in.	1.79 in.	1.81 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***351.58 g***	***358.67 g***
Area, Ao	7.18 in^2	7.17 in^2
Volume, Vo	12.83 in^3	12.98 in^3
Bulk Unit Weight	104.4 lb/ft^3	105.3 lb/ft^3
Dry Unit Weight	71.2 lb/ft^3	70.4 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A430_PM
SAMPLE No.:	AQ15-5-20150928-55 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	10/5/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
10/06/15	14 : 44	JDM	7.0	5.0	5.8				
10/07/15	8 : 7	JDM	17.0	15.0	15.8	9.9	10.0	4.1	0.41
10/07/15	11 : 28	JDM	27.0	25.0	25.9	22.6	10.0	6.8	0.68
10/07/15	13 : 6	JDM	37.0	35.0	35.7	34.2	10.0	8.3	0.83
10/07/15	14 : 5	JDM	47.0	45.0	45.7	44.5	10.0	8.8	0.88
10/08/15	9 : 0	JDM	57.0	55.0	*	55.4	10.0	9.7	0.97
10/08/15	9 : 15	JDM	47.0	45.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A430_PM
SAMPLE No.:	AQ15-5-20150928-55 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	10/5/15		

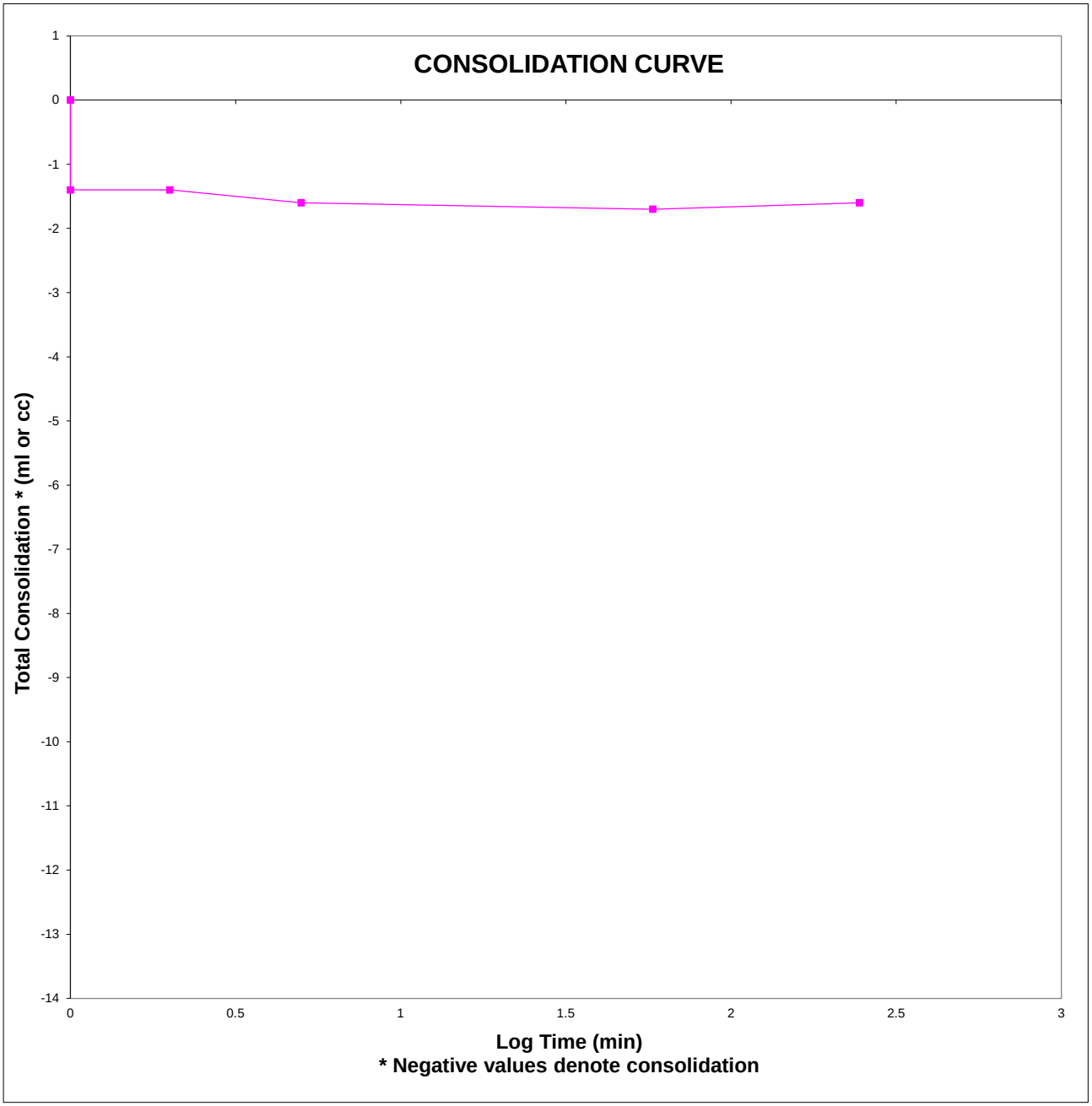
CELL PRESSURE: 55 psi **BACK PRESSURE:** 45 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
10 / 8 / 15	JDM	9 : 17	0	0	0	24.0	24.0	0.0
10 / 8 / 15	JDM	9 : 18	1	1	0.00	23.1	23.5	1.4
10 / 8 / 15	JDM	9 : 19	1	2	0.30	23.1	23.5	1.4
10 / 8 / 15	JDM	9 : 22	3	5	0.70	23.0	23.4	1.6
10 / 8 / 15	JDM	10 : 15	53	58	1.76	23.0	23.3	1.7
10 / 8 / 15	JDM	13 : 22	187	245	2.39	23.0	23.4	1.6

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A430_PM
SAMPLE No.:	AQ15-5-20150928-55 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	10/5/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A430_PM
SAMPLE No.:	AQ15-5-20150928-55 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	10/5/15		

				HYDRAULIC			GAUGE		
	TESTED	TIME	ELAPSED TIME	HEAD (cm)		TEMP.	PRESSURE (psi)		
DATE	BY	(military)	(minutes)	INFLUENT	EFFLUENT	C°	CELL	INFLUENT	EFFLUENT
10 / 8 / 15	JDM	14 : 54	0	1.0	24.0	20.0	55.0	45.0	43.0
10 / 9 / 15	JDM	8 : 9	1035	2.3	22.7	20.0	55.0	45.0	43.0
10 / 12 / 15	JDM	9 : 41	RESET	1.0	24.0	20.0	55.0	45.0	43.0
10 / 13 / 15	JDM	9 : 48	1447	1.5	23.5	20.0	55.0	45.0	43.0
10 / 14 / 15	JDM	10 : 21	1473	2.0	23.0	20.0	55.0	45.0	43.0
10 / 15 / 15	JDM	11 : 14	1493	2.5	22.5	20.0	55.0	45.0	43.0
10 / 16 / 15	JDM	11 : 58	1484	3.0	22.0	20.0	55.0	45.0	43.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A430_PM
SAMPLE No.:	AQ15-5-20150928-55 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	10/5/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				36.074		
1035	1.3	1.3	1.00	35.501	1.26E-08	1.27E-08
RESET				36.074		
1447	0.5	0.5	1.00	35.854	3.46E-09	3.47E-09
1473	0.5	0.5	1.00	35.634	3.42E-09	3.43E-09
1493	0.5	0.5	1.00	35.413	3.39E-09	3.41E-09
1484	0.5	0.5	1.00	35.193	3.43E-09	3.45E-09

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A430_PM
SAMPLE No.:	AQ15-5-20150928-55 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	10/5/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**104.4 lb/ft³**	**105.3 lb/ft³**
DRY UNIT WEIGHT	**71.2 lb/ft³**	**70.4 lb/ft³**
MOISTURE CONTENT	**46.7 %**	**49.7 %**
PERMEABILITY @ 20°C	**3.4E-09 cm/sec**	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A478_PM
SAMPLE No.:	AQ15-5-20150928-55 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	10/26/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	297.88 ***g***
3. WT WET SOIL + TARE	364.40 ***g***	665.00 ***g***
4. WT DRY SOIL + TARE	254.00 ***g***	551.88 ***g***
5. WT WATER, Ww	110.40 g	113.12 g
6. WT DRY SOIL, Ws	254.00 g	254.00 g
7. MOISTURE CONTENT, W	43.46 %	44.54 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.01 in.***	***3.01 in.***	***1.85 in.***	***1.86 in.***
No. 2	***3.03 in.***	***3.03 in.***	***1.88 in.***	***1.85 in.***
No. 3	***3.03 in.***	***3.03 in.***	***1.84 in.***	***1.92 in.***
Average	3.02 in.	3.03 in.	1.86 in.	1.87 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***364.40 g***	***367.12 g***
Area, Ao	7.18 in^2	7.19 in^2
Volume, Vo	13.34 in^3	13.46 in^3
Bulk Unit Weight	104.1 lb/ft^3	103.9 lb/ft^3
Dry Unit Weight	72.6 lb/ft^3	71.9 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A478_PM
SAMPLE No.:	AQ15-5-20150928-55 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	10/26/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
10/26/15	13 : 39	JDM	7.0	5.0	5.3				
10/26/15	14 : 21	JDM	17.0	15.0	15.4	10.1	10.0	4.8	0.48
10/26/15	15 : 1	JDM	27.0	25.0	25.3	22.5	10.0	7.1	0.71
10/26/15	15 : 41	JDM	37.0	35.0	35.5	33.6	10.0	8.3	0.83
10/27/15	7 : 50	JDM	47.0	45.0	45.5	44.9	10.0	9.4	0.94
10/27/15	9 : 37	JDM	57.0	55.0	*	55.1	10.0	9.6	0.96
10/27/15	9 : 37	JDM	47.0	45.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A478_PM
SAMPLE No.:	AQ15-5-20150928-55 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	10/26/15		

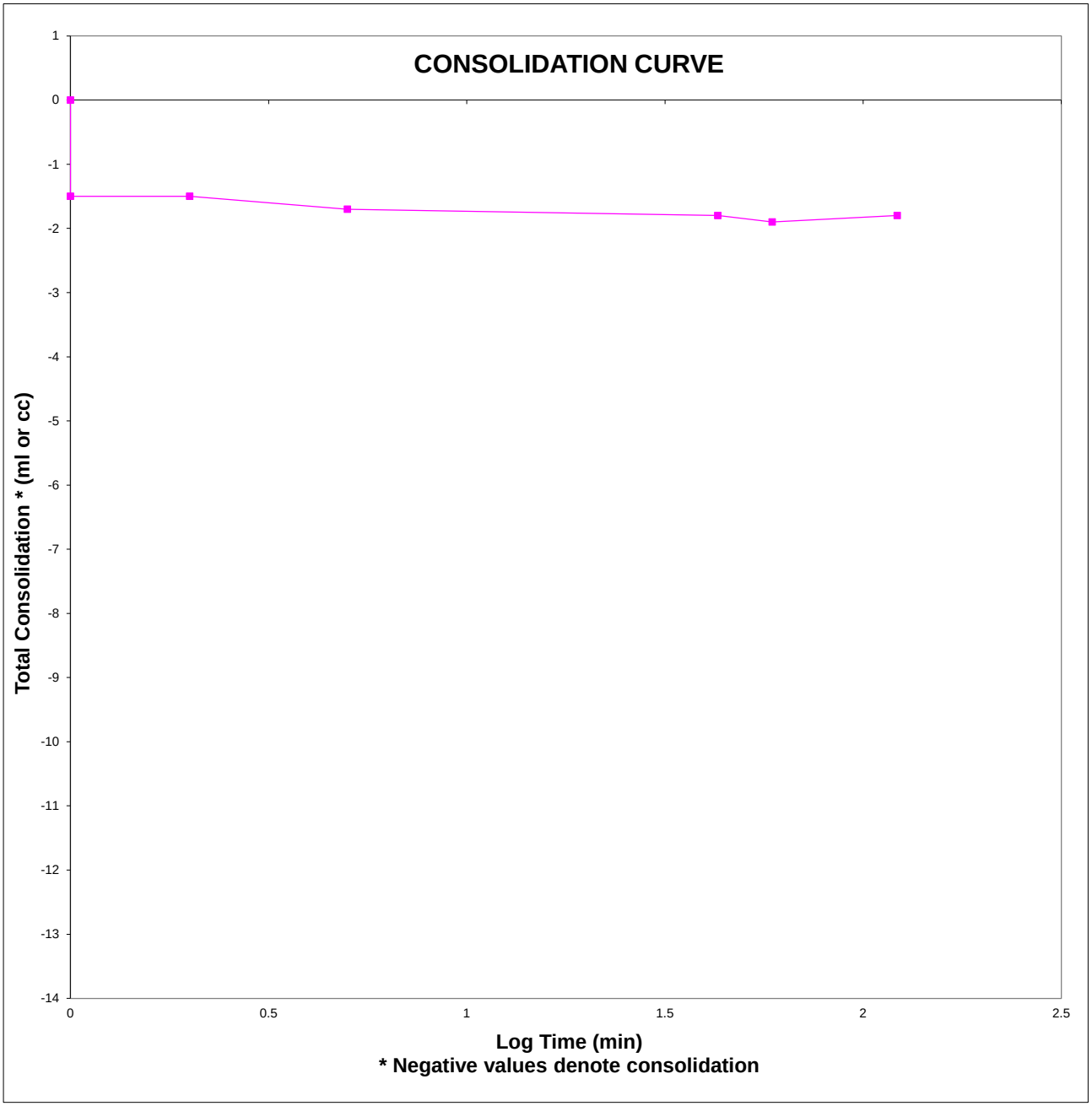
CELL PRESSURE: 55 psi **BACK PRESSURE:** 45 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
10 / 27 / 15	JDM	9 : 38	0	0	0	24.0	24.0	0.0
10 / 27 / 15	JDM	9 : 39	1	1	0.00	23.2	23.3	1.5
10 / 27 / 15	JDM	9 : 40	1	2	0.30	23.2	23.3	1.5
10 / 27 / 15	JDM	9 : 43	3	5	0.70	23.1	23.2	1.7
10 / 27 / 15	JDM	10 : 21	38	43	1.63	23.0	23.2	1.8
10 / 27 / 15	JDM	10 : 37	16	59	1.77	23.0	23.1	1.9
10 / 27 / 15	JDM	11 : 40	63	122	2.09	23.0	23.2	1.8

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A478_PM
SAMPLE No.:	AQ15-5-20150928-55 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	10/26/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A478_PM
SAMPLE No.:	AQ15-5-20150928-55 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	10/26/15		

			ELAPSED	HYDRAULIC			GAUGE		
	TESTED	TIME	TIME	HEAD (cm)		TEMP.	PRESSURE (psi)		
DATE	BY	(military)	(minutes)	INFLUENT	EFFLUENT	C°	CELL	INFLUENT	EFFLUENT
10 / 27 / 15	JDM	11 : 39	0	1.0	24.0	20.0	55.0	45.0	43.0
10 / 27 / 15	JDM	15 : 23	224	1.5	23.5	20.0	55.0	45.0	43.0
10 / 28 / 15	JDM	7 : 52	989	3.1	21.9	20.0	55.0	45.0	43.0
10 / 28 / 15	JDM	14 : 30	398	3.6	21.4	20.0	55.0	45.0	43.0
10 / 29 / 15	JDM	8 : 1	1051	5.2	19.8	20.0	55.0	45.0	43.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A478_PM
SAMPLE No.:	AQ15-5-20150928-55 (28-Day	EQUIPMENT No.:	1
TEST DATE:	10/26/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				34.677		
224	0.5	0.5	1.00	34.465	2.32E-08	2.34E-08
989	1.6	1.6	1.00	33.787	1.71E-08	1.71E-08
398	0.5	0.5	1.00	33.575	1.34E-08	1.35E-08
1051	1.6	1.6	1.00	32.897	1.65E-08	1.66E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A478_PM
SAMPLE No.:	AQ15-5-20150928-55 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	10/26/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**104.1 lb/ft³**	**103.9 lb/ft³**
DRY UNIT WEIGHT	**72.6 lb/ft³**	**71.9 lb/ft³**
MOISTURE CONTENT	**43.5 %**	**44.5 %**
PERMEABILITY @ 20°C	**1.8E-08 cm/sec**	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A455_PM
SAMPLE No.:	AR30-5-20151006-56 (7-Day)	EQUIPMENT No.:	6
TEST DATE:	10/13/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	342.02 ***g***
3. WT WET SOIL + TARE	333.93 ***g***	679.80 ***g***
4. WT DRY SOIL + TARE	204.73 ***g***	546.75 ***g***
5. WT WATER, Ww	129.20 g	133.05 g
6. WT DRY SOIL, Ws	204.73 g	204.73 g
7. MOISTURE CONTENT, W	63.11 %	64.99 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.03 in.***	***3.01 in.***	***1.80 in.***	***1.81 in.***
No. 2	***3.03 in.***	***3.03 in.***	***1.80 in.***	***1.83 in.***
No. 3	***3.01 in.***	***3.06 in.***	***1.82 in.***	***1.81 in.***
Average	3.02 in.	3.03 in.	1.81 in.	1.82 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***333.93 g***	***337.78 g***
Area, Ao	7.18 in^2	7.22 in^2
Volume, Vo	12.99 in^3	13.11 in^3
Bulk Unit Weight	97.9 lb/ft^3	98.1 lb/ft^3
Dry Unit Weight	60.0 lb/ft^3	59.5 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A455_PM
SAMPLE No.:	AR30-5-20151006-56 (7-Day)	EQUIPMENT No.:	6
TEST DATE:	10/13/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
10/13/15	11 : 15	JDM	7.0	5.0	5.9				
10/13/15	11 : 46	JDM	17.0	15.0	16.0	10.5	10.0	4.6	0.46
10/13/15	13 : 5	JDM	27.0	25.0	26.0	22.7	10.0	6.7	0.67
10/13/15	14 : 7	JDM	37.0	35.0	36.1	34.1	10.0	8.1	0.81
10/13/15	14 : 42	JDM	47.0	45.0	46.1	44.8	10.0	8.7	0.87
10/14/15	8 : 23	JDM	57.0	55.0	56.1	55.3	10.0	9.2	0.92
10/14/15	9 : 43	JDM	67.0	65.0	*	66.1	10.0	10.0	1.00
10/14/15	9 : 43	JDM	57.0	55.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A455_PM
SAMPLE No.:	AR30-5-20151006-56 (7-Day)	EQUIPMENT No.:	6
TEST DATE:	10/13/15		

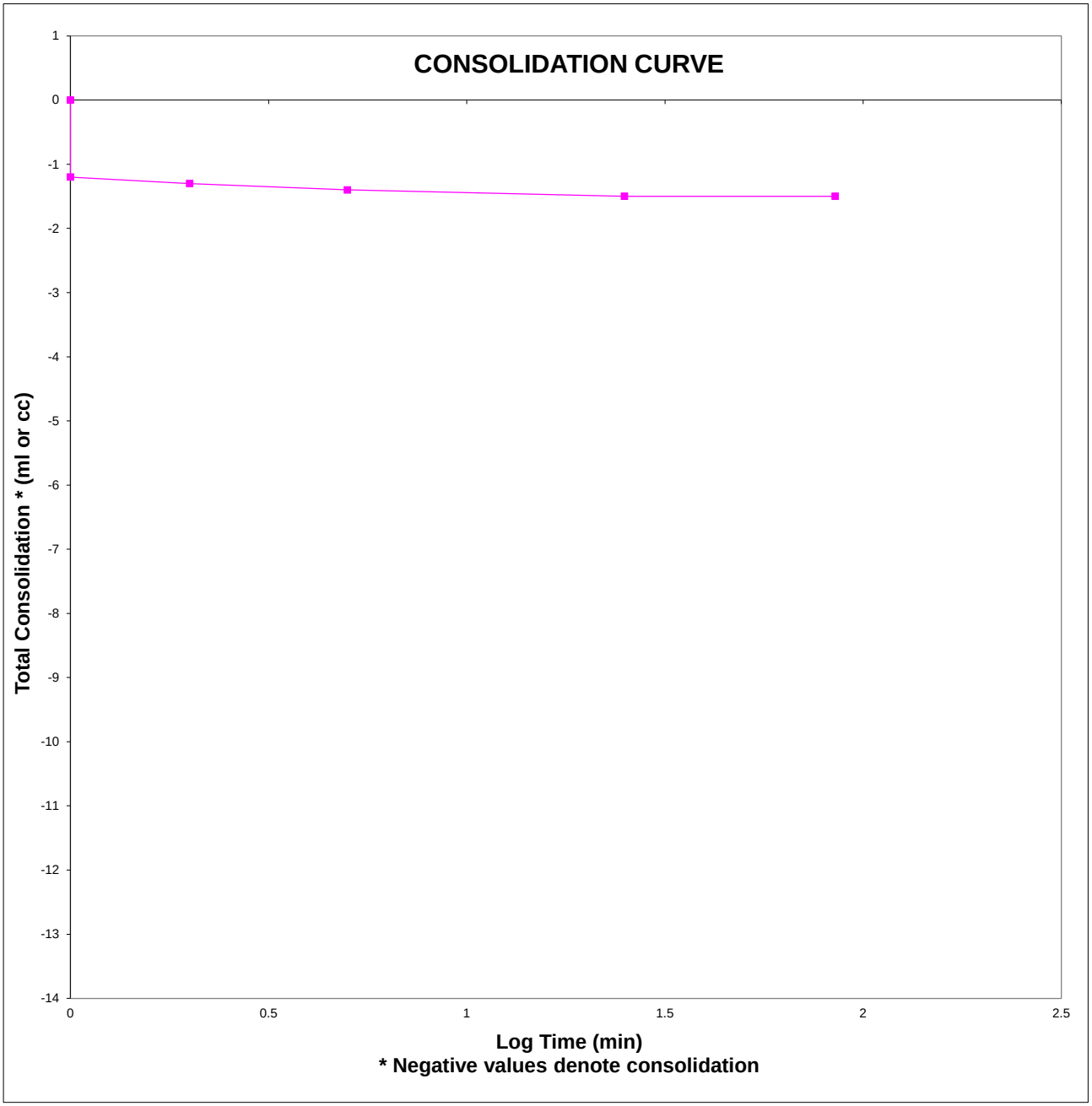
CELL PRESSURE: 65 psi **BACK PRESSURE:** 55 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
10 / 14 / 15	JDM	9 : 41	0	0	0	24.0	24.0	0.0
10 / 14 / 15	JDM	9 : 42	1	1	0.00	23.6	23.2	1.2
10 / 14 / 15	JDM	9 : 43	1	2	0.30	23.5	23.2	1.3
10 / 14 / 15	JDM	9 : 46	3	5	0.70	23.5	23.1	1.4
10 / 14 / 15	JDM	10 : 6	20	25	1.40	23.5	23.0	1.5
10 / 14 / 15	JDM	11 : 6	60	85	1.93	23.5	23.0	1.5

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A455_PM
SAMPLE No.:	AR30-5-20151006-56 (7-Day)	EQUIPMENT No.:	6
TEST DATE:	10/13/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A455_PM
SAMPLE No.:	AR30-5-20151006-56 (7-Day)	EQUIPMENT No.:	6
TEST DATE:	10/13/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
10 / 14 / 15	JDM	11 : 11	0	1.0	24.0	20.0	65.0	55.0	53.0
10 / 14 / 15	JDM	14 : 35	204	1.6	23.4	20.0	65.0	55.0	53.0
10 / 15 / 15	JDM	8 : 4	1049	3.8	21.2	20.0	65.0	55.0	53.0
10 / 15 / 15	JDM	13 : 0	296	4.3	20.7	20.0	65.0	55.0	53.0
10 / 16 / 15	JDM	8 : 0	1140	6.2	18.8	20.0	65.0	55.0	53.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A455_PM
SAMPLE No.:	AR30-5-20151006-56 (7-Day)	EQUIPMENT No.:	6
TEST DATE:	10/13/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				35.642		
204	0.6	0.6	1.00	35.381	2.98E-08	2.99E-08
1049	2.2	2.2	1.00	34.423	2.16E-08	2.17E-08
296	0.5	0.5	1.00	34.205	1.77E-08	1.78E-08
1140	1.9	1.9	1.00	33.377	1.77E-08	1.78E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A455_PM
SAMPLE No.:	AR30-5-20151006-56 (7-Day)	EQUIPMENT No.:	6
TEST DATE:	10/13/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**97.9 lb/ft³**	**98.1 lb/ft³**
DRY UNIT WEIGHT	**60.0 lb/ft³**	**59.5 lb/ft³**
MOISTURE CONTENT	**63.1 %**	**65.0 %**
PERMEABILITY @ 20°C	**2.2E-08 cm/sec**	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDm
PROJECT No.:	SH0578	TRACKING CODE:	A523_PM
SAMPLE No.:	AR30-5-20151006-56 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	11/3/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	297.58 ***g***
3. WT WET SOIL + TARE	316.21 ***g***	616.80 ***g***
4. WT DRY SOIL + TARE	195.55 ***g***	493.13 ***g***
5. WT WATER, Ww	120.66 g	123.67 g
6. WT DRY SOIL, Ws	195.55 g	195.55 g
7. MOISTURE CONTENT, W	61.70 %	63.24 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.01 in.***	***3.00 in.***	***1.74 in.***	***1.75 in.***
No. 2	***3.02 in.***	***3.03 in.***	***1.69 in.***	***1.70 in.***
No. 3	***3.03 in.***	***3.03 in.***	***1.71 in.***	***1.71 in.***
Average	3.02 in.	3.02 in.	1.71 in.	1.72 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***316.21 g***	***319.22 g***
Area, Ao	7.18 in^2	7.17 in^2
Volume, Vo	12.28 in^3	12.33 in^3
Bulk Unit Weight	98.1 lb/ft^3	98.7 lb/ft^3
Dry Unit Weight	60.7 lb/ft^3	60.4 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDm
PROJECT No.:	SH0578	TRACKING CODE:	A523_PM
SAMPLE No.:	AR30-5-20151006-56 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	11/3/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
11/04/15	9 : 29	JDM	7.0	5.0	5.7				
11/04/15	9 : 46	JDM	17.0	15.0	15.6	10.9	10.0	5.2	0.52
11/04/15	10 : 14	JDM	27.0	25.0	25.5	22.7	10.0	7.1	0.71
11/04/15	11 : 31	JDM	37.0	35.0	35.5	34.3	10.0	8.8	0.88
11/04/15	12 : 3	JDM	47.0	45.0	45.3	44.4	10.0	8.9	0.89
11/04/15	12 : 33	JDM	57.0	55.0	*	54.8	10.0	9.5	0.95
11/04/15	12 : 33	JDM	67.0	65.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDm
PROJECT No.:	SH0578	TRACKING CODE:	A523_PM
SAMPLE No.:	AR30-5-20151006-56 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	11/3/15		

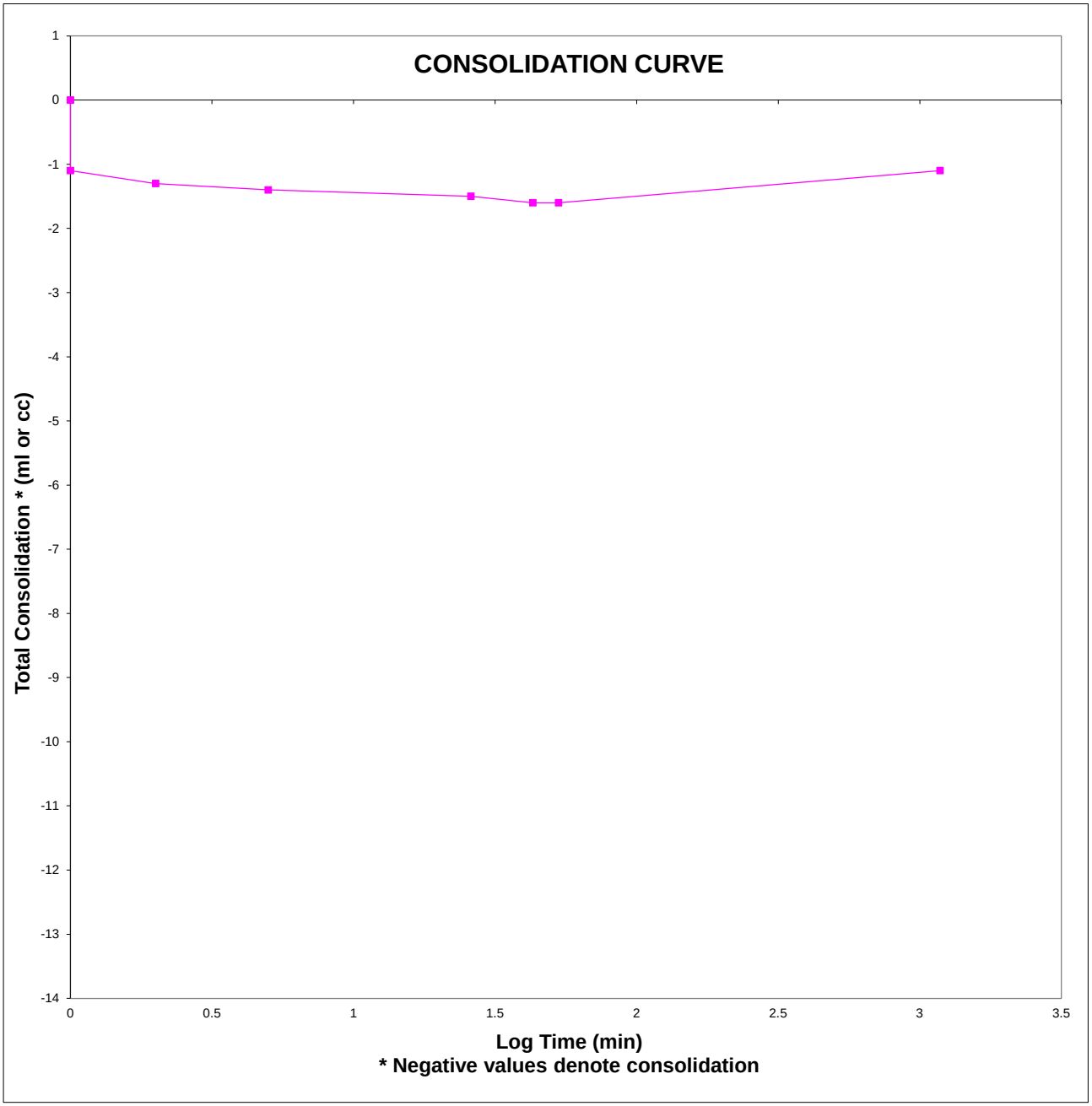
CELL PRESSURE: 55 psi **BACK PRESSURE:** 45 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
11 / 4 / 15	JDM	12 : 37	0	0	0	23.0	23.0	0.0
11 / 4 / 15	JDM	12 : 38	1	1	0.00	22.5	22.4	1.1
11 / 4 / 15	JDM	12 : 39	1	2	0.30	22.4	22.3	1.3
11 / 4 / 15	JDM	12 : 42	3	5	0.70	22.3	22.3	1.4
11 / 4 / 15	JDM	13 : 3	21	26	1.41	22.2	22.3	1.5
11 / 4 / 15	JDM	13 : 20	17	43	1.63	22.2	22.2	1.6
11 / 4 / 15	JDM	13 : 30	10	53	1.72	22.2	22.2	1.6
11 / 5 / 15	JDM	8 17	1127	1180	3.07	22.5	22.4	1.1

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDm
PROJECT No.:	SH0578	TRACKING CODE:	A523_PM
SAMPLE No.:	AR30-5-20151006-56 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	11/3/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDm
PROJECT No.:	SH0578	TRACKING CODE:	A523_PM
SAMPLE No.:	AR30-5-20151006-56 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	11/3/15		

			ELAPSED	HYDRAULIC			GAUGE		
	TESTED	TIME	TIME	HEAD (cm)		TEMP.	PRESSURE (psi)		
DATE	BY	(military)	(minutes)	INFLUENT	EFFLUENT	C°	CELL	INFLUENT	EFFLUENT
11 / 5 / 15	JDM	10 : 26	0	1.0	24.0	20.0	55.0	45.0	42.0
11 / 6 / 15	JDM	7 : 45	1279	1.8	23.2	20.0	55.0	45.0	42.0
11 / 9 / 15	JDM	7 : 50	4325	3.3	21.7	20.0	55.0	45.0	42.0
11 / 10 / 15	JDM	8 : 0	1450	3.8	21.2	20.0	55.0	45.0	42.0
11 / 11 / 15	JDM	7 : 53	1433	4.4	20.6	20.0	55.0	45.0	42.0
11 / 12 / 15	JDM	8 : 13	1460	5.0	20.0	20.0	55.0	45.0	42.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDm
PROJECT No.:	SH0578	TRACKING CODE:	A523_PM
SAMPLE No.:	AR30-5-20151006-56 (28-Day	EQUIPMENT No.:	2
TEST DATE:	11/3/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				53.858		
1279	0.8	0.8	1.00	53.490	4.20E-09	4.21E-09
4325	1.5	1.5	1.00	52.800	2.35E-09	2.36E-09
1450	0.5	0.5	1.00	52.570	2.36E-09	2.37E-09
1433	0.6	0.6	1.00	52.293	2.87E-09	2.89E-09
1460	0.6	0.6	1.00	52.017	2.84E-09	2.85E-09

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDm
PROJECT No.:	SH0578	TRACKING CODE:	A523_PM
SAMPLE No.:	AR30-5-20151006-56 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	11/3/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**98.1 lb/ft³**	**98.7 lb/ft³**
DRY UNIT WEIGHT	**60.7 lb/ft³**	**60.4 lb/ft³**
MOISTURE CONTENT	**61.7 %**	**63.2 %**
PERMEABILITY @ 20°C	**2.6E-09 cm/sec**	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A460_PM
SAMPLE No.:	BE31-10-20151007-57 (8-Day)	EQUIPMENT No.:	1
TEST DATE:	10/15/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	342.03 ***g***
3. WT WET SOIL + TARE	376.65 ***g***	725.90 ***g***
4. WT DRY SOIL + TARE	240.40 ***g***	582.43 ***g***
5. WT WATER, Ww	136.25 g	143.47 g
6. WT DRY SOIL, Ws	240.40 g	240.40 g
7. MOISTURE CONTENT, W	56.68 %	59.68 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.05 in.***	***3.04 in.***	***2.01 in.***	***2.02 in.***
No. 2	***3.03 in.***	***3.03 in.***	***2.00 in.***	***1.98 in.***
No. 3	***3.01 in.***	***3.02 in.***	***2.00 in.***	***1.99 in.***
Average	3.03 in.	3.03 in.	2.00 in.	2.00 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***376.65 g***	***383.87 g***
Area, Ao	7.20 in^2	7.22 in^2
Volume, Vo	14.42 in^3	14.42 in^3
Bulk Unit Weight	99.5 lb/ft^3	101.4 lb/ft^3
Dry Unit Weight	63.5 lb/ft^3	63.5 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A460_PM
SAMPLE No.:	BE31-10-20151007-57 (8-Day)	EQUIPMENT No.:	1
TEST DATE:	10/15/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
10/16/15	9 : 15	JDM	7.0	5.0	5.5				
10/16/15	9 : 57	JDM	17.0	15.0	15.4	9.7	10.0	4.2	0.42
10/16/15	10 : 46	JDM	27.0	25.0	25.5	21.7	10.0	6.3	0.63
10/16/15	11 : 16	JDM	37.0	35.0	35.3	33.4	10.0	7.9	0.79
10/16/15	13 : 50	JDM	47.0	45.0	45.3	44.6	10.0	9.3	0.93
10/16/15	14 : 25	JDM	57.0	55.0	*	54.8	10.0	9.5	0.95
10/16/15	14 : 25	JDM	47.0	45.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A460_PM
SAMPLE No.:	BE31-10-20151007-57 (8-Day)	EQUIPMENT No.:	1
TEST DATE:	10/15/15		

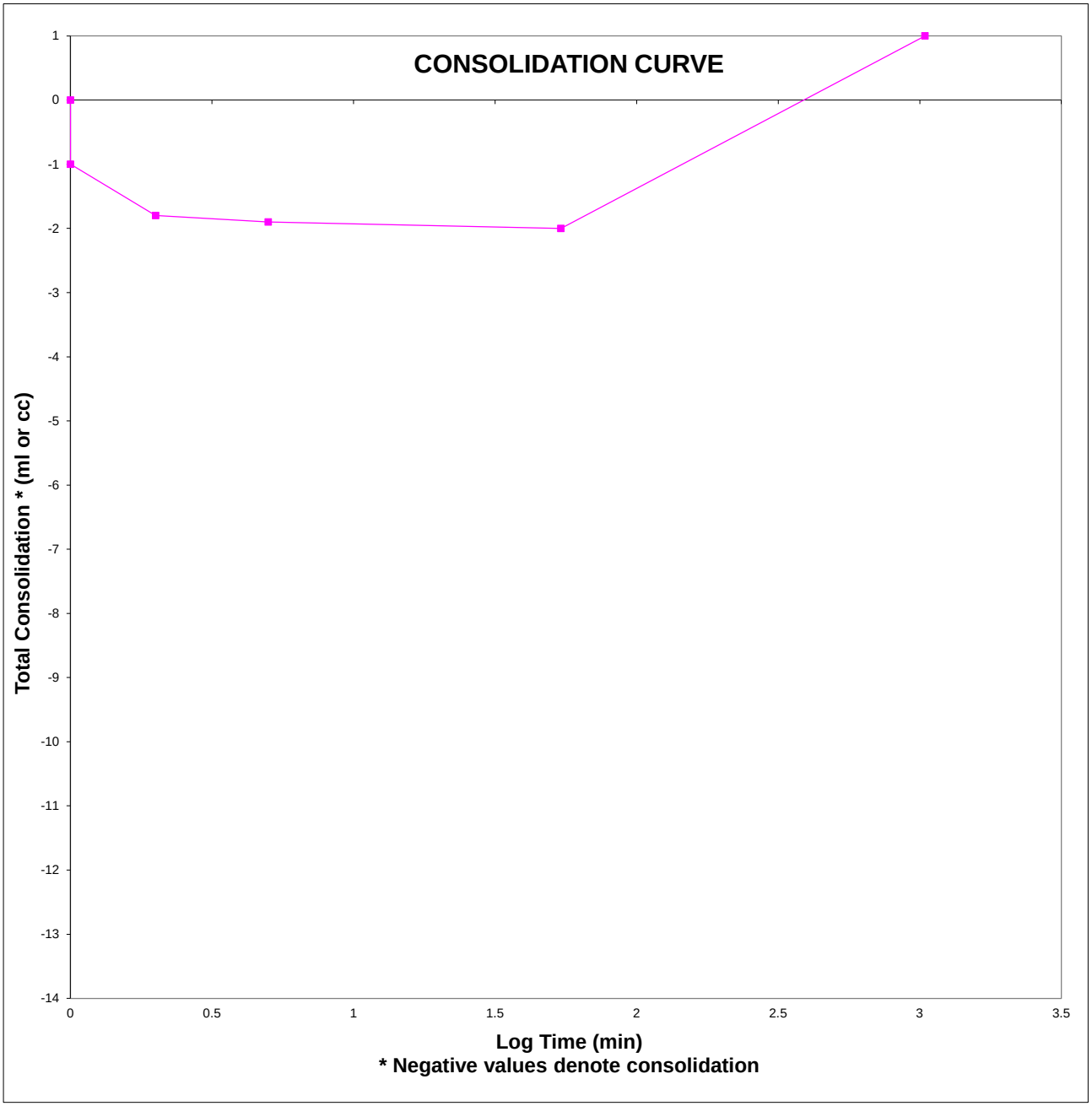
CELL PRESSURE: psi **BACK PRESSURE:** psi **EFFECTIVE STRESS:** 0 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
10 / 19 / 15	JDM	14 : 26	0	0	0	24.0	24.0	0.0
10 / 19 / 15	JDM	14 : 27	1	1	0.00	23.2	23.8	1.0
10 / 19 / 15	JDM	14 : 28	1	2	0.30	23.2	23.0	1.8
10 / 19 / 15	JDM	14 : 31	3	5	0.70	23.2	22.9	1.9
10 / 19 / 15	JDM	15 : 20	49	54	1.73	23.1	22.9	2.0
10 / 20 / 15	JDM	7 : 50	990	1044	3.02	25.0	24.0	-1.0

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A460_PM
SAMPLE No.:	BE31-10-20151007-57 (8-Day)	EQUIPMENT No.:	1
TEST DATE:	10/15/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A460_PM
SAMPLE No.:	BE31-10-20151007-57 (8-Day)	EQUIPMENT No.:	1
TEST DATE:	10/15/15		

			ELAPSED	HYDRAULIC			GAUGE		
	TESTED	TIME	TIME	HEAD (cm)		TEMP.	PRESSURE (psi)		
DATE	BY	(military)	(minutes)	INFLUENT	EFFLUENT	C°	CELL	INFLUENT	EFFLUENT
10 / 20 / 15	JDM	7 : 58	0	1.0	24.0	20.0	55.0	45.0	43.0
10 / 20 / 15	JDM	15 : 26	448	1.5	23.5	20.0	55.0	45.0	43.0
10 / 21 / 15	JDM	8 : 11	1005	2.3	22.7	20.0	55.0	45.0	43.0
10 / 22 / 15	JDM	7 : 41	1410	3.0	22.0	20.0	55.0	45.0	43.0
10 / 23 / 15	JDM	8 : 4	1463	3.6	21.4	20.0	55.0	45.0	43.0
10 / 26 / 15	JDM	7 : 53	4309	5.0	20.0	20.0	55.0	45.0	43.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A460_PM
SAMPLE No.:	BE31-10-20151007-57 (8-Day	EQUIPMENT No.:	1
TEST DATE:	10/15/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				32.194		
448	0.5	0.5	1.00	31.997	1.25E-08	1.25E-08
1005	0.8	0.8	1.00	31.682	8.96E-09	9.01E-09
1410	0.7	0.7	1.00	31.407	5.64E-09	5.67E-09
1463	0.6	0.6	1.00	31.171	4.70E-09	4.72E-09
4309	1.4	1.4	1.00	30.620	3.77E-09	3.79E-09

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A460_PM
SAMPLE No.:	BE31-10-20151007-57 (8-Day)	EQUIPMENT No.:	1
TEST DATE:	10/15/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**99.5 lb/ft³**	**101.4 lb/ft³**
DRY UNIT WEIGHT	**63.5 lb/ft³**	**63.5 lb/ft³**
MOISTURE CONTENT	**56.7 %**	**59.7 %**
PERMEABILITY @ 20°C	**5.8E-09 cm/sec**	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A524_PM
SAMPLE No.:	BE31-10-20151007-57 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	11/4/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	297.59 ***g***
3. WT WET SOIL + TARE	350.26 ***g***	651.50 ***g***
4. WT DRY SOIL + TARE	226.60 ***g***	524.19 ***g***
5. WT WATER, Ww	123.66 g	127.31 g
6. WT DRY SOIL, Ws	226.60 g	226.60 g
7. MOISTURE CONTENT, W	54.57 %	56.18 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.02 in.***	***3.00 in.***	***1.85 in.***	***1.84 in.***
No. 2	***3.02 in.***	***3.00 in.***	***1.83 in.***	***1.86 in.***
No. 3	***3.03 in.***	***3.01 in.***	***1.81 in.***	***1.84 in.***
Average	3.02 in.	3.00 in.	1.83 in.	1.85 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***350.26 g***	***353.91 g***
Area, Ao	7.18 in^2	7.09 in^2
Volume, Vo	13.13 in^3	13.11 in^3
Bulk Unit Weight	101.6 lb/ft^3	102.9 lb/ft^3
Dry Unit Weight	65.7 lb/ft^3	65.9 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A524_PM
SAMPLE No.:	BE31-10-20151007-57 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	11/4/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
11/04/15	10 : 30	JDM	7.0	5.0	5.7				
11/04/15	11 : 30	JDM	17.0	15.0	15.7	10.8	10.0	5.1	0.51
11/04/15	12 : 2	JDM	27.0	25.0	25.5	22.9	10.0	7.2	0.72
11/04/15	12 : 32	JDM	37.0	35.0	35.6	34.2	10.0	8.7	0.87
11/04/15	13 : 3	JDM	47.0	45.0	45.4	44.5	10.0	8.9	0.89
11/04/15	13 : 33	JDM	57.0	55.0	55.6	54.8	10.0	9.4	0.94
11/05/15	8 : 16	JDM	67.0	65.0	*	65.4	10.0	9.8	0.98
11/05/15	8 : 16	JDM	57.0	55.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A524_PM
SAMPLE No.:	BE31-10-20151007-57 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	11/4/15		

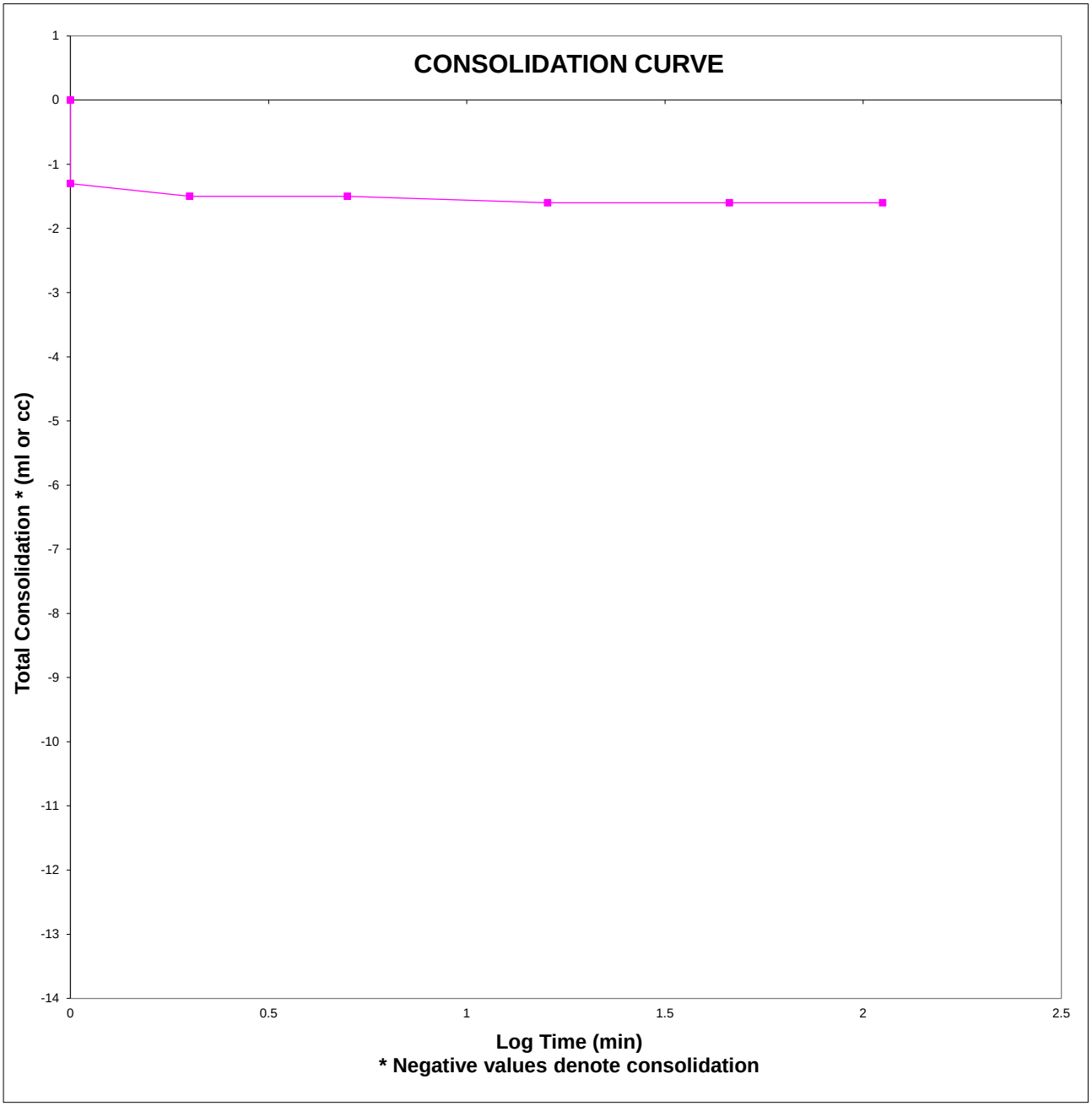
CELL PRESSURE: 65 psi **BACK PRESSURE:** 55 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
11 / 5 / 15	JDM	9 : 33	0	0	0	24.0	24.0	0.0
11 / 5 / 15	JDM	9 : 34	1	1	0.00	23.3	23.4	1.3
11 / 5 / 15	JDM	9 : 35	1	2	0.30	23.2	23.3	1.5
11 / 5 / 15	JDM	9 : 38	3	5	0.70	23.2	23.3	1.5
11 / 5 / 15	JDM	9 : 49	11	16	1.20	23.2	23.2	1.6
11 / 5 / 15	JDM	10 : 19	30	46	1.66	23.2	23.2	1.6
11 / 5 / 15	JDM	11 : 25	66	112	2.05	23.2	23.2	1.6

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A524_PM
SAMPLE No.:	BE31-10-20151007-57 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	11/4/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A524_PM
SAMPLE No.:	BE31-10-20151007-57 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	11/4/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
11 / 5 / 15	JDM	11 : 27	0	1.0	24.0	20.0	65.0	55.0	52.0
11 / 5 / 15	JDM	13 : 32	125	1.5	23.5	20.0	65.0	55.0	52.0
11 / 5 / 15	JDM	15 : 42	130	2.0	23.0	20.0	65.0	55.0	52.0
11 / 6 / 15	JDM	7 : 45	963	5.1	19.9	20.0	65.0	55.0	52.0
11 / 6 / 15	JDM	9 : 55	130	5.6	19.4	20.0	65.0	55.0	52.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A524_PM
SAMPLE No.:	BE31-10-20151007-57 (28-Da	EQUIPMENT No.:	1
TEST DATE:	11/4/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				50.346		
125	0.5	0.5	1.00	50.131	2.87E-08	2.88E-08
130	0.5	0.5	1.00	49.916	2.77E-08	2.78E-08
963	3.1	3.1	1.00	48.582	2.35E-08	2.36E-08
130	0.5	0.5	1.00	48.367	2.86E-08	2.87E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A524_PM
SAMPLE No.:	BE31-10-20151007-57 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	11/4/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	101.6 lb/ft³	102.9 lb/ft³
DRY UNIT WEIGHT	65.7 lb/ft³	65.9 lb/ft³
MOISTURE CONTENT	54.6 %	56.2 %
PERMEABILITY @ 20°C	2.7E-08 cm/sec	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A461_PM
SAMPLE No.:	BO31-5-20151009-58 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	10/16/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	297.55 ***g***
3. WT WET SOIL + TARE	355.33 ***g***	658.70 ***g***
4. WT DRY SOIL + TARE	238.73 ***g***	536.28 ***g***
5. WT WATER, Ww	116.60 g	122.42 g
6. WT DRY SOIL, Ws	238.73 g	238.73 g
7. MOISTURE CONTENT, W	48.84 %	51.28 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.01 in.***	***3.02 in.***	***1.82 in.***	***1.80 in.***
No. 2	***3.02 in.***	***3.03 in.***	***1.83 in.***	***1.86 in.***
No. 3	***3.03 in.***	***3.04 in.***	***1.82 in.***	***1.82 in.***
Average	3.02 in.	3.03 in.	1.82 in.	1.82 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***355.33 g***	***361.15 g***
Area, Ao	7.16 in^2	7.21 in^2
Volume, Vo	13.05 in^3	13.14 in^3
Bulk Unit Weight	103.7 lb/ft^3	104.7 lb/ft^3
Dry Unit Weight	69.7 lb/ft^3	69.2 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A461_PM
SAMPLE No.:	BO31-5-20151009-58 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	10/16/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
10/16/15	9 : 37	JDM	7.0	5.0	5.4				
10/16/15	10 : 18	JDM	17.0	15.0	15.4	8.1	10.0	2.7	0.27
10/16/15	10 : 47	JDM	27.0	25.0	25.3	20.7	10.0	5.3	0.53
10/16/15	11 : 17	JDM	37.0	35.0	35.0	32.3	10.0	7.0	0.70
10/16/15	13 : 45	JDM	47.0	45.0	45.0	43.4	10.0	8.4	0.84
10/16/15	14 : 24	JDM	57.0	55.0	55.1	53.8	10.0	8.8	0.88
10/16/15	15 : 18	JDM	67.0	65.0	65.0	64.2	10.0	9.1	0.91
10/19/15	7 : 48	JDM	77.0	75.0	*	74.5	10.0	9.5	0.95
10/19/15	7 : 48	JDM	67.0	65.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A461_PM
SAMPLE No.:	BO31-5-20151009-58 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	10/16/15		

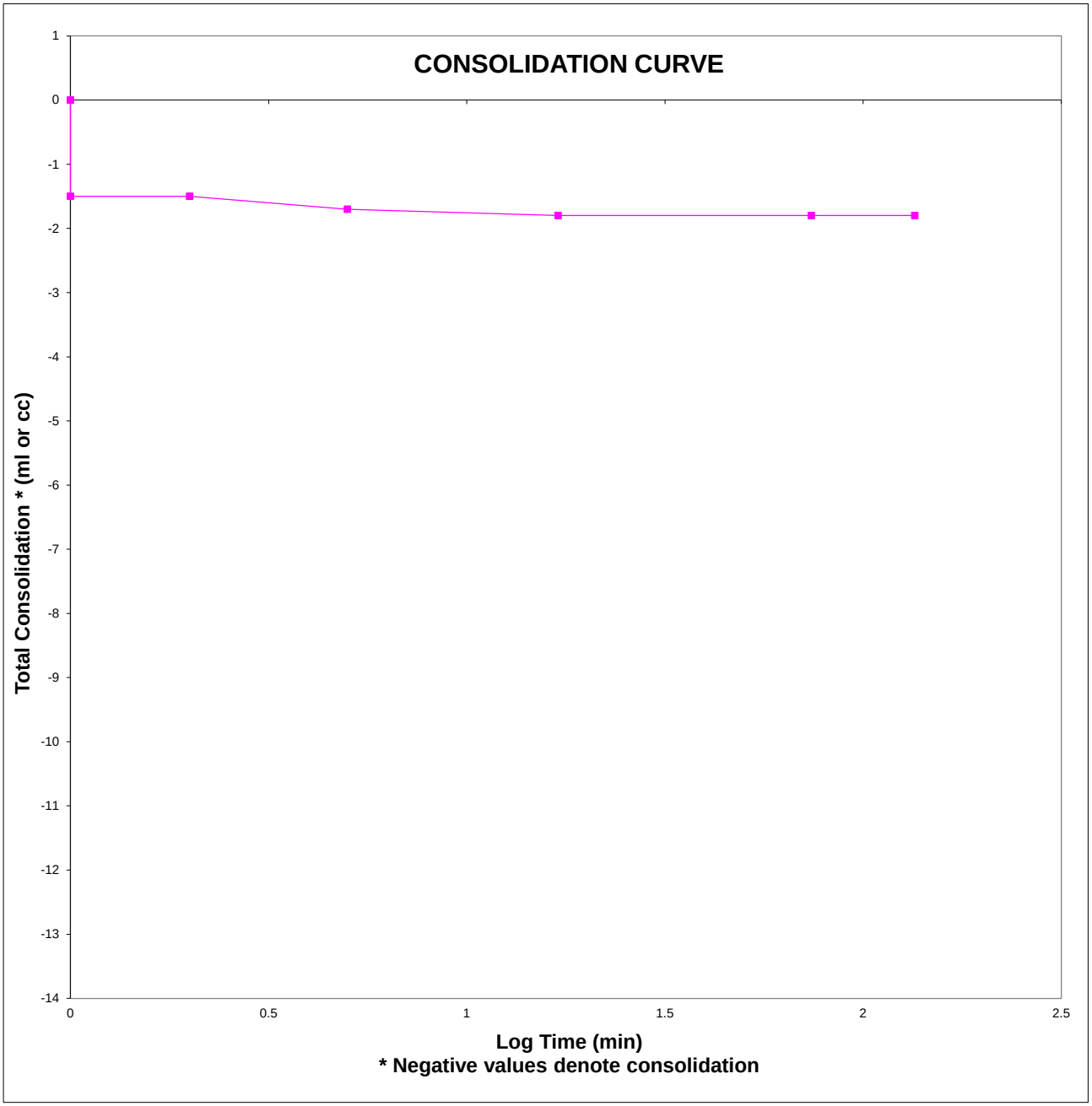
CELL PRESSURE: 75 psi **BACK PRESSURE:** 65 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
10 / 20 / 15	JDM	8 : 1	0	0	0	23.0	23.0	0.0
10 / 20 / 15	JDM	8 : 2	1	1	0.00	22.5	22.0	1.5
10 / 20 / 15	JDM	8 : 3	1	2	0.30	22.5	22.0	1.5
10 / 20 / 15	JDM	8 : 6	3	5	0.70	22.4	21.9	1.7
10 / 20 / 15	JDM	8 : 18	12	17	1.23	22.4	21.8	1.8
10 / 20 / 15	JDM	9 : 15	57	74	1.87	22.4	21.8	1.8
10 / 20 / 15	JDM	10 : 16	61	135	2.13	22.4	21.8	1.8

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A461_PM
SAMPLE No.:	BO31-5-20151009-58 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	10/16/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A461_PM
SAMPLE No.:	BO31-5-20151009-58 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	10/16/15		

			ELAPSED	HYDRAULIC			GAUGE		
	TESTED	TIME	TIME	HEAD (cm)		TEMP.	PRESSURE (psi)		
DATE	BY	(military)	(minutes)	INFLUENT	EFFLUENT	C°	CELL	INFLUENT	EFFLUENT
10 / 20 / 15	JDM	10 : 33	0	1.0	24.0	20.0	75.0	65.0	63.0
10 / 21 / 15	JDM	8 : 10	1297	2.5	22.5	20.0	75.0	65.0	63.0
10 / 22 / 15	JDM	7 : 37	1407	3.7	21.3	20.0	75.0	65.0	63.0
10 / 23 / 15	JDM	8 : 3	1466	4.7	20.3	20.0	75.0	65.0	63.0
10 / 26 / 15	JDM	7 : 51	4308	6.3	18.7	20.0	75.0	65.0	63.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A461_PM
SAMPLE No.:	BO31-5-20151009-58 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	10/16/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				35.342		
1297	1.5	1.5	1.00	34.695	1.19E-08	1.20E-08
1407	1.2	1.2	1.00	34.176	8.94E-09	8.98E-09
1466	1.0	1.0	1.00	33.745	7.25E-09	7.28E-09
4308	1.6	1.6	1.00	33.054	4.01E-09	4.03E-09

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A461_PM
SAMPLE No.:	BO31-5-20151009-58 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	10/16/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**103.7 lb/ft³**	**104.7 lb/ft³**
DRY UNIT WEIGHT	**69.7 lb/ft³**	**69.2 lb/ft³**
MOISTURE CONTENT	**48.8 %**	**51.3 %**
PERMEABILITY @ 20°C	**8.1E-09 cm/sec**	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A525_PM
SAMPLE No.:	BO31-5-20151009-58 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	11/6/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	342.01 ***g***
3. WT WET SOIL + TARE	385.54 ***g***	732.00 ***g***
4. WT DRY SOIL + TARE	260.02 ***g***	602.03 ***g***
5. WT WATER, Ww	125.52 g	129.97 g
6. WT DRY SOIL, Ws	260.02 g	260.02 g
7. MOISTURE CONTENT, W	48.27 %	49.98 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.05 in.***	***3.01 in.***	***1.95 in.***	***1.98 in.***
No. 2	***3.03 in.***	***3.02 in.***	***1.99 in.***	***1.98 in.***
No. 3	***3.02 in.***	***3.02 in.***	***1.96 in.***	***1.93 in.***
Average	3.03 in.	3.02 in.	1.97 in.	1.96 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***385.54 g***	***389.99 g***
Area, Ao	7.22 in^2	7.15 in^2
Volume, Vo	14.20 in^3	14.01 in^3
Bulk Unit Weight	103.4 lb/ft^3	106.0 lb/ft^3
Dry Unit Weight	69.7 lb/ft^3	70.7 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A525_PM
SAMPLE No.:	BO31-5-20151009-58 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	11/6/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
11/10/15	13 : 19	JDM	7.0	5.0	5.5				
11/10/15	14 : 18	JDM	17.0	15.0	15.4	11.6	10.0	6.1	0.61
11/10/15	14 : 44	JDM	27.0	25.0	25.4	23.6	10.0	8.2	0.82
11/11/15	8 : 1	JDM	37.0	35.0	35.5	34.3	10.0	8.9	0.89
11/11/15	9 : 15	JDM	47.0	45.0	45.4	44.7	10.0	9.2	0.92
11/11/15	9 : 45	JDM	57.0	55.0	*	54.9	10.0	9.5	0.95
11/11/15	9 : 45	JDM	47.0	45.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A525_PM
SAMPLE No.:	BO31-5-20151009-58 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	11/6/15		

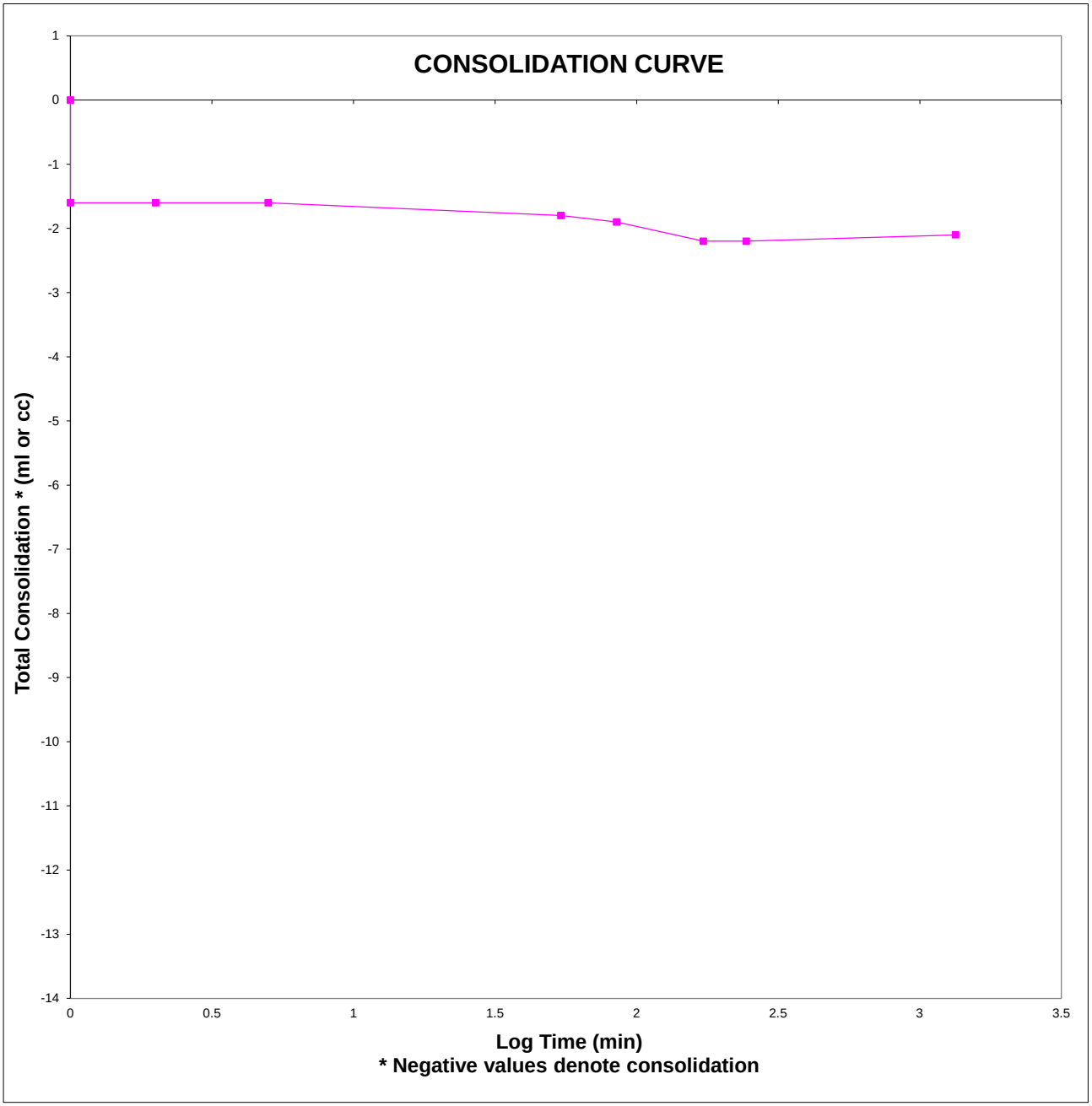
CELL PRESSURE: 55 psi **BACK PRESSURE:** 45 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
11 / 11 / 15	JDM	9 : 53	0	0	0	24.0	24.0	0.0
11 / 11 / 15	JDM	9 : 54	1	1	0.00	23.1	23.3	1.6
11 / 11 / 15	JDM	9 : 55	1	2	0.30	23.1	23.3	1.6
11 / 11 / 15	JDM	9 : 58	3	5	0.70	23.1	23.3	1.6
11 / 11 / 15	JDM	10 : 47	49	54	1.73	23.0	23.2	1.8
11 / 11 / 15	JDM	11 : 18	31	85	1.93	22.9	23.2	1.9
11 / 11 / 15	JDM	12 : 45	87	172	2.24	22.6	23.2	2.2
11 / 11 / 15	JDM	13 57	72	244	2.39	22.6	23.2	2.2
11 / 12 / 15	JDM	8 13	1096	1340	3.13	22.7	23.2	2.1

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A525_PM
SAMPLE No.:	BO31-5-20151009-58 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	11/6/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A525_PM
SAMPLE No.:	BO31-5-20151009-58 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	11/6/15		

				HYDRAULIC			GAUGE		
	TESTED	TIME	ELAPSED TIME	HEAD (cm)		TEMP.	PRESSURE (psi)		
DATE	BY	(military)	(minutes)	INFLUENT	EFFLUENT	C°	CELL	INFLUENT	EFFLUENT
11 / 12 / 15	JDM	9 : 48	0	1.0	24.0	20.0	55.0	45.0	42.0
11 / 12 / 15	JDM	10 : 10	22	1.5	23.5	20.0	55.0	45.0	42.0
11 / 12 / 15	JDM	10 : 41	31	2.1	22.9	20.0	55.0	45.0	42.0
11 / 12 / 15	JDM	11 : 6	25	2.7	22.3	20.0	55.0	45.0	42.0
11 / 12 / 15	JDM	11 : 30	24	3.2	21.7	20.0	55.0	45.0	42.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A525_PM
SAMPLE No.:	BO31-5-20151009-58 (28-Day	EQUIPMENT No.:	1
TEST DATE:	11/6/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				46.852		
22	0.5	0.5	1.00	46.651	1.74E-07	1.75E-07
31	0.6	0.6	1.00	46.411	1.49E-07	1.49E-07
25	0.6	0.6	1.00	46.171	1.85E-07	1.86E-07
24	0.5	0.6	1.20	45.951	1.78E-07	1.79E-07

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A525_PM
SAMPLE No.:	BO31-5-20151009-58 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	11/6/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	103.4 lb/ft³	106.0 lb/ft³
DRY UNIT WEIGHT	69.7 lb/ft³	70.7 lb/ft³
MOISTURE CONTENT	48.3 %	50.0 %
PERMEABILITY @ 20°C	1.7E-07 cm/sec	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A468_PM
SAMPLE No.:	CF30-15-20151013-59 (7-Day)	EQUIPMENT No.:	6
TEST DATE:	10/20/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	297.57 ***g***
3. WT WET SOIL + TARE	362.87 ***g***	665.90 ***g***
4. WT DRY SOIL + TARE	230.94 ***g***	528.51 ***g***
5. WT WATER, Ww	131.93 g	137.39 g
6. WT DRY SOIL, Ws	230.94 g	230.94 g
7. MOISTURE CONTENT, W	57.13 %	59.49 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.04 in.***	***3.05 in.***	***1.91 in.***	***1.91 in.***
No. 2	***3.03 in.***	***3.03 in.***	***1.94 in.***	***1.93 in.***
No. 3	***3.02 in.***	***3.02 in.***	***1.93 in.***	***1.94 in.***
Average	3.03 in.	3.03 in.	1.92 in.	1.93 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***362.87 g***	***368.33 g***
Area, Ao	7.21 in^2	7.21 in^2
Volume, Vo	13.88 in^3	13.89 in^3
Bulk Unit Weight	99.6 lb/ft^3	101.0 lb/ft^3
Dry Unit Weight	63.4 lb/ft^3	63.4 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A468_PM
SAMPLE No.:	CF30-15-20151013-59 (7-Day)	EQUIPMENT No.:	6
TEST DATE:	10/20/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
10/20/15	12 : 0	JDM	7.0	5.0	5.3				
10/20/15	12 : 39	JDM	17.0	15.0	15.1	9.4	10.0	4.1	0.41
10/20/15	13 : 14	JDM	27.0	25.0	25.3	21.0	10.0	5.9	0.59
10/20/15	14 : 24	JDM	37.0	35.0	35.6	33.1	10.0	7.8	0.78
10/20/15	15 : 25	JDM	47.0	45.0	45.6	44.0	10.0	8.4	0.84
10/21/15	9 : 20	JDM	57.0	55.0	*	55.6	10.0	10.0	1.00
10/21/15	9 : 20	JDM	57.0	55.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A468_PM
SAMPLE No.:	CF30-15-20151013-59 (7-Day)	EQUIPMENT No.:	6
TEST DATE:	10/20/15		

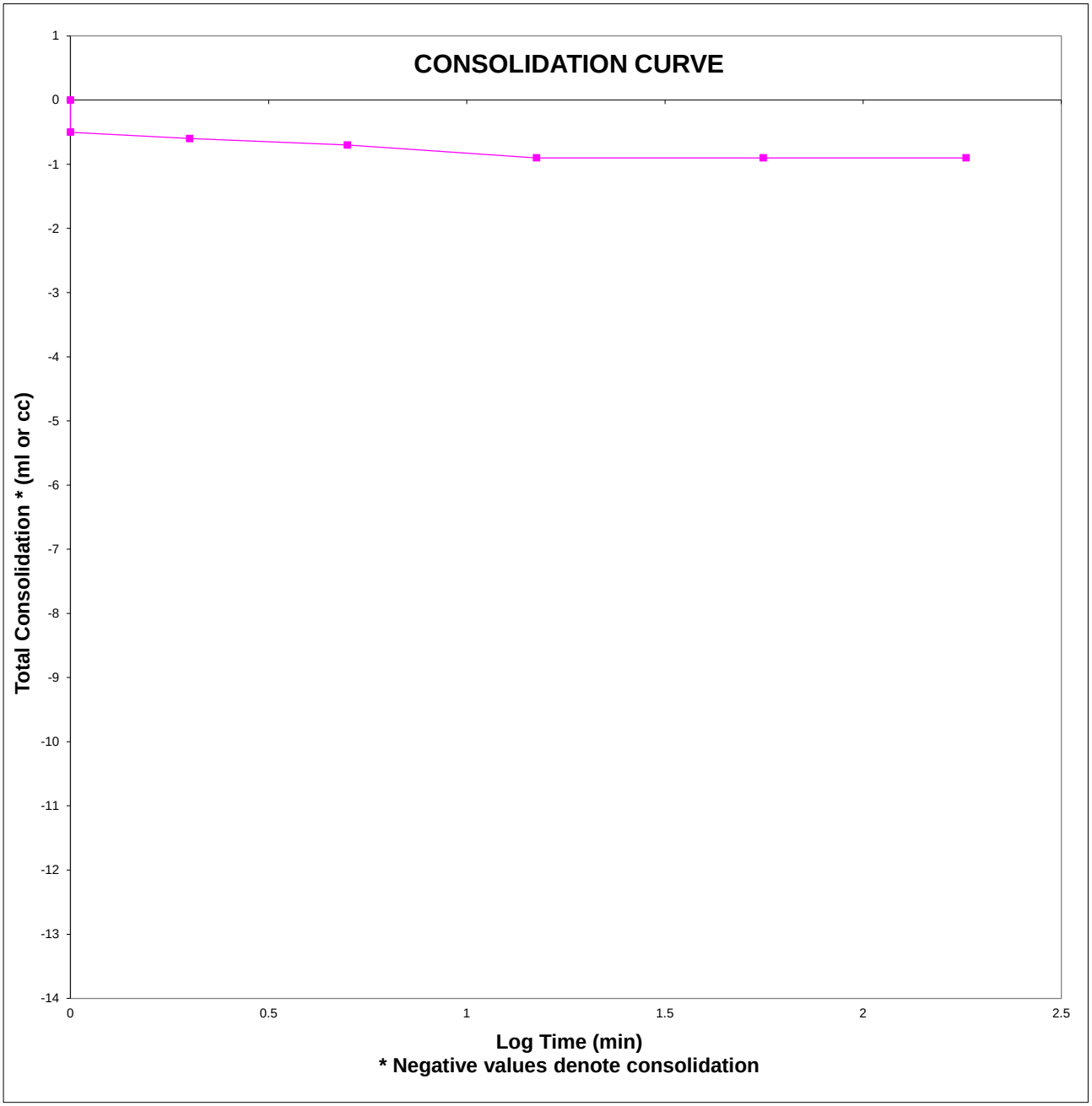
CELL PRESSURE: 65 psi **BACK PRESSURE:** 55 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
10 / 21 / 15	JDM	9 : 42	0	0	0	24.0	24.0	0.0
10 / 21 / 15	JDM	9 : 43	1	1	0.00	23.8	23.7	0.5
10 / 21 / 15	JDM	9 : 44	1	2	0.30	23.7	23.7	0.6
10 / 21 / 15	JDM	9 : 47	3	5	0.70	23.7	23.6	0.7
10 / 21 / 15	JDM	9 : 57	10	15	1.18	23.6	23.5	0.9
10 / 21 / 15	JDM	10 : 38	41	56	1.75	23.6	23.5	0.9
10 / 21 / 15	JDM	12 : 44	126	182	2.26	23.6	23.5	0.9

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A468_PM
SAMPLE No.:	CF30-15-20151013-59 (7-Day)	EQUIPMENT No.:	6
TEST DATE:	10/20/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A468_PM
SAMPLE No.:	CF30-15-20151013-59 (7-Day)	EQUIPMENT No.:	6
TEST DATE:	10/20/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
10 / 21 / 15	JDM	15 : 4	0	1.0	24.0	20.0	55.0	45.0	43.0
10 / 22 / 15	JDM	7 : 37	993	2.3	22.7	20.0	55.0	45.0	43.0
10 / 23 / 15	JDM	8 : 2	1465	3.5	21.5	20.0	55.0	45.0	43.0
10 / 26 / 15	JDM	7 : 50	4308	5.6	19.4	20.0	55.0	45.0	43.0
10 / 27 / 15	JDM	9 : 30	1540	6.2	18.8	20.0	55.0	45.0	43.0
10 / 28 / 15	JDM	7 : 50	1340	6.8	18.2	20.0	55.0	45.0	43.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A468_PM
SAMPLE No.:	CF30-15-20151013-59 (7-Day	EQUIPMENT No.:	6
TEST DATE:	10/20/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				33.479		
993	1.3	1.3	1.00	32.947	1.41E-08	1.42E-08
1465	1.2	1.2	1.00	32.456	8.97E-09	9.01E-09
4308	2.1	2.1	1.00	31.597	5.45E-09	5.48E-09
1540	0.6	0.6	1.00	31.352	4.43E-09	4.45E-09
1340	0.6	0.6	1.00	31.106	5.14E-09	5.16E-09

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A468_PM
SAMPLE No.:	CF30-15-20151013-59 (7-Day)	EQUIPMENT No.:	6
TEST DATE:	10/20/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**99.6 lb/ft³**	**101.0 lb/ft³**
DRY UNIT WEIGHT	**63.4 lb/ft³**	**63.4 lb/ft³**
MOISTURE CONTENT	**57.1 %**	**59.5 %**
PERMEABILITY @ 20°C	**5.0E-09 cm/sec**	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A537_PM
SAMPLE No.:	CF30-15-20151013-59 (28-Day)	EQUIPMENT No.:	4
TEST DATE:	11/10/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	298.45 ***g***
3. WT WET SOIL + TARE	352.03 ***g***	655.80 ***g***
4. WT DRY SOIL + TARE	225.25 ***g***	523.70 ***g***
5. WT WATER, Ww	126.78 g	132.10 g
6. WT DRY SOIL, Ws	225.25 g	225.25 g
7. MOISTURE CONTENT, W	56.28 %	58.65 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.03 in.***	***3.03 in.***	***1.84 in.***	***1.87 in.***
No. 2	***3.02 in.***	***3.02 in.***	***1.85 in.***	***1.86 in.***
No. 3	***3.01 in.***	***3.01 in.***	***1.87 in.***	***1.83 in.***
Average	3.02 in.	3.02 in.	1.85 in.	1.85 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***352.03 g***	***357.35 g***
Area, Ao	7.16 in^2	7.15 in^2
Volume, Vo	13.26 in^3	13.25 in^3
Bulk Unit Weight	101.1 lb/ft^3	102.7 lb/ft^3
Dry Unit Weight	64.7 lb/ft^3	64.7 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A537_PM
SAMPLE No.:	CF30-15-20151013-59 (28-Day)	EQUIPMENT No.:	4
TEST DATE:	11/10/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
11/11/15	8 : 8	JDM	7.0	5.0	5.4				
11/11/15	9 : 18	JDM	17.0	15.0	15.3	8.7	10.0	3.3	0.33
11/11/15	9 : 51	JDM	27.0	25.0	25.1	21.0	10.0	5.7	0.57
11/11/15	10 : 50	JDM	37.0	35.0	35.0	32.2	10.0	7.1	0.71
11/11/15	11 : 22	JDM	47.0	45.0	44.9	43.4	10.0	8.4	0.84
11/11/15	12 : 47	JDM	57.0	55.0	54.8	53.3	10.0	8.4	0.84
11/11/15	14 : 0	JDM	67.0	65.0	65.0	64.0	10.0	9.2	0.92
11/13/15	8 : 13	JDM	77.0	75.0	74.9	74.4	10.0	9.4	0.94
11/13/15	9 : 40	JDM	87.0	85.0	*	84.7	10.0	9.8	0.98
11/13/15	9 : 40	JDM	77.0	75.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A537_PM
SAMPLE No.:	CF30-15-20151013-59 (28-Day)	EQUIPMENT No.:	4
TEST DATE:	11/10/15		

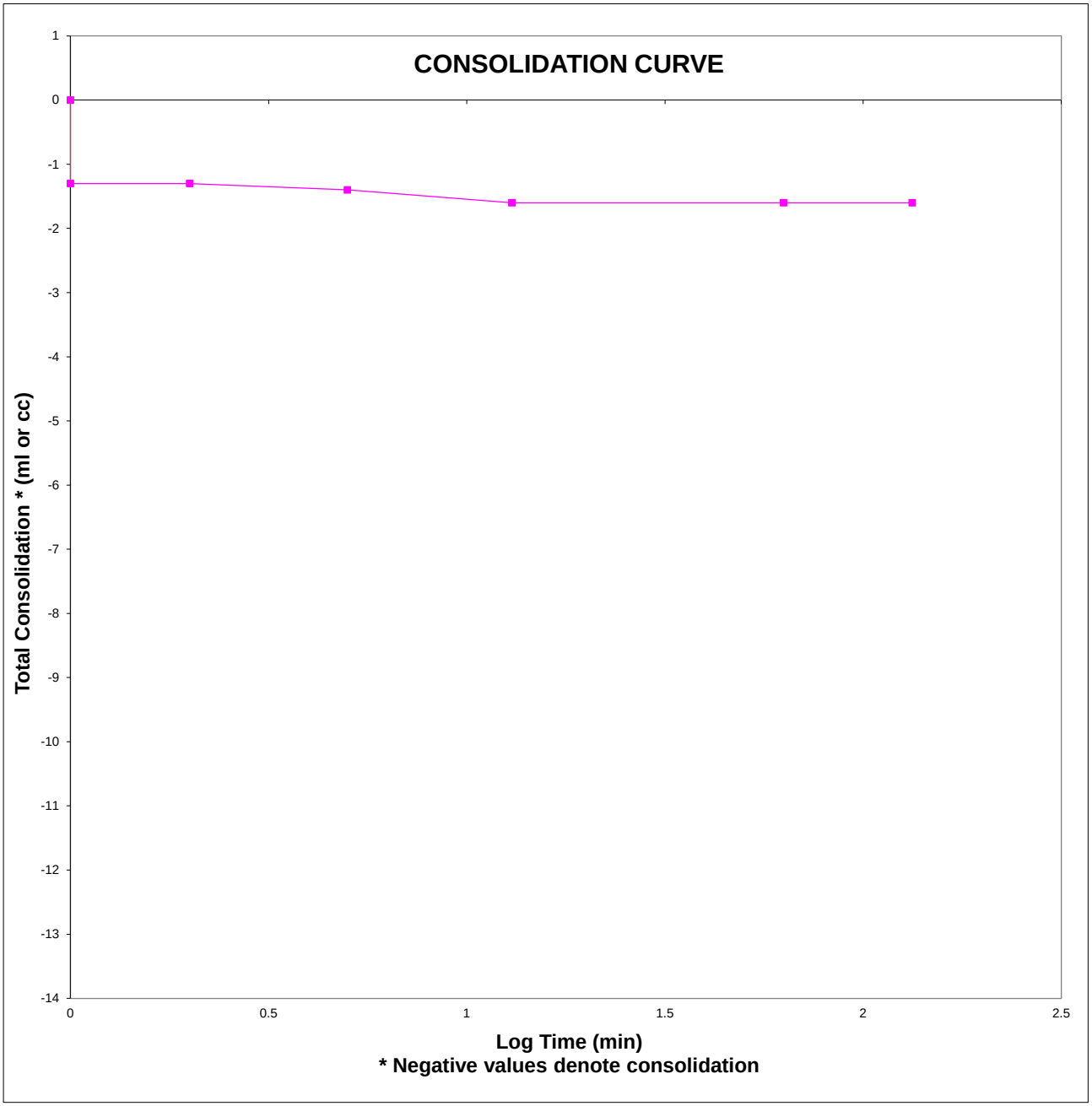
CELL PRESSURE: 85 psi **BACK PRESSURE:** 75 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
11 / 12 / 15	JDM	9 : 42	0	0	0	24.0	24.0	0.0
11 / 12 / 15	JDM	9 : 43	1	1	0.00	23.5	23.2	1.3
11 / 12 / 15	JDM	9 : 44	1	2	0.30	23.5	23.2	1.3
11 / 12 / 15	JDM	9 : 47	3	5	0.70	23.5	23.1	1.4
11 / 12 / 15	JDM	9 : 55	8	13	1.11	23.4	23.0	1.6
11 / 12 / 15	JDM	10 : 45	50	63	1.80	23.4	23.0	1.6
11 / 12 / 15	JDM	11 : 55	70	133	2.12	23.4	23.0	1.6

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A537_PM
SAMPLE No.:	CF30-15-20151013-59 (28-Day)	EQUIPMENT No.:	4
TEST DATE:	11/10/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A537_PM
SAMPLE No.:	CF30-15-20151013-59 (28-Day)	EQUIPMENT No.:	4
TEST DATE:	11/10/15		

			ELAPSED	HYDRAULIC			GAUGE		
	TESTED	TIME	TIME	HEAD (cm)		TEMP.	PRESSURE (psi)		
DATE	BY	(military)	(minutes)	INFLUENT	EFFLUENT	C°	CELL	INFLUENT	EFFLUENT
11 / 12 / 15	JDM	11 : 57	0	1.0	24.0	20.0	85.0	75.0	73.0
11 / 12 / 15	JDM	13 : 12	75	1.6	23.4	20.0	85.0	75.0	73.0
11 / 12 / 15	JDM	14 : 30	78	2.1	22.9	20.0	85.0	75.0	73.0
11 / 13 / 15	JDM	7 : 50	1040	7.5	17.5	20.0	85.0	75.0	73.0
11 / 13 / 15	JDM	9 : 35	105	8.0	17.0	20.0	85.0	75.0	73.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A537_PM
SAMPLE No.:	CF30-15-20151013-59 (28-Da	EQUIPMENT No.:	4
TEST DATE:	11/10/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				34.811		
75	0.6	0.6	1.00	34.556	8.32E-08	8.36E-08
78	0.5	0.5	1.00	34.343	6.71E-08	6.74E-08
1040	5.4	5.4	1.00	32.046	5.64E-08	5.67E-08
105	0.5	0.5	1.00	31.834	5.38E-08	5.40E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A537_PM
SAMPLE No.:	CF30-15-20151013-59 (28-Day)	EQUIPMENT No.:	4
TEST DATE:	11/10/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	101.1 lb/ft³	102.7 lb/ft³
DRY UNIT WEIGHT	64.7 lb/ft³	64.7 lb/ft³
MOISTURE CONTENT	56.3 %	58.6 %
PERMEABILITY @ 20°C	6.5E-08 cm/sec	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A475_PM
SAMPLE No.:	BV30-10-20151015-60 (7-Day)	EQUIPMENT No.:	7
TEST DATE:	10/22/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	298.43 ***g***
3. WT WET SOIL + TARE	349.07 ***g***	654.90 ***g***
4. WT DRY SOIL + TARE	204.16 ***g***	502.59 ***g***
5. WT WATER, Ww	144.91 g	152.31 g
6. WT DRY SOIL, Ws	204.16 g	204.16 g
7. MOISTURE CONTENT, W	70.98 %	74.60 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.02 in.***	***3.02 in.***	***1.97 in.***	***1.96 in.***
No. 2	***3.02 in.***	***3.03 in.***	***1.96 in.***	***1.92 in.***
No. 3	***3.03 in.***	***3.04 in.***	***1.92 in.***	***1.96 in.***
Average	3.02 in.	3.03 in.	1.95 in.	1.95 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***349.07 g***	***356.47 g***
Area, Ao	7.18 in^2	7.20 in^2
Volume, Vo	14.00 in^3	14.02 in^3
Bulk Unit Weight	95.0 lb/ft^3	96.9 lb/ft^3
Dry Unit Weight	55.6 lb/ft^3	55.5 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A475_PM
SAMPLE No.:	BV30-10-20151015-60 (7-Day)	EQUIPMENT No.:	7
TEST DATE:	10/22/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
10/22/15	11 : 27	JDM	7.0	5.0	5.8				
10/22/15	12 : 2	JDM	17.0	15.0	16.0	1.0	10.0	-4.8	-0.48
10/22/15	12 : 32	JDM	27.0	25.0	25.9	22.1	10.0	6.1	0.61
10/22/15	13 : 20	JDM	37.0	35.0	35.8	33.4	10.0	7.5	0.75
10/22/15	14 : 18	JDM	47.0	45.0	45.7	44.2	10.0	8.4	0.84
10/22/15	14 : 54	JDM	57.0	55.0	56.1	54.6	10.0	8.9	0.89
10/23/15	9 : 28	JDM	67.0	65.0	*	65.8	10.0	9.7	0.97
10/23/15	9 : 28	JDM	57.0	55.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A475_PM
SAMPLE No.:	BV30-10-20151015-60 (7-Day)	EQUIPMENT No.:	7
TEST DATE:	10/22/15		

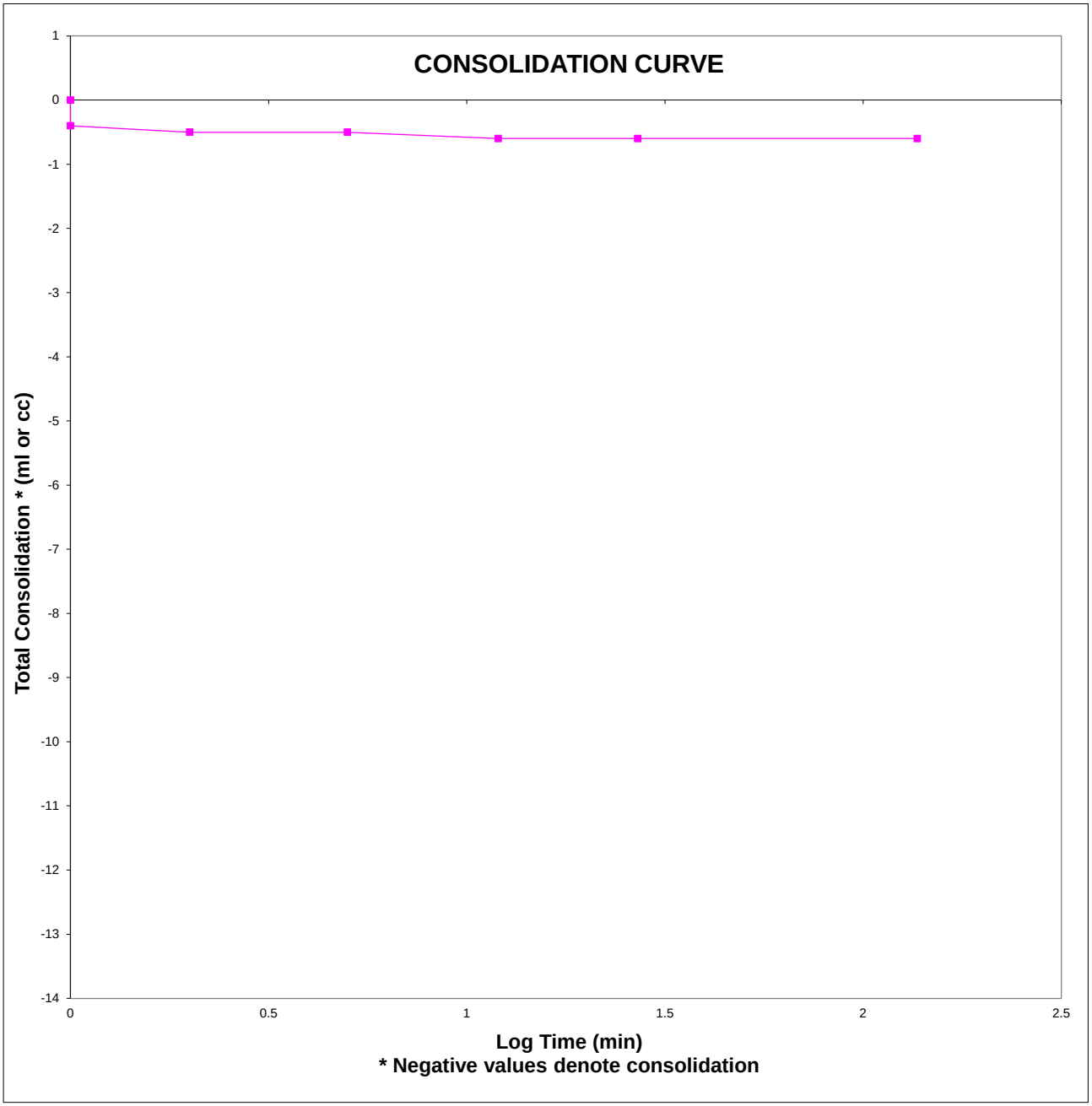
CELL PRESSURE: 65 psi **BACK PRESSURE:** 55 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
10 / 26 / 15	JDM	9 : 13	0	0	0	24.0	24.0	0.0
10 / 26 / 15	JDM	9 : 14	1	1	0.00	23.8	23.8	0.4
10 / 26 / 15	JDM	9 : 15	1	2	0.30	23.8	23.7	0.5
10 / 26 / 15	JDM	9 : 18	3	5	0.70	23.8	23.7	0.5
10 / 26 / 15	JDM	9 : 25	7	12	1.08	23.7	23.7	0.6
10 / 26 / 15	JDM	9 : 40	15	27	1.43	23.7	23.7	0.6
10 / 26 / 15	JDM	11 : 30	110	137	2.14	23.7	23.7	0.6

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A475_PM
SAMPLE No.:	BV30-10-20151015-60 (7-Day)	EQUIPMENT No.:	7
TEST DATE:	10/22/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A475_PM
SAMPLE No.:	BV30-10-20151015-60 (7-Day)	EQUIPMENT No.:	7
TEST DATE:	10/22/15		

			ELAPSED	***HYDRAULIC***			***GAUGE***		
	TESTED	***TIME***	***TIME***	***HEAD (cm)***		***TEMP.***	***PRESSURE (psi)***		
DATE	***BY***	***(military)***	***(minutes)***	***INFLUENT***	***EFFLUENT***	***C°***	***CELL***	***INFLUENT***	***EFFLUENT***
10 / 26 / 15	JDM	11 : 55	0	1.0	24.0	20.0	65.0	55.0	53.0
10 / 27 / 15	JDM	7 : 53	1198	3.1	21.9	20.0	65.0	55.0	53.0
10 / 27 / 15	JDM	13 : 16	323	3.6	21.4	20.0	65.0	55.0	53.0
10 / 28 / 15	JDM	7 : 50	1114	5.1	19.9	20.0	65.0	55.0	53.0
10 / 28 / 15	JDM	14 : 30	400	5.6	19.4	20.0	65.0	55.0	53.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A475_PM
SAMPLE No.:	BV30-10-20151015-60 (7-Day	EQUIPMENT No.:	7
TEST DATE:	10/22/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				33.038		
1198	2.1	2.1	1.00	32.190	1.94E-08	1.94E-08
323	0.5	0.5	1.00	31.989	1.74E-08	1.74E-08
1114	1.5	1.5	1.00	31.383	1.53E-08	1.54E-08
400	0.5	0.5	1.00	31.181	1.44E-08	1.45E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A475_PM
SAMPLE No.:	BV30-10-20151015-60 (7-Day)	EQUIPMENT No.:	7
TEST DATE:	10/22/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**95.0 lb/ft³**	**96.9 lb/ft³**
DRY UNIT WEIGHT	**55.6 lb/ft³**	**55.5 lb/ft³**
MOISTURE CONTENT	**71.0 %**	**74.6 %**
PERMEABILITY @ 20°C	**1.7E-08 cm/sec**	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A540_PM
SAMPLE No.:	BV30-10-20151015-60 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	11/12/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	297.58 ***g***
3. WT WET SOIL + TARE	322.01 ***g***	623.80 ***g***
4. WT DRY SOIL + TARE	192.06 ***g***	489.64 ***g***
5. WT WATER, Ww	129.95 g	134.16 g
6. WT DRY SOIL, Ws	192.06 g	192.06 g
7. MOISTURE CONTENT, W	67.66 %	69.85 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.03 in.***	***3.04 in.***	***1.79 in.***	***1.82 in.***
No. 2	***3.02 in.***	***3.02 in.***	***1.78 in.***	***1.78 in.***
No. 3	***3.01 in.***	***3.01 in.***	***1.81 in.***	***1.80 in.***
Average	3.02 in.	3.03 in.	1.79 in.	1.80 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***322.01 g***	***326.22 g***
Area, Ao	7.16 in^2	7.19 in^2
Volume, Vo	12.83 in^3	12.94 in^3
Bulk Unit Weight	95.6 lb/ft^3	96.0 lb/ft^3
Dry Unit Weight	57.0 lb/ft^3	56.5 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A540_PM
SAMPLE No.:	BV30-10-20151015-60 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	11/12/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
11/12/15	11 : 27	JDM	7.0	5.0	5.8				
11/12/15	12 : 33	JDM	17.0	15.0	15.7	11.2	10.0	5.4	0.54
11/12/15	13 : 15	JDM	27.0	25.0	25.5	23.5	10.0	7.8	0.78
11/12/15	14 : 29	JDM	37.0	35.0	35.7	34.1	10.0	8.6	0.86
11/13/15	7 : 52	JDM	47.0	45.0	45.7	45.0	10.0	9.3	0.93
11/13/15	9 : 25	JDM	57.0	55.0	*	55.3	10.0	9.6	0.96
11/13/15	9 : 25	JDM	47.0	45.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A540_PM
SAMPLE No.:	BV30-10-20151015-60 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	11/12/15		

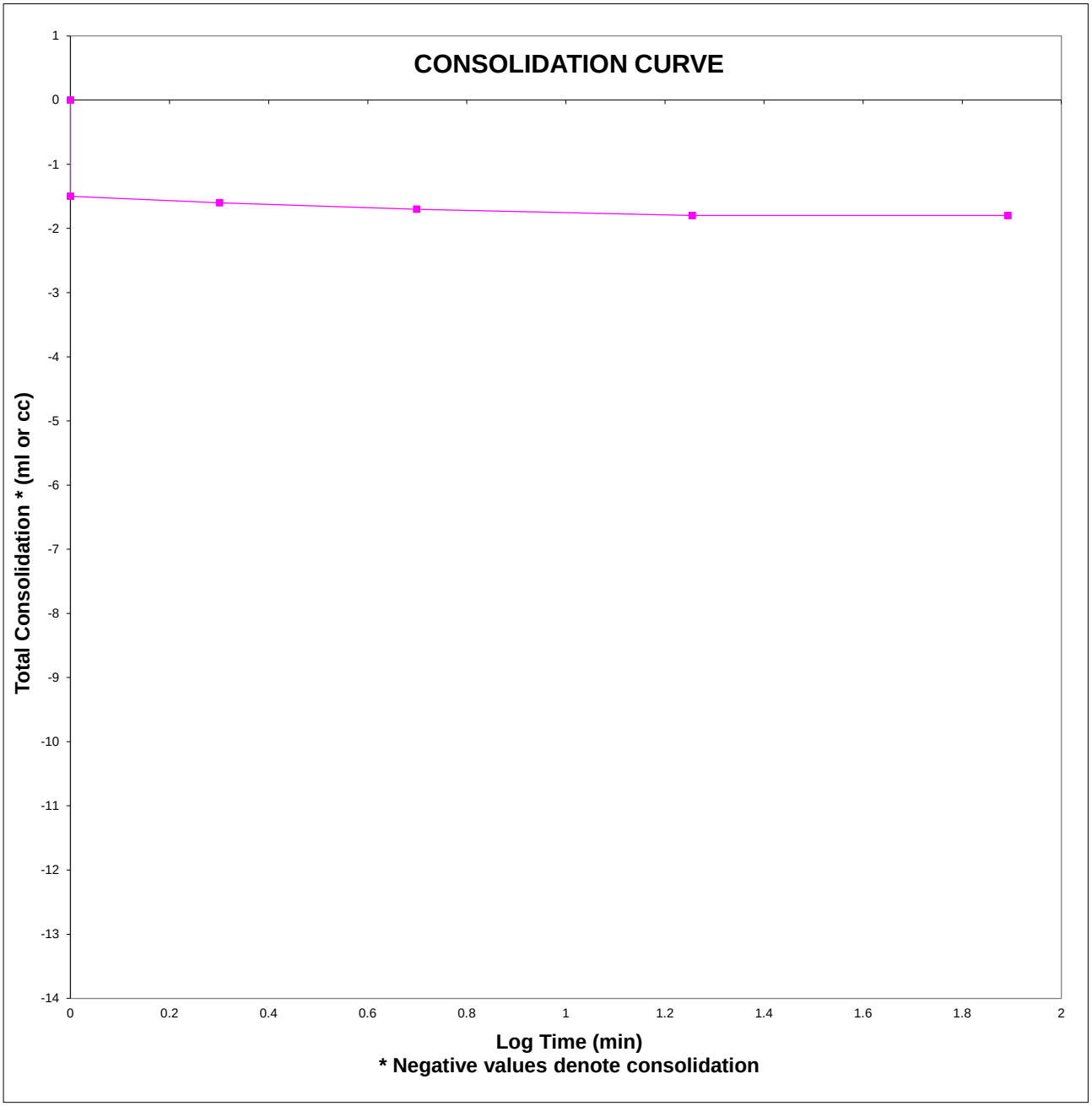
CELL PRESSURE: 55 psi **BACK PRESSURE:** 45 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
11 / 13 / 15	JDM	9 : 32	0	0	0	25.0	25.0	0.0
11 / 13 / 15	JDM	9 : 33	1	1	0.00	24.4	24.1	1.5
11 / 13 / 15	JDM	9 : 34	1	2	0.30	24.4	24.0	1.6
11 / 13 / 15	JDM	9 : 37	3	5	0.70	24.3	24.0	1.7
11 / 13 / 15	JDM	9 : 50	13	18	1.26	24.3	23.9	1.8
11 / 13 / 15	JDM	10 : 50	60	78	1.89	24.3	23.9	1.8

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A540_PM
SAMPLE No.:	BV30-10-20151015-60 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	11/12/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A540_PM
SAMPLE No.:	BV30-10-20151015-60 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	11/12/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
11 / 13 / 15	JDM	11 : 29	0	1.0	24.0	20.0	55.0	45.0	43.0
11 / 15 / 15	JDM	11 : 27	2878	4.4	20.6	20.0	55.0	45.0	43.0
11 / 16 / 15	JDM	14 : 49	1642	5.5	19.5	20.0	55.0	45.0	43.0
11 / 17 / 15	JDM	7 : 57	1028	6.0	19.0	20.0	55.0	45.0	43.0
11 / 18 / 15	JDM	7 : 56	1439	6.8	18.2	20.0	55.0	45.0	43.0
11 / 19 / 15	JDM	7 : 41	1425	7.4	17.6	20.0	55.0	45.0	43.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A540_PM
SAMPLE No.:	BV30-10-20151015-60 (28-Da	EQUIPMENT No.:	3
TEST DATE:	11/12/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				35.964		
2878	3.4	3.4	1.00	34.470	1.21E-08	1.22E-08
1642	1.1	1.1	1.00	33.986	7.06E-09	7.10E-09
1028	0.5	0.5	1.00	33.766	5.18E-09	5.20E-09
1439	0.8	0.8	1.00	33.415	5.97E-09	6.00E-09
1425	0.6	0.6	1.00	33.151	4.56E-09	4.59E-09

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A540_PM
SAMPLE No.:	BV30-10-20151015-60 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	11/12/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**95.6 lb/ft³**	**96.0 lb/ft³**
DRY UNIT WEIGHT	**57.0 lb/ft³**	**56.5 lb/ft³**
MOISTURE CONTENT	**67.7 %**	**69.9 %**
PERMEABILITY @ 20°C	**5.7E-09 cm/sec**	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A476_PM
SAMPLE No.:	BI27-5-20151016-61 (7-Day)	EQUIPMENT No.:	10
TEST DATE:	10/23/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	342.14 ***g***
3. WT WET SOIL + TARE	340.58 ***g***	688.80 ***g***
4. WT DRY SOIL + TARE	191.55 ***g***	533.69 ***g***
5. WT WATER, Ww	149.03 g	155.11 g
6. WT DRY SOIL, Ws	191.55 g	191.55 g
7. MOISTURE CONTENT, W	77.80 %	80.98 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.03 in.***	***3.03 in.***	***1.93 in.***	***1.94 in.***
No. 2	***3.02 in.***	***3.02 in.***	***1.97 in.***	***1.97 in.***
No. 3	***3.01 in.***	***3.01 in.***	***1.96 in.***	***1.95 in.***
Average	3.02 in.	3.02 in.	1.95 in.	1.95 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***340.58 g***	***346.66 g***
Area, Ao	7.16 in^2	7.18 in^2
Volume, Vo	13.98 in^3	14.00 in^3
Bulk Unit Weight	92.8 lb/ft^3	94.3 lb/ft^3
Dry Unit Weight	52.2 lb/ft^3	52.1 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A476_PM
SAMPLE No.:	BI27-5-20151016-61 (7-Day)	EQUIPMENT No.:	10
TEST DATE:	10/23/15		

			TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
TEST DATE	TIME (military)	TESTED BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
10/26/15	10 : 7	JDM	7.0	5.0	5.9				
10/26/15	11 : 39	JDM	17.0	15.0	16.0	8.8	10.0	2.9	0.29
10/26/15	12 : 16	JDM	27.0	25.0	26.2	21.2	10.0	5.2	0.52
10/26/15	12 : 49	JDM	37.0	35.0	36.3	33.2	10.0	7.0	0.70
10/26/15	13 : 44	JDM	47.0	45.0	46.1	44.5	10.0	8.2	0.82
10/26/15	14 : 19	JDM	57.0	55.0	56.1	55.4	10.0	9.3	0.93
10/26/15	14 : 57	JDM	67.0	65.0	*	66.1	10.0	10.0	1.00
10/26/15	14 : 57	JDM	57.0	55.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A476_PM
SAMPLE No.:	BI27-5-20151016-61 (7-Day)	EQUIPMENT No.:	10
TEST DATE:	10/23/15		

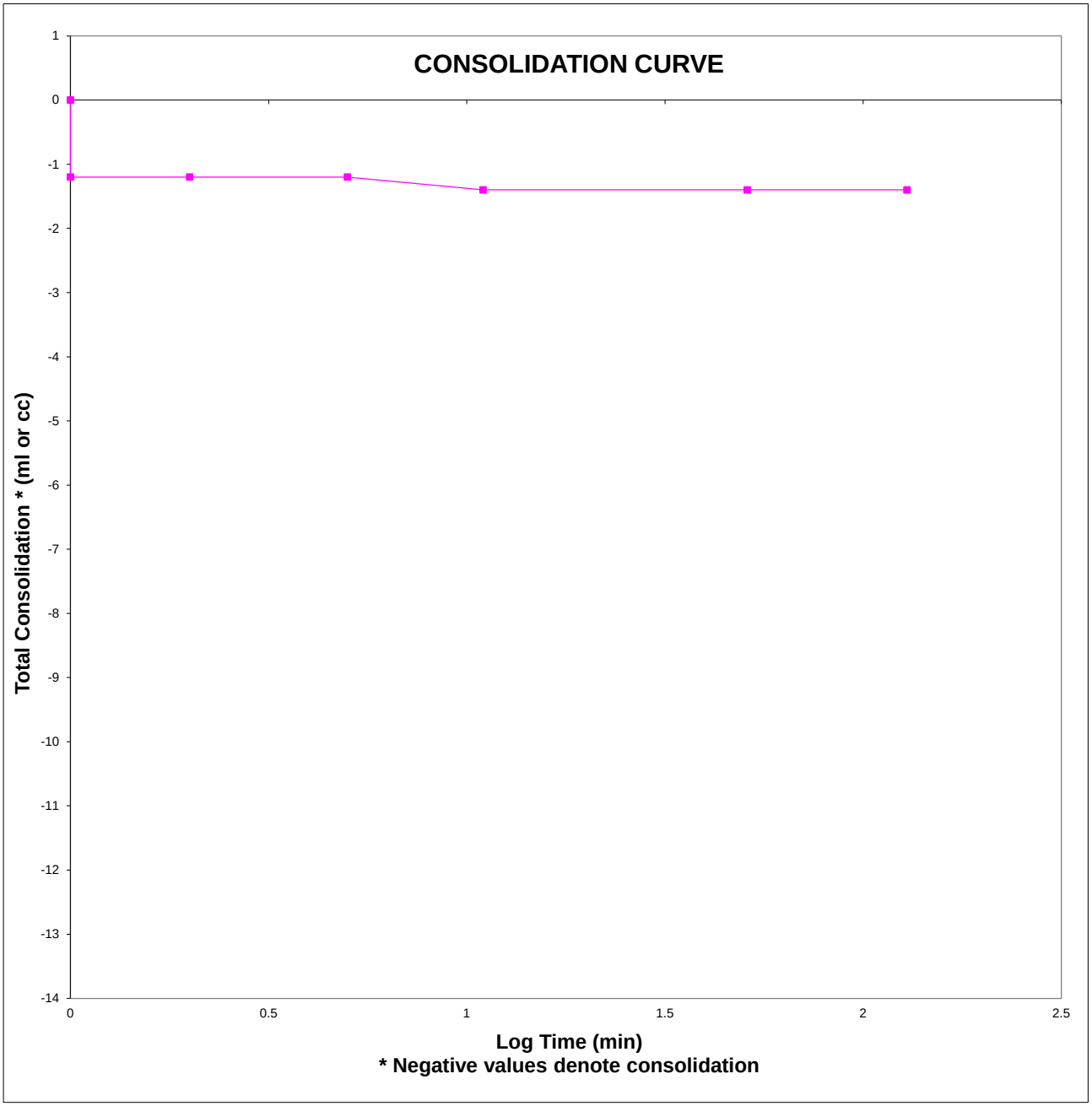
CELL PRESSURE: 65 psi **BACK PRESSURE:** 55 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
10 / 27 / 15	JDM	9 : 29	0	0	0	25.0	25.0	0.0
10 / 27 / 15	JDM	9 : 30	1	1	0.00	24.4	24.4	1.2
10 / 27 / 15	JDM	9 : 31	1	2	0.30	24.4	24.4	1.2
10 / 27 / 15	JDM	9 : 34	3	5	0.70	24.4	24.4	1.2
10 / 27 / 15	JDM	9 : 40	6	11	1.04	24.3	24.3	1.4
10 / 27 / 15	JDM	10 : 20	40	51	1.71	24.3	24.3	1.4
10 / 27 / 15	JDM	11 : 38	78	129	2.11	24.3	24.3	1.4

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A476_PM
SAMPLE No.:	BI27-5-20151016-61 (7-Day)	EQUIPMENT No.:	10
TEST DATE:	10/23/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A476_PM
SAMPLE No.:	BI27-5-20151016-61 (7-Day)	EQUIPMENT No.:	10
TEST DATE:	10/23/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
10 / 27 / 15	JDM	11 : 45	0	1.0	24.0	20.0	65.0	55.0	53.0
10 / 27 / 15	JDM	14 : 3	138	1.5	23.5	20.0	65.0	55.0	53.0
10 / 28 / 15	JDM	7 : 48	1065	4.3	20.7	20.0	65.0	55.0	53.0
10 / 28 / 15	JDM	13 : 31	343	5.0	20.0	20.0	65.0	55.0	53.0
10 / 29 / 15	JDM	7 : 59	1108	6.6	18.4	20.0	65.0	55.0	53.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A476_PM
SAMPLE No.:	BI27-5-20151016-61 (7-Day)	EQUIPMENT No.:	10
TEST DATE:	10/23/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				33.007		
138	0.5	0.5	1.00	32.805	3.97E-08	3.99E-08
1065	2.8	2.8	1.00	31.676	2.94E-08	2.96E-08
343	0.7	0.7	1.00	31.394	2.33E-08	2.35E-08
1108	1.6	1.6	1.00	30.749	1.68E-08	1.68E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A476_PM
SAMPLE No.:	BI27-5-20151016-61 (7-Day)	EQUIPMENT No.:	10
TEST DATE:	10/23/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**92.8 lb/ft³**	**94.3 lb/ft³**
DRY UNIT WEIGHT	**52.2 lb/ft³**	**52.1 lb/ft³**
MOISTURE CONTENT	**77.8 %**	**81.0 %**
PERMEABILITY @ 20°C	**2.7E-08 cm/sec**	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A552_PM
SAMPLE No.:	BI27-5-20151016-61 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	11/13/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	298.44 ***g***
3. WT WET SOIL + TARE	327.47 ***g***	630.00 ***g***
4. WT DRY SOIL + TARE	189.71 ***g***	488.15 ***g***
5. WT WATER, Ww	137.76 g	141.85 g
6. WT DRY SOIL, Ws	189.71 g	189.71 g
7. MOISTURE CONTENT, W	72.62 %	74.77 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.03 in.***	***3.04 in.***	***1.87 in.***	***1.89 in.***
No. 2	***3.02 in.***	***3.02 in.***	***1.87 in.***	***1.86 in.***
No. 3	***3.02 in.***	***3.01 in.***	***1.89 in.***	***1.85 in.***
Average	3.02 in.	3.02 in.	1.87 in.	1.87 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***327.47 g***	***331.56 g***
Area, Ao	7.17 in^2	7.18 in^2
Volume, Vo	13.44 in^3	13.40 in^3
Bulk Unit Weight	92.8 lb/ft^3	94.3 lb/ft^3
Dry Unit Weight	53.8 lb/ft^3	53.9 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A552_PM
SAMPLE No.:	BI27-5-20151016-61 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	11/13/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
11/13/15	11 : 16	JDM	7.0	5.0	5.8				
11/13/15	12 : 1	JDM	17.0	15.0	15.6	11.3	10.0	5.5	0.55
11/13/15	131 : 28	JDM	27.0	25.0	25.6	23.1	10.0	7.5	0.75
11/13/15	14 : 17	JDM	37.0	35.0	35.6	34.0	10.0	8.4	0.84
11/15/15	11 : 39	JDM	47.0	45.0	45.6	44.8	10.0	9.2	0.92
11/17/15	8 : 1	JDM	57.0	55.0	*	55.3	10.0	9.7	0.97
11/17/15	8 : 1	JDM	47.0	45.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A552_PM
SAMPLE No.:	BI27-5-20151016-61 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	11/13/15		

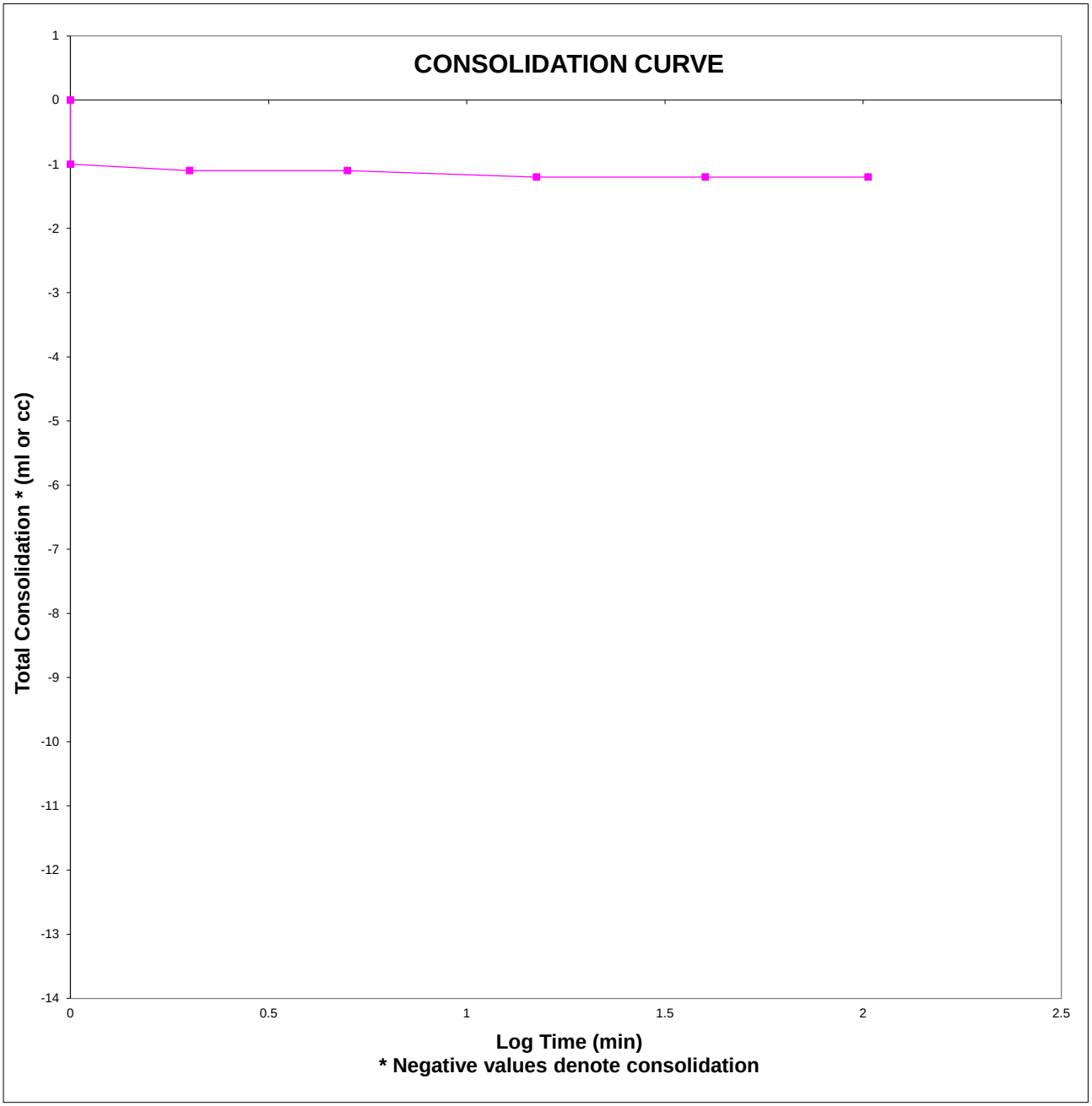
CELL PRESSURE: 55 psi **BACK PRESSURE:** 45 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
11 / 17 / 15	JDM	8 : 5	0	0	0	23.0	23.0	0.0
11 / 17 / 15	JDM	8 : 6	1	1	0.00	22.5	22.5	1.0
11 / 17 / 15	JDM	8 : 7	1	2	0.30	22.5	22.4	1.1
11 / 17 / 15	JDM	8 : 10	3	5	0.70	22.5	22.4	1.1
11 / 17 / 15	JDM	8 : 20	10	15	1.18	22.4	22.4	1.2
11 / 17 / 15	JDM	8 : 45	25	40	1.60	22.4	22.4	1.2
11 / 17 / 15	JDM	9 : 48	63	103	2.01	22.4	22.4	1.2

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A552_PM
SAMPLE No.:	BI27-5-20151016-61 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	11/13/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A552_PM
SAMPLE No.:	BI27-5-20151016-61 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	11/13/15		

			ELAPSED	HYDRAULIC			GAUGE		
	TESTED	TIME	TIME	HEAD (cm)		TEMP.	PRESSURE (psi)		
DATE	BY	(military)	(minutes)	INFLUENT	EFFLUENT	C°	CELL	INFLUENT	EFFLUENT
11 / 17 / 15	JDM	9 : 55	0	0.0	25.0	20.0	55.0	45.0	43.0
11 / 17 / 15	JDM	11 : 35	100	0.6	24.4	20.0	55.0	45.0	43.0
11 / 17 / 15	JDM	13 : 20	105	1.1	23.9	20.0	55.0	45.0	43.0
11 / 17 / 15	JDM	15 : 0	100	1.6	23.4	20.0	55.0	45.0	43.0
11 / 18 / 15	JDM	7 : 56	1016	6.0	19.0	20.0	55.0	45.0	43.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A552_PM
SAMPLE No.:	BI27-5-20151016-61 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	11/13/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				34.792		
100	0.6	0.6	1.00	34.540	6.24E-08	6.27E-08
105	0.5	0.5	1.00	34.330	4.98E-08	5.01E-08
100	0.5	0.5	1.00	34.120	5.27E-08	5.29E-08
1016	4.4	4.4	1.00	32.272	4.70E-08	4.73E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A552_PM
SAMPLE No.:	BI27-5-20151016-61 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	11/13/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	92.8 lb/ft³	94.3 lb/ft³
DRY UNIT WEIGHT	53.8 lb/ft³	53.9 lb/ft³
MOISTURE CONTENT	72.6 %	74.8 %
PERMEABILITY @ 20°C	5.3E-08 cm/sec	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A479_PM
SAMPLE No.:	BD26-10-20151019-62 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	10/26/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	298.49 ***g***
3. WT WET SOIL + TARE	357.98 ***g***	662.60 ***g***
4. WT DRY SOIL + TARE	222.54 ***g***	521.03 ***g***
5. WT WATER, Ww	135.44 g	141.57 g
6. WT DRY SOIL, Ws	222.54 g	222.54 g
7. MOISTURE CONTENT, W	60.86 %	63.62 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.03 in.***	***3.03 in.***	***1.94 in.***	***1.95 in.***
No. 2	***3.03 in.***	***3.02 in.***	***1.93 in.***	***1.92 in.***
No. 3	***3.01 in.***	***3.01 in.***	***1.97 in.***	***1.94 in.***
Average	3.02 in.	3.02 in.	1.95 in.	1.94 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***357.98 g***	***364.11 g***
Area, Ao	7.18 in^2	7.16 in^2
Volume, Vo	13.98 in^3	13.88 in^3
Bulk Unit Weight	97.5 lb/ft^3	100.0 lb/ft^3
Dry Unit Weight	60.6 lb/ft^3	61.1 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A479_PM
SAMPLE No.:	BD26-10-20151019-62 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	10/26/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
10/26/15	13 : 41	JDM	7.0	5.0	5.6				
10/26/15	14 : 21	JDM	17.0	15.0	15.3	9.9	10.0	4.3	0.43
10/26/15	15 : 0	JDM	27.0	25.0	25.3	22.2	10.0	6.9	0.69
10/26/15	15 : 40	JDM	37.0	35.0	35.1	33.0	10.0	7.7	0.77
10/27/15	7 : 52	JDM	47.0	45.0	45.0	44.1	10.0	9.0	0.90
10/27/15	9 : 35	JDM	57.0	55.0	55.0	54.3	10.0	9.3	0.93
10/27/15	10 : 22	JDM	67.0	65.0	*	64.6	10.0	9.6	0.96
10/27/15	10 : 22	JDM	57.0	55.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A479_PM
SAMPLE No.:	BD26-10-20151019-62 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	10/26/15		

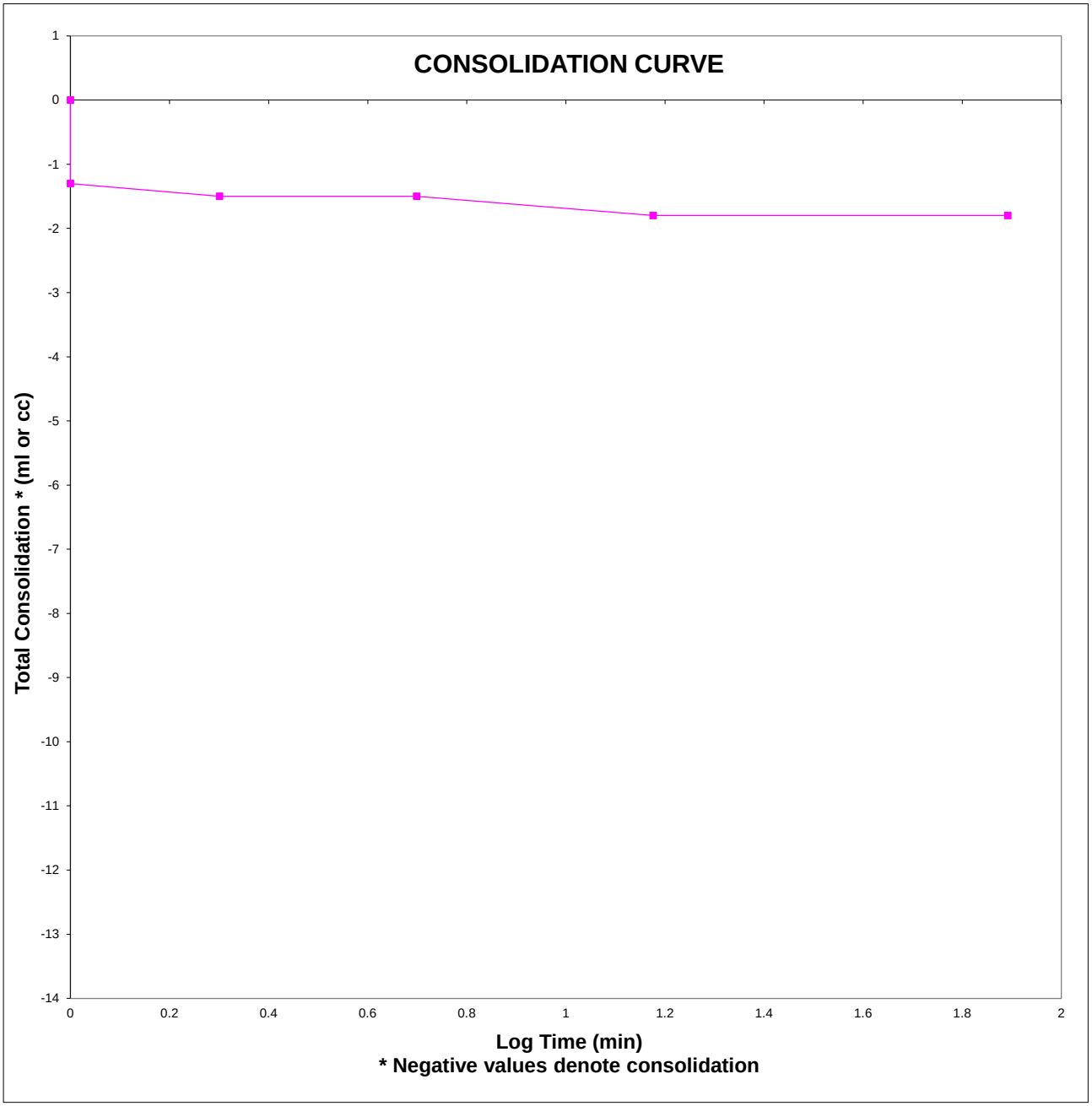
CELL PRESSURE: 65 psi **BACK PRESSURE:** 55 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
10 / 27 / 15	JDM	10 : 22	0	0	0	23.0	23.0	0.0
10 / 27 / 15	JDM	10 : 23	1	1	0.00	22.4	22.3	1.3
10 / 27 / 15	JDM	10 : 24	1	2	0.30	22.3	22.2	1.5
10 / 27 / 15	JDM	10 : 27	3	5	0.70	22.3	22.2	1.5
10 / 27 / 15	JDM	10 : 37	10	15	1.18	22.2	22.0	1.8
10 / 27 / 15	JDM	11 : 40	63	78	1.89	22.2	22.0	1.8

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A479_PM
SAMPLE No.:	BD26-10-20151019-62 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	10/26/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A479_PM
SAMPLE No.:	BD26-10-20151019-62 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	10/26/15		

			ELAPSED	***HYDRAULIC***			***GAUGE***		
	TESTED	***TIME***	***TIME***	***HEAD (cm)***		***TEMP.***	***PRESSURE (psi)***		
DATE	***BY***	***(military)***	***(minutes)***	***INFLUENT***	***EFFLUENT***	***C°***	***CELL***	***INFLUENT***	***EFFLUENT***
10 / 27 / 15	JDM	11 : 41	0	1.0	24.0	20.0	65.0	55.0	53.0
10 / 27 / 15	JDM	13 : 17	96	1.7	23.3	20.0	65.0	55.0	53.0
10 / 27 / 15	JDM	15 : 21	124	2.5	22.5	20.0	65.0	55.0	53.0
10 / 28 / 15	JDM	7 : 51	990	7.9	17.1	20.0	65.0	55.0	53.0
10 / 28 / 15	JDM	9 : 41	110	8.4	16.6	20.0	65.0	55.0	53.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A479_PM
SAMPLE No.:	BD26-10-20151019-62 (7-Day	EQUIPMENT No.:	2
TEST DATE:	10/26/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				33.092		
96	0.7	0.7	1.00	32.809	7.96E-08	8.00E-08
124	0.8	0.8	1.00	32.485	7.11E-08	7.14E-08
990	5.4	5.4	1.00	30.302	6.25E-08	6.28E-08
110	0.5	0.5	1.00	30.100	5.42E-08	5.44E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A479_PM
SAMPLE No.:	BD26-10-20151019-62 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	10/26/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	97.5 lb/ft³	100.0 lb/ft³
DRY UNIT WEIGHT	60.6 lb/ft³	61.1 lb/ft³
MOISTURE CONTENT	60.9 %	63.6 %
PERMEABILITY @ 20°C	6.7E-08 cm/sec	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A554_PM
SAMPLE No.:	BD26-10-20151019-62 (28-Day)	EQUIPMENT No.:	6
TEST DATE:	11/16/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	342.02 ***g***
3. WT WET SOIL + TARE	336.76 ***g***	682.80 ***g***
4. WT DRY SOIL + TARE	208.44 ***g***	550.46 ***g***
5. WT WATER, Ww	128.32 g	132.34 g
6. WT DRY SOIL, Ws	208.44 g	208.44 g
7. MOISTURE CONTENT, W	61.56 %	63.49 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.04 in.***	***3.03 in.***	***1.80 in.***	***1.86 in.***
No. 2	***3.02 in.***	***3.03 in.***	***1.85 in.***	***1.84 in.***
No. 3	***3.02 in.***	***3.02 in.***	***1.79 in.***	***1.78 in.***
Average	3.03 in.	3.02 in.	1.81 in.	1.83 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***336.76 g***	***340.78 g***
Area, Ao	7.19 in^2	7.18 in^2
Volume, Vo	13.05 in^3	13.11 in^3
Bulk Unit Weight	98.3 lb/ft^3	99.0 lb/ft^3
Dry Unit Weight	60.9 lb/ft^3	60.6 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A554_PM
SAMPLE No.:	BD26-10-20151019-62 (28-Day)	EQUIPMENT No.:	6
TEST DATE:	11/16/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
11/17/15	11 : 15	JDM	7.0	5.0	5.4				
11/17/15	12 : 5	JDM	17.0	15.0	15.2	8.0	10.0	2.6	0.26
11/17/15	13 : 18	JDM	27.0	25.0	25.3	*	*	*	*
11/17/15	14 : 7	JDM	37.0	35.0	35.3	31.2	10.0	5.9	0.59
11/17/15	14 : 45	JDM	47.0	45.0	45.2	42.4	10.0	7.1	0.71
11/17/15	15 : 25	JDM	57.0	55.0	54.9	52.3	10.0	7.1	0.71
11/18/15	8 : 0	JDM	67.0	65.0	64.9	63.2	10.0	8.3	0.83
11/18/15	8 : 48	JDM	77.0	75.0	74.9	73.9	10.0	9.0	0.90
11/18/15	10 : 32	JDM	87.0	85.0	*	84.4	10.0	9.5	0.95
11/18/15	10 : 32	JDM	77.0	75.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A554_PM
SAMPLE No.:	BD26-10-20151019-62 (28-Day)	EQUIPMENT No.:	6
TEST DATE:	11/16/15		

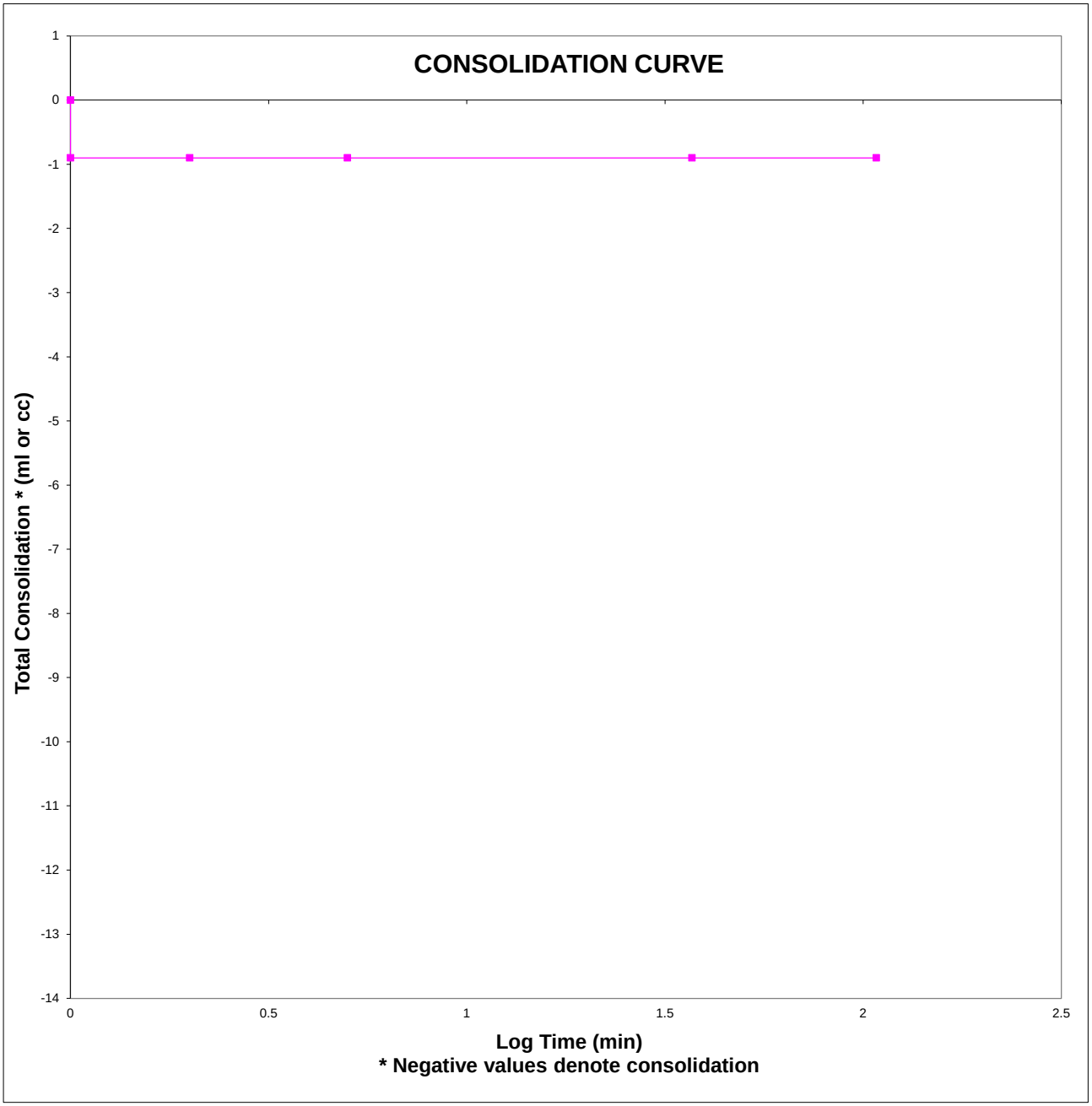
CELL PRESSURE: 85 psi **BACK PRESSURE:** 75 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
11 / 18 / 15	JDM	10 : 41	0	0	0	24.0	24.0	0.0
11 / 18 / 15	JDM	10 : 42	1	1	0.00	23.6	23.5	0.9
11 / 18 / 15	JDM	10 : 43	1	2	0.30	23.6	23.5	0.9
11 / 18 / 15	JDM	10 : 46	3	5	0.70	23.6	23.5	0.9
11 / 18 / 15	JDM	11 : 18	32	37	1.57	23.6	23.5	0.9
11 / 18 / 15	JDM	12 : 29	71	108	2.03	23.6	23.5	0.9

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A554_PM
SAMPLE No.:	BD26-10-20151019-62 (28-Day)	EQUIPMENT No.:	6
TEST DATE:	11/16/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A554_PM
SAMPLE No.:	BD26-10-20151019-62 (28-Day)	EQUIPMENT No.:	6
TEST DATE:	11/16/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
11 / 18 / 15	JDM	12 : 31	0	1.0	24.0	20.0	85.0	75.0	73.0
11 / 18 / 15	JDM	15 : 30	179	1.5	23.5	20.0	85.0	75.0	73.0
11 / 19 / 15	JDM	7 : 40	970	4.0	21.0	20.0	85.0	75.0	73.0
11 / 19 / 15	JDM	10 : 50	190	4.5	20.5	20.0	85.0	75.0	73.0
11 / 19 / 15	JDM	14 : 4	194	5.0	20.0	20.0	85.0	75.0	73.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A554_PM
SAMPLE No.:	BD26-10-20151019-62 (28-Da	EQUIPMENT No.:	6
TEST DATE:	11/16/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				35.514		
179	0.5	0.5	1.00	35.297	2.83E-08	2.85E-08
970	2.5	2.5	1.00	34.213	2.66E-08	2.68E-08
190	0.5	0.5	1.00	33.996	2.77E-08	2.78E-08
194	0.5	0.5	1.00	33.779	2.73E-08	2.74E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A554_PM
SAMPLE No.:	BD26-10-20151019-62 (28-Day)	EQUIPMENT No.:	6
TEST DATE:	11/16/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	98.3 lb/ft³	99.0 lb/ft³
DRY UNIT WEIGHT	60.9 lb/ft³	60.6 lb/ft³
MOISTURE CONTENT	61.6 %	63.5 %
PERMEABILITY @ 20°C	2.8E-08 cm/sec	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A483_PM
SAMPLE No.:	BN46-15-20151020-63 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	10/27/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	341.99 ***g***
3. WT WET SOIL + TARE	388.69 ***g***	732.80 ***g***
4. WT DRY SOIL + TARE	273.41 ***g***	615.40 ***g***
5. WT WATER, Ww	115.28 g	117.40 g
6. WT DRY SOIL, Ws	273.41 g	273.41 g
7. MOISTURE CONTENT, W	42.16 %	42.94 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.01 in.***	***3.01 in.***	***1.96 in.***	***1.93 in.***
No. 2	***3.03 in.***	***3.03 in.***	***1.92 in.***	***1.92 in.***
No. 3	***3.03 in.***	***3.04 in.***	***1.95 in.***	***1.97 in.***
Average	3.02 in.	3.03 in.	1.94 in.	1.94 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***388.69 g***	***390.81 g***
Area, Ao	7.17 in^2	7.19 in^2
Volume, Vo	13.92 in^3	13.96 in^3
Bulk Unit Weight	106.4 lb/ft^3	106.7 lb/ft^3
Dry Unit Weight	74.8 lb/ft^3	74.6 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A483_PM
SAMPLE No.:	BN46-15-20151020-63 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	10/27/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
10/27/15	10 : 16	JDM	7.0	5.0	5.6				
10/27/15	11 : 5	JDM	17.0	15.0	15.6	9.6	10.0	4.0	0.40
10/27/15	11 : 39	JDM	27.0	25.0	25.6	21.1	10.0	5.5	0.55
10/27/15	13 : 17	JDM	37.0	35.0	35.6	33.0	10.0	7.4	0.74
10/27/15	14 : 3	JDM	47.0	45.0	45.6	43.8	10.0	8.2	0.82
10/27/15	14 : 39	JDM	57.0	55.0	55.6	54.8	10.0	9.2	0.92
10/27/15	15 : 1	JDM	67.0	65.0	65.8	64.8	10.0	9.2	0.92
10/28/15	9 : 1	JDM	77.0	75.0	*	75.7	10.0	9.9	0.99
10/28/15	9 : 1	JDM	67.0	65.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A483_PM
SAMPLE No.:	BN46-15-20151020-63 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	10/27/15		

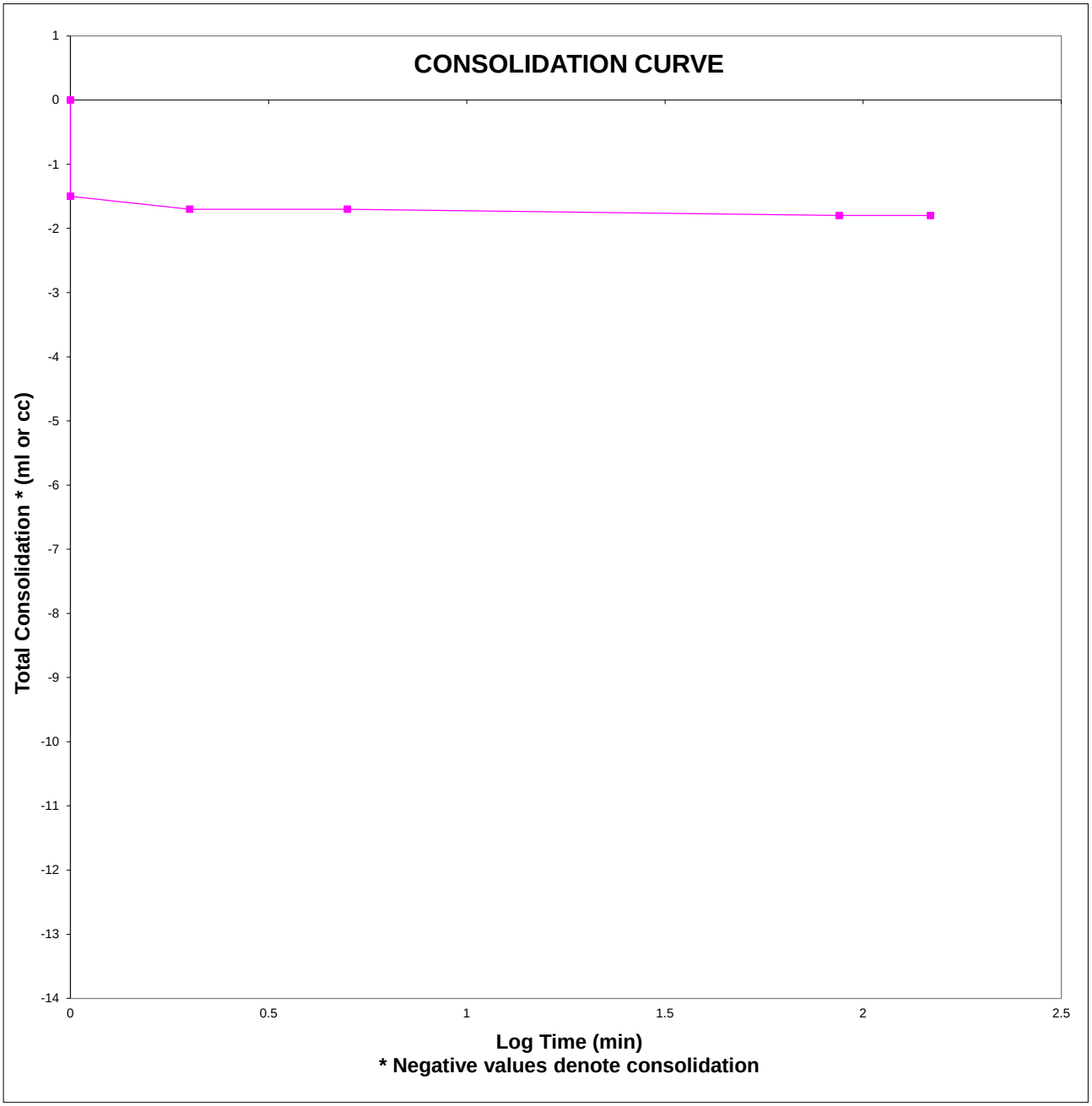
CELL PRESSURE: 75 psi **BACK PRESSURE:** 65 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
10 / 28 / 15	JDM	9 : 9	0	0	0	24.0	24.0	0.0
10 / 28 / 15	JDM	9 : 10	1	1	0.00	23.7	22.8	1.5
10 / 28 / 15	JDM	9 : 11	1	2	0.30	23.6	22.7	1.7
10 / 28 / 15	JDM	9 : 14	3	5	0.70	23.6	22.7	1.7
10 / 28 / 15	JDM	10 : 36	82	87	1.94	23.5	22.7	1.8
10 / 28 / 15	JDM	11 : 37	61	148	2.17	23.5	22.7	1.8

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A483_PM
SAMPLE No.:	BN46-15-20151020-63 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	10/27/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A483_PM
SAMPLE No.:	BN46-15-20151020-63 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	10/27/15		

				HYDRAULIC HEAD (cm)			GAUGE PRESSURE (psi)		
DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	INFLUENT	EFFLUENT	TEMP. C°	CELL	INFLUENT	EFFLUENT
10 / 28 / 15	JDM	11 : 32	0	1.0	24.0	20.0	75.0	65.0	63.0
10 / 28 / 15	JDM	12 : 37	65	1.8	23.2	20.0	75.0	65.0	63.0
10 / 28 / 15	JDM	13 : 32	55	2.8	22.2	20.0	75.0	65.0	63.0
10 / 28 / 15	JDM	14 : 30	58	3.8	21.2	20.0	75.0	65.0	63.0
10 / 28 / 15	JDM	15 : 15	45	4.5	20.5	20.0	75.0	65.0	63.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A483_PM
SAMPLE No.:	BN46-15-20151020-63 (7-Day	EQUIPMENT No.:	4
TEST DATE:	10/27/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				33.191		
65	0.8	0.8	1.00	32.867	1.34E-07	1.35E-07
55	1.0	1.0	1.00	32.461	2.01E-07	2.01E-07
58	1.0	1.0	1.00	32.056	1.93E-07	1.93E-07
45	0.7	0.7	1.00	31.772	1.76E-07	1.76E-07

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A483_PM
SAMPLE No.:	BN46-15-20151020-63 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	10/27/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	106.4 lb/ft³	106.7 lb/ft³
DRY UNIT WEIGHT	74.8 lb/ft³	74.6 lb/ft³
MOISTURE CONTENT	42.2 %	42.9 %
PERMEABILITY @ 20°C	1.8E-07 cm/sec	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A555_PM
SAMPLE No.:	BN46-15-20151020-63 (28-Day)	EQUIPMENT No.:	7
TEST DATE:	11/17/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	341.98 ***g***
3. WT WET SOIL + TARE	382.16 ***g***	725.30 ***g***
4. WT DRY SOIL + TARE	260.72 ***g***	602.70 ***g***
5. WT WATER, Ww	121.44 g	122.60 g
6. WT DRY SOIL, Ws	260.72 g	260.72 g
7. MOISTURE CONTENT, W	46.58 %	47.02 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.04 in.***	***3.03 in.***	***1.88 in.***	***1.89 in.***
No. 2	***3.03 in.***	***3.03 in.***	***1.92 in.***	***1.88 in.***
No. 3	***3.03 in.***	***3.02 in.***	***1.88 in.***	***1.92 in.***
Average	3.03 in.	3.03 in.	1.89 in.	1.90 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***382.16 g***	***383.32 g***
Area, Ao	7.22 in^2	7.19 in^2
Volume, Vo	13.67 in^3	13.63 in^3
Bulk Unit Weight	106.5 lb/ft^3	107.1 lb/ft^3
Dry Unit Weight	72.7 lb/ft^3	72.8 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A555_PM
SAMPLE No.:	BN46-15-20151020-63 (28-Day)	EQUIPMENT No.:	7
TEST DATE:	11/17/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
11/17/15	14 : 2	JDM	7.0	5.0	5.6				
11/17/15	14 : 45	JDM	17.0	15.0	15.7	8.4	10.0	2.8	0.28
11/17/15	15 : 27	JDM	27.0	25.0	25.5	18.5	10.0	2.8	0.28
11/18/15	8 : 2	JDM	37.0	35.0	35.4	32.2	10.0	6.7	0.67
11/18/15	8 : 49	JDM	47.0	45.0	45.5	43.4	10.0	8.0	0.80
11/18/15	10 : 33	JDM	57.0	55.0	55.7	54.3	10.0	8.8	0.88
11/18/15	11 : 20	JDM	67.0	65.0	65.5	64.5	10.0	8.8	0.88
11/18/15	12 : 8	JDM	77.0	75.0	*	75.2	10.0	9.7	0.97
11/18/15	12 : 8	JDM	67.0	65.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A555_PM
SAMPLE No.:	BN46-15-20151020-63 (28-Day)	EQUIPMENT No.:	7
TEST DATE:	11/17/15		

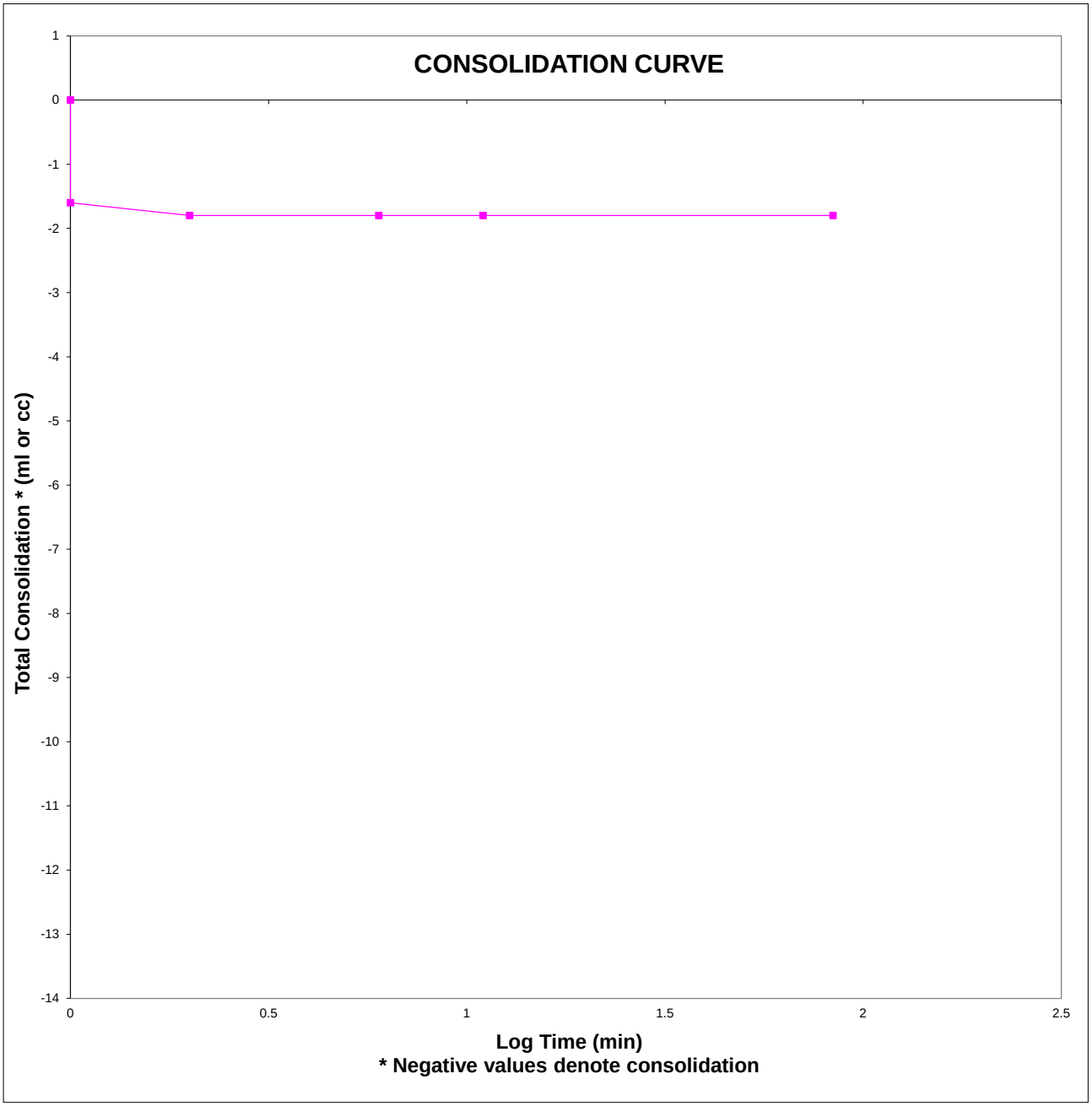
CELL PRESSURE: 75 psi **BACK PRESSURE:** 65 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
11 / 18 / 15	JDM	12 : 33	0	0	0	24.0	24.0	0.0
11 / 18 / 15	JDM	12 : 34	1	1	0.00	23.6	22.8	1.6
11 / 18 / 15	JDM	12 : 35	1	2	0.30	23.5	22.7	1.8
11 / 18 / 15	JDM	12 : 39	4	6	0.78	23.5	22.7	1.8
11 / 18 / 15	JDM	12 : 44	5	11	1.04	23.5	22.7	1.8
11 / 18 / 15	JDM	13 : 57	73	84	1.92	23.5	22.7	1.8

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A555_PM
SAMPLE No.:	BN46-15-20151020-63 (28-Day)	EQUIPMENT No.:	7
TEST DATE:	11/17/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A555_PM
SAMPLE No.:	BN46-15-20151020-63 (28-Day)	EQUIPMENT No.:	7
TEST DATE:	11/17/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
11 / 18 / 15	JDM	14 : 3	0	1.0	24.0	20.0	75.0	65.0	63.0
11 / 18 / 15	JDM	15 : 9	66	1.5	23.5	20.0	75.0	65.0	63.0
11 / 19 / 15	JDM	7 : 40	991	7.1	17.9	20.0	75.0	65.0	63.0
11 / 19 / 15	JDM	9 : 29	109	7.6	17.4	20.0	75.0	65.0	63.0
11 / 19 / 15	JDM	11 : 18	109	8.1	16.9	20.0	75.0	65.0	63.0
11 / 19 / 15	JDM	13 : 50	152	8.7	16.3	20.0	75.0	65.0	63.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A555_PM
SAMPLE No.:	BN46-15-20151020-63 (28-Da	EQUIPMENT No.:	7
TEST DATE:	11/17/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				34.024		
66	0.5	0.5	1.00	33.816	7.99E-08	8.03E-08
991	5.6	5.6	1.00	31.488	6.20E-08	6.23E-08
109	0.5	0.5	1.00	31.280	5.23E-08	5.26E-08
109	0.5	0.5	1.00	31.072	5.27E-08	5.29E-08
152	0.6	0.6	1.00	30.823	4.57E-08	4.59E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A555_PM
SAMPLE No.:	BN46-15-20151020-63 (28-Day)	EQUIPMENT No.:	7
TEST DATE:	11/17/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	106.5 lb/ft³	107.1 lb/ft³
DRY UNIT WEIGHT	72.7 lb/ft³	72.8 lb/ft³
MOISTURE CONTENT	46.6 %	47.0 %
PERMEABILITY @ 20°C	5.3E-08 cm/sec	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A513_PM
SAMPLE No.:	BG43-5-20151021-64 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	10/28/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	341.98 ***g***
3. WT WET SOIL + TARE	375.97 ***g***	719.60 ***g***
4. WT DRY SOIL + TARE	258.14 ***g***	600.12 ***g***
5. WT WATER, Ww	117.83 g	119.48 g
6. WT DRY SOIL, Ws	258.14 g	258.14 g
7. MOISTURE CONTENT, W	45.65 %	46.28 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.02 in.***	***3.02 in.***	***1.89 in.***	***1.88 in.***
No. 2	***3.03 in.***	***3.03 in.***	***1.85 in.***	***1.87 in.***
No. 3	***3.03 in.***	***3.04 in.***	***1.85 in.***	***1.84 in.***
Average	3.03 in.	3.03 in.	1.86 in.	1.86 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***375.97 g***	***377.62 g***
Area, Ao	7.19 in^2	7.19 in^2
Volume, Vo	13.41 in^3	13.40 in^3
Bulk Unit Weight	106.8 lb/ft^3	107.4 lb/ft^3
Dry Unit Weight	73.3 lb/ft^3	73.4 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A513_PM
SAMPLE No.:	BG43-5-20151021-64 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	10/28/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
10/28/15	11 : 58	JDM	7.0	5.0	5.5				
10/28/15	12 : 52	JDM	17.0	15.0	15.4	9.7	10.0	4.2	0.42
10/28/15	13 : 35	JDM	27.0	25.0	25.4	21.8	10.0	6.4	0.64
10/28/15	14 : 31	JDM	37.0	35.0	35.3	33.5	10.0	8.1	0.81
10/28/15	15 : 16	JDM	47.0	45.0	45.5	44.2	10.0	8.9	0.89
10/29/15	8 : 17	JDM	57.0	55.0	*	55.2	10.0	9.7	0.97
10/29/15	8 : 17	JDM	47.0	45.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A513_PM
SAMPLE No.:	BG43-5-20151021-64 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	10/28/15		

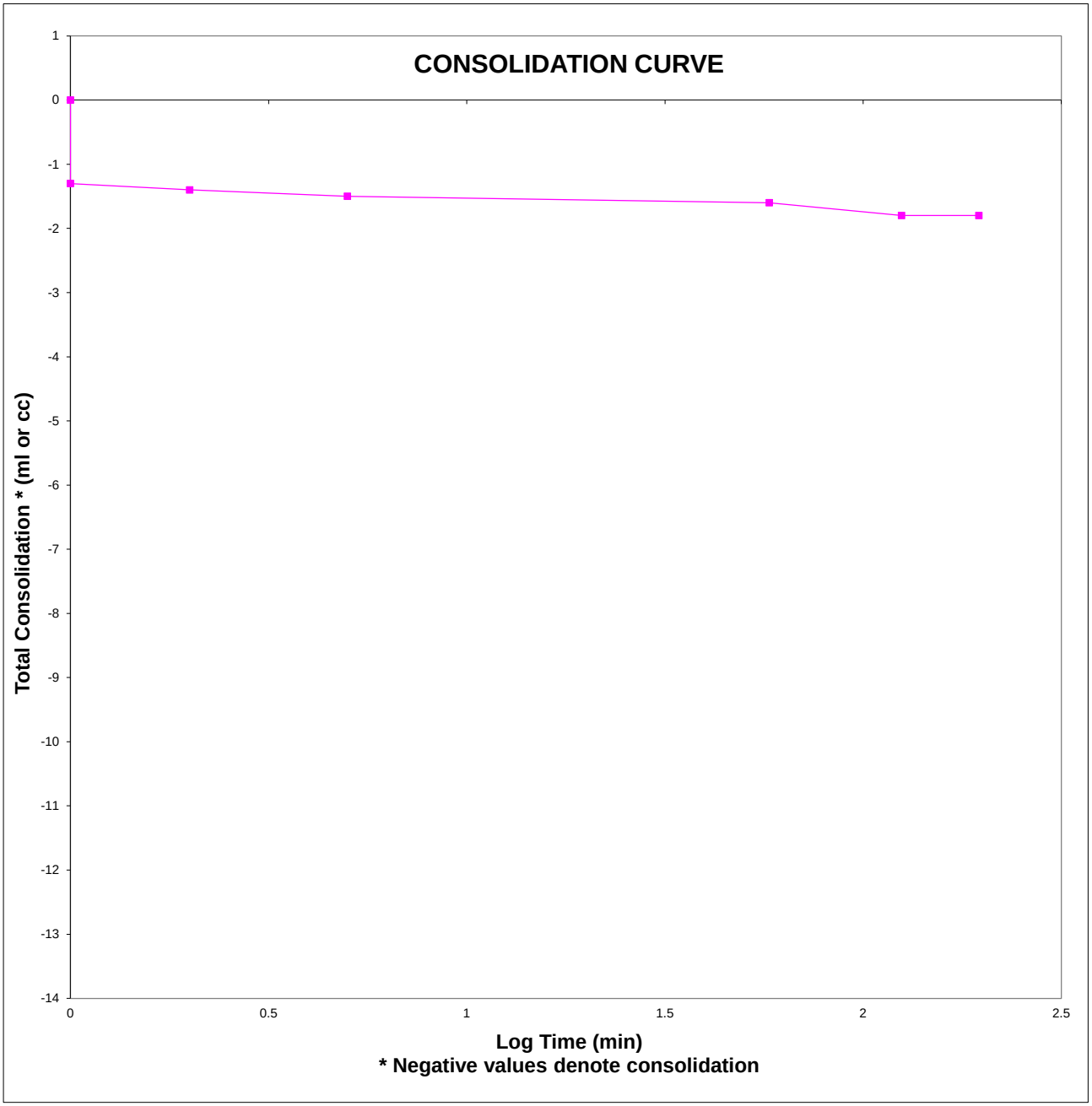
CELL PRESSURE: 55 psi **BACK PRESSURE:** 45 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
10 / 29 / 15	JDM	8 : 17	0	0	0	24.0	24.0	0.0
10 / 29 / 15	JDM	8 : 18	1	1	0.00	23.4	23.3	1.3
10 / 29 / 15	JDM	8 : 19	1	2	0.30	23.3	23.3	1.4
10 / 29 / 15	JDM	8 : 22	3	5	0.70	23.3	23.2	1.5
10 / 29 / 15	JDM	9 : 15	53	58	1.76	23.2	23.2	1.6
10 / 29 / 15	JDM	10 : 22	67	125	2.10	23.1	23.1	1.8
10 / 29 / 15	JDM	11 : 33	71	196	2.29	23.1	23.1	1.8

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A513_PM
SAMPLE No.:	BG43-5-20151021-64 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	10/28/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A513_PM
SAMPLE No.:	BG43-5-20151021-64 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	10/28/15		

			ELAPSED	HYDRAULIC HEAD (cm)			GAUGE PRESSURE (psi)		
DATE	TESTED BY	TIME (military)	TIME (minutes)	INFLUENT	EFFLUENT	TEMP. C°	CELL	INFLUENT	EFFLUENT
10 / 29 / 15	JDM	11 : 37	0	1.0	24.0	20.0	55.0	45.0	43.0
10 / 29 / 15	JDM	12 : 20	43	2.0	23.0	20.0	55.0	45.0	43.0
10 / 29 / 15	JDM	13 : 5	45	2.9	22.1	20.0	55.0	45.0	43.0
10 / 29 / 15	JDM	13 : 33	28	3.5	21.5	20.0	55.0	45.0	43.0
10 / 29 / 15	JDM	13 : 55	22	4.0	21.0	20.0	55.0	45.0	43.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A513_PM
SAMPLE No.:	BG43-5-20151021-64 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	10/28/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				34.556		
43	1.0	1.0	1.00	34.134	2.43E-07	2.44E-07
45	0.9	0.9	1.00	33.754	2.12E-07	2.13E-07
28	0.6	0.6	1.00	33.500	2.29E-07	2.30E-07
22	0.5	0.5	1.00	33.289	2.44E-07	2.46E-07

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A513_PM
SAMPLE No.:	BG43-5-20151021-64 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	10/28/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	106.8 lb/ft³	107.4 lb/ft³
DRY UNIT WEIGHT	73.3 lb/ft³	73.4 lb/ft³
MOISTURE CONTENT	45.6 %	46.3 %
PERMEABILITY @ 20°C	2.3E-07 cm/sec	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A557_PM
SAMPLE No.:	BG43-5-20151021-64 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	11/18/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	298.45 ***g***
3. WT WET SOIL + TARE	366.26 ***g***	667.30 ***g***
4. WT DRY SOIL + TARE	254.08 ***g***	552.53 ***g***
5. WT WATER, Ww	112.18 g	114.77 g
6. WT DRY SOIL, Ws	254.08 g	254.08 g
7. MOISTURE CONTENT, W	44.15 %	45.17 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.02 in.***	***3.04 in.***	***1.83 in.***	***1.77 in.***
No. 2	***3.02 in.***	***3.02 in.***	***1.77 in.***	***1.82 in.***
No. 3	***3.01 in.***	***3.01 in.***	***1.80 in.***	***1.82 in.***
Average	3.02 in.	3.02 in.	1.80 in.	1.80 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***366.26 g***	***368.85 g***
Area, Ao	7.16 in^2	7.18 in^2
Volume, Vo	12.88 in^3	12.92 in^3
Bulk Unit Weight	108.3 lb/ft^3	108.7 lb/ft^3
Dry Unit Weight	75.1 lb/ft^3	74.9 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A557_PM
SAMPLE No.:	BG43-5-20151021-64 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	11/18/15		

			TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
TEST DATE	TIME (military)	TESTED BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
11/18/15	10 : 37	JDM	7.0	5.0	5.6				
11/18/15	11 : 29	JDM	17.0	15.0	15.6	10.4	10.0	4.8	0.48
11/18/15	12 : 10	JDM	27.0	25.0	25.5	22.4	10.0	6.8	0.68
11/18/15	12 : 42	JDM	37.0	35.0	35.4	33.8	10.0	8.3	0.83
11/18/15	13 : 58	JDM	47.0	45.0	45.4	44.4	10.0	9.0	0.90
11/18/15	14 : 38	JDM	57.0	55.0	55.5	54.7	10.0	9.3	0.93
11/18/15	15 : 11	JDM	67.0	65.0	*	65.0	10.0	9.5	0.95
11/18/15	15 : 11	JDM	57.0	55.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A557_PM
SAMPLE No.:	BG43-5-20151021-64 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	11/18/15		

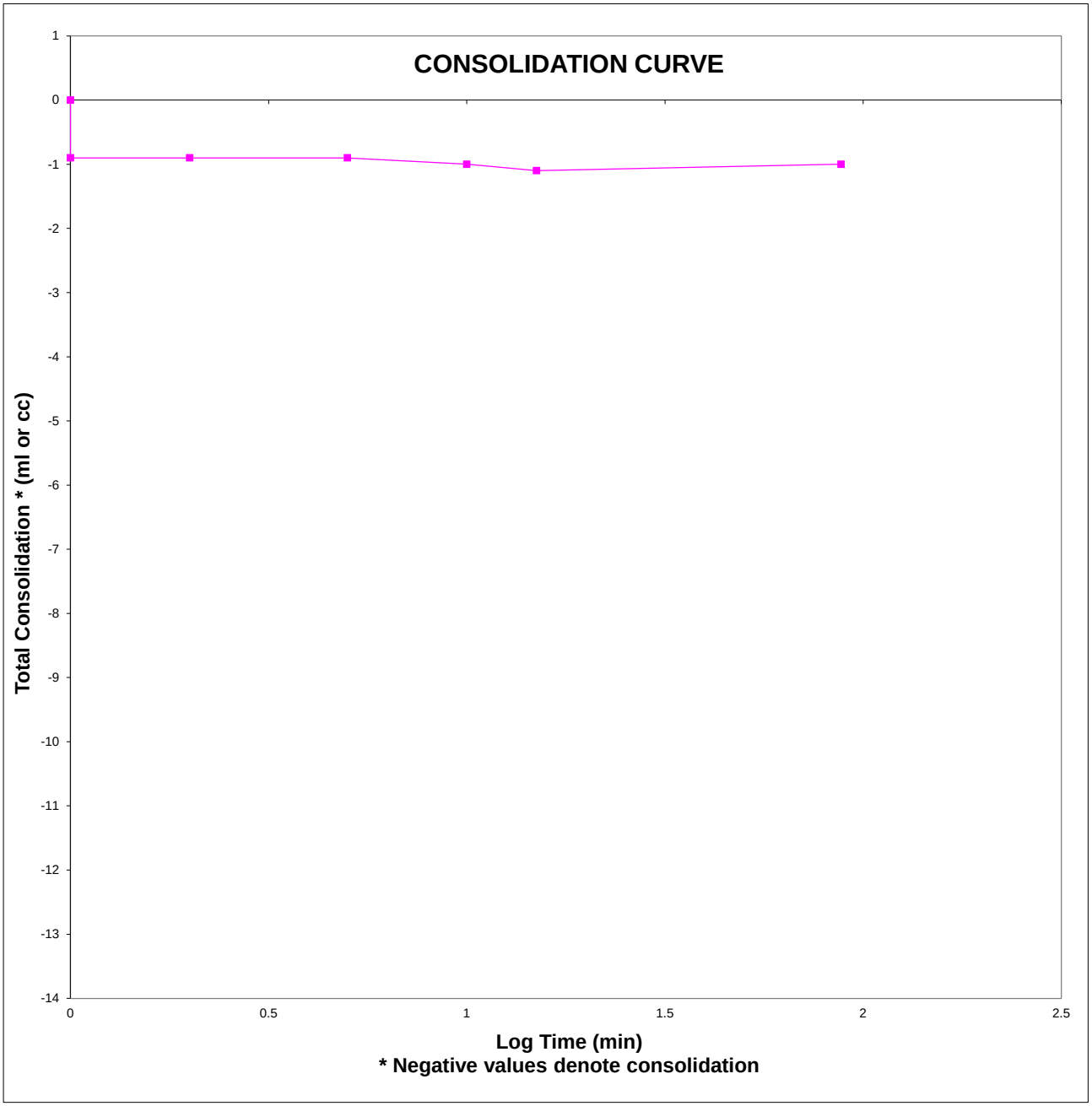
CELL PRESSURE: 65 psi **BACK PRESSURE:** 55 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
11 / 19 / 15	JDM	8 : 2	0	0	0	24.0	24.0	0.0
11 / 19 / 15	JDM	8 : 3	1	1	0.00	23.5	23.6	0.9
11 / 19 / 15	JDM	8 : 4	1	2	0.30	23.5	23.6	0.9
11 / 19 / 15	JDM	8 : 7	3	5	0.70	23.5	23.6	0.9
11 / 19 / 15	JDM	8 : 12	5	10	1.00	23.5	23.5	1.0
11 / 19 / 15	JDM	8 : 17	5	15	1.18	23.5	23.4	1.1
11 / 19 / 15	JDM	9 : 30	73	88	1.94	23.5	23.5	1.0

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A557_PM
SAMPLE No.:	BG43-5-20151021-64 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	11/18/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A557_PM
SAMPLE No.:	BG43-5-20151021-64 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	11/18/15		

				HYDRAULIC			GAUGE		
	TESTED	TIME	ELAPSED TIME	HEAD (cm)		TEMP.	PRESSURE (psi)		
DATE	BY	(military)	(minutes)	INFLUENT	EFFLUENT	C°	CELL	INFLUENT	EFFLUENT
11 / 19 / 15	JDM	9 : 32	0	1.0	24.0	20.0	65.0	55.0	52.0
11 / 19 / 15	JDM	10 : 17	45	1.6	23.4	20.0	65.0	55.0	52.0
11 / 19 / 15	JDM	10 : 58	41	2.1	22.9	20.0	65.0	55.0	52.0
11 / 19 / 15	JDM	11 : 36	38	2.6	22.4	20.0	65.0	55.0	52.0
11 / 19 / 15	JDM	13 : 12	96	3.8	21.2	20.0	65.0	55.0	52.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A557_PM
SAMPLE No.:	BG43-5-20151021-64 (28-Day	EQUIPMENT No.:	1
TEST DATE:	11/18/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				51.223		
45	0.6	0.6	1.00	50.961	9.41E-08	9.45E-08
41	0.5	0.5	1.00	50.742	8.65E-08	8.69E-08
38	0.5	0.5	1.00	50.523	9.37E-08	9.42E-08
96	1.2	1.2	1.00	49.998	8.97E-08	9.01E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A557_PM
SAMPLE No.:	BG43-5-20151021-64 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	11/18/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**108.3 lb/ft³**	**108.7 lb/ft³**
DRY UNIT WEIGHT	**75.1 lb/ft³**	**74.9 lb/ft³**
MOISTURE CONTENT	**44.2 %**	**45.2 %**
PERMEABILITY @ 20°C	**9.1E-08 cm/sec**	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A514_PM
SAMPLE No.:	BL40-10-20151022-65 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	10/22/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	297.88 ***g***
3. WT WET SOIL + TARE	344.60 ***g***	646.00 ***g***
4. WT DRY SOIL + TARE	225.20 ***g***	523.08 ***g***
5. WT WATER, Ww	119.40 g	122.92 g
6. WT DRY SOIL, Ws	225.20 g	225.20 g
7. MOISTURE CONTENT, W	53.02 %	54.58 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.00 in.***	***3.01 in.***	***1.79 in.***	***1.80 in.***
No. 2	***3.02 in.***	***3.02 in.***	***1.79 in.***	***1.79 in.***
No. 3	***3.02 in.***	***3.02 in.***	***1.77 in.***	***1.76 in.***
Average	3.02 in.	3.02 in.	1.78 in.	1.78 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***344.60 g***	***348.12 g***
Area, Ao	7.14 in^2	7.16 in^2
Volume, Vo	12.73 in^3	12.77 in^3
Bulk Unit Weight	103.1 lb/ft^3	103.9 lb/ft^3
Dry Unit Weight	67.4 lb/ft^3	67.2 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A514_PM
SAMPLE No.:	BL40-10-20151022-65 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	10/22/15		

			TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
TEST DATE	TIME (military)	TESTED BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
10/29/15	10 : 15	JDM	7.0	5.0	5.4				
10/29/15	11 : 6	JDM	17.0	15.0	15.4	7.5	10.0	2.1	0.21
10/29/15	11 : 38	JDM	27.0	25.0	25.5	19.1	10.0	3.7	0.37
10/29/15	13 : 8	JDM	37.0	35.0	35.9	31.8	10.0	6.3	0.63
10/29/15	13 : 58	JDM	47.0	45.0	46.0	41.5	10.0	5.6	0.56
10/29/15	15 : 9	JDM	57.0	55.0	55.7	54.2	10.0	8.2	0.82
10/30/15	7 : 51	JDM	67.0	65.0	65.6	64.7	10.0	9.0	0.90
10/30/15	9 : 9	JDM	77.0	75.0	75.7	75.0	10.0	9.4	0.94
10/30/15	10 : 10	JDM	87.0	85.0	*	85.2	10.0	9.5	0.95
10/30/15	10 : 10	JDM	77.0	75.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A514_PM
SAMPLE No.:	BL40-10-20151022-65 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	10/22/15		

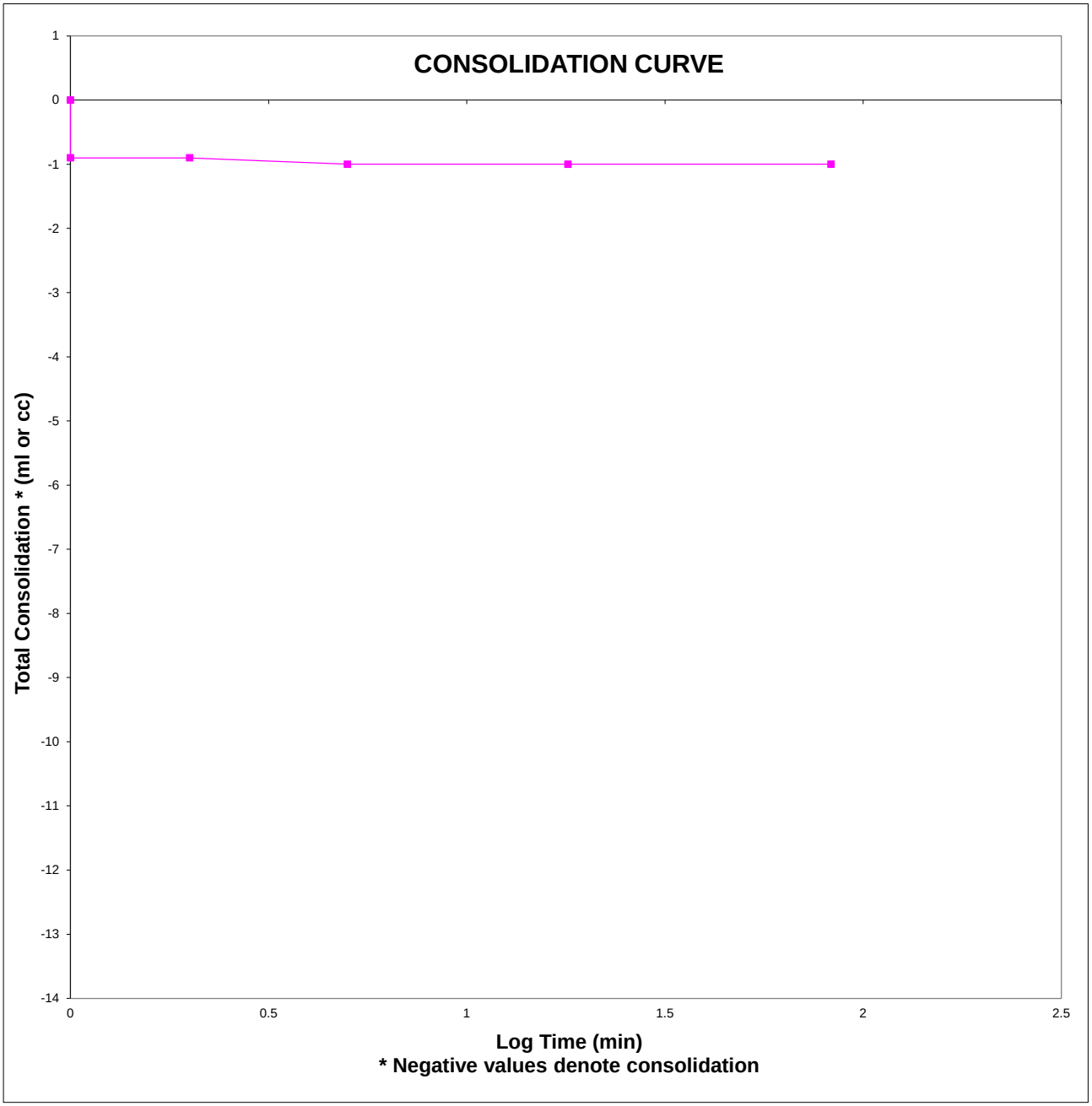
CELL PRESSURE: 85 psi **BACK PRESSURE:** 75 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
10 / 30 / 15	JDM	10 : 12	0	0	0	23.0	23.0	0.0
10 / 30 / 15	JDM	10 : 13	1	1	0.00	22.6	22.5	0.9
10 / 30 / 15	JDM	10 : 14	1	2	0.30	22.6	22.5	0.9
10 / 30 / 15	JDM	10 : 17	3	5	0.70	22.5	22.5	1.0
10 / 30 / 15	JDM	10 : 30	13	18	1.26	22.5	22.5	1.0
10 / 30 / 15	JDM	11 : 35	65	83	1.92	22.5	22.5	1.0

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A514_PM
SAMPLE No.:	BL40-10-20151022-65 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	10/22/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A514_PM
SAMPLE No.:	BL40-10-20151022-65 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	10/22/15		

			ELAPSED	HYDRAULIC			GAUGE		
	TESTED	TIME	TIME	HEAD (cm)		TEMP.	PRESSURE (psi)		
DATE	BY	(military)	(minutes)	INFLUENT	EFFLUENT	C°	CELL	INFLUENT	EFFLUENT
10 / 30 / 15	JDM	11 : 37	0	0.0	25.0	20.0	85.0	75.0	73.0
10 / 30 / 15	JDM	12 : 24	47	1.1	23.9	20.0	85.0	75.0	73.0
10 / 30 / 15	JDM	12 : 45	21	1.7	23.3	20.0	85.0	75.0	73.0
10 / 30 / 15	JDM	13 : 3	18	2.2	22.8	20.0	85.0	75.0	73.0
10 / 30 / 15	JDM	13 : 47	44	3.4	21.6	20.0	85.0	75.0	73.0
10 / 30 / 15	JDM	14 : 38	51	4.7	20.3	20.0	85.0	75.0	73.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A514_PM
SAMPLE No.:	BL40-10-20151022-65 (7-Day	EQUIPMENT No.:	1
TEST DATE:	10/22/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				36.594		
47	1.1	1.1	1.00	36.108	2.33E-07	2.34E-07
21	0.6	0.6	1.00	35.843	2.87E-07	2.89E-07
18	0.5	0.5	1.00	35.622	2.81E-07	2.83E-07
44	1.2	1.2	1.00	35.092	2.79E-07	2.80E-07
51	1.3	1.3	1.00	34.518	2.65E-07	2.66E-07

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A514_PM
SAMPLE No.:	BL40-10-20151022-65 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	10/22/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	103.1 lb/ft³	103.9 lb/ft³
DRY UNIT WEIGHT	67.4 lb/ft³	67.2 lb/ft³
MOISTURE CONTENT	53.0 %	54.6 %
PERMEABILITY @ 20°C	2.7E-07 cm/sec	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A558_PM
SAMPLE No.:	BL40-10-20151022-65 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	11/19/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	297.89 ***g***
3. WT WET SOIL + TARE	342.44 ***g***	643.20 ***g***
4. WT DRY SOIL + TARE	224.06 ***g***	521.95 ***g***
5. WT WATER, Ww	118.38 g	121.25 g
6. WT DRY SOIL, Ws	224.06 g	224.06 g
7. MOISTURE CONTENT, W	52.83 %	54.11 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.04 in.***	***3.02 in.***	***1.75 in.***	***1.77 in.***
No. 2	***3.03 in.***	***3.02 in.***	***1.79 in.***	***1.76 in.***
No. 3	***3.02 in.***	***3.01 in.***	***1.79 in.***	***1.81 in.***
Average	3.03 in.	3.02 in.	1.78 in.	1.78 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***342.44 g***	***345.31 g***
Area, Ao	7.20 in^2	7.16 in^2
Volume, Vo	12.80 in^3	12.75 in^3
Bulk Unit Weight	101.9 lb/ft^3	103.2 lb/ft^3
Dry Unit Weight	66.7 lb/ft^3	67.0 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A558_PM
SAMPLE No.:	BL40-10-20151022-65 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	11/19/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
11/19/15	11 : 12	JDM	7.0	5.0	5.7				
11/19/15	11 : 50	JDM	17.0	15.0	15.6	11.0	10.0	5.3	0.53
11/19/15	13 : 14	JDM	27.0	25.0	25.5	22.9	10.0	7.3	0.73
11/19/15	13 : 53	JDM	37.0	35.0	35.5	34.0	10.0	8.5	0.85
11/19/15	14 : 44	JDM	47.0	45.0	45.5	44.5	10.0	9.0	0.90
11/20/15	12 : 40	JDM	57.0	55.0	*	55.3	10.0	9.8	0.98
11/20/15	12 : 40	JDM	47.0	45.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A558_PM
SAMPLE No.:	BL40-10-20151022-65 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	11/19/15		

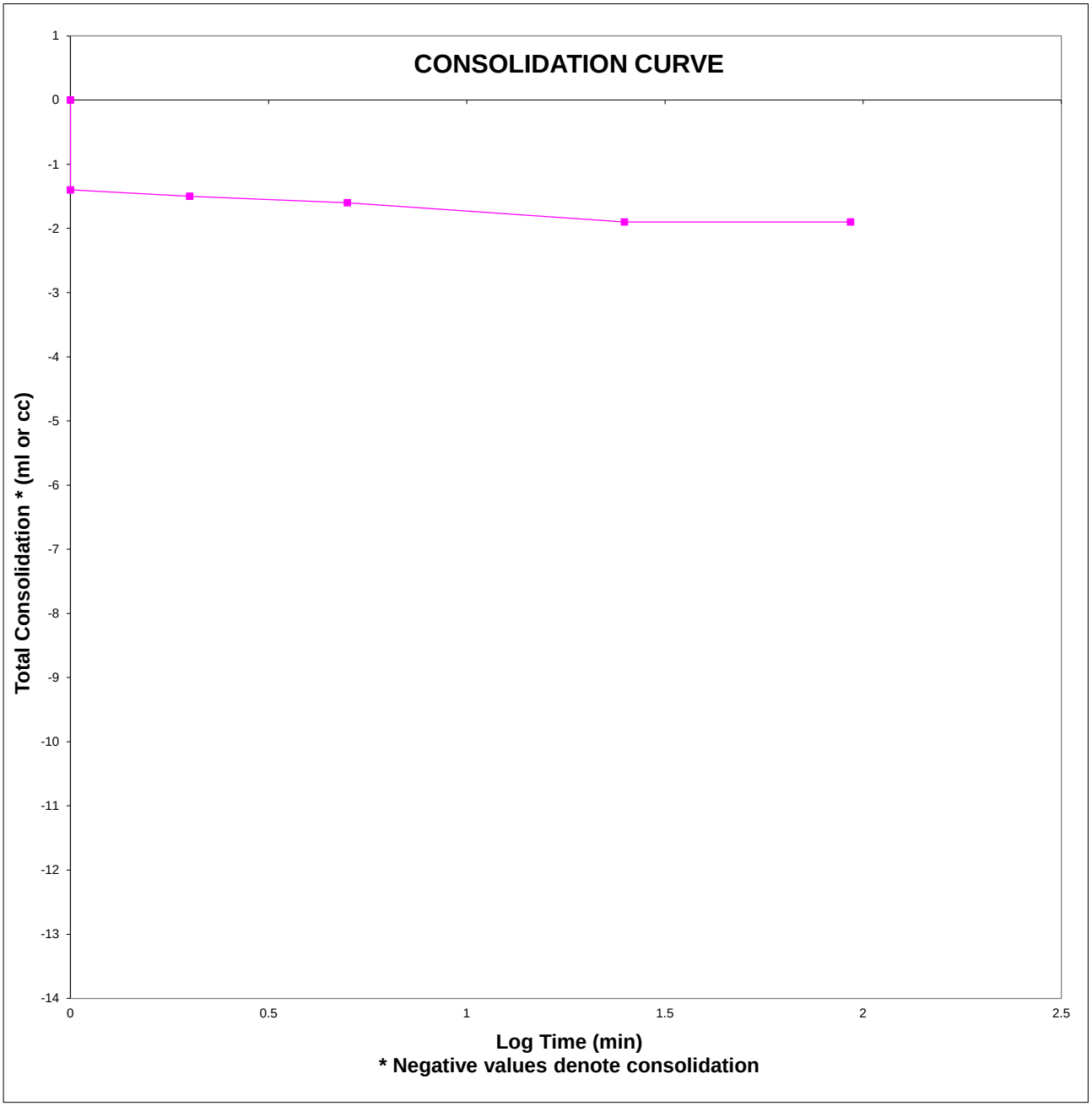
CELL PRESSURE: 55 psi **BACK PRESSURE:** 45 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
11 / 20 / 15	JDM	12 : 42	0	0	0	24.0	24.0	0.0
11 / 20 / 15	JDM	12 : 43	1	1	0.00	23.4	23.2	1.4
11 / 20 / 15	JDM	12 : 44	1	2	0.30	23.3	23.2	1.5
11 / 20 / 15	JDM	12 : 47	3	5	0.70	23.3	23.1	1.6
11 / 20 / 15	JDM	13 : 7	20	25	1.40	23.1	23.0	1.9
11 / 20 / 15	JDM	14 : 15	68	93	1.97	23.1	23.0	1.9

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A558_PM
SAMPLE No.:	BL40-10-20151022-65 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	11/19/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A558_PM
SAMPLE No.:	BL40-10-20151022-65 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	11/19/15		

				HYDRAULIC			GAUGE		
	TESTED	TIME	ELAPSED TIME	HEAD (cm)		TEMP.	PRESSURE (psi)		
DATE	BY	(military)	(minutes)	INFLUENT	EFFLUENT	C°	CELL	INFLUENT	EFFLUENT
11 / 20 / 15	JDM	14 : 17	0	1.0	24.0	20.0	55.0	45.0	42.0
11 / 20 / 15	JDM	15 : 7	50	1.5	23.5	20.0	55.0	45.0	42.0
11 / 23 / 15	JDM	8 : 56	RESET	1.0	24.0	20.0	55.0	45.0	42.0
11 / 23 / 15	JDM	12 : 0	184	1.7	23.3	20.0	55.0	45.0	42.0
11 / 23 / 15	JDM	14 : 17	137	2.2	22.8	20.0	55.0	45.0	42.0
11 / 23 / 15	JDM	16 : 40	143	2.7	22.3	20.0	55.0	45.0	42.0
11 / 24 / 15	JDM	8 : 6	926	5.3	19.7	20.0	55.0	45.0	42.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A558_PM
SAMPLE No.:	BL40-10-20151022-65 (28-Da	EQUIPMENT No.:	2
TEST DATE:	11/19/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				51.814		
50	0.5	0.5	1.00	51.593	6.94E-08	6.97E-08
RESET				51.814		
184	0.7	0.7	1.00	51.504	2.64E-08	2.65E-08
137	0.5	0.5	1.00	51.283	2.55E-08	2.56E-08
143	0.5	0.5	1.00	51.061	2.45E-08	2.46E-08
926	2.6	2.6	1.00	49.910	2.00E-08	2.00E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A558_PM
SAMPLE No.:	BL40-10-20151022-65 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	11/19/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**101.9 lb/ft³**	**103.2 lb/ft³**
DRY UNIT WEIGHT	**66.7 lb/ft³**	**67.0 lb/ft³**
MOISTURE CONTENT	**52.8 %**	**54.1 %**
PERMEABILITY @ 20°C	**2.4E-08 cm/sec**	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A520_PM
SAMPLE No.:	BM35-15-20151023-66 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	10/30/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	297.57 ***g***
3. WT WET SOIL + TARE	355.75 ***g***	659.80 ***g***
4. WT DRY SOIL + TARE	237.47 ***g***	535.04 ***g***
5. WT WATER, Ww	118.28 g	124.76 g
6. WT DRY SOIL, Ws	237.47 g	237.47 g
7. MOISTURE CONTENT, W	49.81 %	52.54 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.01 in.***	***3.01 in.***	***1.85 in.***	***1.88 in.***
No. 2	***3.02 in.***	***3.02 in.***	***1.89 in.***	***1.86 in.***
No. 3	***3.02 in.***	***3.03 in.***	***1.86 in.***	***1.90 in.***
Average	3.02 in.	3.02 in.	1.87 in.	1.88 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***355.75 g***	***362.23 g***
Area, Ao	7.15 in^2	7.15 in^2
Volume, Vo	13.34 in^3	13.45 in^3
Bulk Unit Weight	101.6 lb/ft^3	102.6 lb/ft^3
Dry Unit Weight	67.8 lb/ft^3	67.3 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A520_PM
SAMPLE No.:	BM35-15-20151023-66 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	10/30/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
11/02/15	9 : 10	JDM	7.0	5.0	5.7				
11/02/15	9 : 53	JDM	17.0	15.0	15.5	10.4	10.0	4.7	0.47
11/02/15	10 : 38	JDM	27.0	25.0	25.6	22.9	10.0	7.4	0.74
11/02/15	11 : 13	JDM	37.0	35.0	35.7	34.4	10.0	8.8	0.88
11/02/15	11 : 46	JDM	47.0	45.0	45.6	44.6	10.0	8.9	0.89
11/02/15	12 : 21	JDM	57.0	55.0	55.5	54.9	10.0	9.3	0.93
11/02/15	13 : 48	JDM	67.0	65.0	*	65.1	10.0	9.6	0.96
11/02/15	13 : 48	JDM	57.0	55.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A520_PM
SAMPLE No.:	BM35-15-20151023-66 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	10/30/15		

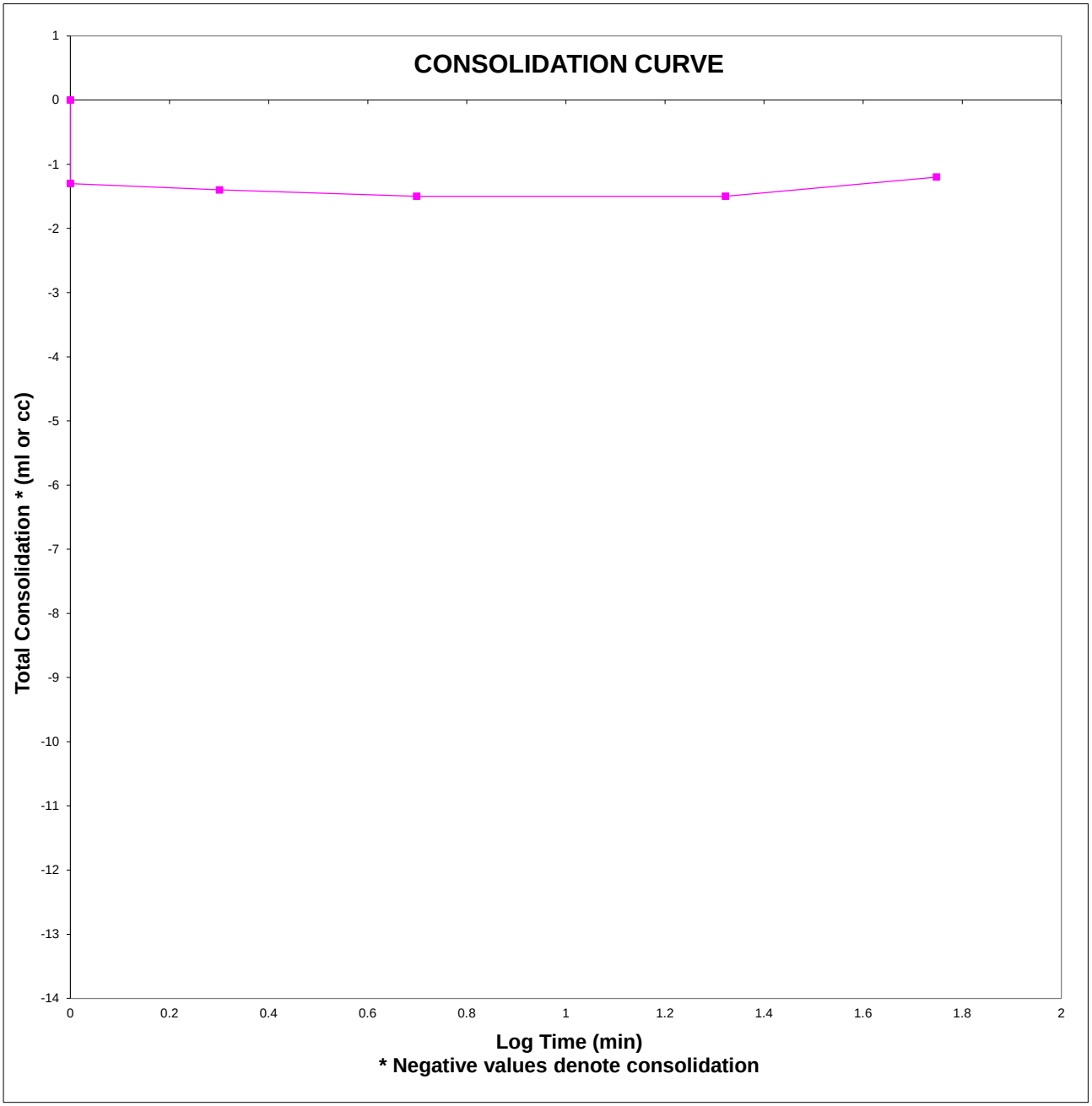
CELL PRESSURE: 65 psi **BACK PRESSURE:** 55 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
10 / 2 / 15	JDM	13 : 49	0	0	0	24.0	24.0	0.0
10 / 2 / 15	JDM	13 : 50	1	1	0.00	23.3	23.4	1.3
10 / 2 / 15	JDM	13 : 51	1	2	0.30	23.3	23.3	1.4
10 / 2 / 15	JDM	13 : 54	3	5	0.70	23.2	23.3	1.5
10 / 2 / 15	JDM	14 : 10	16	21	1.32	23.2	23.3	1.5
10 / 2 / 15	JDM	14 : 45	35	56	1.75	23.4	23.4	1.2

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A520_PM
SAMPLE No.:	BM35-15-20151023-66 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	10/30/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A520_PM
SAMPLE No.:	BM35-15-20151023-66 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	10/30/15		

			ELAPSED	HYDRAULIC			GAUGE		
	TESTED	TIME	TIME	HEAD (cm)		TEMP.	PRESSURE (psi)		
DATE	BY	(military)	(minutes)	INFLUENT	EFFLUENT	C°	CELL	INFLUENT	EFFLUENT
11 / 2 / 15	JDM	14 : 46	0	1.0	24.0	20.0	65.0	55.0	53.0
11 / 3 / 15	JDM	7 : 48	1022	3.7	21.3	20.0	65.0	55.0	53.0
11 / 3 / 15	JDM	11 : 21	213	4.2	20.8	20.0	65.0	55.0	53.0
11 / 3 / 15	JDM	14 : 50	209	4.7	20.3	20.0	65.0	55.0	53.0
11 / 4 / 15	JDM	7 : 52	1022	6.8	18.2	20.0	65.0	55.0	53.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A520_PM
SAMPLE No.:	BM35-15-20151023-66 (7-Day	EQUIPMENT No.:	1
TEST DATE:	10/30/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				34.550		
1022	2.7	2.7	1.00	33.410	2.81E-08	2.82E-08
213	0.5	0.5	1.00	33.199	2.55E-08	2.56E-08
209	0.5	0.5	1.00	32.988	2.61E-08	2.62E-08
1022	2.1	2.1	1.00	32.101	2.28E-08	2.29E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A520_PM
SAMPLE No.:	BM35-15-20151023-66 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	10/30/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	101.6 lb/ft³	102.6 lb/ft³
DRY UNIT WEIGHT	67.8 lb/ft³	67.3 lb/ft³
MOISTURE CONTENT	49.8 %	52.5 %
PERMEABILITY @ 20°C	2.6E-08 cm/sec	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A560_PM
SAMPLE No.:	BM35-15-20151023-66 (28-Day)	EQUIPMENT No.:	4
TEST DATE:	11/20/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	297.59 ***g***
3. WT WET SOIL + TARE	368.88 ***g***	671.90 ***g***
4. WT DRY SOIL + TARE	245.76 ***g***	543.35 ***g***
5. WT WATER, Ww	123.12 g	128.55 g
6. WT DRY SOIL, Ws	245.76 g	245.76 g
7. MOISTURE CONTENT, W	50.10 %	52.31 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.03 in.***	***3.02 in.***	***1.93 in.***	***1.94 in.***
No. 2	***3.03 in.***	***3.03 in.***	***1.93 in.***	***1.92 in.***
No. 3	***3.03 in.***	***3.03 in.***	***1.90 in.***	***1.93 in.***
Average	3.03 in.	3.02 in.	1.92 in.	1.93 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***368.88 g***	***374.31 g***
Area, Ao	7.19 in^2	7.18 in^2
Volume, Vo	13.81 in^3	13.84 in^3
Bulk Unit Weight	101.8 lb/ft^3	103.0 lb/ft^3
Dry Unit Weight	67.8 lb/ft^3	67.6 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A560_PM
SAMPLE No.:	BM35-15-20151023-66 (28-Day)	EQUIPMENT No.:	4
TEST DATE:	11/20/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
11/23/15	9 : 24	JDM	7.0	5.0	5.7				
11/23/15	10 : 23	JDM	17.0	15.0	15.8	*	*	*	*
11/23/15	10 : 58	JDM	27.0	25.0	25.9	21.7	10.0	5.9	0.59
11/23/15	12 : 1	JDM	37.0	35.0	35.7	32.7	10.0	6.8	0.68
11/23/15	13 : 12	JDM	47.0	45.0	45.7	44.1	10.0	8.4	0.84
11/23/15	14 : 12	JDM	57.0	55.0	55.7	54.3	10.0	8.6	0.86
11/23/15	14 : 45	JDM	67.0	65.0	65.8	64.8	10.0	9.1	0.91
11/23/15	15 : 20	JDM	77.0	75.0	*	75.3	10.0	9.5	0.95
11/23/15	15 : 20	JDM	67.0	65.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A560_PM
SAMPLE No.:	BM35-15-20151023-66 (28-Day)	EQUIPMENT No.:	4
TEST DATE:	11/20/15		

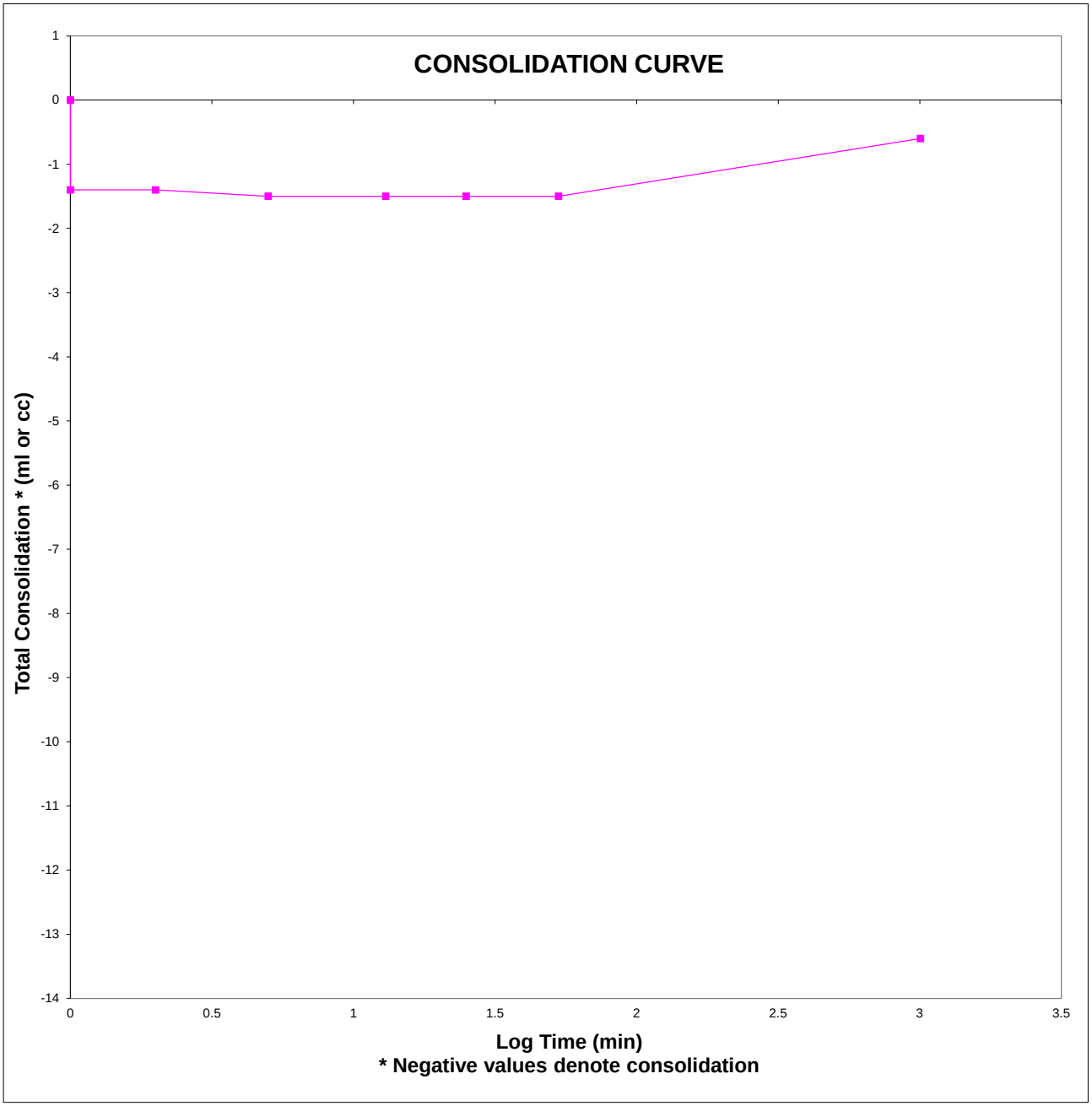
CELL PRESSURE: 75 psi **BACK PRESSURE:** 65 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
11 / 23 / 15	JDM	15 : 22	0	0	0	23.0	23.0	0.0
11 / 23 / 15	JDM	15 : 23	1	1	0.00	22.6	22.0	1.4
11 / 23 / 15	JDM	15 : 24	1	2	0.30	22.6	22.0	1.4
11 / 23 / 15	JDM	15 : 27	3	5	0.70	22.5	22.0	1.5
11 / 23 / 15	JDM	15 : 35	8	13	1.11	22.5	22.0	1.5
11 / 23 / 15	JDM	15 : 47	12	25	1.40	22.5	22.0	1.5
11 / 23 / 15	JDM	16 : 15	28	53	1.72	22.5	22.0	1.5
11 / 24 / 15	JDM	8 : 9	954	1007	3.00	23.0	22.4	0.6

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A560_PM
SAMPLE No.:	BM35-15-20151023-66 (28-Day)	EQUIPMENT No.:	4
TEST DATE:	11/20/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A560_PM
SAMPLE No.:	BM35-15-20151023-66 (28-Day)	EQUIPMENT No.:	4
TEST DATE:	11/20/15		

				HYDRAULIC			GAUGE		
	TESTED	TIME	ELAPSED TIME	HEAD (cm)		TEMP.	PRESSURE (psi)		
DATE	BY	(military)	(minutes)	INFLUENT	EFFLUENT	C°	CELL	INFLUENT	EFFLUENT
11 / 24 / 15	JDM	9 : 7	0	1.0	24.0	20.0	75.0	65.0	62.0
11 / 24 / 15	JDM	11 : 31	144	1.5	23.5	20.0	75.0	65.0	62.0
11 / 24 / 15	JDM	14 : 4	153	2.0	23.0	20.0	75.0	65.0	62.0
11 / 25 / 15	JDM	7 : 46	1062	3.5	21.5	20.0	75.0	65.0	62.0
11 / 25 / 15	JDM	10 : 20	154	4.0	21.0	20.0	75.0	65.0	62.0
11 / 25 / 15	JDM	13 : 1	161	4.5	20.5	20.0	75.0	65.0	62.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A560_PM
SAMPLE No.:	BM35-15-20151023-66 (28-Da	EQUIPMENT No.:	4
TEST DATE:	11/20/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				48.003		
144	0.5	0.5	1.00	47.798	2.60E-08	2.61E-08
153	0.5	0.5	1.00	47.593	2.46E-08	2.47E-08
1062	1.5	1.5	1.00	46.977	1.07E-08	1.08E-08
154	0.5	0.5	1.00	46.772	2.49E-08	2.50E-08
161	0.5	0.5	1.00	46.567	2.39E-08	2.40E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A560_PM
SAMPLE No.:	BM35-15-20151023-66 (28-Day)	EQUIPMENT No.:	4
TEST DATE:	11/20/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	101.8 lb/ft³	103.0 lb/ft³
DRY UNIT WEIGHT	67.8 lb/ft³	67.6 lb/ft³
MOISTURE CONTENT	50.1 %	52.3 %
PERMEABILITY @ 20°C	2.5E-08 cm/sec	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A526_PM
SAMPLE No.:	BH38-5-20151028-67 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	11/4/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	297.88 ***g***
3. WT WET SOIL + TARE	351.02 ***g***	653.60 ***g***
4. WT DRY SOIL + TARE	239.63 ***g***	537.51 ***g***
5. WT WATER, Ww	111.39 g	116.09 g
6. WT DRY SOIL, Ws	239.63 g	239.63 g
7. MOISTURE CONTENT, W	46.48 %	48.45 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.01 in.***	***3.01 in.***	***1.79 in.***	***1.80 in.***
No. 2	***3.03 in.***	***3.02 in.***	***1.83 in.***	***1.80 in.***
No. 3	***3.03 in.***	***3.03 in.***	***1.82 in.***	***1.83 in.***
Average	3.02 in.	3.02 in.	1.81 in.	1.81 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***351.02 g***	***355.72 g***
Area, Ao	7.17 in^2	7.16 in^2
Volume, Vo	13.01 in^3	12.94 in^3
Bulk Unit Weight	102.8 lb/ft^3	104.7 lb/ft^3
Dry Unit Weight	70.2 lb/ft^3	70.5 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A526_PM
SAMPLE No.:	BH38-5-20151028-67 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	11/4/15		

			TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
TEST DATE	TIME (military)	TESTED BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
11/04/15	10 : 32	JDM	7.0	5.0	5.7				
11/04/15	11 : 32	JDM	17.0	15.0	15.3	8.3	10.0	2.6	0.26
11/04/15	12 : 5	JDM	27.0	25.0	25.2	18.9	10.0	3.6	0.36
11/04/15	12 : 35	JDM	37.0	35.0	34.9	30.8	10.0	5.6	0.56
11/04/15	13 : 5	JDM	47.0	45.0	44.6	41.8	10.0	6.9	0.69
11/04/15	13 : 35	JDM	57.0	55.0	55.2	52.4	10.0	7.8	0.78
11/05/15	8 : 20	JDM	67.0	65.0	65.1	64.3	10.0	9.1	0.91
11/05/15	9 : 31	JDM	77.0	75.0	74.9	74.2	10.0	9.1	0.91
11/05/15	10 : 7	JDM	87.0	85.0	*	84.4	10.0	9.5	0.95
11/05/15	10 : 7	JDM	77.0	75.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A526_PM
SAMPLE No.:	BH38-5-20151028-67 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	11/4/15		

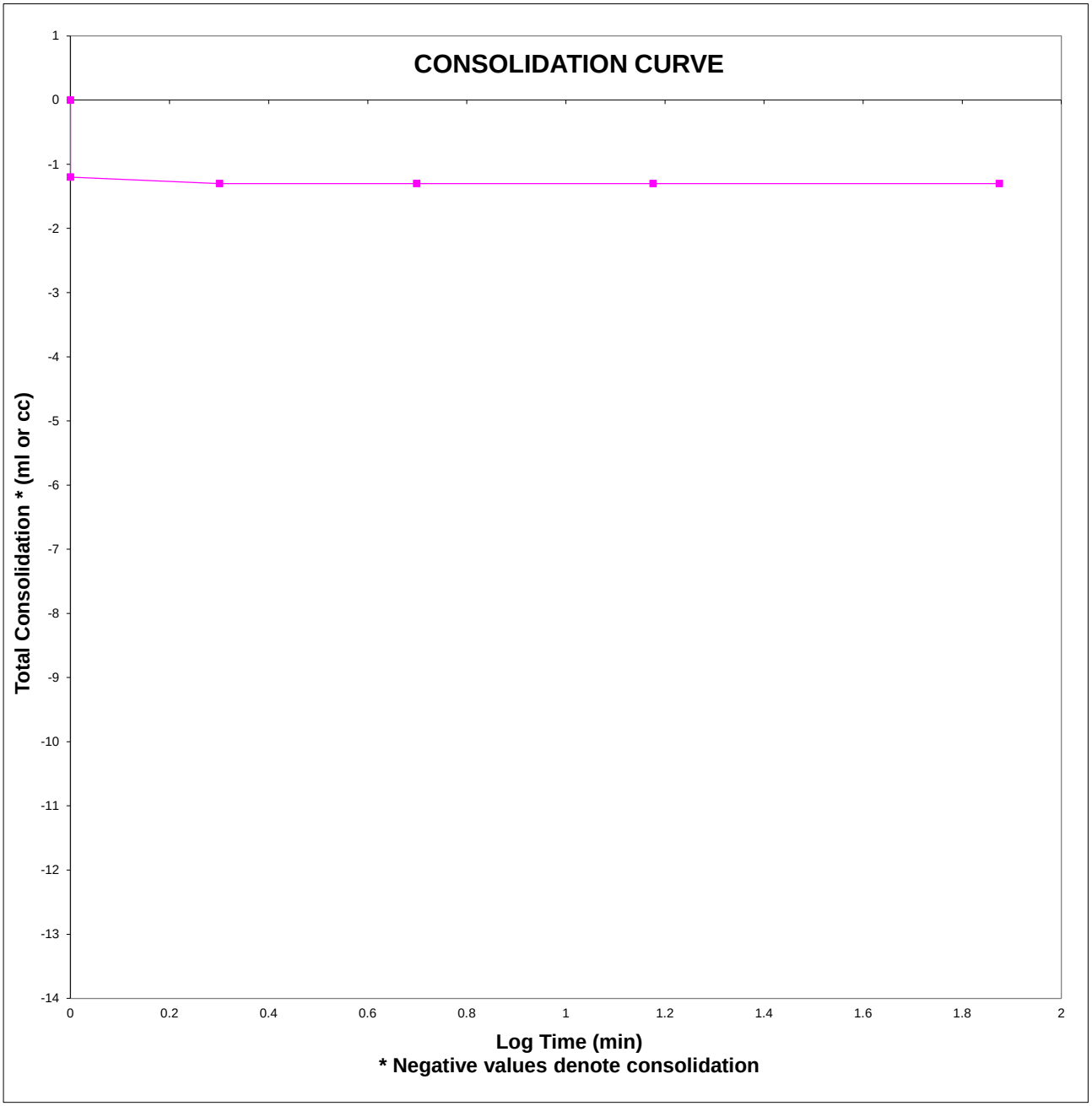
CELL PRESSURE: 85 psi **BACK PRESSURE:** 75 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
11 / 5 / 15	JDM	10 : 12	0	0	0	25.0	25.0	0.0
11 / 5 / 15	JDM	10 : 13	1	1	0.00	24.5	24.3	1.2
11 / 5 / 15	JDM	10 : 14	1	2	0.30	24.5	24.2	1.3
11 / 5 / 15	JDM	10 : 17	3	5	0.70	24.5	24.2	1.3
11 / 5 / 15	JDM	10 : 27	10	15	1.18	24.5	24.2	1.3
11 / 5 / 15	JDM	11 : 27	60	75	1.88	24.5	24.2	1.3

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A526_PM
SAMPLE No.:	BH38-5-20151028-67 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	11/4/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A526_PM
SAMPLE No.:	BH38-5-20151028-67 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	11/4/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
11 / 5 / 15	JDM	11 : 29	0	1.0	24.0	20.0	85.0	75.0	72.0
11 / 5 / 15	JDM	11 : 49	20	1.9	23.1	20.0	85.0	75.0	72.0
11 / 5 / 15	JDM	12 : 4	15	2.4	22.6	20.0	85.0	75.0	72.0
11 / 5 / 15	JDM	12 : 42	38	3.7	21.3	20.0	85.0	75.0	72.0
11 / 5 / 15	JDM	13 : 1	19	4.3	20.7	20.0	85.0	75.0	72.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A526_PM
SAMPLE No.:	BH38-5-20151028-67 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	11/4/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				50.795		
20	0.9	0.9	1.00	50.404	3.20E-07	3.22E-07
15	0.5	0.5	1.00	50.187	2.39E-07	2.40E-07
38	1.3	1.3	1.00	49.623	2.47E-07	2.48E-07
19	0.6	0.6	1.00	49.363	2.30E-07	2.31E-07

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A526_PM
SAMPLE No.:	BH38-5-20151028-67 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	11/4/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**102.8 lb/ft³**	**104.7 lb/ft³**
DRY UNIT WEIGHT	**70.2 lb/ft³**	**70.5 lb/ft³**
MOISTURE CONTENT	**46.5 %**	**48.4 %**
PERMEABILITY @ 20°C	**2.6E-07 cm/sec**	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A566_PM
SAMPLE No.:	BH38-5-20151028-67 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	11/25/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	342.04 ***g***
3. WT WET SOIL + TARE	373.77 ***g***	720.80 ***g***
4. WT DRY SOIL + TARE	250.28 ***g***	592.32 ***g***
5. WT WATER, Ww	123.49 g	128.48 g
6. WT DRY SOIL, Ws	250.28 g	250.28 g
7. MOISTURE CONTENT, W	49.34 %	51.33 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.02 in.***	***3.02 in.***	***1.90 in.***	***1.89 in.***
No. 2	***3.03 in.***	***3.03 in.***	***1.89 in.***	***1.94 in.***
No. 3	***3.04 in.***	***3.03 in.***	***1.93 in.***	***1.89 in.***
Average	3.03 in.	3.03 in.	1.91 in.	1.91 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***373.77 g***	***378.76 g***
Area, Ao	7.20 in^2	7.20 in^2
Volume, Vo	13.74 in^3	13.73 in^3
Bulk Unit Weight	103.6 lb/ft^3	105.1 lb/ft^3
Dry Unit Weight	69.4 lb/ft^3	69.4 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A566_PM
SAMPLE No.:	BH38-5-20151028-67 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	11/25/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
11/30/15	8 : 25	JDM	7.0	5.0	5.8				
11/30/15	9 : 14	JDM	17.0	15.0	15.8	10.3	10.0	4.5	0.45
11/30/15	9 : 52	JDM	27.0	25.0	25.8	22.5	10.0	6.7	0.67
11/30/15	10 : 55	JDM	37.0	35.0	35.8	33.8	10.0	8.0	0.80
11/30/15	11 : 25	JDM	47.0	45.0	45.8	44.5	10.0	8.7	0.87
11/30/15	12 : 10	JDM	57.0	55.0	55.7	54.8	10.0	9.0	0.90
11/30/15	12 : 48	JDM	67.0	65.0	*	65.5	10.0	9.8	0.98
11/30/15	12 : 48	JDM	57.0	55.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A566_PM
SAMPLE No.:	BH38-5-20151028-67 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	11/25/15		

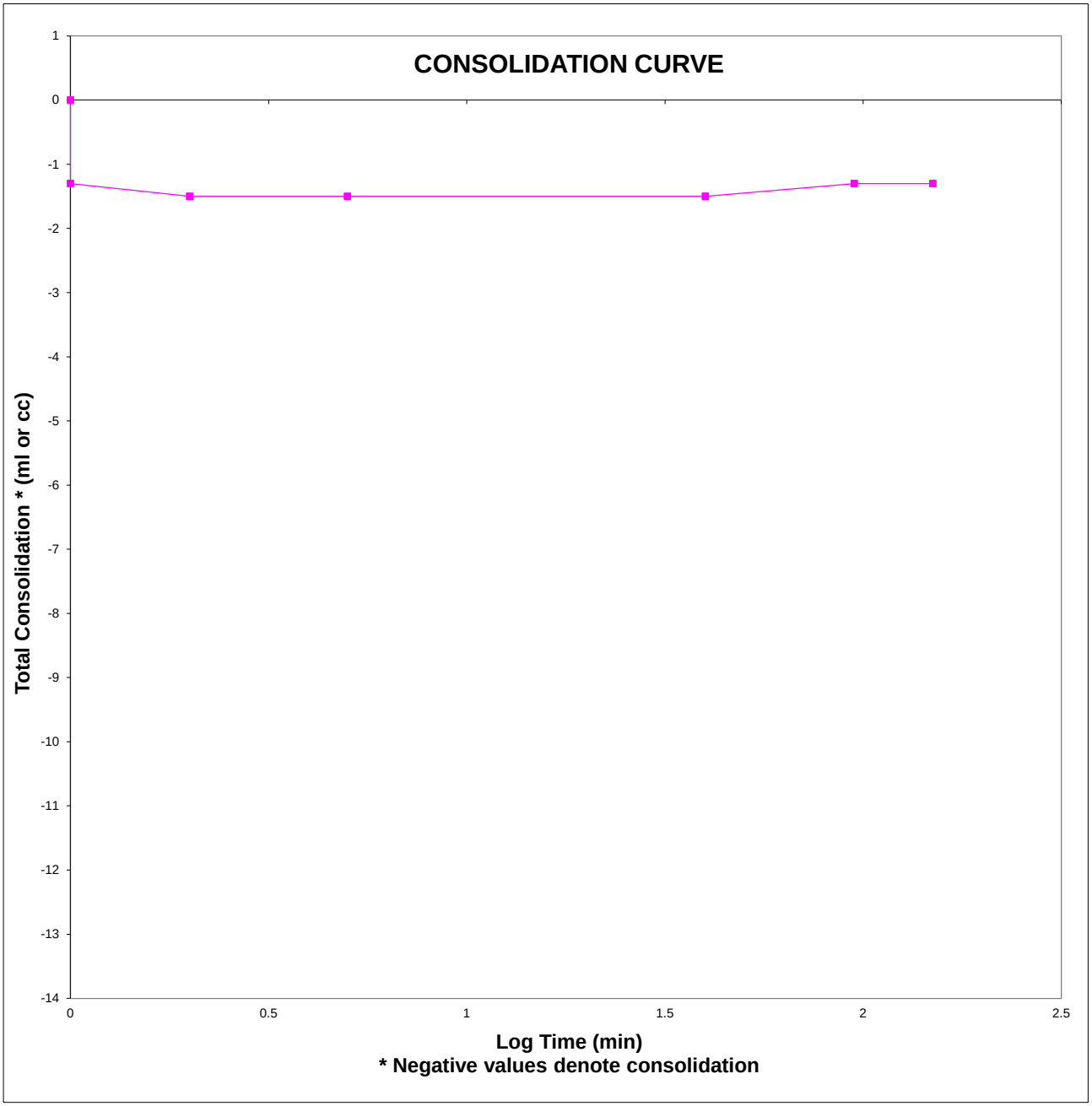
CELL PRESSURE: 65 psi **BACK PRESSURE:** 55 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
11 / 30 / 15	JDM	12 : 50	0	0	0	24.0	24.0	0.0
11 / 30 / 15	JDM	12 : 51	1	1	0.00	23.4	23.3	1.3
11 / 30 / 15	JDM	12 : 52	1	2	0.30	23.3	23.2	1.5
11 / 30 / 15	JDM	12 : 55	3	5	0.70	23.3	23.2	1.5
11 / 30 / 15	JDM	13 : 30	35	40	1.60	23.3	23.2	1.5
11 / 30 / 15	JDM	14 : 25	55	95	1.98	23.4	23.3	1.3
11 / 30 / 15	JDM	15 : 20	55	150	2.18	23.4	23.3	1.3

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A566_PM
SAMPLE No.:	BH38-5-20151028-67 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	11/25/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A566_PM
SAMPLE No.:	BH38-5-20151028-67 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	11/25/15		

			ELAPSED	HYDRAULIC			GAUGE		
	TESTED	TIME	TIME	HEAD (cm)		TEMP.	PRESSURE (psi)		
DATE	BY	(military)	(minutes)	INFLUENT	EFFLUENT	C°	CELL	INFLUENT	EFFLUENT
11 / 30 / 15	JDM	15 : 23	0	1.0	24.0	20.0	65.0	55.0	53.0
12 / 1 / 15	JDM	7 : 51	988	11.1	13.9	20.0	65.0	55.0	53.0
12 / 1 / 15	JDM	7 : 53	RESET	1.0	24.0	20.0	65.0	55.0	53.0
12 / 1 / 15	JDM	9 : 12	79	1.8	23.2	20.0	65.0	55.0	53.0
12 / 1 / 15	JDM	10 : 30	78	2.5	22.5	20.0	65.0	55.0	53.0
12 / 1 / 15	JDM	11 : 22	52	3.0	22.0	20.0	65.0	55.0	53.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A566_PM
SAMPLE No.:	BH38-5-20151028-67 (28-Day	EQUIPMENT No.:	2
TEST DATE:	11/25/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				33.783		
988	10.1	10.1	1.00	29.614	1.16E-07	1.16E-07
RESET				33.783		
79	0.8	0.8	1.00	33.453	1.08E-07	1.09E-07
78	0.7	0.7	1.00	33.164	9.66E-08	9.71E-08
52	0.5	0.5	1.00	32.957	1.04E-07	1.05E-07

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A566_PM
SAMPLE No.:	BH38-5-20151028-67 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	11/25/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	103.6 lb/ft³	105.1 lb/ft³
DRY UNIT WEIGHT	69.4 lb/ft³	69.4 lb/ft³
MOISTURE CONTENT	49.3 %	51.3 %
PERMEABILITY @ 20°C	1.1E-07 cm/sec	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A530_PM
SAMPLE No.:	BF34-10-20151029-68 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	11/5/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	342.00 ***g***
3. WT WET SOIL + TARE	321.09 ***g***	668.60 ***g***
4. WT DRY SOIL + TARE	174.31 ***g***	516.31 ***g***
5. WT WATER, Ww	146.78 g	152.29 g
6. WT DRY SOIL, Ws	174.31 g	174.31 g
7. MOISTURE CONTENT, W	84.21 %	87.37 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.0080 in.***	***3.0165 in.***	***1.8175 in.***	***1.8830 in.***
No. 2	***3.0270 in.***	***3.0220 in.***	***1.8675 in.***	***1.8500 in.***
No. 3	***3.0435 in.***	***3.0200 in.***	***1.8490 in.***	***1.8750 in.***
Average	3.03 in.	3.02 in.	1.84 in.	1.87 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***321.09 g***	***326.60 g***
Area, Ao	7.19 in^2	7.16 in^2
Volume, Vo	13.27 in^3	13.39 in^3
Bulk Unit Weight	92.2 lb/ft^3	92.9 lb/ft^3
Dry Unit Weight	50.0 lb/ft^3	49.6 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A530_PM
SAMPLE No.:	BF34-10-20151029-68 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	11/5/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
11/05/15	14 : 25	JDM	7.0	5.0	5.4				
11/05/15	14 : 56	JDM	17.0	15.0	15.3	8.6	10.0	3.2	0.32
11/05/15	15 : 43	JDM	27.0	25.0	25.6	20.3	10.0	5.0	0.50
11/06/15	7 : 59	JDM	37.0	35.0	35.6	32.6	10.0	7.0	0.70
11/06/15	8 : 59	JDM	47.0	45.0	45.5	43.5	10.0	7.9	0.79
11/06/15	9 : 47	JDM	57.0	55.0	55.5	54.2	10.0	8.7	0.87
11/06/15	10 : 17	JDM	67.0	65.0	65.4	64.7	10.0	9.2	0.92
11/06/15	10 : 47	JDM	77.0	75.0	*	75.1	10.0	9.7	0.97
11/06/15	10 : 47	JDM	67.0	65.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A530_PM
SAMPLE No.:	BF34-10-20151029-68 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	11/5/15		

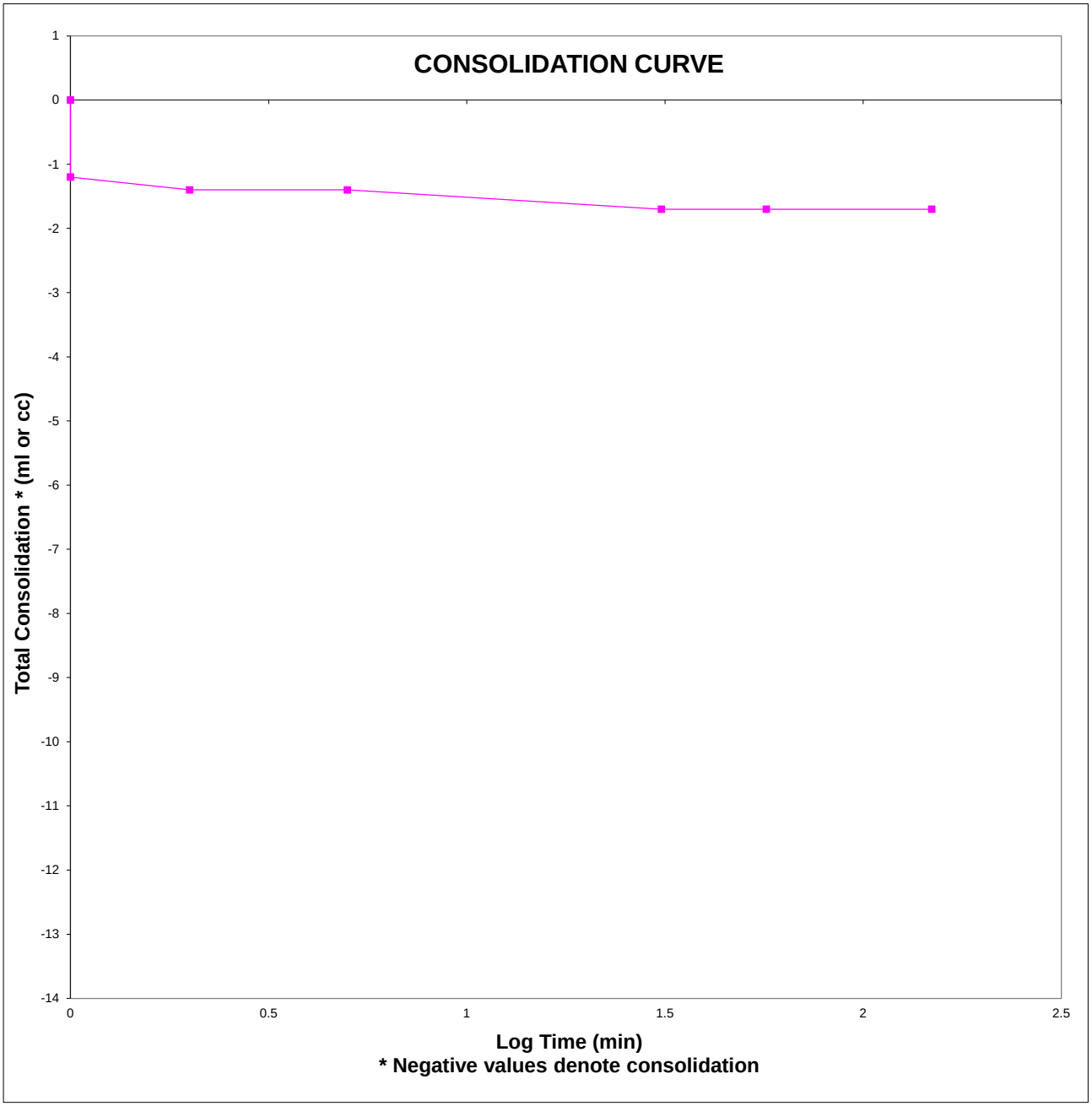
CELL PRESSURE: 75 psi **BACK PRESSURE:** 65 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
11 / 6 / 15	JDM	11 : 24	0	0	0	25.0	25.0	0.0
11 / 6 / 15	JDM	11 : 25	1	1	0.00	24.4	24.4	1.2
11 / 6 / 15	JDM	11 : 26	1	2	0.30	24.3	24.3	1.4
11 / 6 / 15	JDM	11 : 29	3	5	0.70	24.3	24.3	1.4
11 / 6 / 15	JDM	11 : 55	26	31	1.49	24.1	24.2	1.7
11 / 6 / 15	JDM	12 : 21	26	57	1.76	24.1	24.2	1.7
11 / 6 / 15	JDM	13 : 53	92	149	2.17	24.1	24.2	1.7

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A530_PM
SAMPLE No.:	BF34-10-20151029-68 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	11/5/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A530_PM
SAMPLE No.:	BF34-10-20151029-68 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	11/5/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
11 / 6 / 15	JDM	13 : 57	0	1.0	24.0	20.0	75.0	65.0	63.0
11 / 6 / 15	JDM	14 : 31	34	1.5	23.5	20.0	75.0	65.0	63.0
11 / 6 / 15	JDM	15 : 11	40	2.1	22.9	20.0	75.0	65.0	63.0
11 / 6 / 15	JDM	15 : 55	44	2.7	22.3	20.0	75.0	65.0	63.0
11 / 6 / 15	JDM	16 : 40	45	3.4	21.6	20.0	75.0	65.0	63.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A530_PM
SAMPLE No.:	BF34-10-20151029-68 (7-Day	EQUIPMENT No.:	3
TEST DATE:	11/5/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				34.934		
34	0.5	0.5	1.00	34.720	1.52E-07	1.52E-07
40	0.6	0.6	1.00	34.464	1.56E-07	1.56E-07
44	0.6	0.6	1.00	34.208	1.43E-07	1.43E-07
45	0.7	0.7	1.00	33.909	1.64E-07	1.65E-07

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A530_PM
SAMPLE No.:	BF34-10-20151029-68 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	11/5/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**92.2 lb/ft³**	**92.9 lb/ft³**
DRY UNIT WEIGHT	**50.0 lb/ft³**	**49.6 lb/ft³**
MOISTURE CONTENT	**84.2 %**	**87.4 %**
PERMEABILITY @ 20°C	**1.5E-07 cm/sec**	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A567_PM
SAMPLE No.:	BF34-10-20151029-68 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	11/26/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	342.00 ***g***
3. WT WET SOIL + TARE	331.63 ***g***	679.10 ***g***
4. WT DRY SOIL + TARE	177.87 ***g***	519.87 ***g***
5. WT WATER, Ww	153.76 g	159.23 g
6. WT DRY SOIL, Ws	177.87 g	177.87 g
7. MOISTURE CONTENT, W	86.45 %	89.52 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.04 in.***	***3.03 in.***	***1.95 in.***	***1.94 in.***
No. 2	***3.03 in.***	***3.03 in.***	***1.92 in.***	***1.94 in.***
No. 3	***3.02 in.***	***3.02 in.***	***1.92 in.***	***1.91 in.***
Average	3.03 in.	3.03 in.	1.93 in.	1.93 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***331.63 g***	***337.10 g***
Area, Ao	7.21 in^2	7.19 in^2
Volume, Vo	13.90 in^3	13.87 in^3
Bulk Unit Weight	90.9 lb/ft^3	92.6 lb/ft^3
Dry Unit Weight	48.7 lb/ft^3	48.8 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A567_PM
SAMPLE No.:	BF34-10-20151029-68 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	11/26/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
11/30/15	8 : 23	JDM	7.0	5.0	5.7				
11/30/15	9 : 11	JDM	17.0	15.0	15.7	10.9	10.0	5.2	0.52
11/30/15	9 : 51	JDM	27.0	25.0	25.6	22.9	10.0	7.2	0.72
11/30/15	10 : 54	JDM	37.0	35.0	35.6	34.0	10.0	8.4	0.84
11/30/15	11 : 25	JDM	47.0	45.0	45.6	44.5	10.0	8.9	0.89
11/30/15	12 : 9	JDM	57.0	55.0	55.5	54.8	10.0	9.2	0.92
11/30/15	12 : 45	JDM	67.0	65.0	*	65.0	10.0	9.5	0.95
11/30/15	12 : 45	JDM	57.0	55.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A567_PM
SAMPLE No.:	BF34-10-20151029-68 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	11/26/15		

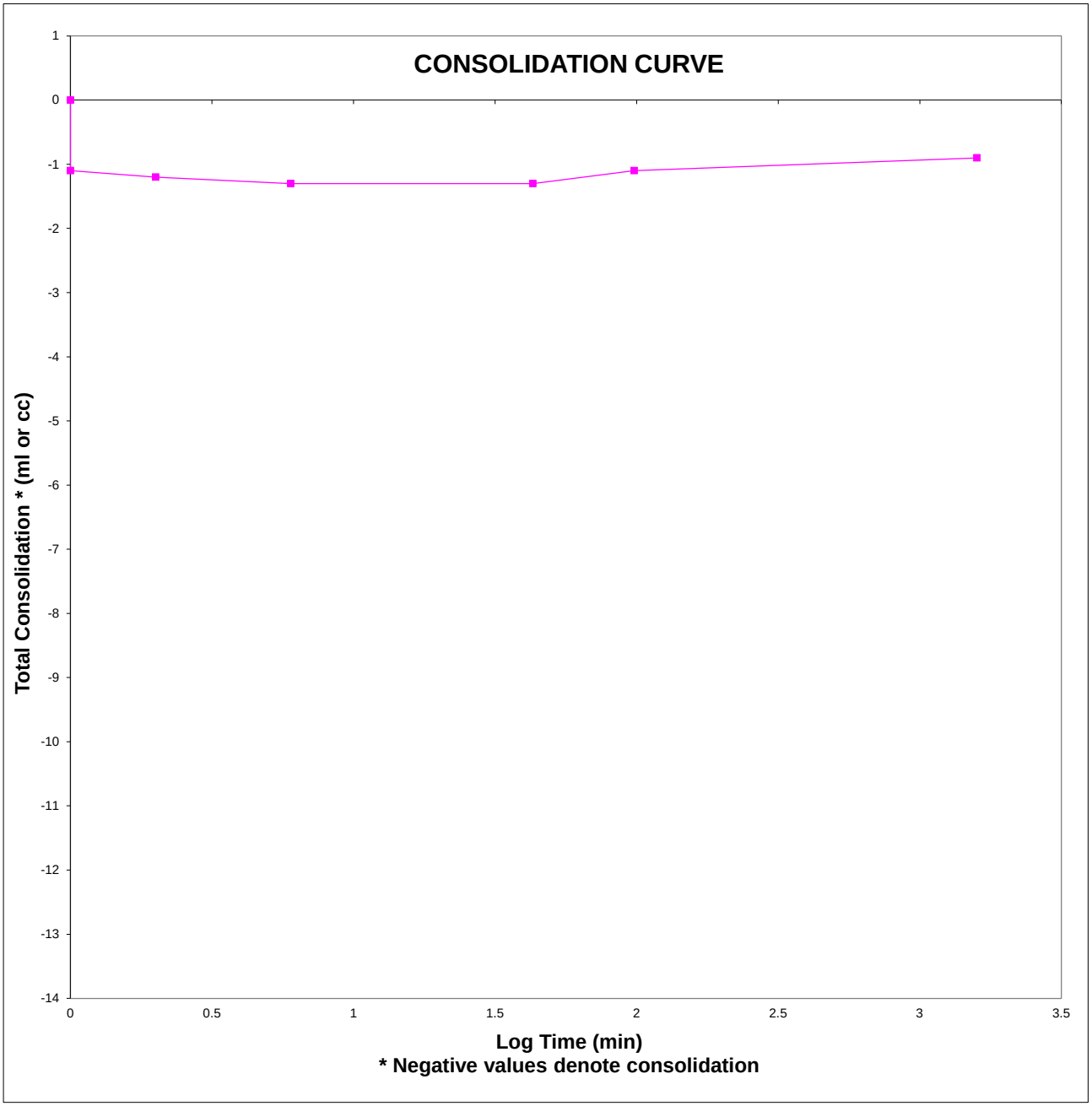
CELL PRESSURE: 65 psi **BACK PRESSURE:** 55 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
11 / 30 / 15	JDM	12 : 47	0	0	0	24.0	24.0	0.0
11 / 30 / 15	JDM	12 : 48	1	1	0.00	23.5	23.4	1.1
11 / 30 / 15	JDM	12 : 49	1	2	0.30	23.5	23.3	1.2
11 / 30 / 15	JDM	12 : 53	4	6	0.78	23.4	23.3	1.3
11 / 30 / 15	JDM	13 : 30	37	43	1.63	23.4	23.3	1.3
11 / 30 / 15	JDM	14 : 25	55	98	1.99	23.5	23.4	1.1
12 / 1 / 15	JDM	15 : 20	1495	1593	3.20	23.6	23.5	0.9

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A567_PM
SAMPLE No.:	BF34-10-20151029-68 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	11/26/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A567_PM
SAMPLE No.:	BF34-10-20151029-68 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	11/26/15		

			ELAPSED	HYDRAULIC			GAUGE		
	TESTED	TIME	TIME	HEAD (cm)		TEMP.	PRESSURE (psi)		
DATE	BY	(military)	(minutes)	INFLUENT	EFFLUENT	C°	CELL	INFLUENT	EFFLUENT
11 / 30 / 15	JDM	15 : 21	0	1.0	24.0	20.0	65.0	55.0	53.0
12 / 1 / 15	JDM	7 : 50	989	4.7	20.3	20.0	65.0	55.0	53.0
12 / 1 / 15	JDM	10 : 30	160	5.2	19.8	20.0	65.0	55.0	53.0
12 / 1 / 15	JDM	13 : 30	180	5.7	19.3	20.0	65.0	55.0	53.0
12 / 2 / 15	JDM	7 : 45	1095	8.7	16.3	20.0	65.0	55.0	53.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A567_PM
SAMPLE No.:	BF34-10-20151029-68 (28-Day	EQUIPMENT No.:	1
TEST DATE:	11/26/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				33.415		
989	3.7	3.7	1.00	31.904	4.11E-08	4.12E-08
160	0.5	0.5	1.00	31.700	3.52E-08	3.54E-08
180	0.5	0.5	1.00	31.496	3.15E-08	3.16E-08
1095	3.0	3.0	1.00	30.271	3.18E-08	3.19E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A567_PM
SAMPLE No.:	BF34-10-20151029-68 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	11/26/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	90.9 lb/ft³	92.6 lb/ft³
DRY UNIT WEIGHT	48.7 lb/ft³	48.8 lb/ft³
MOISTURE CONTENT	86.4 %	89.5 %
PERMEABILITY @ 20°C	3.5E-08 cm/sec	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A536_PM
SAMPLE No.:	AT6-15-20151102-69 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	11/9/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	342.03 ***g***
3. WT WET SOIL + TARE	305.33 ***g***	652.20 ***g***
4. WT DRY SOIL + TARE	197.21 ***g***	539.24 ***g***
5. WT WATER, Ww	108.12 g	112.96 g
6. WT DRY SOIL, Ws	197.21 g	197.21 g
7. MOISTURE CONTENT, W	54.82 %	57.28 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.04 in.***	***3.03 in.***	***1.61 in.***	***1.63 in.***
No. 2	***3.03 in.***	***3.02 in.***	***1.62 in.***	***1.61 in.***
No. 3	***3.01 in.***	***3.01 in.***	***1.64 in.***	***1.62 in.***
Average	3.02 in.	3.02 in.	1.62 in.	1.62 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***305.33 g***	***310.17 g***
Area, Ao	7.19 in^2	7.15 in^2
Volume, Vo	11.66 in^3	11.61 in^3
Bulk Unit Weight	99.8 lb/ft^3	101.8 lb/ft^3
Dry Unit Weight	64.4 lb/ft^3	64.7 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A536_PM
SAMPLE No.:	AT6-15-20151102-69 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	11/9/15		

			TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
TEST DATE	TIME (military)	TESTED BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
11/09/15	11 : 3	JDM	7.0	5.0	5.8				
11/09/15	11 : 51	JDM	17.0	15.0	15.8	10.1	10.0	4.3	0.43
11/09/15	12 : 21	JDM	27.0	25.0	25.8	21.5	10.0	5.7	0.57
11/09/15	13 : 12	JDM	37.0	35.0	35.7	33.1	10.0	7.3	0.73
11/09/15	13 : 36	JDM	47.0	45.0	45.6	43.9	10.0	8.2	0.82
11/09/15	15 : 19	JDM	57.0	55.0	55.5	54.4	10.0	8.8	0.88
11/10/15	7 : 59	JDM	67.0	65.0	*	65.2	10.0	9.7	0.97
11/10/15	7 : 59	JDM	57.0	55.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A536_PM
SAMPLE No.:	AT6-15-20151102-69 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	11/9/15		

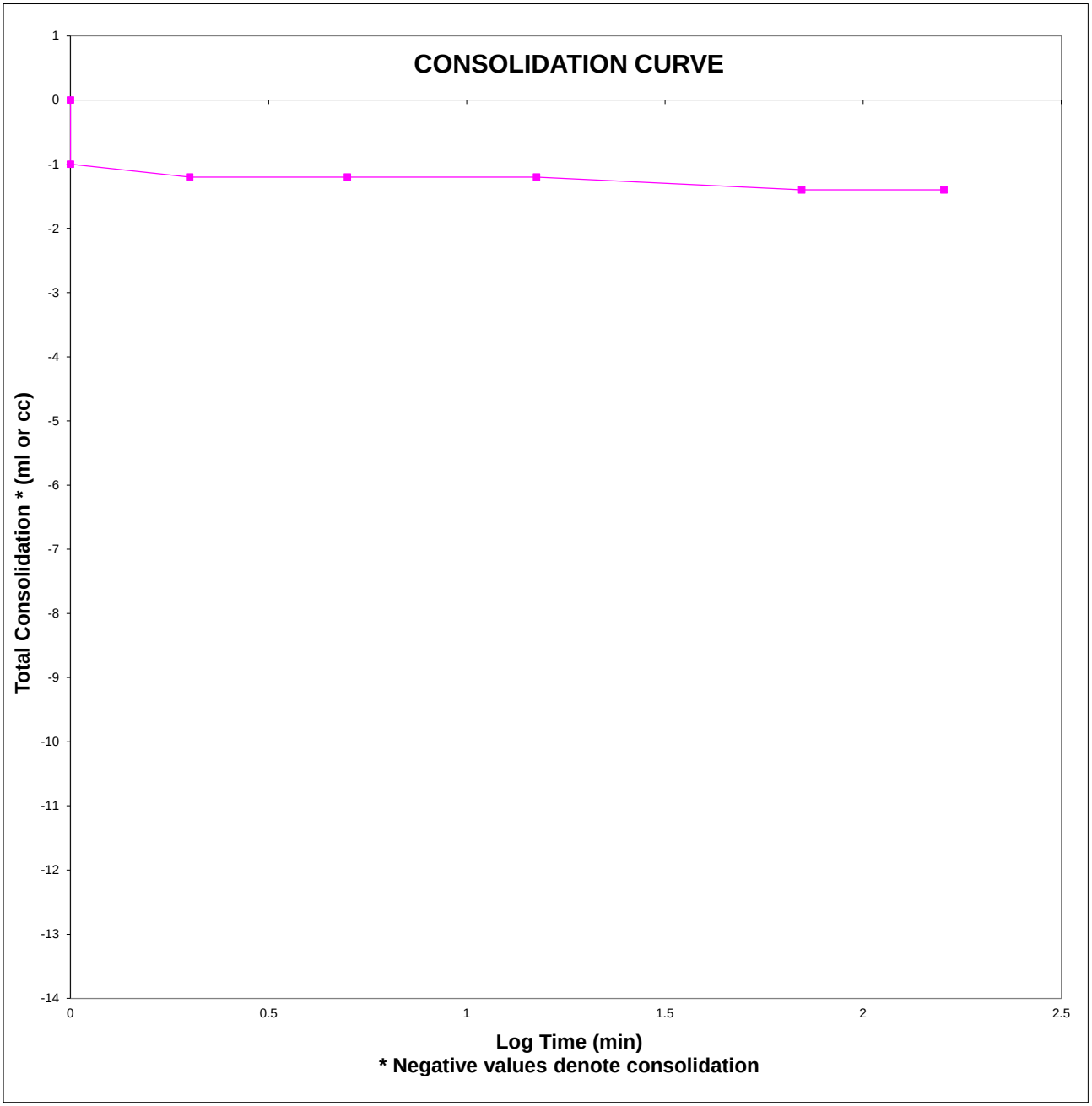
CELL PRESSURE: 65 psi **BACK PRESSURE:** 55 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
11 / 11 / 15	JDM	8 : 5	0	0	0	25.0	25.0	0.0
11 / 11 / 15	JDM	8 : 6	1	1	0.00	24.6	24.4	1.0
11 / 11 / 15	JDM	8 : 7	1	2	0.30	24.5	24.3	1.2
11 / 11 / 15	JDM	8 : 10	3	5	0.70	24.5	24.3	1.2
11 / 11 / 15	JDM	8 : 20	10	15	1.18	24.5	24.3	1.2
11 / 11 / 15	JDM	9 : 15	55	70	1.85	24.4	24.2	1.4
11 / 11 / 15	JDM	10 : 45	90	160	2.20	24.4	24.2	1.4

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A536_PM
SAMPLE No.:	AT6-15-20151102-69 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	11/9/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A536_PM
SAMPLE No.:	AT6-15-20151102-69 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	11/9/15		

				HYDRAULIC			GAUGE		
	TESTED	TIME	ELAPSED TIME	HEAD (cm)		TEMP.	PRESSURE (psi)		
DATE	BY	(military)	(minutes)	INFLUENT	EFFLUENT	C°	CELL	INFLUENT	EFFLUENT
11 / 11 / 15	JDM	10 : 47	0	1.0	24.0	20.0	65.0	55.0	52.0
11 / 11 / 15	JDM	11 : 47	60	1.5	23.5	20.0	65.0	55.0	52.0
11 / 11 / 15	JDM	12 : 48	61	2.0	23.0	20.0	65.0	55.0	52.0
11 / 11 / 15	JDM	13 : 57	69	2.5	22.5	20.0	65.0	55.0	52.0
11 / 11 / 15	JDM	15 : 24	87	3.1	21.9	20.0	65.0	55.0	52.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A536_PM
SAMPLE No.:	AT6-15-20151102-69 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	11/9/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				56.791		
60	0.5	0.5	1.00	56.548	5.29E-08	5.31E-08
61	0.5	0.5	1.00	56.306	5.22E-08	5.25E-08
69	0.5	0.5	1.00	56.063	4.64E-08	4.66E-08
87	0.6	0.6	1.00	55.772	4.43E-08	4.45E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A536_PM
SAMPLE No.:	AT6-15-20151102-69 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	11/9/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**99.8 lb/ft³**	**101.8 lb/ft³**
DRY UNIT WEIGHT	**64.4 lb/ft³**	**64.7 lb/ft³**
MOISTURE CONTENT	**54.8 %**	**57.3 %**
PERMEABILITY @ 20°C	**4.9E-08 cm/sec**	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A570_PM
SAMPLE No.:	AT6-15-20151102-69 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	11/30/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	298.46 ***g***
3. WT WET SOIL + TARE	388.40 ***g***	692.30 ***g***
4. WT DRY SOIL + TARE	254.22 ***g***	552.68 ***g***
5. WT WATER, Ww	134.18 g	139.62 g
6. WT DRY SOIL, Ws	254.22 g	254.22 g
7. MOISTURE CONTENT, W	52.78 %	54.92 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.03 in.***	***3.03 in.***	***2.01 in.***	***2.03 in.***
No. 2	***3.03 in.***	***3.03 in.***	***2.06 in.***	***2.04 in.***
No. 3	***3.02 in.***	***3.02 in.***	***2.01 in.***	***1.98 in.***
Average	3.03 in.	3.02 in.	2.03 in.	2.02 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***388.40 g***	***393.84 g***
Area, Ao	7.19 in^2	7.18 in^2
Volume, Vo	14.59 in^3	14.49 in^3
Bulk Unit Weight	101.4 lb/ft^3	103.5 lb/ft^3
Dry Unit Weight	66.4 lb/ft^3	66.8 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A570_PM
SAMPLE No.:	AT6-15-20151102-69 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	11/30/15		

			TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
TEST DATE	TIME (military)	TESTED BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
11/30/15	9 : 50	JDM	7.0	5.0	5.7				
11/30/15	10 : 56	JDM	17.0	15.0	15.8	12.0	10.0	6.3	0.63
11/30/15	11 : 26	JDM	27.0	25.0	25.7	23.8	10.0	8.0	0.80
11/30/15	12 : 11	JDM	37.0	35.0	35.6	34.5	10.0	8.8	0.88
11/30/15	12 : 52	JDM	47.0	45.0	45.5	44.9	10.0	9.3	0.93
11/30/15	13 : 31	JDM	57.0	55.0	*	55.2	10.0	9.7	0.97
11/30/15	13 : 31	JDM	47.0	45.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A570_PM
SAMPLE No.:	AT6-15-20151102-69 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	11/30/15		

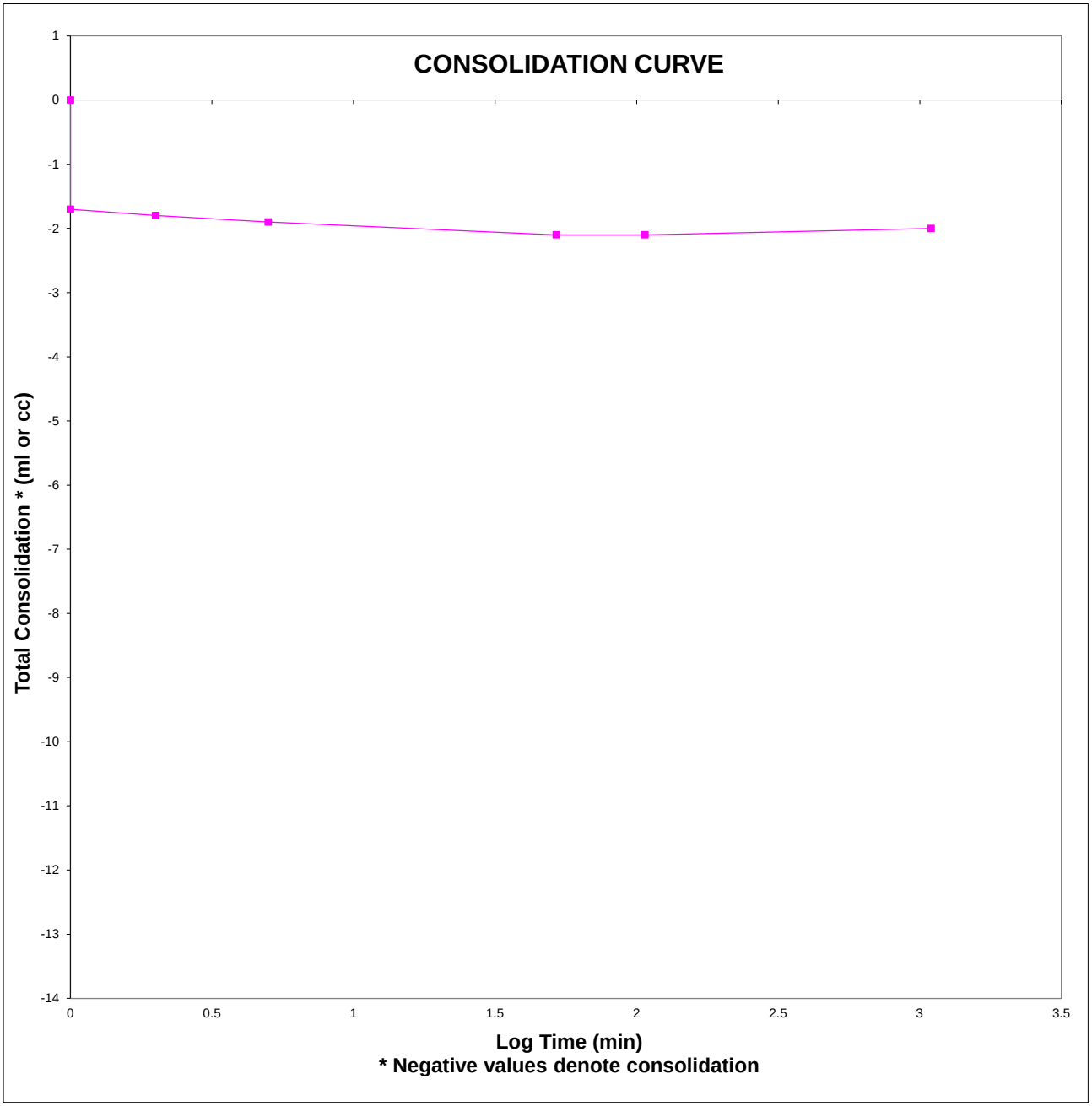
CELL PRESSURE: 55 psi **BACK PRESSURE:** 45 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
11 / 30 / 15	JDM	13 : 33	0	0	0	25.0	25.0	0.0
11 / 30 / 15	JDM	13 : 34	1	1	0.00	24.1	24.2	1.7
11 / 30 / 15	JDM	13 : 35	1	2	0.30	24.1	24.1	1.8
11 / 30 / 15	JDM	13 : 38	3	5	0.70	24.0	24.1	1.9
11 / 30 / 15	JDM	14 : 25	47	52	1.72	24.0	23.9	2.1
11 / 30 / 15	JDM	15 : 20	55	107	2.03	24.0	23.9	2.1
12 / 1 / 15	JDM	7 : 51	991	1098	3.04	24.3	23.7	2.0

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A570_PM
SAMPLE No.:	AT6-15-20151102-69 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	11/30/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A570_PM
SAMPLE No.:	AT6-15-20151102-69 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	11/30/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
12 / 1 / 15	JDM	7 : 55	0	1.0	24.0	20.0	55.0	45.0	43.0
12 / 1 / 15	JDM	9 : 50	115	1.5	23.5	20.0	55.0	45.0	43.0
12 / 1 / 15	JDM	13 : 12	202	2.1	22.9	20.0	55.0	45.0	43.0
12 / 2 / 15	JDM	7 : 47	1115	5.0	20.0	20.0	55.0	45.0	43.0
12 / 2 / 15	JDM	10 : 6	139	5.5	19.5	20.0	55.0	45.0	43.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A570_PM
SAMPLE No.:	AT6-15-20151102-69 (28-Day	EQUIPMENT No.:	3
TEST DATE:	11/30/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				31.778		
115	0.5	0.5	1.00	31.584	4.93E-08	4.95E-08
202	0.6	0.6	1.00	31.351	3.39E-08	3.40E-08
1115	2.9	2.9	1.00	30.225	3.03E-08	3.05E-08
139	0.5	0.5	1.00	30.031	4.29E-08	4.31E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A570_PM
SAMPLE No.:	AT6-15-20151102-69 (28-Day)	EQUIPMENT No.:	3
TEST DATE:	11/30/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	101.4 lb/ft³	103.5 lb/ft³
DRY UNIT WEIGHT	66.4 lb/ft³	66.8 lb/ft³
MOISTURE CONTENT	52.8 %	54.9 %
PERMEABILITY @ 20°C	3.9E-08 cm/sec	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A538_PM
SAMPLE No.:	AI3-20-20151103-70 (7-Day)	EQUIPMENT No.:	5
TEST DATE:	11/10/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	297.88 ***g***
3. WT WET SOIL + TARE	341.97 ***g***	645.40 ***g***
4. WT DRY SOIL + TARE	231.92 ***g***	529.80 ***g***
5. WT WATER, Ww	110.05 g	115.60 g
6. WT DRY SOIL, Ws	231.92 g	231.92 g
7. MOISTURE CONTENT, W	47.45 %	49.84 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.01 in.***	***3.01 in.***	***1.73 in.***	***1.81 in.***
No. 2	***3.02 in.***	***3.03 in.***	***1.77 in.***	***1.73 in.***
No. 3	***3.03 in.***	***3.03 in.***	***1.73 in.***	***1.77 in.***
Average	3.02 in.	3.02 in.	1.74 in.	1.77 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***341.97 g***	***347.52 g***
Area, Ao	7.16 in^2	7.18 in^2
Volume, Vo	12.49 in^3	12.70 in^3
Bulk Unit Weight	104.3 lb/ft^3	104.3 lb/ft^3
Dry Unit Weight	70.7 lb/ft^3	69.6 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A538_PM
SAMPLE No.:	AI3-20-20151103-70 (7-Day)	EQUIPMENT No.:	5
TEST DATE:	11/10/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
11/11/15	8 : 11	JDM	7.0	5.0	5.3				
11/11/15	9 : 18	JDM	17.0	15.0	15.3	8.6	10.0	3.3	0.33
11/11/15	9 : 52	JDM	27.0	25.0	25.4	20.4	10.0	5.1	0.51
11/11/15	10 : 52	JDM	37.0	35.0	35.4	32.7	10.0	7.3	0.73
11/11/15	11 : 23	JDM	47.0	45.0	45.3	43.6	10.0	8.2	0.82
11/11/15	12 : 46	JDM	57.0	55.0	55.3	54.5	10.0	9.2	0.92
11/11/15	13 : 59	JDM	67.0	65.0	*	65.0	10.0	9.7	0.97
11/11/15	13 : 59	JDM	57.0	55.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A538_PM
SAMPLE No.:	AI3-20-20151103-70 (7-Day)	EQUIPMENT No.:	5
TEST DATE:	11/10/15		

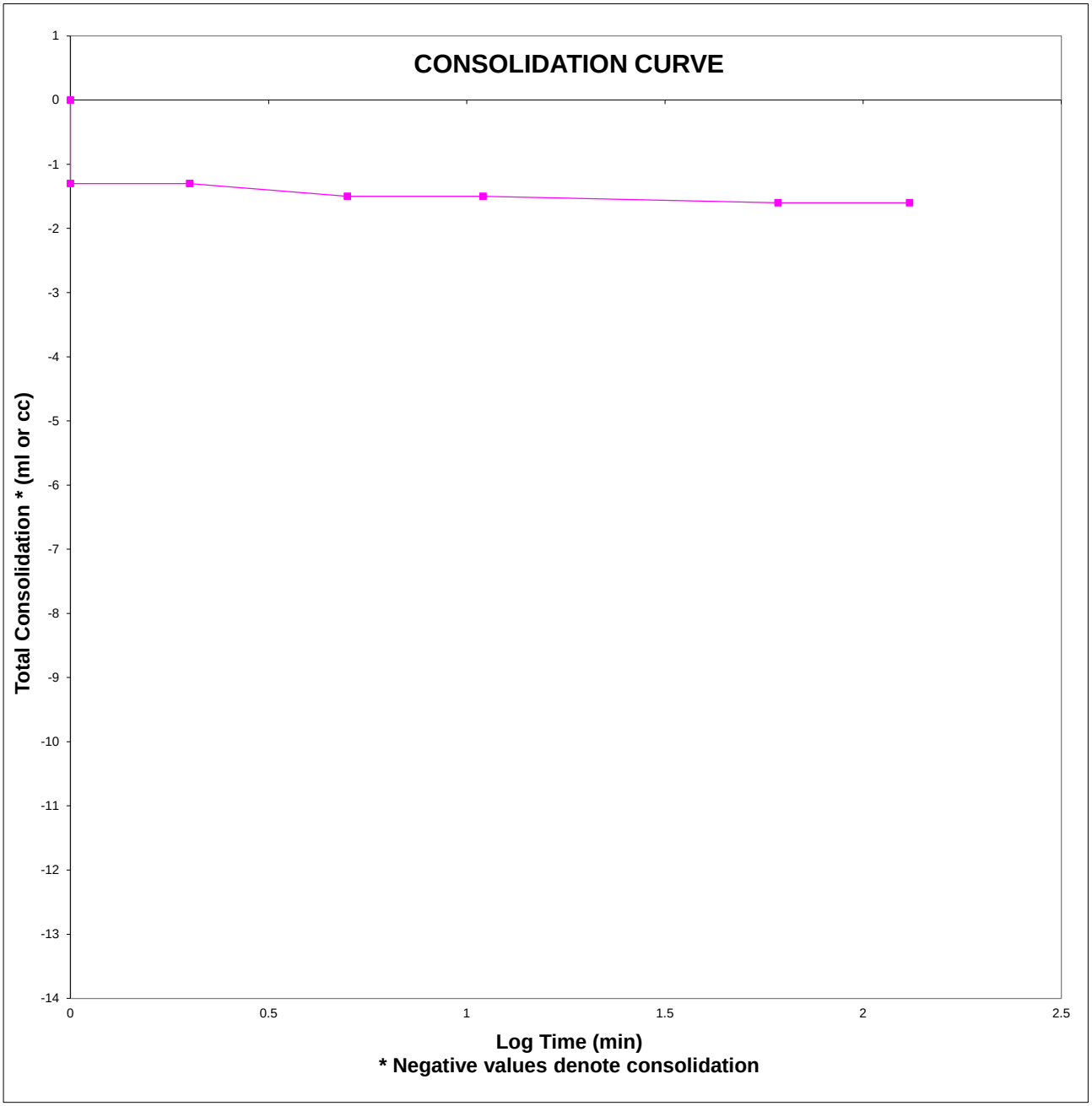
CELL PRESSURE: 65 psi **BACK PRESSURE:** 55 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
11 / 12 / 15	JDM	9 : 44	0	0	0	23.0	23.0	0.0
11 / 12 / 15	JDM	9 : 45	1	1	0.00	22.2	22.5	1.3
11 / 12 / 15	JDM	9 : 46	1	2	0.30	22.2	22.5	1.3
11 / 12 / 15	JDM	9 : 49	3	5	0.70	22.1	22.4	1.5
11 / 12 / 15	JDM	9 : 55	6	11	1.04	22.1	22.4	1.5
11 / 12 / 15	JDM	10 : 45	50	61	1.79	22.0	22.4	1.6
11 / 12 / 15	JDM	11 : 55	70	131	2.12	22.0	22.4	1.6

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A538_PM
SAMPLE No.:	AI3-20-20151103-70 (7-Day)	EQUIPMENT No.:	5
TEST DATE:	11/10/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A538_PM
SAMPLE No.:	AI3-20-20151103-70 (7-Day)	EQUIPMENT No.:	5
TEST DATE:	11/10/15		

				HYDRAULIC			GAUGE		
	TESTED	TIME	ELAPSED TIME	HEAD (cm)		TEMP.	PRESSURE (psi)		
DATE	BY	(military)	(minutes)	INFLUENT	EFFLUENT	C°	CELL	INFLUENT	EFFLUENT
11 / 12 / 15	JDM	12 : 1	0	0.0	25.0	20.0	65.0	55.0	53.0
11 / 12 / 15	JDM	12 : 36	35	0.5	24.5	20.0	65.0	55.0	53.0
11 / 12 / 15	JDM	13 : 12	36	1.0	24.0	20.0	65.0	55.0	53.0
11 / 12 / 15	JDM	14 : 25	73	2.3	22.7	20.0	65.0	55.0	53.0
11 / 12 / 15	JDM	14 : 52	27	2.8	22.2	20.0	65.0	55.0	53.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A538_PM
SAMPLE No.:	AI3-20-20151103-70 (7-Day)	EQUIPMENT No.:	5
TEST DATE:	11/10/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				37.405		
35	0.5	0.5	1.00	37.179	1.38E-07	1.39E-07
36	0.5	0.5	1.00	36.954	1.35E-07	1.36E-07
73	1.3	1.3	1.00	36.367	1.75E-07	1.76E-07
27	0.5	0.5	1.00	36.141	1.84E-07	1.85E-07

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A538_PM
SAMPLE No.:	AI3-20-20151103-70 (7-Day)	EQUIPMENT No.:	5
TEST DATE:	11/10/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**104.3 lb/ft³**	**104.3 lb/ft³**
DRY UNIT WEIGHT	**70.7 lb/ft³**	**69.6 lb/ft³**
MOISTURE CONTENT	**47.5 %**	**49.8 %**
PERMEABILITY @ 20°C	**1.6E-07 cm/sec**	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A571_PM
SAMPLE No.:	AI3-20-20151103-70 (28-Day)	EQUIPMENT No.:	4
TEST DATE:	12/1/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	341.99 ***g***
3. WT WET SOIL + TARE	376.17 ***g***	724.30 ***g***
4. WT DRY SOIL + TARE	254.86 ***g***	596.85 ***g***
5. WT WATER, Ww	121.31 g	127.45 g
6. WT DRY SOIL, Ws	254.86 g	254.86 g
7. MOISTURE CONTENT, W	47.60 %	50.01 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.04 in.***	***3.03 in.***	***1.91 in.***	***1.96 in.***
No. 2	***3.03 in.***	***3.03 in.***	***1.94 in.***	***1.87 in.***
No. 3	***3.01 in.***	***3.02 in.***	***1.96 in.***	***1.95 in.***
Average	3.03 in.	3.03 in.	1.93 in.	1.93 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***376.17 g***	***382.31 g***
Area, Ao	7.20 in^2	7.21 in^2
Volume, Vo	13.93 in^3	13.89 in^3
Bulk Unit Weight	102.9 lb/ft^3	104.8 lb/ft^3
Dry Unit Weight	69.7 lb/ft^3	69.9 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A571_PM
SAMPLE No.:	AI3-20-20151103-70 (28-Day)	EQUIPMENT No.:	4
TEST DATE:	12/1/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
12/01/15	9 : 49	JDM	7.0	5.0	5.7				
12/01/15	10 : 30	JDM	17.0	15.0	15.8	8.9	10.0	3.2	0.32
12/01/15	11 : 19	JDM	27.0	25.0	25.8	20.8	10.0	5.0	0.50
12/01/15	12 : 2	JDM	37.0	35.0	35.7	31.9	10.0	6.1	0.61
12/01/15	13 : 32	JDM	47.0	45.0	45.6	43.8	10.0	8.1	0.81
12/01/15	14 : 28	JDM	57.0	55.0	55.5	54.6	10.0	9.0	0.90
12/01/15	15 : 20	JDM	67.0	65.0	65.5	64.5	10.0	9.0	0.90
12/02/15	7 : 50	JDM	77.0	75.0	*	75.3	10.0	9.8	0.98
12/02/15	7 : 50	JDM	67.0	65.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A571_PM
SAMPLE No.:	AI3-20-20151103-70 (28-Day)	EQUIPMENT No.:	4
TEST DATE:	12/1/15		

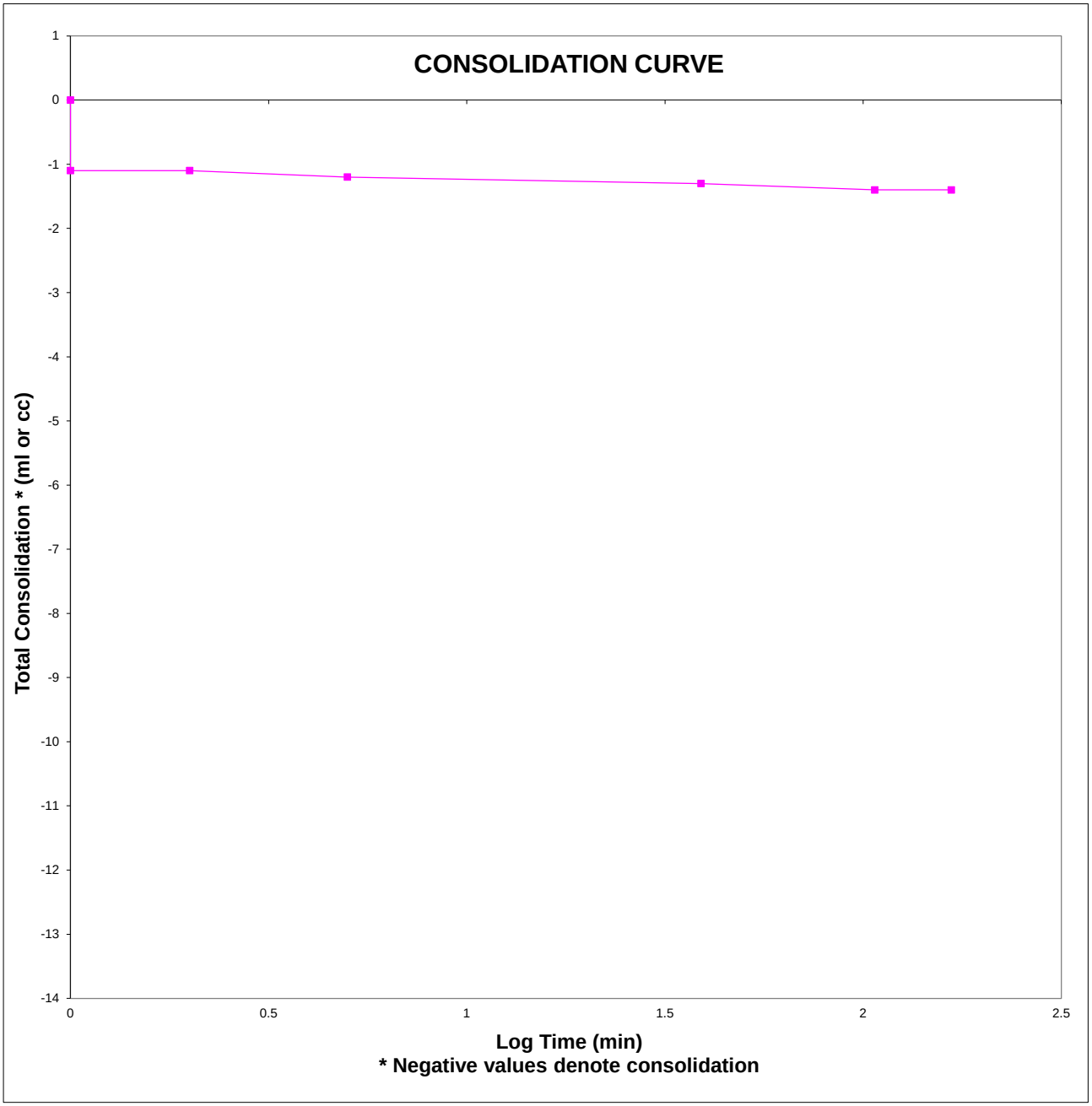
CELL PRESSURE: 75 psi **BACK PRESSURE:** 65 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
12 / 2 / 15	JDM	7 : 53	0	0	0	24.0	24.0	0.0
12 / 2 / 15	JDM	7 : 54	1	1	0.00	23.6	23.3	1.1
12 / 2 / 15	JDM	7 : 55	1	2	0.30	23.6	23.3	1.1
12 / 2 / 15	JDM	7 : 58	3	5	0.70	23.6	23.2	1.2
12 / 2 / 15	JDM	8 : 32	34	39	1.59	23.5	23.2	1.3
12 / 2 / 15	JDM	9 : 40	68	107	2.03	23.5	23.1	1.4
12 / 2 / 15	JDM	10 : 40	60	167	2.22	23.5	23.1	1.4

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A571_PM
SAMPLE No.:	AI3-20-20151103-70 (28-Day)	EQUIPMENT No.:	4
TEST DATE:	12/1/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A571_PM
SAMPLE No.:	AI3-20-20151103-70 (28-Day)	EQUIPMENT No.:	4
TEST DATE:	12/1/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
12 / 2 / 15	JDM	10 : 42	0	1.0	24.0	20.0	75.0	65.0	63.0
12 / 2 / 15	JDM	11 : 12	30	1.5	23.5	20.0	75.0	65.0	63.0
12 / 2 / 15	JDM	12 : 27	75	2.2	22.8	20.0	75.0	65.0	63.0
12 / 2 / 15	JDM	13 : 24	57	2.8	22.2	20.0	75.0	65.0	63.0
12 / 2 / 15	JDM	14 : 28	64	3.4	21.6	20.0	75.0	65.0	63.0
12 / 2 / 15	JDM	15 : 21	53	3.9	21.1	20.0	75.0	65.0	63.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A571_PM
SAMPLE No.:	AI3-20-20151103-70 (28-Day)	EQUIPMENT No.:	4
TEST DATE:	12/1/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				33.317		
30	0.5	0.5	1.00	33.114	1.80E-07	1.81E-07
75	0.7	0.7	1.00	32.829	1.02E-07	1.02E-07
57	0.6	0.6	1.00	32.584	1.15E-07	1.16E-07
64	0.6	0.6	1.00	32.340	1.04E-07	1.04E-07
53	0.5	0.5	1.00	32.137	1.05E-07	1.05E-07

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A571_PM
SAMPLE No.:	AI3-20-20151103-70 (28-Day)	EQUIPMENT No.:	4
TEST DATE:	12/1/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	102.9 lb/ft³	104.8 lb/ft³
DRY UNIT WEIGHT	69.7 lb/ft³	69.9 lb/ft³
MOISTURE CONTENT	47.6 %	50.0 %
PERMEABILITY @ 20°C	1.1E-07 cm/sec	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A541_PM
SAMPLE No.:	C3-25-20151105-71 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	11/12/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	297.51 ***g***
3. WT WET SOIL + TARE	341.60 ***g***	642.20 ***g***
4. WT DRY SOIL + TARE	213.80 ***g***	511.31 ***g***
5. WT WATER, Ww	127.80 g	130.89 g
6. WT DRY SOIL, Ws	213.80 g	213.80 g
7. MOISTURE CONTENT, W	59.78 %	61.22 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.01 in.***	***3.01 in.***	***1.82 in.***	***1.86 in.***
No. 2	***3.03 in.***	***3.02 in.***	***1.84 in.***	***1.82 in.***
No. 3	***3.03 in.***	***3.02 in.***	***1.80 in.***	***1.86 in.***
Average	3.02 in.	3.02 in.	1.82 in.	1.85 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***341.60 g***	***344.69 g***
Area, Ao	7.17 in^2	7.16 in^2
Volume, Vo	13.06 in^3	13.25 in^3
Bulk Unit Weight	99.6 lb/ft^3	99.1 lb/ft^3
Dry Unit Weight	62.3 lb/ft^3	61.5 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A541_PM
SAMPLE No.:	C3-25-20151105-71 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	11/12/15		

			TEST PRESSURES (psi)						
TEST	*TIME*	*TESTED*	*APPLIED*		*PORE*		*PRESSURE CHANGE*		
DATE	*(military)*	*BY*	*CELL*	*BACK*	*SAT.*	*TEST*	*CELL*	*PORE*	*B-Value*
11/12/15	11 : 27	JDM	7.0	5.0	5.6				
11/12/15	12 : 34	JDM	17.0	15.0	15.4	10.9	10.0	5.3	0.53
11/12/15	13 : 16	JDM	27.0	25.0	23.5	23.1	10.0	7.7	0.77
11/12/15	14 : 26	JDM	37.0	35.0	35.7	32.4	10.0	8.9	0.89
11/13/15	7 : 53	JDM	47.0	45.0	45.6	45.3	10.0	9.6	0.96
11/13/15	9 : 30	JDM	57.0	55.0	*	55.4	10.0	9.8	0.98
11/13/15	9 : 30	JDM	47.0	45.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A541_PM
SAMPLE No.:	C3-25-20151105-71 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	11/12/15		

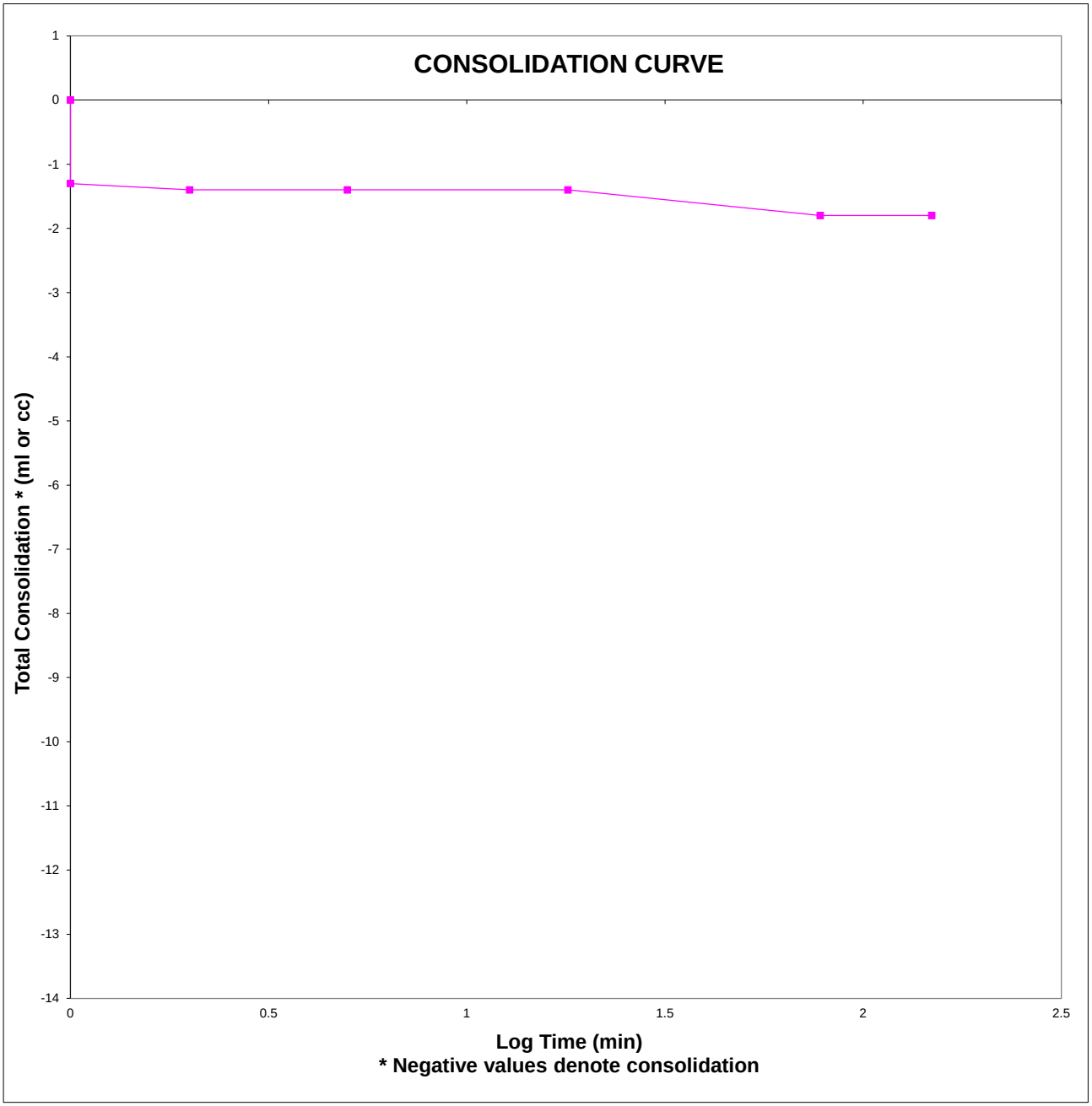
CELL PRESSURE: 55 psi **BACK PRESSURE:** 45 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
11 / 13 / 15	JDM	9 : 32	0	0	0	23.0	23.0	0.0
11 / 13 / 15	JDM	9 : 33	1	1	0.00	22.4	22.3	1.3
11 / 13 / 15	JDM	9 : 34	1	2	0.30	22.3	22.3	1.4
11 / 13 / 15	JDM	9 : 37	3	5	0.70	22.3	22.3	1.4
11 / 13 / 15	JDM	9 : 50	13	18	1.26	22.3	22.3	1.4
11 / 13 / 15	JDM	10 : 50	60	78	1.89	22.1	22.1	1.8
11 / 13 / 15	JDM	12 : 1	71	149	2.17	22.1	22.1	1.8

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A541_PM
SAMPLE No.:	C3-25-20151105-71 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	11/12/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A541_PM
SAMPLE No.:	C3-25-20151105-71 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	11/12/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
11 / 17 / 15	JDM	7 : 58	0	1.0	24.0	20.0	55.0	45.0	43.0
11 / 17 / 15	JDM	8 : 20	22	1.5	23.5	20.0	55.0	45.0	43.0
11 / 17 / 15	JDM	8 : 45	25	2.0	23.0	20.0	55.0	45.0	43.0
11 / 17 / 15	JDM	9 : 20	35	2.6	22.4	20.0	55.0	45.0	43.0
11 / 17 / 15	JDM	9 : 47	27	3.1	21.9	20.0	55.0	45.0	43.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A541_PM
SAMPLE No.:	C3-25-20151105-71 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	11/12/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				35.371		
22	0.5	0.5	1.00	35.155	2.32E-07	2.33E-07
25	0.5	0.5	1.00	34.939	2.06E-07	2.07E-07
35	0.6	0.6	1.00	34.680	1.77E-07	1.78E-07
27	0.5	0.5	1.00	34.464	1.93E-07	1.94E-07

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A541_PM
SAMPLE No.:	C3-25-20151105-71 (7-Day)	EQUIPMENT No.:	2
TEST DATE:	11/12/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**99.6 lb/ft³**	**99.1 lb/ft³**
DRY UNIT WEIGHT	**62.3 lb/ft³**	**61.5 lb/ft³**
MOISTURE CONTENT	**59.8 %**	**61.2 %**
PERMEABILITY @ 20°C	**2.0E-07 cm/sec**	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A572_PM
SAMPLE No.:	C3-25-20151105-71 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	12/3/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	297.89 ***g***
3. WT WET SOIL + TARE	394.62 ***g***	695.90 ***g***
4. WT DRY SOIL + TARE	246.66 ***g***	544.55 ***g***
5. WT WATER, Ww	147.96 g	151.35 g
6. WT DRY SOIL, Ws	246.66 g	246.66 g
7. MOISTURE CONTENT, W	59.99 %	61.36 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.04 in.***	***3.04 in.***	***2.09 in.***	***2.10 in.***
No. 2	***3.03 in.***	***3.03 in.***	***2.15 in.***	***2.14 in.***
No. 3	***3.03 in.***	***3.02 in.***	***2.11 in.***	***2.11 in.***
Average	3.03 in.	3.03 in.	2.12 in.	2.12 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***394.62 g***	***398.01 g***
Area, Ao	7.22 in^2	7.20 in^2
Volume, Vo	15.29 in^3	15.24 in^3
Bulk Unit Weight	98.4 lb/ft^3	99.5 lb/ft^3
Dry Unit Weight	61.5 lb/ft^3	61.7 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A572_PM
SAMPLE No.:	C3-25-20151105-71 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	12/3/15		

			TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
TEST DATE	TIME (military)	TESTED BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
12/03/15	14 : 30	JDM	7.0	5.0	5.6				
12/03/15	15 : 0	JDM	17.0	15.0	15.6	9.5	10.0	3.9	0.39
12/04/15	7 : 55	JDM	27.0	25.0	25.8	22.5	10.0	6.9	0.69
12/04/15	11 : 20	JDM	37.0	35.0	36.4	34.5	10.0	8.7	0.87
12/04/15	12 : 11	JDM	47.0	45.0	45.6	44.5	10.0	8.1	0.81
12/04/15	14 : 21	JDM	57.0	55.0	55.8	54.8	10.0	9.2	0.92
12/07/15	7 : 48	JDM	67.0	65.0	*	65.6	10.0	9.8	0.98
12/07/15	7 : 48	JDM	57.0	55.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A572_PM
SAMPLE No.:	C3-25-20151105-71 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	12/3/15		

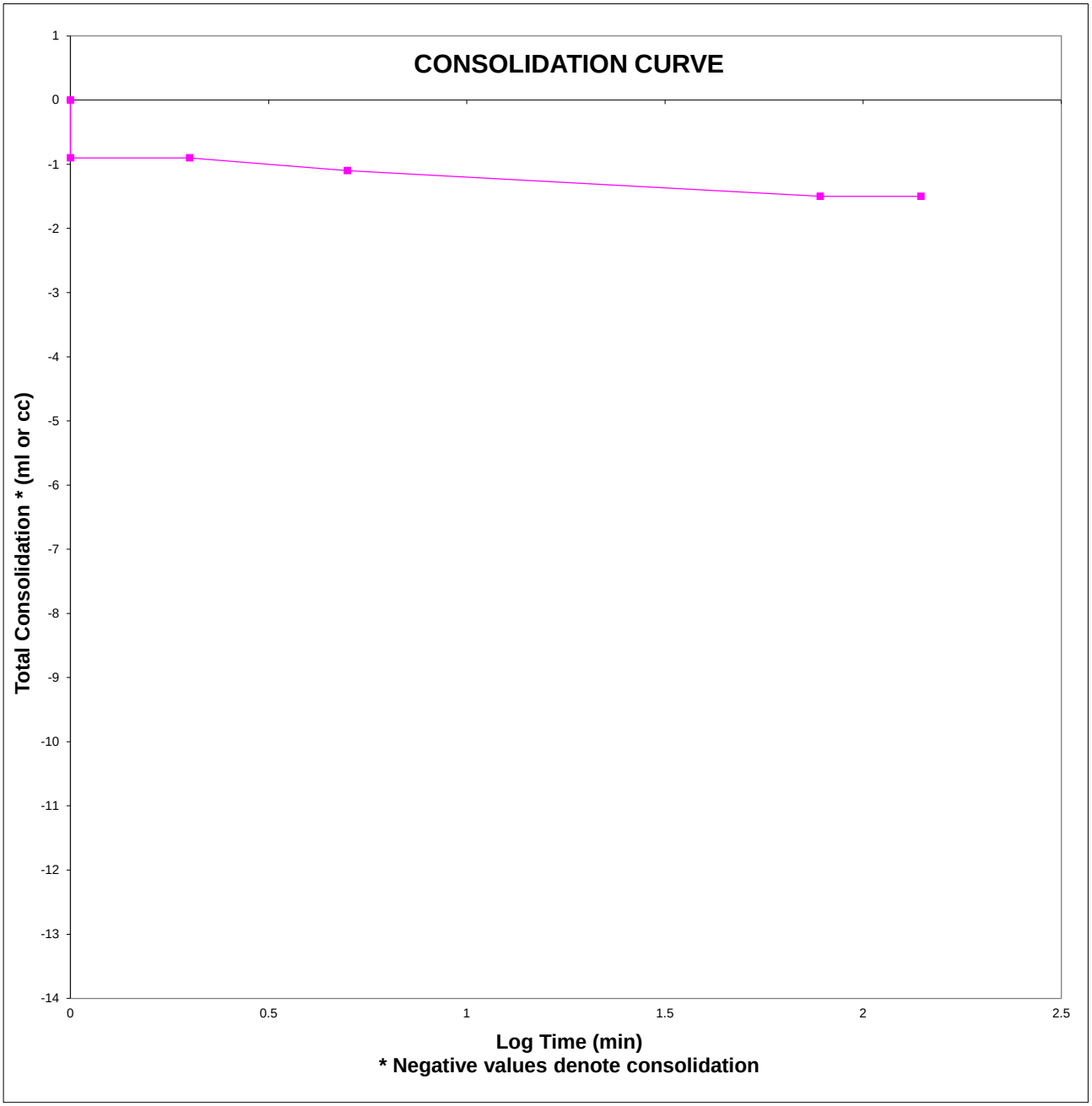
CELL PRESSURE: 65 psi **BACK PRESSURE:** 55 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
12 / 7 / 15	JDM	7 : 50	0	0	0	24.0	24.0	0.0
12 / 7 / 15	JDM	7 : 51	1	1	0.00	23.5	23.6	0.9
12 / 7 / 15	JDM	7 : 52	1	2	0.30	23.5	23.6	0.9
12 / 7 / 15	JDM	7 : 55	3	5	0.70	23.4	23.5	1.1
12 / 7 / 15	JDM	9 : 8	73	78	1.89	23.3	23.2	1.5
12 / 7 / 15	JDM	10 : 10	62	140	2.15	23.3	23.2	1.5

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A572_PM
SAMPLE No.:	C3-25-20151105-71 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	12/3/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A572_PM
SAMPLE No.:	C3-25-20151105-71 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	12/3/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
12 / 7 / 15	JDM	10 : 12	0	1.0	24.0	20.0	65.0	55.0	53.0
12 / 7 / 15	JDM	13 : 15	183	3.9	21.1	20.0	65.0	55.0	53.0
12 / 7 / 15	JDM	14 : 10	55	4.7	20.3	20.0	65.0	55.0	53.0
12 / 7 / 15	JDM	14 : 52	42	5.3	19.7	20.0	65.0	55.0	53.0
12 / 7 / 15	JDM	15 : 22	30	5.8	19.2	20.0	65.0	55.0	53.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A572_PM
SAMPLE No.:	C3-25-20151105-71 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	12/3/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				30.440		
183	2.9	2.9	1.00	29.361	1.90E-07	1.91E-07
55	0.8	0.8	1.00	29.064	1.78E-07	1.79E-07
42	0.6	0.6	1.00	28.840	1.77E-07	1.77E-07
30	0.5	0.5	1.00	28.654	2.07E-07	2.08E-07

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A572_PM
SAMPLE No.:	C3-25-20151105-71 (28-Day)	EQUIPMENT No.:	1
TEST DATE:	12/3/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**98.4 lb/ft³**	**99.5 lb/ft³**
DRY UNIT WEIGHT	**61.5 lb/ft³**	**61.7 lb/ft³**
MOISTURE CONTENT	**60.0 %**	**61.4 %**
PERMEABILITY @ 20°C	**1.9E-07 cm/sec**	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A551_PM
SAMPLE No.:	I5-20-20151106-72 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	11/13/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	297.85 ***g***
3. WT WET SOIL + TARE	359.28 ***g***	663.20 ***g***
4. WT DRY SOIL + TARE	236.88 ***g***	534.73 ***g***
5. WT WATER, Ww	122.40 g	128.47 g
6. WT DRY SOIL, Ws	236.88 g	236.88 g
7. MOISTURE CONTENT, W	51.67 %	54.23 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.05 in.***	***3.05 in.***	***1.88 in.***	***1.90 in.***
No. 2	***3.02 in.***	***3.02 in.***	***1.94 in.***	***1.93 in.***
No. 3	***3.01 in.***	***3.01 in.***	***1.86 in.***	***1.87 in.***
Average	3.02 in.	3.03 in.	1.89 in.	1.90 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***359.28 g***	***365.35 g***
Area, Ao	7.18 in^2	7.19 in^2
Volume, Vo	13.58 in^3	13.65 in^3
Bulk Unit Weight	100.7 lb/ft^3	102.0 lb/ft^3
Dry Unit Weight	66.4 lb/ft^3	66.1 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A551_PM
SAMPLE No.:	I5-20-20151106-72 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	11/13/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
11/13/15	11 : 15	JDM	7.0	5.0	5.9				
11/13/15	12 : 2	JDM	17.0	15.0	15.4	9.1	10.0	3.2	0.32
11/13/15	13 : 30	JDM	27.0	25.0	25.5	20.1	10.0	4.7	0.47
11/13/15	14 : 15	JDM	37.0	35.0	35.6	32.3	10.0	6.8	0.68
11/15/15	11 : 28	JDM	47.0	45.0	45.6	44.4	10.0	8.8	0.88
11/17/15	8 : 0	JDM	57.0	55.0	55.6	54.9	10.0	9.3	0.93
11/17/15	8 : 47	JDM	67.0	65.0	*	65.2	10.0	9.6	0.96
11/17/15	8 : 47	JDM	57.0	55.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A551_PM
SAMPLE No.:	I5-20-20151106-72 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	11/13/15		

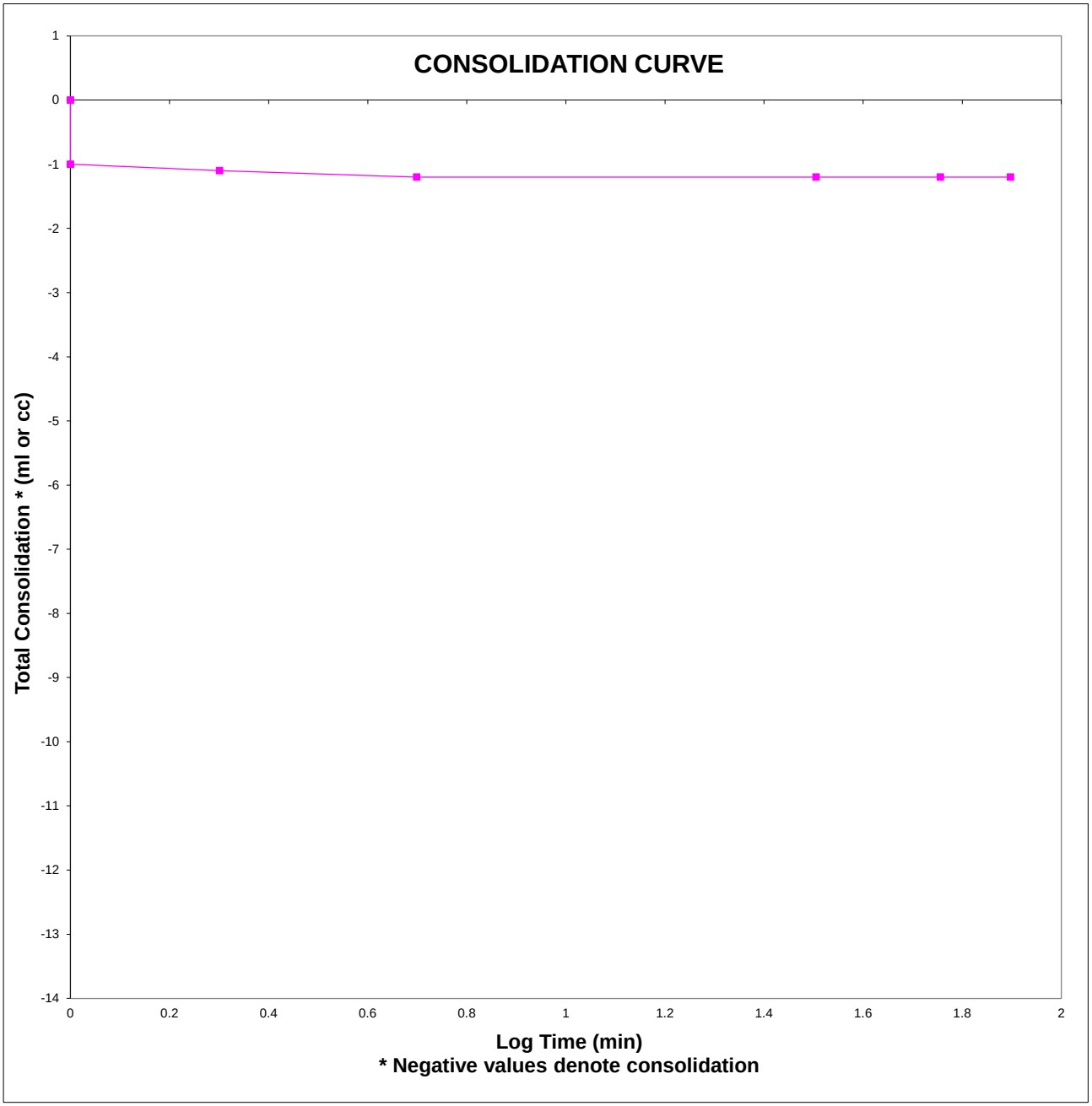
CELL PRESSURE: 65 psi **BACK PRESSURE:** 55 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
11 / 17 / 15	JDM	8 : 48	0	0	0	24.0	24.0	0.0
11 / 17 / 15	JDM	8 : 49	1	1	0.00	23.6	23.4	1.0
11 / 17 / 15	JDM	8 : 50	1	2	0.30	23.5	23.4	1.1
11 / 17 / 15	JDM	8 : 53	3	5	0.70	23.5	23.3	1.2
11 / 17 / 15	JDM	9 : 20	27	32	1.51	23.5	23.3	1.2
11 / 17 / 15	JDM	9 : 45	25	57	1.76	23.5	23.3	1.2
11 / 17 / 15	JDM	10 : 7	22	79	1.90	23.5	23.3	1.2

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A551_PM
SAMPLE No.:	I5-20-20151106-72 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	11/13/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A551_PM
SAMPLE No.:	I5-20-20151106-72 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	11/13/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
11 / 17 / 15	JDM	10 : 9	0	1.0	24.0	20.0	65.0	55.0	53.0
11 / 17 / 15	JDM	10 : 54	45	1.7	23.3	20.0	65.0	55.0	53.0
11 / 17 / 15	JDM	11 : 35	41	2.3	22.7	20.0	65.0	55.0	53.0
11 / 17 / 15	JDM	12 : 3	28	2.8	22.2	20.0	65.0	55.0	53.0
11 / 17 / 15	JDM	12 : 39	36	3.3	21.7	20.0	65.0	55.0	53.0
11 / 17 / 15	JDM	13 : 20	41	4.0	21.0	20.0	65.0	55.0	53.0
11 / 17 / 15	JDM	14 : 4	44	4.6	20.4	20.0	65.0	55.0	53.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A551_PM
SAMPLE No.:	I5-20-20151106-72 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	11/13/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				34.054		
45	0.7	0.7	1.00	33.762	1.65E-07	1.66E-07
41	0.6	0.6	1.00	33.513	1.57E-07	1.57E-07
28	0.5	0.5	1.00	33.305	1.92E-07	1.93E-07
36	0.5	0.5	1.00	33.097	1.51E-07	1.51E-07
41	0.7	0.7	1.00	32.805	1.86E-07	1.87E-07
44	0.6	0.6	1.00	32.556	1.50E-07	1.51E-07

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A551_PM
SAMPLE No.:	I5-20-20151106-72 (7-Day)	EQUIPMENT No.:	1
TEST DATE:	11/13/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	100.7 lb/ft³	102.0 lb/ft³
DRY UNIT WEIGHT	66.4 lb/ft³	66.1 lb/ft³
MOISTURE CONTENT	51.7 %	54.2 %
PERMEABILITY @ 20°C	1.7E-07 cm/sec	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A573_PM
SAMPLE No.:	I5-20-20151106-72 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	12/4/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	342.01 ***g***
3. WT WET SOIL + TARE	368.33 ***g***	716.70 ***g***
4. WT DRY SOIL + TARE	245.90 ***g***	587.91 ***g***
5. WT WATER, Ww	122.43 g	128.79 g
6. WT DRY SOIL, Ws	245.90 g	245.90 g
7. MOISTURE CONTENT, W	49.79 %	52.37 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.05 in.***	***3.05 in.***	***1.93 in.***	***1.95 in.***
No. 2	***3.02 in.***	***3.03 in.***	***1.99 in.***	***2.01 in.***
No. 3	***3.03 in.***	***3.03 in.***	***1.92 in.***	***1.99 in.***
Average	3.03 in.	3.04 in.	1.95 in.	1.98 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***368.33 g***	***374.69 g***
Area, Ao	7.23 in^2	7.24 in^2
Volume, Vo	14.06 in^3	14.36 in^3
Bulk Unit Weight	99.8 lb/ft^3	99.4 lb/ft^3
Dry Unit Weight	66.6 lb/ft^3	65.3 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A573_PM
SAMPLE No.:	I5-20-20151106-72 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	12/4/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
12/04/15	14 : 35	JDM	7.0	5.0	5.7				
12/07/15	7 : 51	JDM	17.0	15.0	15.8	9.6	10.0	3.9	0.39
12/07/15	9 : 9	JDM	27.0	25.0	25.9	22.5	10.0	6.7	0.67
12/07/15	9 : 47	JDM	37.0	35.0	35.9	34.0	10.0	8.1	0.81
12/07/15	11 : 33	JDM	47.0	45.0	45.7	44.5	10.0	8.6	0.86
12/07/15	12 : 6	JDM	57.0	55.0	55.7	54.9	10.0	9.2	0.92
12/07/15	13 : 20	JDM	67.0	65.0	*	65.2	10.0	9.5	0.95
12/07/15	13 : 20	JDM	57.0	55.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A573_PM
SAMPLE No.:	I5-20-20151106-72 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	12/4/15		

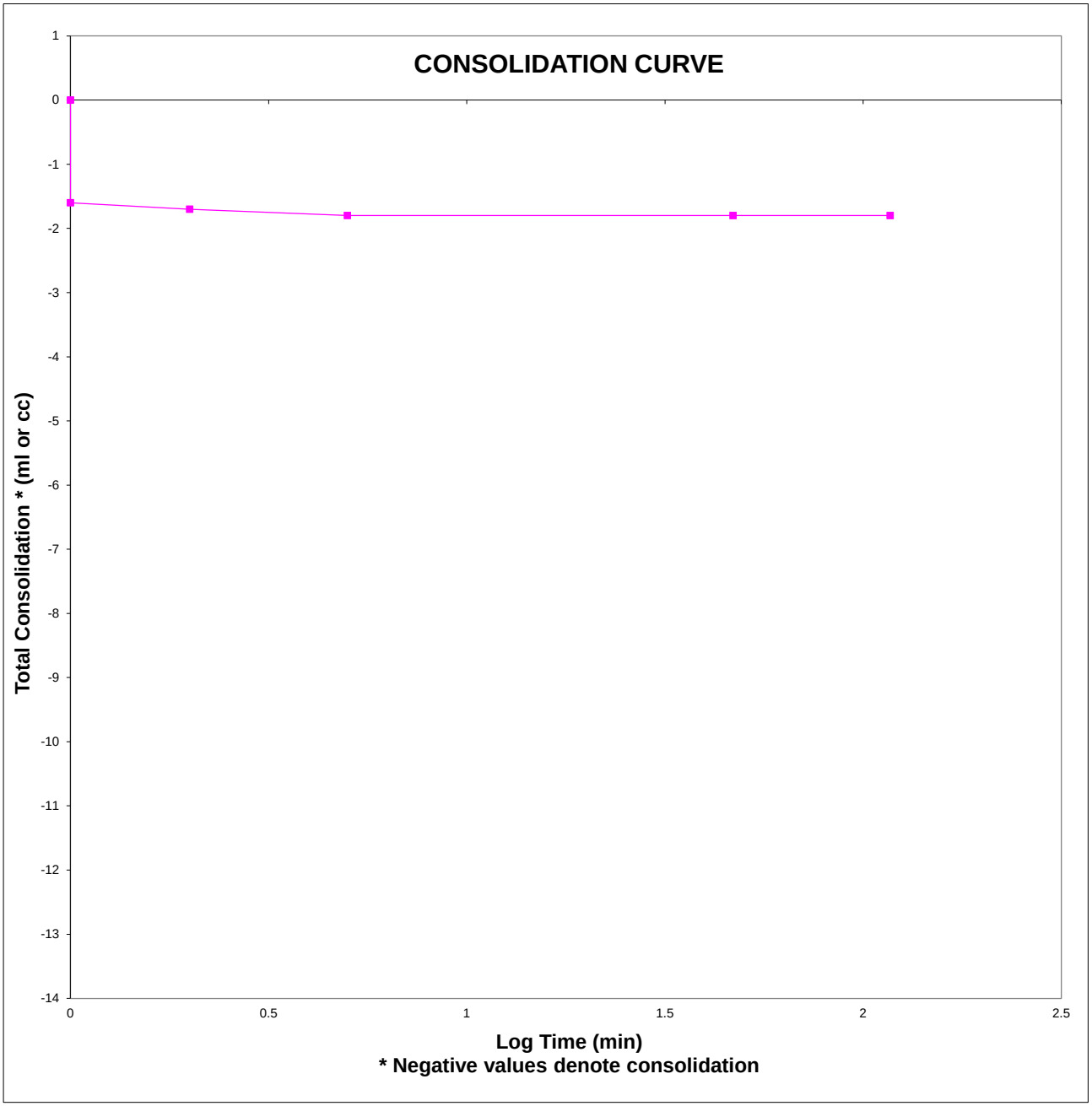
CELL PRESSURE: 65 psi **BACK PRESSURE:** 55 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
12 / 7 / 15	JDM	13 : 23	0	0	0	24.0	24.0	0.0
12 / 7 / 15	JDM	13 : 24	1	1	0.00	23.1	23.3	1.6
12 / 7 / 15	JDM	13 : 25	1	2	0.30	23.0	23.3	1.7
12 / 7 / 15	JDM	13 : 28	3	5	0.70	23.0	23.2	1.8
12 / 7 / 15	JDM	14 : 10	42	47	1.67	23.0	23.2	1.8
12 / 7 / 15	JDM	15 : 20	70	117	2.07	23.0	23.2	1.8

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A573_PM
SAMPLE No.:	I5-20-20151106-72 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	12/4/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A573_PM
SAMPLE No.:	I5-20-20151106-72 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	12/4/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
12 / 8 / 15	JDM	8 : 2	0	1.0	24.0	20.0	65.0	55.0	53.0
12 / 8 / 15	JDM	10 : 35	153	1.6	23.4	20.0	65.0	55.0	53.0
12 / 8 / 15	JDM	12 : 56	141	2.1	22.9	20.0	65.0	55.0	53.0
12 / 8 / 15	JDM	15 : 27	151	2.6	22.4	20.0	65.0	55.0	53.0
12 / 9 / 15	JDM	7 : 40	973	5.4	19.6	20.0	65.0	55.0	53.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A573_PM
SAMPLE No.:	I5-20-20151106-72 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	12/4/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				33.123		
153	0.6	0.6	1.00	32.880	4.25E-08	4.27E-08
141	0.5	0.5	1.00	32.678	3.87E-08	3.89E-08
151	0.5	0.5	1.00	32.476	3.63E-08	3.65E-08
973	2.8	2.8	1.00	31.342	3.22E-08	3.24E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A573_PM
SAMPLE No.:	I5-20-20151106-72 (28-Day)	EQUIPMENT No.:	2
TEST DATE:	12/4/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	99.8 lb/ft³	99.4 lb/ft³
DRY UNIT WEIGHT	66.6 lb/ft³	65.3 lb/ft³
MOISTURE CONTENT	49.8 %	52.4 %
PERMEABILITY @ 20°C	3.8E-08 cm/sec	

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A553_PM
SAMPLE No.:	R4-5-20151009-73 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	11/16/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	341.99 ***g***
3. WT WET SOIL + TARE	340.68 ***g***	685.30 ***g***
4. WT DRY SOIL + TARE	213.11 ***g***	555.10 ***g***
5. WT WATER, Ww	127.57 g	130.20 g
6. WT DRY SOIL, Ws	213.11 g	213.11 g
7. MOISTURE CONTENT, W	59.86 %	61.10 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.02 in.***	***3.02 in.***	***1.93 in.***	***1.89 in.***
No. 2	***3.02 in.***	***3.03 in.***	***1.84 in.***	***1.83 in.***
No. 3	***3.01 in.***	***3.01 in.***	***1.77 in.***	***1.77 in.***
Average	3.02 in.	3.02 in.	1.84 in.	1.83 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***340.68 g***	***343.31 g***
Area, Ao	7.15 in^2	7.16 in^2
Volume, Vo	13.17 in^3	13.10 in^3
Bulk Unit Weight	98.6 lb/ft^3	99.8 lb/ft^3
Dry Unit Weight	61.6 lb/ft^3	62.0 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A553_PM
SAMPLE No.:	R4-5-20151009-73 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	11/16/15		

			TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
TEST DATE	TIME (military)	TESTED BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
11/17/15	11 : 11	JDM	7.0	5.0	5.8				
11/17/15	12 : 4	JDM	17.0	15.0	15.9	9.5	10.0	3.7	0.37
11/17/15	13 : 21	JDM	27.0	25.0	25.8	21.9	10.0	6.0	0.60
11/17/15	14 : 7	JDM	37.0	35.0	35.7	33.1	10.0	7.3	0.73
11/17/15	14 : 46	JDM	47.0	45.0	45.6	44.1	10.0	8.4	0.84
11/17/15	15 : 26	JDM	57.0	55.0	55.7	54.7	10.0	9.1	0.91
11/18/15	7 : 58	JDM	67.0	65.0	*	65.3	10.0	9.6	0.96
11/18/15	7 : 58	JDM	57.0	55.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A553_PM
SAMPLE No.:	R4-5-20151009-73 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	11/16/15		

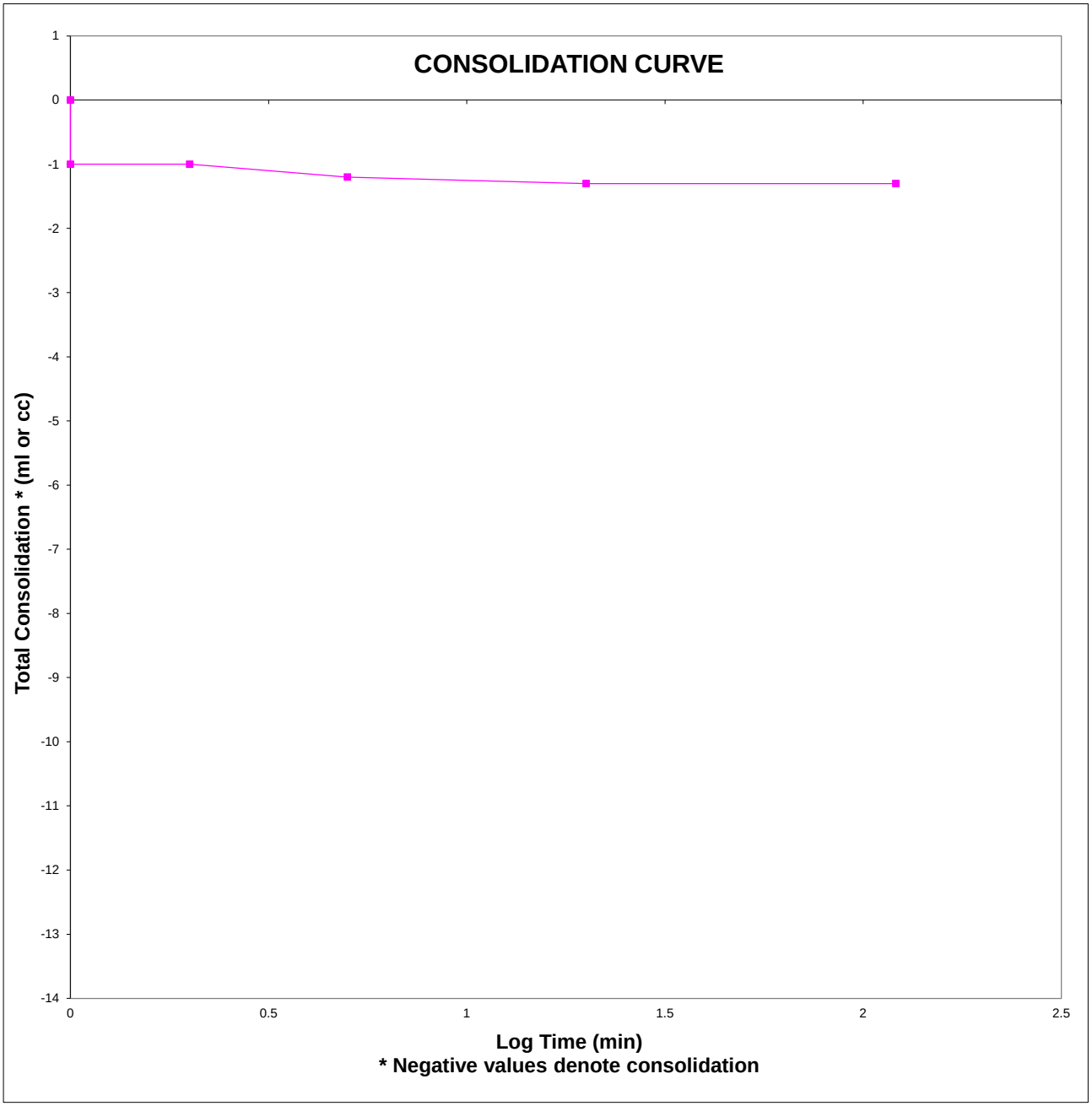
CELL PRESSURE: 65 psi **BACK PRESSURE:** 55 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
11 / 18 / 15	JDM	8 : 25	0	0	0	24.0	24.0	0.0
11 / 18 / 15	JDM	8 : 26	1	1	0.00	23.6	23.4	1.0
11 / 18 / 15	JDM	8 : 27	1	2	0.30	23.6	23.4	1.0
11 / 18 / 15	JDM	8 : 30	3	5	0.70	23.5	23.3	1.2
11 / 18 / 15	JDM	8 : 45	15	20	1.30	23.5	23.2	1.3
11 / 18 / 15	JDM	10 : 26	101	121	2.08	23.5	23.2	1.3

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A553_PM
SAMPLE No.:	R4-5-20151009-73 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	11/16/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A553_PM
SAMPLE No.:	R4-5-20151009-73 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	11/16/15		

				HYDRAULIC HEAD (cm)			GAUGE PRESSURE (psi)		
DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	INFLUENT	EFFLUENT	TEMP. C°	CELL	INFLUENT	EFFLUENT
11 / 18 / 15	JDM	10 : 29	0	1.0	24.0	20.0	65.0	55.0	54.0
11 / 18 / 15	JDM	10 : 41	12	1.5	23.5	20.0	65.0	55.0	54.0
11 / 18 / 15	JDM	10 : 58	17	2.1	22.9	20.0	65.0	55.0	54.0
11 / 18 / 15	JDM	11 : 17	19	2.6	22.4	20.0	65.0	55.0	54.0
11 / 18 / 15	JDM	11 : 32	15	3.1	21.9	20.0	65.0	55.0	54.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A553_PM
SAMPLE No.:	R4-5-20151009-73 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	11/16/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				19.943		
12	0.5	0.5	1.00	19.729	7.59E-07	7.63E-07
17	0.6	0.6	1.00	19.473	6.51E-07	6.54E-07
19	0.5	0.5	1.00	19.259	4.91E-07	4.93E-07
15	0.5	0.5	1.00	19.045	6.29E-07	6.32E-07

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A553_PM
SAMPLE No.:	R4-5-20151009-73 (7-Day)	EQUIPMENT No.:	4
TEST DATE:	11/16/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	98.6 lb/ft³	99.8 lb/ft³
DRY UNIT WEIGHT	61.6 lb/ft³	62.0 lb/ft³
MOISTURE CONTENT	59.9 %	61.1 %
PERMEABILITY @ 20°C	6.4E-07 cm/sec	

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	12/15/2015	Tested By:	jcw
End Date:	1/0/1900	Checked By:	mcm
Boring #:	---		
Sample #:	R4-5-20151109-73 (28 Day)		
Depth:	---		
Visual Description:	Moist, brownish yellow soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084

Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	19/2

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.55

Parameter	Initial	Final
Height, in	1.98	1.98
Diameter, in	3.02	3.02
Area, in^2	7.16	7.16
Volume, in^3	14.2	14.2
Mass, g	366	371
Bulk Density, pcf	98	99
Moisture Content, %	61.1	63.5
Dry Density, pcf	60.8	60.8
Degree of Saturation, %	96	100

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	95.06	Increased Cell Pressure, psi:	99.95	Cell Pressure Increment, psi:	4.89
Sample Pressure, psi:	84.87	Corresponding Sample Pressure, psi:	85.96	Sample Pressure Increment, psi:	1.09
				B Coefficient:	0.22

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time, sec	Gradient	Permeability K, cm/sec	Temp, °C	R_t	Permeability K @ 20 °C, cm/sec
		Cell	Sample	Z_1	Z_2	Z_1-Z_2						
12/15	1	95.1	84.9	8.0	7.7	0.3	88	20.0	1.2E-07	20.2	0.995	1.2E-07
12/15	2	95.1	84.9	8.0	7.7	0.3	97	20.0	1.1E-07	20.2	0.995	1.1E-07
12/15	3	95.1	84.9	8.0	7.7	0.3	105	20.0	9.9E-08	20.2	0.995	9.8E-08
12/15	4	95.1	84.9	8.0	7.7	0.3	112	20.0	9.3E-08	20.2	0.995	9.2E-08

PERMEABILITY AT 20° C: 1.0 x 10^{-7} cm/sec (@ 10 psi effective stress)

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A556_PM
SAMPLE No.:	X4-15-20151110-74 (7-Day)	EQUIPMENT No.:	8
TEST DATE:	11/17/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	297.86 ***g***
3. WT WET SOIL + TARE	377.65 ***g***	681.00 ***g***
4. WT DRY SOIL + TARE	257.91 ***g***	555.77 ***g***
5. WT WATER, Ww	119.74 g	125.23 g
6. WT DRY SOIL, Ws	257.91 g	257.91 g
7. MOISTURE CONTENT, W	46.43 %	48.56 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.02 in.***	***3.03 in.***	***1.89 in.***	***1.93 in.***
No. 2	***3.01 in.***	***3.02 in.***	***1.92 in.***	***1.95 in.***
No. 3	***3.00 in.***	***3.01 in.***	***1.94 in.***	***1.89 in.***
Average	3.01 in.	3.02 in.	1.92 in.	1.92 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***377.65 g***	***383.14 g***
Area, Ao	7.13 in^2	7.17 in^2
Volume, Vo	13.68 in^3	13.76 in^3
Bulk Unit Weight	105.2 lb/ft^3	106.1 lb/ft^3
Dry Unit Weight	71.8 lb/ft^3	71.4 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A556_PM
SAMPLE No.:	X4-15-20151110-74 (7-Day)	EQUIPMENT No.:	8
TEST DATE:	11/17/15		

			TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
TEST DATE	TIME (military)	TESTED BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
11/17/15	14 : 4	JDM	7.0	5.0	5.9				
11/17/15	14 : 47	JDM	17.0	15.0	16.0	8.9	10.0	3.0	0.30
11/17/15	15 : 28	JDM	27.0	25.0	25.7	21.5	10.0	5.5	0.55
11/17/15	8 : 3	JDM	37.0	35.0	35.7	32.3	10.0	6.6	0.66
11/18/15	8 : 50	JDM	47.0	45.0	45.7	43.6	10.0	7.9	0.79
11/18/15	10 : 35	JDM	57.0	55.0	55.7	54.3	10.0	8.6	0.86
11/18/15	11 : 21	JDM	67.0	65.0	65.9	64.7	10.0	9.0	0.90
11/18/15	12 : 9	JDM	77.0	75.0	76.1	75.2	10.0	9.3	0.93
11/18/15	12 : 40	JDM	87.0	85.0	*	85.6	10.0	9.5	0.95
11/18/15	12 : 40	JDM	77.0	75.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A556_PM
SAMPLE No.:	X4-15-20151110-74 (7-Day)	EQUIPMENT No.:	8
TEST DATE:	11/17/15		

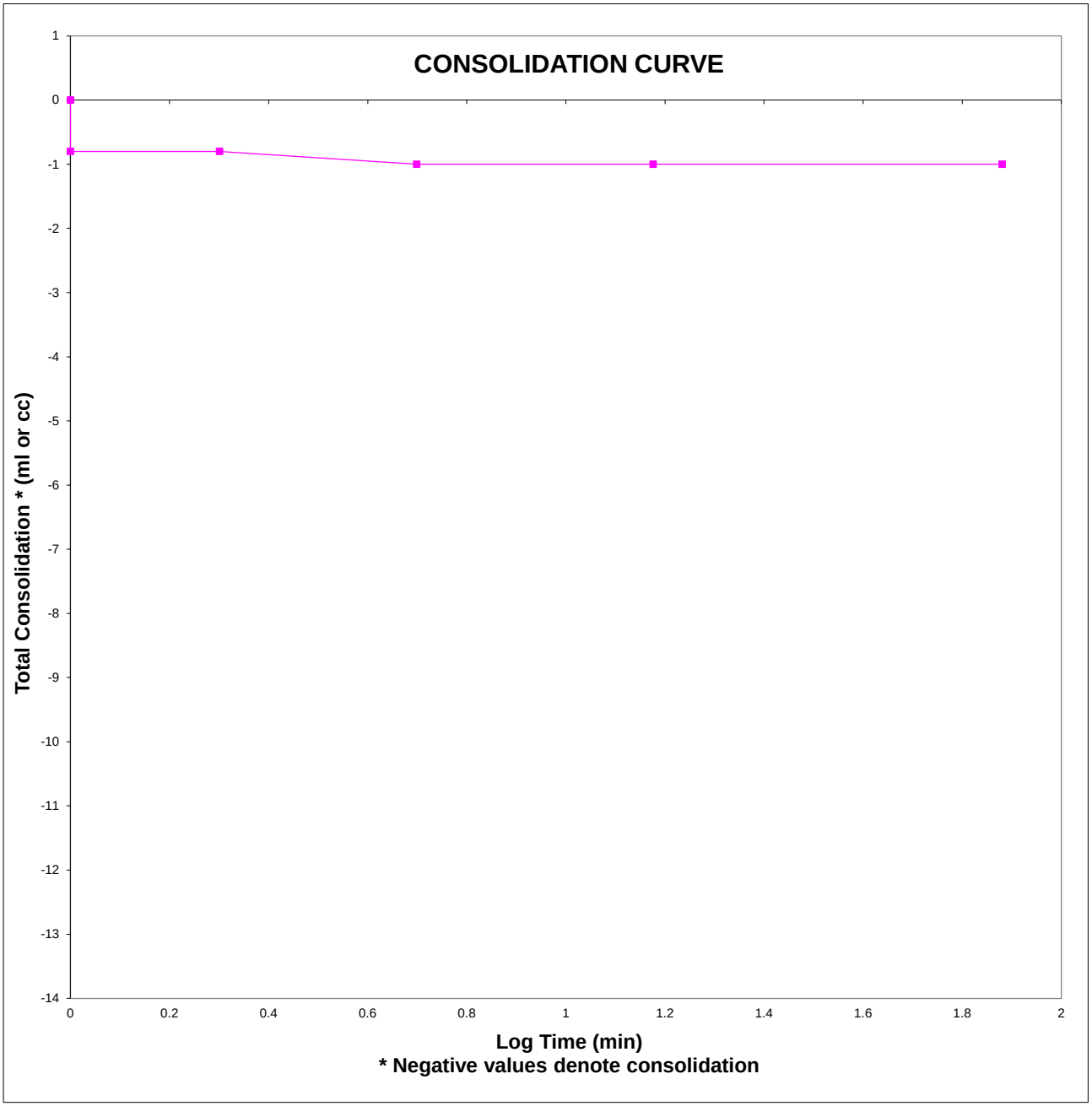
CELL PRESSURE: 85 psi **BACK PRESSURE:** 75 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
11 / 18 / 15	JDM	12 : 44	0	0	0	25.0	25.0	0.0
11 / 18 / 15	JDM	12 : 45	1	1	0.00	24.6	24.6	0.8
11 / 18 / 15	JDM	12 : 46	1	2	0.30	24.6	24.6	0.8
11 / 18 / 15	JDM	12 : 49	3	5	0.70	24.5	24.5	1.0
11 / 18 / 15	JDM	12 : 59	10	15	1.18	24.5	24.5	1.0
11 / 18 / 15	JDM	14 : 0	61	76	1.88	24.5	24.5	1.0

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A556_PM
SAMPLE No.:	X4-15-20151110-74 (7-Day)	EQUIPMENT No.:	8
TEST DATE:	11/17/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A556_PM
SAMPLE No.:	X4-15-20151110-74 (7-Day)	EQUIPMENT No.:	8
TEST DATE:	11/17/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
11 / 18 / 15	JDM	14 : 1	0	0.0	25.0	20.0	85.0	75.0	74.0
11 / 18 / 15	JDM	14 : 37	36	0.5	24.5	20.0	85.0	75.0	74.0
11 / 18 / 15	JDM	15 : 24	47	1.1	23.9	20.0	85.0	75.0	74.0
11 / 19 / 15	JDM	7 : 39	975	10.1	14.9	20.0	85.0	75.0	74.0
11 / 19 / 15	JDM	9 : 29	110	10.9	14.1	20.0	85.0	75.0	74.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A556_PM
SAMPLE No.:	X4-15-20151110-74 (7-Day)	EQUIPMENT No.:	8
TEST DATE:	11/17/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				19.563		
36	0.5	0.5	1.00	19.358	2.59E-07	2.60E-07
47	0.6	0.6	1.00	19.112	2.41E-07	2.42E-07
975	9.0	9.0	1.00	15.418	1.95E-07	1.95E-07
110	0.8	0.8	1.00	15.090	1.73E-07	1.74E-07

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A556_PM
SAMPLE No.:	X4-15-20151110-74 (7-Day)	EQUIPMENT No.:	8
TEST DATE:	11/17/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**105.2 lb/ft³**	**106.1 lb/ft³**
DRY UNIT WEIGHT	**71.8 lb/ft³**	**71.4 lb/ft³**
MOISTURE CONTENT	**46.4 %**	**48.6 %**
PERMEABILITY @ 20°C	**2.2E-07 cm/sec**	

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	12/10/2015	Tested By:	jcw
End Date:	12/17/2015	Checked By:	mcm
Boring #:	---		
Sample #:	X4-15-20151110-74 (28 Day)		
Depth:	---		
Visual Description:	Moist, brownish yellow soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084

Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	15/4

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.70

Parameter	Initial	Final
Height, in	2.01	2.01
Diameter, in	3.00	3.00
Area, in^2	7.07	7.07
Volume, in^3	14.2	14.2
Mass, g	399	406
Bulk Density, pcf	107	109
Moisture Content, %	45.0	47.3
Dry Density, pcf	73.7	73.7
Degree of Saturation, %	94	99

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	95.03	Increased Cell Pressure, psi:	99.97	Cell Pressure Increment, psi:	4.94
Sample Pressure, psi:	84.89	Corresponding Sample Pressure, psi:	89.12	Sample Pressure Increment, psi:	4.24
				B Coefficient:	0.86

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time,	Gradient	Permeability K,	Temp,		Permeability K @ 20 °C,
		Cell	Sample	Z_1	Z_2	Z_1-Z_2	sec		cm/sec	°C	R_t	cm/sec
12/15	1	95.0	84.9	21.0	20.8	0.2	162	51.8	1.6E-08	20.2	0.995	1.6E-08
12/15	2	95.0	84.9	21.0	20.8	0.2	178	51.8	1.5E-08	20.2	0.995	1.5E-08
12/15	3	95.0	84.9	21.0	20.8	0.2	187	51.8	1.4E-08	20.2	0.995	1.4E-08
12/15	4	95.0	84.9	21.0	20.8	0.2	194	51.8	1.4E-08	20.2	0.995	1.4E-08

PERMEABILITY AT 20° C: 1.5 x 10^{-8} cm/sec (@ 10 psi effective stress)

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A559_PM
SAMPLE No.:	AN6-10-20151112-75 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	11/19/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	341.98 ***g***
3. WT WET SOIL + TARE	373.22 ***g***	721.20 ***g***
4. WT DRY SOIL + TARE	254.28 ***g***	596.26 ***g***
5. WT WATER, Ww	118.94 g	124.94 g
6. WT DRY SOIL, Ws	254.28 g	254.28 g
7. MOISTURE CONTENT, W	46.78 %	49.13 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.01 in.***	***3.03 in.***	***1.91 in.***	***1.92 in.***
No. 2	***3.03 in.***	***3.02 in.***	***1.92 in.***	***1.90 in.***
No. 3	***3.02 in.***	***3.02 in.***	***1.91 in.***	***1.89 in.***
Average	3.02 in.	3.02 in.	1.92 in.	1.90 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***373.22 g***	***379.22 g***
Area, Ao	7.16 in^2	7.18 in^2
Volume, Vo	13.72 in^3	13.65 in^3
Bulk Unit Weight	103.6 lb/ft^3	105.8 lb/ft^3
Dry Unit Weight	70.6 lb/ft^3	71.0 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A559_PM
SAMPLE No.:	AN6-10-20151112-75 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	11/19/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
11/19/15	11 : 11	JDM	7.0	5.0	5.8				
11/19/15	11 : 49	JDM	17.0	15.0	15.9	10.2	10.0	4.4	0.44
11/19/15	13 : 15	JDM	27.0	25.0	25.6	21.8	10.0	5.9	0.59
11/19/15	13 : 55	JDM	37.0	35.0	35.7	33.4	10.0	7.8	0.78
11/19/15	14 : 43	JDM	47.0	45.0	45.5	44.6	10.0	8.9	0.89
11/19/15	7 : 36	JDM	57.0	55.0	55.5	53.8	10.0	8.3	0.83
11/20/15	12 : 40	JDM	67.0	65.0	*	65.3	10.0	9.8	0.98
11/20/15	12 : 40	JDM	57.0	55.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A559_PM
SAMPLE No.:	AN6-10-20151112-75 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	11/19/15		

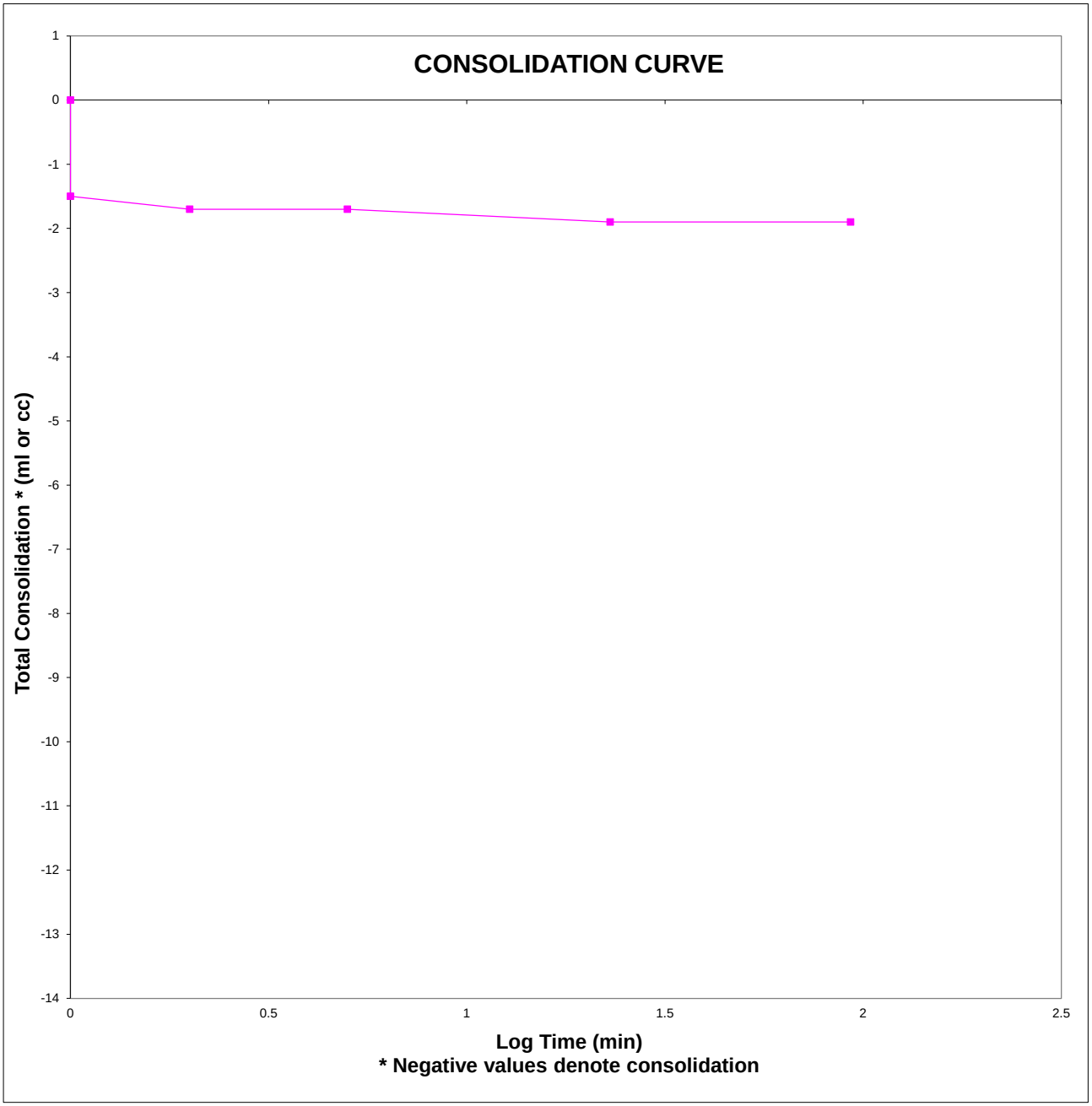
CELL PRESSURE: 65 psi **BACK PRESSURE:** 55 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
11 / 20 / 15	JDM	12 : 44	0	0	0	25.0	25.0	0.0
11 / 20 / 15	JDM	12 : 45	1	1	0.00	24.4	24.1	1.5
11 / 20 / 15	JDM	12 : 46	1	2	0.30	24.3	24.0	1.7
11 / 20 / 15	JDM	12 : 49	3	5	0.70	24.3	24.0	1.7
11 / 20 / 15	JDM	13 : 7	18	23	1.36	24.2	23.9	1.9
11 / 20 / 15	JDM	14 : 17	70	93	1.97	24.2	23.9	1.9

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A559_PM
SAMPLE No.:	AN6-10-20151112-75 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	11/19/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A559_PM
SAMPLE No.:	AN6-10-20151112-75 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	11/19/15		

DATE	TESTED BY	TIME (military)	ELAPSED TIME (minutes)	HYDRAULIC HEAD (cm)		TEMP. C°	GAUGE PRESSURE (psi)		
				INFLUENT	EFFLUENT		CELL	INFLUENT	EFFLUENT
11 / 20 / 15	JDM	14 : 19	0	1.0	24.0	20.0	65.0	55.0	53.0
11 / 20 / 15	JDM	15 : 7	48	1.7	23.3	20.0	65.0	55.0	53.0
11 / 20 / 15	JDM	15 : 38	31	2.2	22.8	20.0	65.0	55.0	53.0
11 / 23 / 15	JDM	8 : 53	RESET	1.0	24.0	20.0	65.0	55.0	53.0
11 / 23 / 15	JDM	9 : 26	33	1.5	23.5	20.0	65.0	55.0	53.0
11 / 23 / 15	JDM	10 : 22	56	2.3	22.7	20.0	65.0	55.0	53.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A559_PM
SAMPLE No.:	AN6-10-20151112-75 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	11/19/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				33.648		
48	0.7	0.7	1.00	33.360	1.57E-07	1.58E-07
31	0.5	0.5	1.00	33.154	1.75E-07	1.76E-07
RESET				33.648		
33	0.5	0.5	1.00	33.442	1.63E-07	1.64E-07
56	0.8	0.8	1.00	33.113	1.55E-07	1.55E-07

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A559_PM
SAMPLE No.:	AN6-10-20151112-75 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	11/19/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**103.6 lb/ft³**	**105.8 lb/ft³**
DRY UNIT WEIGHT	**70.6 lb/ft³**	**71.0 lb/ft³**
MOISTURE CONTENT	**46.8 %**	**49.1 %**
PERMEABILITY @ 20°C	**1.6E-07 cm/sec**	

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	12/10/2015	Tested By:	jcw
End Date:	12/17/2015	Checked By:	mcm
Boring #:	---		
Sample #:	AN6-10-20151112-75 (28 Day)		
Depth:	---		
Visual Description:	Moist, brownish yellow soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084

Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	7/3

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.70

Parameter	Initial	Final
Height, in	1.88	1.88
Diameter, in	3.00	3.00
Area, in^2	7.07	7.07
Volume, in^3	13.3	13.3
Mass, g	368	376
Bulk Density, pcf	105	108
Moisture Content, %	46.4	49.5
Dry Density, pcf	71.9	71.9
Degree of Saturation, %	93	99

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	95.07	Increased Cell Pressure, psi:	100.11	Cell Pressure Increment, psi:	5.04
Sample Pressure, psi:	84.91	Corresponding Sample Pressure, psi:	89.58	Sample Pressure Increment, psi:	4.68
				B Coefficient:	0.93

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time,	Gradient	Permeability K,	Temp,		Permeability K @ 20 °C,
		Cell	Sample	Z_1	Z_2	Z_1-Z_2	sec		cm/sec	°C	R_t	cm/sec
12/15	1	95.1	84.9	20.0	19.8	0.2	261	52.8	1.0E-08	20.2	0.995	1.0E-08
12/15	2	95.1	84.9	20.0	19.8	0.2	270	52.8	9.7E-09	20.2	0.995	9.7E-09
12/15	3	95.1	84.9	20.0	19.8	0.2	278	52.8	9.4E-09	20.2	0.995	9.4E-09
12/15	4	95.1	84.9	20.0	19.8	0.2	288	52.8	9.1E-09	20.2	0.995	9.1E-09

PERMEABILITY AT 20° C: 9.5 x 10^{-9} cm/sec (@ 10 psi effective stress)

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A561_PM
SAMPLE No.:	AH6-5-20151113-76 (7-Day)	EQUIPMENT No.:	5
TEST DATE:	11/20/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	342.03 ***g***
3. WT WET SOIL + TARE	361.61 ***g***	710.90 ***g***
4. WT DRY SOIL + TARE	247.18 ***g***	589.21 ***g***
5. WT WATER, Ww	114.43 g	121.69 g
6. WT DRY SOIL, Ws	247.18 g	247.18 g
7. MOISTURE CONTENT, W	46.29 %	49.23 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***3.01 in.***	***3.03 in.***	***1.86 in.***	***1.86 in.***
No. 2	***3.03 in.***	***3.03 in.***	***1.85 in.***	***1.85 in.***
No. 3	***3.03 in.***	***3.03 in.***	***1.88 in.***	***1.90 in.***
Average	3.02 in.	3.03 in.	1.86 in.	1.87 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***361.61 g***	***368.87 g***
Area, Ao	7.19 in^2	7.21 in^2
Volume, Vo	13.40 in^3	13.46 in^3
Bulk Unit Weight	102.8 lb/ft^3	104.4 lb/ft^3
Dry Unit Weight	70.3 lb/ft^3	70.0 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A561_PM
SAMPLE No.:	AH6-5-20151113-76 (7-Day)	EQUIPMENT No.:	5
TEST DATE:	11/20/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
11/23/15	9 : 26	JDM	7.0	5.0	5.0				
11/23/15	10 : 21	JDM	17.0	15.0	15.9	9.6	10.0	4.6	0.46
11/23/15	10 : 57	JDM	27.0	25.0	25.9	22.3	10.0	6.4	0.64
11/23/15	11 : 58	JDM	37.0	35.0	35.6	33.2	10.0	7.3	0.73
11/23/15	13 : 8	JDM	47.0	45.0	45.6	44.3	10.0	8.7	0.87
11/23/15	14 : 7	JDM	57.0	55.0	55.5	54.5	10.0	8.9	0.89
11/23/15	14 : 44	JDM	67.0	65.0	65.5	64.9	10.0	9.4	0.94
11/23/15	15 : 15	JDM	77.0	75.0	*	75.2	10.0	9.7	0.97
11/23/15	15 : 15	JDM	67.0	65.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A561_PM
SAMPLE No.:	AH6-5-20151113-76 (7-Day)	EQUIPMENT No.:	5
TEST DATE:	11/20/15		

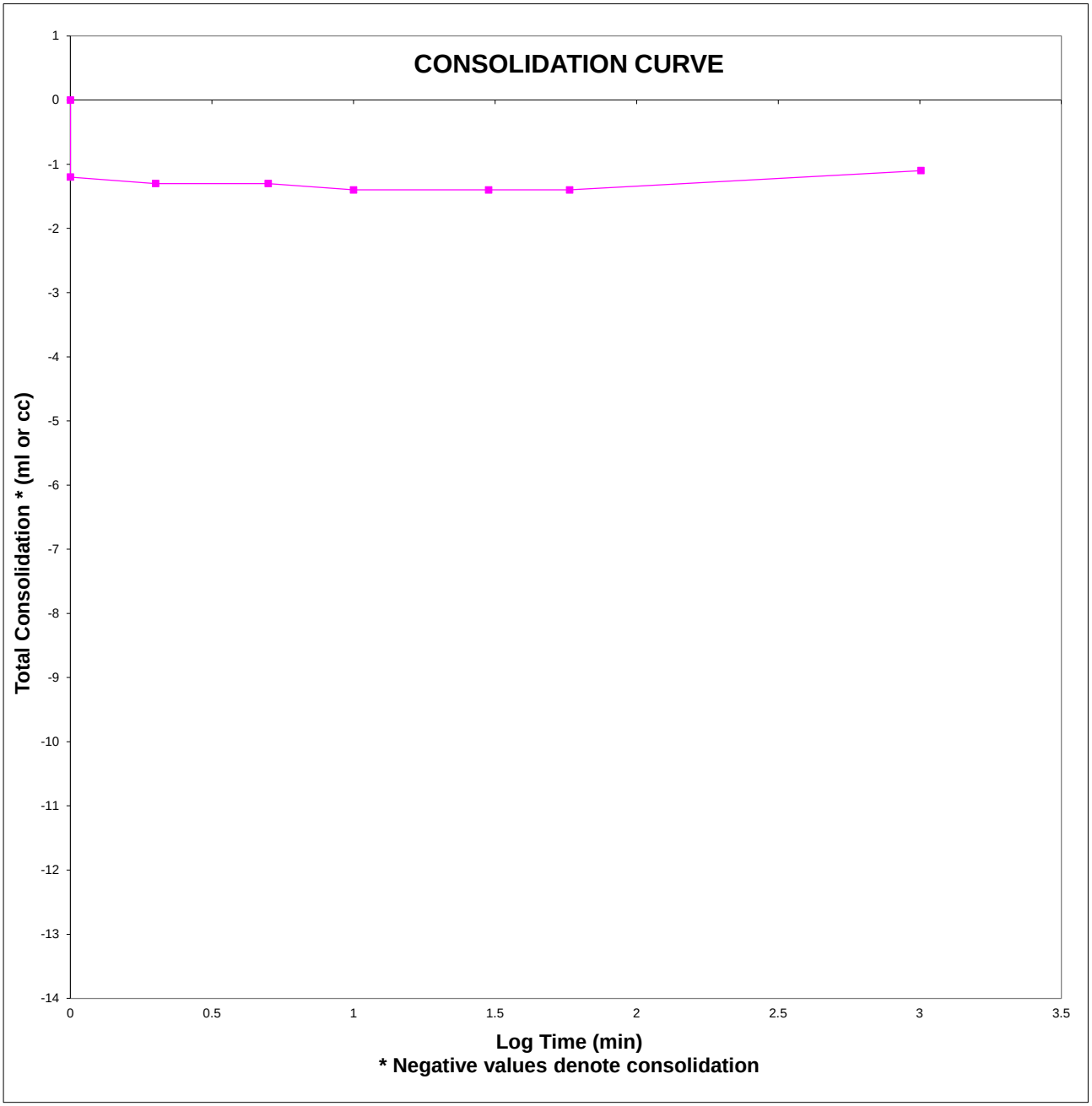
CELL PRESSURE: 75 psi **BACK PRESSURE:** 65 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
11 / 23 / 15	JDM	15 : 17	0	0	0	23.0	23.0	0.0
11 / 23 / 15	JDM	15 : 18	1	1	0.00	22.5	22.3	1.2
11 / 23 / 15	JDM	15 : 19	1	2	0.30	22.4	22.3	1.3
11 / 23 / 15	JDM	15 : 22	3	5	0.70	22.4	22.3	1.3
11 / 23 / 15	JDM	15 : 27	5	10	1.00	22.4	22.2	1.4
11 / 23 / 15	JDM	15 : 47	20	30	1.48	22.4	22.2	1.4
11 / 23 / 15	JDM	16 : 15	28	58	1.76	22.4	22.2	1.4
11 / 24 / 15	JDM	8 : 8	953	1011	3.00	22.5	22.4	1.1

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A561_PM
SAMPLE No.:	AH6-5-20151113-76 (7-Day)	EQUIPMENT No.:	5
TEST DATE:	11/20/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A561_PM
SAMPLE No.:	AH6-5-20151113-76 (7-Day)	EQUIPMENT No.:	5
TEST DATE:	11/20/15		

			ELAPSED	HYDRAULIC			GAUGE		
	TESTED	TIME	TIME	HEAD (cm)		TEMP.	PRESSURE (psi)		
DATE	BY	(military)	(minutes)	INFLUENT	EFFLUENT	C°	CELL	INFLUENT	EFFLUENT
11 / 24 / 15	JDM	9 : 5	0	0.0	25.0	20.0	75.0	65.0	63.0
11 / 24 / 15	JDM	10 : 19	74	0.5	24.5	20.0	75.0	65.0	63.0
11 / 24 / 15	JDM	11 : 30	71	1.0	24.0	20.0	75.0	65.0	63.0
11 / 24 / 15	JDM	12 : 39	69	1.5	23.5	20.0	75.0	65.0	63.0
11 / 24 / 15	JDM	13 : 50	71	2.0	23.0	20.0	75.0	65.0	63.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A561_PM
SAMPLE No.:	AH6-5-20151113-76 (7-Day)	EQUIPMENT No.:	5
TEST DATE:	11/20/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				34.987		
74	0.5	0.5	1.00	34.776	6.96E-08	7.00E-08
71	0.5	0.5	1.00	34.565	7.30E-08	7.34E-08
69	0.5	0.5	1.00	34.354	7.56E-08	7.60E-08
71	0.5	0.5	1.00	34.143	7.39E-08	7.43E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A561_PM
SAMPLE No.:	AH6-5-20151113-76 (7-Day)	EQUIPMENT No.:	5
TEST DATE:	11/20/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	102.8 lb/ft³	104.4 lb/ft³
DRY UNIT WEIGHT	70.3 lb/ft³	70.0 lb/ft³
MOISTURE CONTENT	46.3 %	49.2 %
PERMEABILITY @ 20°C	7.3E-08 cm/sec	

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	12/10/2015	Tested By:	jcw
End Date:	12/17/2015	Checked By:	mcm
Boring #:	---		
Sample #:	AH6-5-20151113-76 (28 day)		
Depth:	---		
Visual Description:	Moist, brownish yellow soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084

Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	2/5

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.60

Parameter	Initial	Final
Height, in	1.95	1.95
Diameter, in	3.01	3.01
Area, in^2	7.12	7.12
Volume, in^3	13.9	13.9
Mass, g	376	388
Bulk Density, pcf	103	106
Moisture Content, %	44.3	48.6
Dry Density, pcf	71.5	71.5
Degree of Saturation, %	91	99

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	95.09	Increased Cell Pressure, psi:	99.99	Cell Pressure Increment, psi:	4.90
Sample Pressure, psi:	84.85	Corresponding Sample Pressure, psi:	89.37	Sample Pressure Increment, psi:	4.52
				B Coefficient:	0.92

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time,	Gradient	Permeability K,	Temp,		Permeability K @ 20 °C,
		Cell	Sample	Z_1	Z_2	Z_1-Z_2	sec		cm/sec	°C	R_t	cm/sec
12/15	1	95.1	84.9	15.0	14.8	0.2	114	38.2	3.2E-08	20.2	0.995	3.2E-08
12/15	2	95.1	84.9	15.0	14.8	0.2	122	38.2	3.0E-08	20.2	0.995	2.9E-08
12/15	3	95.1	84.9	15.0	14.8	0.2	135	38.2	2.7E-08	20.2	0.995	2.7E-08
12/15	4	95.1	84.9	15.0	14.8	0.2	141	38.2	2.6E-08	20.2	0.995	2.5E-08

PERMEABILITY AT 20° C: 2.8 x 10^{-8} cm/sec (@ 10 psi effective stress)

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A562_PM
SAMPLE No.:	Z4-10-20151114-77 (9-Day)	EQUIPMENT No.:	1
TEST DATE:	11/23/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	298.45 ***g***
3. WT WET SOIL + TARE	413.14 ***g***	717.50 ***g***
4. WT DRY SOIL + TARE	289.78 ***g***	588.23 ***g***
5. WT WATER, Ww	123.36 g	129.27 g
6. WT DRY SOIL, Ws	289.78 g	289.78 g
7. MOISTURE CONTENT, W	42.57 %	44.61 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***2.99 in.***	***2.99 in.***	***2.14 in.***	***2.06 in.***
No. 2	***2.99 in.***	***2.99 in.***	***2.09 in.***	***2.08 in.***
No. 3	***2.99 in.***	***2.98 in.***	***2.05 in.***	***2.15 in.***
Average	2.99 in.	2.99 in.	2.09 in.	2.10 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***413.14 g***	***419.05 g***
Area, Ao	7.01 in^2	7.01 in^2
Volume, Vo	14.67 in^3	14.70 in^3
Bulk Unit Weight	107.3 lb/ft^3	108.6 lb/ft^3
Dry Unit Weight	75.3 lb/ft^3	75.1 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A562_PM
SAMPLE No.:	Z4-10-20151114-77 (9-Day)	EQUIPMENT No.:	1
TEST DATE:	11/23/15		

TEST	TIME	TESTED	TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
DATE	(military)	BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
11/23/15	9 : 50	JDM	7.0	5.0	5.8				
11/23/15	10 : 25	JDM	17.0	15.0	15.7	11.1	10.0	5.3	0.53
11/23/15	10 : 57	JDM	27.0	25.0	25.7	22.9	10.0	7.2	0.72
11/23/15	12 : 0	JDM	37.0	35.0	35.6	34.4	10.0	8.7	0.87
11/23/15	13 : 10	JDM	47.0	45.0	45.5	45.0	10.0	9.4	0.94
11/23/15	14 : 10	JDM	57.0	55.0	*	55.1	10.0	9.6	0.96
11/23/15	14 : 10	JDM	47.0	45.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A562_PM
SAMPLE No.:	Z4-10-20151114-77 (9-Day)	EQUIPMENT No.:	1
TEST DATE:	11/23/15		

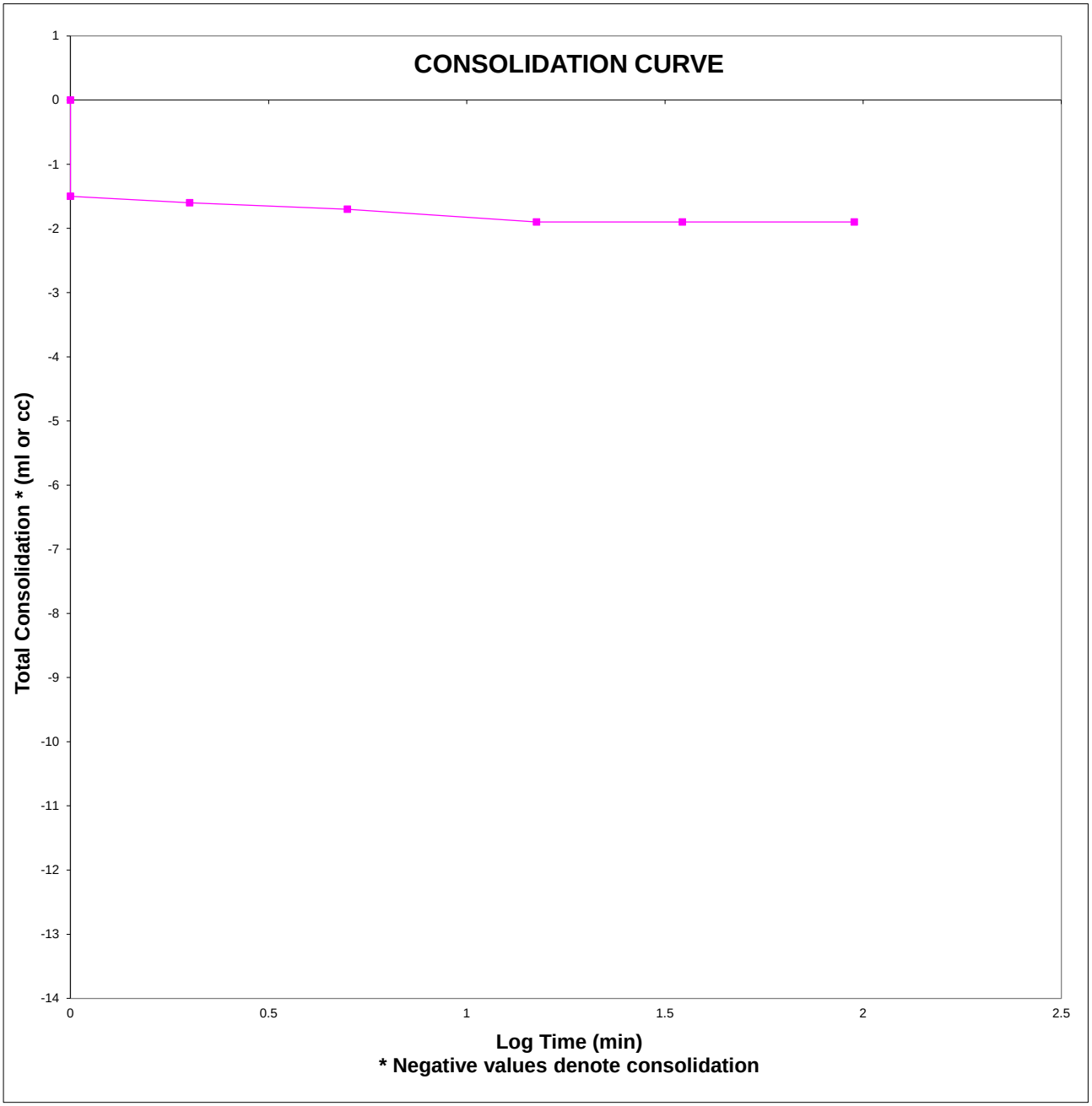
CELL PRESSURE: 55 psi **BACK PRESSURE:** 45 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
11 / 23 / 15	JDM	14 : 10	0	0	0	24.0	24.0	0.0
11 / 23 / 15	JDM	14 : 11	1	1	0.00	23.3	23.2	1.5
11 / 23 / 15	JDM	14 : 12	1	2	0.30	23.3	23.1	1.6
11 / 23 / 15	JDM	14 : 15	3	5	0.70	23.2	23.1	1.7
11 / 23 / 15	JDM	14 : 25	10	15	1.18	23.1	23.0	1.9
11 / 23 / 15	JDM	14 : 45	20	35	1.54	23.1	23.0	1.9
11 / 23 / 15	JDM	15 : 45	60	95	1.98	23.1	23.0	1.9

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A562_PM
SAMPLE No.:	Z4-10-20151114-77 (9-Day)	EQUIPMENT No.:	1
TEST DATE:	11/23/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A562_PM
SAMPLE No.:	Z4-10-20151114-77 (9-Day)	EQUIPMENT No.:	1
TEST DATE:	11/23/15		

			ELAPSED	HYDRAULIC HEAD (cm)			GAUGE PRESSURE (psi)		
DATE	TESTED BY	TIME (military)	TIME (minutes)	INFLUENT	EFFLUENT	TEMP. C°	CELL	INFLUENT	EFFLUENT
11 / 23 / 15	JDM	15 : 45	0	1.0	24.0	20.0	55.0	45.0	43.0
11 / 24 / 15	JDM	8 : 7	982	3.5	21.5	20.0	55.0	45.0	43.0
11 / 24 / 15	JDM	11 : 31	204	4.0	21.0	20.0	55.0	45.0	43.0
11 / 24 / 15	JDM	14 : 47	196	4.5	20.5	20.0	55.0	45.0	43.0
11 / 25 / 15	JDM	7 : 47	1020	6.2	18.8	20.0	55.0	45.0	43.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A562_PM
SAMPLE No.:	Z4-10-20151114-77 (9-Day)	EQUIPMENT No.:	1
TEST DATE:	11/23/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				30.806		
982	2.5	2.5	1.00	29.865	3.09E-08	3.11E-08
204	0.5	0.5	1.00	29.677	3.03E-08	3.05E-08
196	0.5	0.5	1.00	29.489	3.18E-08	3.19E-08
1020	1.7	1.7	1.00	28.849	2.10E-08	2.11E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A562_PM
SAMPLE No.:	Z4-10-20151114-77 (9-Day)	EQUIPMENT No.:	1
TEST DATE:	11/23/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**107.3 lb/ft³**	**108.6 lb/ft³**
DRY UNIT WEIGHT	**75.3 lb/ft³**	**75.1 lb/ft³**
MOISTURE CONTENT	**42.6 %**	**44.6 %**
PERMEABILITY @ 20°C	**2.9E-08 cm/sec**	

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	12/10/2015	Tested By:	jcw
End Date:	12/17/2015	Checked By:	mcm
Boring #:	---		
Sample #:	Z4-10-20151114-71 (28 Day)		
Depth:	---		
Visual Description:	Moist, brownish yellow soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084

Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	11/6

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.65

Parameter	Initial	Final
Height, in	1.95	1.95
Diameter, in	2.98	2.98
Area, in^2	6.97	6.97
Volume, in^3	13.6	13.6
Mass, g	385	393
Bulk Density, pcf	108	110
Moisture Content, %	40.4	43.3
Dry Density, pcf	76.6	76.6
Degree of Saturation, %	92	99

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	95.01	Increased Cell Pressure, psi:	99.94	Cell Pressure Increment, psi:	4.93
Sample Pressure, psi:	84.95	Corresponding Sample Pressure, psi:	89.49	Sample Pressure Increment, psi:	4.54
				B Coefficient:	0.92

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time,	Gradient	Permeability K,	Temp,		Permeability K @ 20 °C,
		Cell	Sample	Z_1	Z_2	Z_1-Z_2	sec		cm/sec	°C	R_t	cm/sec
12/15	1	95.0	84.9	21.0	20.8	0.2	691	53.4	3.8E-09	20.2	0.995	3.8E-09
12/15	2	95.0	84.9	21.0	20.8	0.2	703	53.4	3.7E-09	20.2	0.995	3.7E-09
12/15	3	95.0	84.9	21.0	20.8	0.2	712	53.4	3.7E-09	20.2	0.995	3.7E-09
12/15	4	95.0	84.9	21.0	20.8	0.2	725	53.4	3.6E-09	20.2	0.995	3.6E-09

PERMEABILITY AT 20° C: 3.7 x 10^{-9} cm/sec (@ 10 psi effective stress)

PERMEABILITY ASTM D5084

SPECIMEN CONDITIONS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A565_PM
SAMPLE No.:	F6-10-20151117-78 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	11/24/15		

MOISTURE CONTENT (Dry Basis)	***INITIAL***	***FINAL***
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00 ***g***	341.99 ***g***
3. WT WET SOIL + TARE	382.30 ***g***	729.50 ***g***
4. WT DRY SOIL + TARE	268.01 ***g***	610.00 ***g***
5. WT WATER, Ww	114.29 g	119.50 g
6. WT DRY SOIL, Ws	268.01 g	268.01 g
7. MOISTURE CONTENT, W	42.64 %	44.59 %

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE	***DIAMETER***		***HEIGHT***	
ANALYSES	***INITIAL***	***FINAL***	***INITIAL***	***FINAL***
No. 1	***2.99 in.***	***3.00 in.***	***1.91 in.***	***2.00 in.***
No. 2	***2.99 in.***	***2.99 in.***	***1.95 in.***	***1.89 in.***
No. 3	***3.00 in.***	***3.00 in.***	***1.99 in.***	***1.94 in.***
Average	2.99 in.	3.00 in.	1.95 in.	1.95 in.

SPECIMEN CONDITIONS	***INITIAL***	***FINAL***
Specimen WT, Wo	***382.30 g***	***387.51 g***
Area, Ao	7.03 in^2	7.06 in^2
Volume, Vo	13.72 in^3	13.74 in^3
Bulk Unit Weight	106.1 lb/ft^3	107.4 lb/ft^3
Dry Unit Weight	74.4 lb/ft^3	74.3 lb/ft^3

PERMEABILITY ASTM D5084

BACK-PRESSURE SATURATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A565_PM
SAMPLE No.:	F6-10-20151117-78 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	11/24/15		

			TEST PRESSURES (psi)						
			APPLIED		PORE		PRESSURE CHANGE		
TEST DATE	TIME (military)	TESTED BY	CELL	BACK	SAT.	TEST	CELL	PORE	B-Value
11/24/15	9 : 38	JDM	7.0	5.0	5.8				
11/24/15	10 : 20	JDM	17.0	15.0	15.8	9.2	10.0	3.4	0.34
11/24/15	11 : 5	JDM	27.0	25.0	25.8	20.9	10.0	5.1	0.51
11/24/15	11 : 35	JDM	37.0	35.0	35.8	32.4	10.0	6.6	0.66
11/24/15	12 : 9	JDM	47.0	45.0	45.7	43.3	10.0	7.5	0.75
11/24/15	12 : 47	JDM	57.0	55.0	55.6	54.0	10.0	8.3	0.83
11/24/15	13 : 28	JDM	67.0	65.0	65.6	64.5	10.0	8.9	0.89
11/24/15	14 : 5	JDM	77.0	75.0	*	75.1	10.0	9.5	0.95
11/24/15	14 : 5	JDM	67.0	65.0	*	*	*	*	*

* Saturation check - no data available.

PERMEABILITY ASTM D5084

SPECIMEN CONSOLIDATION

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A565_PM
SAMPLE No.:	F6-10-20151117-78 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	11/24/15		

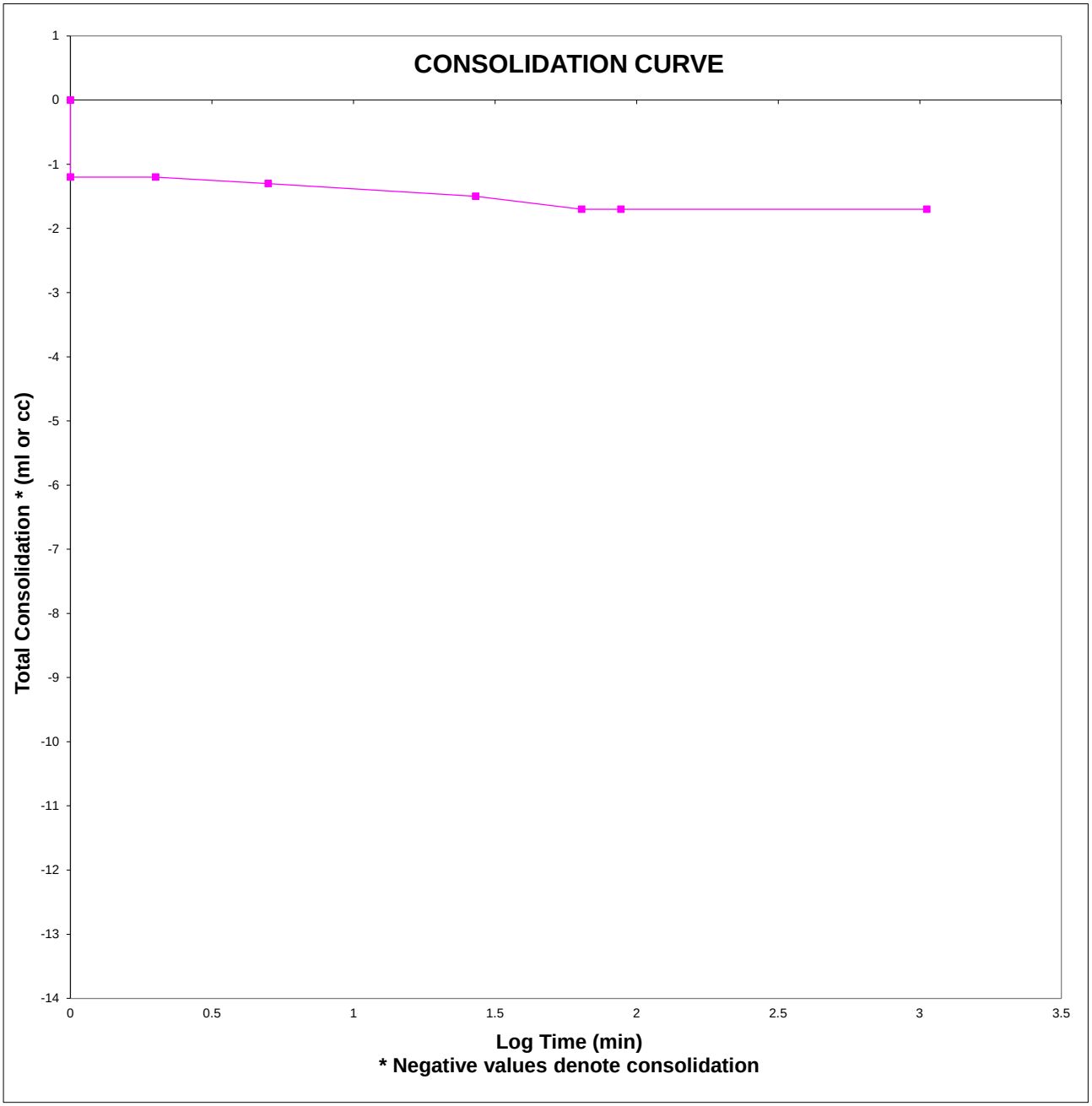
CELL PRESSURE: 75 psi **BACK PRESSURE:** 65 psi **EFFECTIVE STRESS:** 10 psi

TEST DATE	*TESTED BY*	*TIME (Military)*	*ELAPSED TIME (minutes)*	*TOTAL TIME (minutes)*	*TOTAL TIME (Log)*	*SPECIMEN CONSOLIDATION (ML)*		
						READING		*ACTUAL*
						BOTTOM	*TOP*	*TOTAL (Ct)*
11 / 24 / 15	JDM	14 : 7	0	0	0	25.0	25.0	0.0
11 / 24 / 15	JDM	14 : 8	1	1	0.00	24.5	24.3	1.2
11 / 24 / 15	JDM	14 : 9	1	2	0.30	24.5	24.3	1.2
11 / 24 / 15	JDM	14 : 12	3	5	0.70	24.5	24.2	1.3
11 / 24 / 15	JDM	14 : 34	22	27	1.43	24.4	24.1	1.5
11 / 24 / 15	JDM	15 : 11	37	64	1.81	24.3	24.0	1.7
11 / 24 / 15	JDM	15 : 35	24	88	1.94	24.3	24.0	1.7
11 / 25 / 15	JDM	7 : 46	971	1059	3.02	24.3	24.0	1.7

PERMEABILITY ASTM D5084

CONSOLIDATION CURVE

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A565_PM
SAMPLE No.:	F6-10-20151117-78 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	11/24/15		



PERMEABILITY ASTM D5084

TEST DATA

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A565_PM
SAMPLE No.:	F6-10-20151117-78 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	11/24/15		

				HYDRAULIC			GAUGE		
	TESTED	TIME	ELAPSED TIME	HEAD (cm)		TEMP.	PRESSURE (psi)		
DATE	BY	(military)	(minutes)	INFLUENT	EFFLUENT	C°	CELL	INFLUENT	EFFLUENT
11 / 25 / 15	JDM	7 : 53	0	1.0	24.0	20.0	75.0	65.0	62.0
11 / 25 / 15	JDM	8 : 28	35	1.5	23.5	20.0	75.0	65.0	62.0
11 / 25 / 15	JDM	9 : 19	51	2.0	23.0	20.0	75.0	65.0	62.0
11 / 25 / 15	JDM	10 : 11	52	2.5	22.5	20.0	75.0	65.0	62.0
11 / 25 / 15	JDM	11 : 4	53	3.0	22.0	20.0	75.0	65.0	62.0
11 / 25 / 15	JDM	12 : 30	86	3.8	21.2	20.0	75.0	65.0	62.0

PERMEABILITY ASTM D5084

TEST DATA (continued)

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A565_PM
SAMPLE No.:	F6-10-20151117-78 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	11/24/15		

ELAPSED TIME (minutes)	*HYDRAULIC HEAD DIFFERENCE (cm)*		*EFFLUENT - INFLUENT RATIO*	*HYDRAULIC GRADIENT (cm/cm)*	*HYDRAULIC CONDUCTIVITY (cm/sec)*	
	INFLUENT	*EFFLUENT*			*@ Temp.*	*@ 20° C*
RESET				47.212		
35	0.5	0.5	1.00	47.010	1.11E-07	1.12E-07
51	0.5	0.5	1.00	46.808	7.68E-08	7.71E-08
52	0.5	0.5	1.00	46.607	7.56E-08	7.60E-08
53	0.5	0.5	1.00	46.405	7.45E-08	7.49E-08
86	0.8	0.8	1.00	46.082	7.39E-08	7.42E-08

PERMEABILITY ASTM D5084

SUMMARY OF RESULTS

PROJECT:	Macon AGL	TESTED BY:	JDM
PROJECT No.:	SH0578	TRACKING CODE:	A565_PM
SAMPLE No.:	F6-10-20151117-78 (7-Day)	EQUIPMENT No.:	3
TEST DATE:	11/24/15		

TESTING PARAMETER	INITIAL	FINAL
BULK UNIT WEIGHT	**106.1 lb/ft³**	**107.4 lb/ft³**
DRY UNIT WEIGHT	**74.4 lb/ft³**	**74.3 lb/ft³**
MOISTURE CONTENT	**42.6 %**	**44.6 %**
PERMEABILITY @ 20°C	**7.6E-08 cm/sec**	

Client:	Kemron Environmental		
Project Name:	Macon AGL		
Project Location:	---		
GTX #:	303565		
Start Date:	12/15/2015	Tested By:	jcw
End Date:	12/21/2015	Checked By:	mcm
Boring #:	---		
Sample #:	F6-10-20151117-78 (28 Day)		
Depth:	---		
Visual Description:	Moist, brownish yellow soil cement mix		

Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by ASTM D5084

Constant Volume

Sample Type:	Intact	Permeant Fluid:	De-aired Distilled water
Orientation:	Vertical	Cell #:	9/15

Sample Preparation: Placed into permeameter at as-received density and moisture content.

Assumed Specific Gravity: 2.55

Parameter	Initial	Final
Height, in	1.94	1.94
Diameter, in	3.02	3.02
Area, in^2	7.16	7.16
Volume, in^3	13.9	13.9
Mass, g	378	386
Bulk Density, pcf	104	106
Moisture Content, %	42.2	45.1
Dry Density, pcf	72.8	72.8
Degree of Saturation, %	91	97

B COEFFICIENT DETERMINATION

Cell Pressure, psi:	94.92	Increased Cell Pressure, psi:	99.99	Cell Pressure Increment, psi:	5.07
Sample Pressure, psi:	84.91	Corresponding Sample Pressure, psi:	89.64	Sample Pressure Increment, psi:	4.72
				B Coefficient:	0.93

FLOW DATA

Date	Trial #	Pressure, psi		Manometer Readings			Elapsed Time, sec	Gradient	Permeability K, cm/sec	Temp, °C	R_t	Permeability K @ 20 °C, cm/sec
		Cell	Sample	Z_1	Z_2	Z_1-Z_2						
12/17	1	94.9	84.9	15.2	15.0	0.2	218	38.9	1.6E-08	20.2	0.995	1.6E-08
12/17	2	94.9	84.9	15.2	15.0	0.2	239	38.9	1.5E-08	20.2	0.995	1.5E-08
12/17	3	94.9	84.9	15.2	15.0	0.2	257	38.9	1.4E-08	20.2	0.995	1.4E-08
12/17	4	94.9	84.9	15.2	15.0	0.2	274	38.9	1.3E-08	20.2	0.995	1.3E-08

PERMEABILITY AT 20° C: 1.4 x 10^{-8} cm/sec (@ 10 psi effective stress)

APPENDIX C

Wet Dry Durability

ASTM D4843

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	CQ27-(M)-20150711-01
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	CQ27-(M)-20150711-01C
START DATE:	8/10/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A293		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	50.19	g		g
3. WT WET SOIL + TARE	106.39	g		g
4. WT DRY SOIL + TARE	90.09	g		g
5. WT WATER, Ww	16.30	g		g
6. WT DRY SOIL, Ws	39.90	g		g
7. MOISTURE CONTENT, W	40.85	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	4.02	in.
No. 2	2.01	in.	4.03	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.02	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	359.02	g
Initial Dry Specimen WT, Wd	254.89	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.68	in^3
Initial Bulk Unit Weight,	107.9	pcf
Initial Dry Unit Weight,	76.6	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	50.19	g		g
3. WT WET SOIL + TARE	106.39	g		g
4. WT DRY SOIL + TARE	90.09	g		g
5. WT WATER, Ww	16.30	g		g
6. WT DRY SOIL, Ws	39.90	g		g
7. MOISTURE CONTENT, W	40.85	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.01	in.	4.01	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	359.14	g
Initial Dry Specimen WT, Wd	254.98	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.63	in^3
Initial Bulk Unit Weight,	108.3	pcf
Initial Dry Unit Weight,	76.9	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	40.85	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.68	in³
SAMPLE No.:	CQ27-(M)-20150711-01	INITIAL TOTAL WEIGHT:	359.02	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	254.89	grams
TRACKING CODE:	A293			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.02	2.00	12.68		359.02					0.00
1	3.99	1.98	12.24	-3.46	352.06	1.38	1.40	0.03	0.01	0.01
2	4.00	1.97	12.24	-3.52	351.04	1.38	1.40	0.02	0.01	0.02
3	3.99	1.97	12.19	-3.90	350.25	1.38	1.39	0.01	0.00	0.02
4	4.00	1.97	12.20	-3.76	351.04	1.38	1.39	0.02	0.01	0.03
5	3.99	1.97	12.20	-3.76	349.80	1.37	1.38	0.01	0.00	0.03
6	3.99	1.98	12.31	-2.97	350.25	1.42	1.44	0.01	0.01	0.04
7	3.99	1.98	12.27	-3.22	350.30	1.42	1.43	0.01	0.00	0.04
8	3.99	1.97	12.23	-3.59	350.32	1.43	1.44	0.01	0.00	0.04
9	3.99	1.98	12.25	-3.42	350.40	1.42	1.43	0.01	0.00	0.05
10	3.99	1.98	12.26	-3.33	350.19	1.42	1.43	0.01	0.00	0.05
11	3.99	1.98	12.24	-3.50	350.35	1.42	1.43	0.01	0.00	0.05
12	3.99	1.97	12.22	-3.65	350.72	1.42	1.43	0.01	0.00	0.06

DIAMETER

INITIAL	2.01	2.01	2.00
1	1.98	1.97	1.97
2	1.98	1.97	1.97
3	1.98	1.97	1.97
4	1.97	1.97	1.97
5	1.98	1.98	1.97
6	1.99	1.99	1.98
7	1.99	1.97	1.97
8	1.98	1.97	1.97
9	1.98	1.98	1.97
10	1.98	1.98	1.97
11	1.99	1.97	1.97
12	1.99	1.97	1.97

HEIGHT

4.02	4.03	4.01
4.01	3.99	3.99
4.00	3.99	4.00
4.00	4.00	3.99
3.99	3.99	4.01
4.00	3.99	3.99
3.99	4.00	3.97
3.99	4.01	3.98
4.00	3.99	3.99
4.01	3.98	3.99
4.01	3.99	3.98
3.99	4.00	3.98
3.99	4.00	3.98

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	40.85	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.63	in³
SAMPLE No.:	CQ27-(M)-20150711-01C	INITIAL TOTAL WEIGHT:	359.14	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	254.98	grams
TRACKING CODE:	A293			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.63		359.14					0.00
1	4.02	2.01	12.69	0.48	360.63	1.38	1.43	0.06	0.02	0.02
2	4.02	2.00	12.58	-0.46	361.18	1.38	1.39	0.01	0.00	0.03
3	4.02	2.01	12.71	0.64	360.55	1.38	1.39	0.00	0.00	0.03
4	4.02	2.00	12.63	0.01	361.08	1.37	1.38	0.01	0.00	0.03
5	4.01	2.00	12.62	-0.10	360.90	1.37	1.37	0.00	0.00	0.03
6	4.02	2.01	12.69	0.46	361.07	1.43	1.43	0.01	0.00	0.03
7	4.02	2.00	12.68	0.35	361.00	1.43	1.43	0.00	0.00	0.03
8	4.02	2.01	12.72	0.72	361.28	1.42	1.42	0.00	0.00	0.03
9	4.02	2.01	12.72	0.67	360.75	1.42	1.43	0.01	0.00	0.04
10	4.02	2.00	12.63	-0.06	360.95	1.42	1.43	0.01	0.00	0.04
11	4.02	2.00	12.60	-0.25	361.20	1.43	1.43	0.01	0.00	0.04
12	4.02	2.00	12.60	-0.24	361.22	1.42	1.43	0.01	0.00	0.05

DIAMETER

INITIAL	2.01	2.00	2.00
1	2.01	2.01	2.00
2	2.00	2.00	2.00
3	2.01	2.01	2.00
4	2.00	2.00	2.00
5	2.00	2.00	2.00
6	2.01	2.01	2.00
7	2.01	2.00	2.00
8	2.02	2.01	2.00
9	2.01	2.01	2.00
10	2.00	2.00	2.00
11	1.99	2.00	2.00
12	2.00	2.00	2.00

HEIGHT

4.01	4.01	4.01
4.01	4.02	4.01
4.02	4.02	4.01
4.02	4.02	4.02
4.02	4.02	4.01
4.01	4.02	4.01
4.02	4.01	4.03
4.02	4.02	4.02
4.03	4.02	4.02
4.02	4.02	4.02
4.01	4.02	4.02
4.02	4.02	4.02
4.01	4.02	4.02

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT: Macon AGL
PROJECT No.: SH0578
START DATE: 8/10/2015
TRACKING CODE: A293

SAMPLE No. (Test): CQ27-(M)-20150711-01
SAMPLE No. (Control): CQ27-(M)-20150711-01C
SAMPLE DESCRIPTION: 28 Day

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	107.9	pcf	108.3	pcf
2. DRY UNIT WEIGHT	76.6	pcf	76.9	pcf
3. MOISTURE CONTENT	40.85	%	40.85	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-3.9	%	-0.7	%
2. TOTAL MASS LOSS	0.06	%	0.05	%
3. RELATIVE MASS LOSS	0.01	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	CP26-B-20150713-02
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	CP26-B-20150713-02C
START DATE:	8/10/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A292		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	49.75	g		g
3. WT WET SOIL + TARE	100.59	g		g
4. WT DRY SOIL + TARE	83.51	g		g
5. WT WATER, Ww	17.08	g		g
6. WT DRY SOIL, Ws	33.76	g		g
7. MOISTURE CONTENT, W	50.59	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.05	in.	4.03	in.
No. 2	2.03	in.	4.03	in.
No. 3	2.02	in.	4.03	in.
Average	2.03	in.	4.03	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	357.55	g
Initial Dry Specimen WT, Wd	237.43	g
Initial Area, Ao	3.24	in^2
Initial Volume, Vo	13.07	in^3
Initial Bulk Unit Weight,	104.2	pcf
Initial Dry Unit Weight,	69.2	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	49.75	g		g
3. WT WET SOIL + TARE	100.59	g		g
4. WT DRY SOIL + TARE	83.51	g		g
5. WT WATER, Ww	17.08	g		g
6. WT DRY SOIL, Ws	33.76	g		g
7. MOISTURE CONTENT, W	50.59	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.05	in.	4.04	in.
No. 2	2.03	in.	4.04	in.
No. 3	2.02	in.	4.05	in.
Average	2.03	in.	4.04	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	360.34	g
Initial Dry Specimen WT, Wd	239.28	g
Initial Area, Ao	3.24	in^2
Initial Volume, Vo	13.10	in^3
Initial Bulk Unit Weight,	104.8	pcf
Initial Dry Unit Weight,	69.6	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	50.59	%
PROJECT No.:	SH0578		INITIAL VOLUME:	13.07	in³
SAMPLE No.:	CP26-B-20150713-02		INITIAL TOTAL WEIGHT:	357.55	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	237.43	grams
TRACKING CODE:	A292				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.03	2.03	13.07		357.55					0.00
1	4.00	2.01	12.69	-2.87	349.74	1.37	1.43	0.05	0.02	0.02
2	3.99	2.02	12.78	-2.24	347.32	1.37	1.39	0.02	0.01	0.03
3	4.00	2.00	12.51	-4.26	346.63	1.37	1.40	0.03	0.01	0.04
4	3.99	1.99	12.44	-4.78	347.19	1.37	1.41	0.04	0.02	0.06
5	3.99	2.01	12.66	-3.15	347.28	1.37	1.39	0.02	0.01	0.07
6	3.98	2.02	12.72	-2.69	347.08	1.42	1.43	0.01	0.01	0.08
7	3.99	2.00	12.51	-4.29	346.72	1.41	1.43	0.02	0.01	0.08
8	3.99	2.02	12.71	-2.71	346.83	1.41	1.42	0.02	0.01	0.09
9	3.99	2.01	12.61	-3.51	347.27	1.41	1.48	0.07	0.03	0.12
10	3.99	2.01	12.73	-2.61	347.20	1.41	1.42	0.01	0.00	0.12
11	3.99	2.00	12.54	-4.04	347.35	1.41	1.42	0.01	0.00	0.13
12	4.00	2.02	12.76	-2.33	347.92	1.42	1.43	0.02	0.01	0.13

DIAMETER

INITIAL	2.05	2.03	2.02
1	2.03	2.01	1.99
2	2.05	2.02	1.99
3	2.02	1.99	1.99
4	2.01	1.98	1.98
5	2.04	2.00	1.99
6	2.04	2.02	1.99
7	2.02	1.99	1.99
8	2.05	2.01	1.99
9	2.03	2.00	1.99
10	2.04	2.02	1.99
11	2.02	2.00	1.98
12	2.05	2.02	1.99

HEIGHT

4.03	4.03	4.03
4.00	4.01	3.99
3.98	4.00	3.99
3.99	4.02	3.98
3.99	3.99	3.99
3.98	3.98	3.99
3.98	3.99	3.98
3.99	4.00	3.98
3.99	3.99	3.98
4.01	3.99	3.99
3.99	3.99	4.00
3.99	3.98	3.99
4.00	3.98	4.01

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	50.59	%
PROJECT No.:	SH0578	INITIAL VOLUME:	13.10	in³
SAMPLE No.:	CP26-B-20150713-02C	INITIAL TOTAL WEIGHT:	360.34	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	239.28	grams
TRACKING CODE:	A292			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.04	2.03	13.10		360.34					0.00
1	4.03	2.04	13.18	0.58	361.51	1.37	1.38	0.01	0.00	0.00
2	4.05	2.04	13.29	1.44	363.32	1.37	1.38	0.00	0.00	0.01
3	4.04	2.04	13.22	0.89	362.08	1.38	1.38	0.00	0.00	0.01
4	4.05	2.04	13.28	1.37	362.97	1.37	1.37	0.00	0.00	0.01
5	4.03	2.05	13.28	1.34	362.51	1.37	1.37	0.00	0.00	0.01
6	4.03	2.05	13.27	1.25	362.99	1.42	1.42	0.00	0.00	0.01
7	4.04	2.03	13.13	0.23	362.70	1.43	1.43	0.01	0.00	0.01
8	4.04	2.04	13.20	0.70	362.81	1.42	1.42	0.00	0.00	0.01
9	4.04	2.04	13.26	1.21	362.32	1.42	1.42	0.00	0.00	0.01
10	4.04	2.03	13.14	0.27	362.56	1.42	1.42	0.01	0.00	0.02
11	4.04	2.05	13.28	1.33	362.60	1.42	1.42	0.00	0.00	0.02
12	4.04	2.05	13.28	1.39	362.63	1.42	1.42	0.01	0.00	0.02

DIAMETER

INITIAL	2.05	2.03	2.02
1	2.06	2.04	2.02
2	2.06	2.05	2.02
3	2.06	2.04	2.02
4	2.07	2.04	2.03
5	2.07	2.04	2.04
6	2.06	2.05	2.03
7	2.05	2.03	2.02
8	2.06	2.03	2.02
9	2.06	2.04	2.03
10	2.05	2.03	2.02
11	2.07	2.05	2.03
12	2.07	2.05	2.03

HEIGHT

4.04	4.04	4.05
4.03	4.03	4.04
4.03	4.08	4.04
4.05	4.04	4.04
4.04	4.05	4.04
4.03	4.03	4.03
4.03	4.03	4.04
4.04	4.05	4.03
4.03	4.05	4.04
4.04	4.04	4.05
4.04	4.04	4.04
4.04	4.04	4.04
4.03	4.04	4.04

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	CP26-B-20150713-02
PROJECT No.:	SH0578	SAMPLE No. (Control):	CP26-B-20150713-02C
START DATE:	8/10/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A292		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	104.2	pcf	104.8	pcf
2. DRY UNIT WEIGHT	69.2	pcf	69.6	pcf
3. MOISTURE CONTENT	50.59	%	50.59	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-4.8	%	-1.4	%
2. TOTAL MASS LOSS	0.13	%	0.02	%
3. RELATIVE MASS LOSS	0.11	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	CM25-10-20150714-03
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	CM25-10-20150714-03C
START DATE:	8/11/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A296		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.01	g		g
3. WT WET SOIL + TARE	138.97	g		g
4. WT DRY SOIL + TARE	119.64	g		g
5. WT WATER, Ww	19.33	g		g
6. WT DRY SOIL, Ws	42.63	g		g
7. MOISTURE CONTENT, W	45.34	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.05	in.	4.06	in.
No. 2	2.04	in.	4.06	in.
No. 3	2.02	in.	4.05	in.
Average	2.04	in.	4.06	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	367.66	g
Initial Dry Specimen WT, Wd	252.96	g
Initial Area, Ao	3.26	in^2
Initial Volume, Vo	13.24	in^3
Initial Bulk Unit Weight,	105.8	pcf
Initial Dry Unit Weight,	72.8	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.01	g		g
3. WT WET SOIL + TARE	138.97	g		g
4. WT DRY SOIL + TARE	119.64	g		g
5. WT WATER, Ww	19.33	g		g
6. WT DRY SOIL, Ws	42.63	g		g
7. MOISTURE CONTENT, W	45.34	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.04	in.	4.03	in.
No. 2	2.03	in.	4.04	in.
No. 3	2.02	in.	4.04	in.
Average	2.03	in.	4.04	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	368.85	g
Initial Dry Specimen WT, Wd	253.78	g
Initial Area, Ao	3.24	in^2
Initial Volume, Vo	13.09	in^3
Initial Bulk Unit Weight,	107.3	pcf
Initial Dry Unit Weight,	73.8	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	45.34	%
PROJECT No.:	SH0578	INITIAL VOLUME:	13.24	in³
SAMPLE No.:	CM25-10-20150714-03	INITIAL TOTAL WEIGHT:	367.66	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	252.96	grams
TRACKING CODE:	A296			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.06	2.04	13.24		367.66					0.00
1	4.04	2.03	13.08	-1.17	364.79	1.37	1.39	0.02	0.01	0.01
2	4.03	2.01	12.83	-3.09	359.08	1.38	1.38	0.00	0.00	0.01
3	4.02	2.02	12.88	-2.73	358.59	1.38	1.39	0.01	0.01	0.02
4	4.03	2.02	12.85	-2.91	358.50	1.37	1.38	0.01	0.00	0.02
5	4.02	2.02	12.83	-3.10	358.34	1.37	1.38	0.01	0.00	0.02
6	4.02	2.02	12.92	-2.41	357.44	1.42	1.42	0.00	0.00	0.02
7	4.03	2.02	12.85	-2.93	357.65	1.42	1.42	0.00	0.00	0.02
8	4.03	2.02	12.90	-2.55	357.82	1.42	1.42	0.00	0.00	0.02
9	4.03	2.02	12.88	-2.75	358.09	1.42	1.43	0.00	0.00	0.02
10	4.02	2.02	12.87	-2.78	358.43	1.43	1.42	-0.01	0.00	0.02
11	4.03	2.02	12.89	-2.63	358.57	1.42	1.42	0.00	0.00	0.02
12	4.03	2.02	12.90	-2.53	358.94	1.42	1.43	0.01	0.00	0.02

DIAMETER

INITIAL	2.05	2.04	2.02
1	2.05	2.03	2.01
2	2.04	2.01	1.99
3	2.04	2.01	2.00
4	2.04	2.01	2.00
5	2.04	2.01	2.00
6	2.05	2.02	2.00
7	2.05	2.00	2.00
8	2.04	2.01	2.00
9	2.05	2.00	2.00
10	2.05	2.01	2.00
11	2.04	2.02	2.00
12	2.05	2.01	2.00

HEIGHT

4.06	4.06	4.05
4.03	4.04	4.06
4.03	4.03	4.04
4.02	4.04	4.01
4.03	4.05	4.01
4.02	4.05	4.00
4.00	4.04	4.04
4.03	4.04	4.01
4.05	4.01	4.03
4.04	4.01	4.04
4.02	4.04	4.01
4.05	4.01	4.03
4.03	4.04	4.02

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	45.34	%
PROJECT No.:	SH0578	INITIAL VOLUME:	13.09	in³
SAMPLE No.:	CM25-10-20150714-03C	INITIAL TOTAL WEIGHT:	368.85	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	253.78	grams
TRACKING CODE:	A296			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.04	2.03	13.09		368.85					0.00
1	4.05	2.04	13.16	0.52	369.39	1.37	1.40	0.03	0.01	0.01
2	4.04	2.04	13.25	1.15	370.13	1.37	1.38	0.01	0.00	0.01
3	4.04	2.03	13.12	0.20	369.66	1.37	1.37	0.00	0.00	0.02
4	4.05	2.03	13.12	0.17	370.48	1.37	1.37	0.00	0.00	0.02
5	4.04	2.03	13.14	0.35	370.07	1.37	1.38	0.01	0.00	0.02
6	4.05	2.03	13.15	0.43	370.02	1.43	1.43	0.00	0.00	0.02
7	4.05	2.04	13.19	0.76	369.99	1.43	1.43	0.00	0.00	0.02
8	4.05	2.05	13.39	2.22	370.19	1.43	1.43	0.00	0.00	0.02
9	4.05	2.03	13.16	0.48	369.93	1.43	1.43	0.00	0.00	0.02
10	4.05	2.05	13.32	1.69	370.10	1.43	1.43	0.00	0.00	0.02
11	4.05	2.05	13.38	2.16	370.18	1.43	1.43	0.00	0.00	0.02
12	4.05	2.03	13.15	0.46	370.21	1.42	1.43	0.00	0.00	0.02

DIAMETER

INITIAL	2.04	2.03	2.02
1	2.05	2.03	2.02
2	2.07	2.04	2.02
3	2.05	2.03	2.02
4	2.04	2.03	2.02
5	2.04	2.04	2.02
6	2.04	2.04	2.03
7	2.05	2.03	2.03
8	2.08	2.05	2.03
9	2.04	2.04	2.03
10	2.08	2.04	2.03
11	2.07	2.05	2.02
12	2.04	2.04	2.03

HEIGHT

4.03	4.04	4.04
4.04	4.05	4.05
4.03	4.04	4.04
4.03	4.05	4.04
4.05	4.03	4.05
4.03	4.05	4.05
4.04	4.05	4.05
4.06	4.06	4.04
4.05	4.06	4.04
4.06	4.04	4.05
4.04	4.05	4.06
4.05	4.06	4.04
4.07	4.03	4.05

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	CM25-10-20150714-03
PROJECT No.:	SH0578	SAMPLE No. (Control):	CM25-10-20150714-03C
START DATE:	8/11/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A296		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	105.8	pcf	107.3	pcf
2. DRY UNIT WEIGHT	72.8	pcf	73.8	pcf
3. MOISTURE CONTENT	45.34	%	45.34	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-3.1	%	-2.2	%
2. TOTAL MASS LOSS	0.02	%	0.02	%
3. RELATIVE MASS LOSS	0.00	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	CM23-5-20150717-04
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	CM23-5-20150717-04C
START DATE:	9/16/2015	SAMPLE DESCRIPTION:	61 Day
TRACKING CODE:	A568		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.45	g		g
3. WT WET SOIL + TARE	134.68	g		g
4. WT DRY SOIL + TARE	116.79	g		g
5. WT WATER, Ww	17.89	g		g
6. WT DRY SOIL, Ws	39.34	g		g
7. MOISTURE CONTENT, W	45.48	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.05	in.	4.05	in.
No. 2	2.03	in.	4.07	in.
No. 3	2.02	in.	4.03	in.
Average	2.03	in.	4.05	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	366.43	g
Initial Dry Specimen WT, Wd	251.88	g
Initial Area, Ao	3.24	in^2
Initial Volume, Vo	13.12	in^3
Initial Bulk Unit Weight,	106.4	pcf
Initial Dry Unit Weight,	73.1	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.45	g		g
3. WT WET SOIL + TARE	134.68	g		g
4. WT DRY SOIL + TARE	116.79	g		g
5. WT WATER, Ww	17.89	g		g
6. WT DRY SOIL, Ws	39.34	g		g
7. MOISTURE CONTENT, W	45.48	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.06	in.	4.07	in.
No. 2	2.06	in.	4.05	in.
No. 3	2.02	in.	4.05	in.
Average	2.05	in.	4.05	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	368.70	g
Initial Dry Specimen WT, Wd	253.45	g
Initial Area, Ao	3.29	in^2
Initial Volume, Vo	13.33	in^3
Initial Bulk Unit Weight,	105.3	pcf
Initial Dry Unit Weight,	72.4	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	45.48	%
PROJECT No.:	SH0578		INITIAL VOLUME:	13.12	in³
SAMPLE No.:	CM23-5-20150717-04		INITIAL TOTAL WEIGHT:	366.43	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	251.88	grams
TRACKING CODE:	A568				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.05	2.03	13.12		366.43					0.00
1	4.03	2.02	12.89	-1.76	362.41	1.42	1.44	0.02	0.01	0.01
2	4.03	2.02	12.93	-1.49	360.97	1.41	1.42	0.00	0.00	0.01
3	4.02	2.02	12.84	-2.19	358.35	1.42	1.42	0.00	0.00	0.01
4	4.03	2.02	12.91	-1.65	357.88	1.41	1.42	0.00	0.00	0.01
5	4.04	2.02	12.92	-1.56	357.37	1.42	1.42	0.01	0.00	0.01
6	4.03	2.02	12.86	-2.01	357.46	1.41	1.42	0.00	0.00	0.01
7	4.03	2.02	12.85	-2.05	357.45	1.40	1.40	0.00	0.00	0.02
8	4.03	2.02	12.93	-1.51	357.60	1.40	1.40	0.00	0.00	0.02
9	4.02	2.02	12.86	-2.03	357.99	1.40	1.41	0.01	0.00	0.02
10	4.03	2.02	12.90	-1.70	358.33	1.40	1.41	0.01	0.00	0.02
11	4.03	2.02	12.88	-1.82	358.70	1.40	1.40	0.00	0.00	0.02
12	4.03	2.01	12.81	-2.38	358.66	1.40	1.41	0.01	0.00	0.03

DIAMETER

INITIAL	2.05	2.03	2.02
1	2.04	2.01	2.00
2	2.04	2.02	2.00
3	2.04	2.01	2.01
4	2.04	2.01	2.00
5	2.03	2.01	2.01
6	2.03	2.00	2.01
7	2.03	2.01	2.01
8	2.05	2.02	1.99
9	2.04	2.01	2.00
10	2.05	2.02	1.99
11	2.04	2.01	2.00
12	2.03	2.00	2.01

HEIGHT

4.05	4.07	4.03
4.03	4.03	4.04
4.03	4.05	4.02
4.01	4.03	4.03
4.04	4.03	4.03
4.04	4.04	4.04
4.04	4.02	4.03
4.02	4.02	4.04
4.03	4.03	4.03
4.00	4.03	4.03
4.02	4.02	4.05
4.03	4.05	4.02
4.04	4.01	4.04

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	45.48	%
PROJECT No.:	SH0578	INITIAL VOLUME:	13.33	in³
SAMPLE No.:	CM23-5-20150717-04C	INITIAL TOTAL WEIGHT:	368.70	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	253.45	grams
TRACKING CODE:	A568			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.05	2.05	13.33		368.70					0.00
1	4.05	2.05	13.33	-0.01	369.64	1.43	1.45	0.02	0.01	0.01
2	4.04	2.03	13.05	-2.10	369.97	1.42	1.42	0.00	0.00	0.01
3	4.03	2.05	13.31	-0.19	369.89	1.42	1.43	0.00	0.00	0.01
4	4.04	2.04	13.18	-1.11	369.76	1.42	1.42	0.00	0.00	0.01
5	4.03	2.03	13.07	-2.00	369.86	1.42	1.42	0.00	0.00	0.01
6	4.05	2.04	13.24	-0.66	369.73	1.42	1.42	0.01	0.00	0.02
7	4.05	2.03	13.06	-2.04	369.57	1.40	1.41	0.01	0.00	0.02
8	4.05	2.03	13.14	-1.43	369.87	1.40	1.42	0.01	0.00	0.02
9	4.04	2.03	13.04	-2.17	369.65	1.40	1.41	0.01	0.00	0.03
10	4.04	2.04	13.22	-0.82	370.08	1.40	1.41	0.01	0.00	0.03
11	4.04	2.05	13.27	-0.48	369.89	1.40	1.41	0.01	0.00	0.03
12	4.04	2.04	13.21	-0.93	369.98	1.40	1.42	0.01	0.00	0.04

DIAMETER

INITIAL	2.06	2.06	2.02
1	2.05	2.07	2.02
2	2.04	2.02	2.02
3	2.07	2.05	2.02
4	2.06	2.04	2.02
5	2.05	2.03	2.02
6	2.06	2.04	2.02
7	2.04	2.02	2.02
8	2.05	2.02	2.02
9	2.04	2.02	2.02
10	2.05	2.05	2.02
11	2.07	2.05	2.02
12	2.06	2.04	2.02

HEIGHT

4.07	4.05	4.05
4.07	4.05	4.04
4.07	4.02	4.04
4.02	4.04	4.04
4.04	4.06	4.03
4.03	4.04	4.03
4.05	4.06	4.03
4.04	4.07	4.03
4.04	4.07	4.05
4.05	4.03	4.04
4.04	4.04	4.05
4.02	4.05	4.04
4.04	4.05	4.03

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	CM23-5-20150717-04
PROJECT No.:	SH0578	SAMPLE No. (Control):	CM23-5-20150717-04C
START DATE:	9/16/2015	SAMPLE DESCRIPTION:	61 Day
TRACKING CODE:	A568		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	106.4	pcf	105.3	pcf
2. DRY UNIT WEIGHT	73.1	pcf	72.4	pcf
3. MOISTURE CONTENT	45.48	%	45.48	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-2.4	%	-2.2	%
2. TOTAL MASS LOSS	0.03	%	0.04	%
3. RELATIVE MASS LOSS	-0.01	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	CJ24-5-20150717-05
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	CJ24-5-20150717-05C
START DATE:	9/16/2015	SAMPLE DESCRIPTION:	61 Day
TRACKING CODE:	A569		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.52	g		g
3. WT WET SOIL + TARE	137.75	g		g
4. WT DRY SOIL + TARE	119.15	g		g
5. WT WATER, Ww	18.60	g		g
6. WT DRY SOIL, Ws	41.63	g		g
7. MOISTURE CONTENT, W	44.68	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.07	in.	4.07	in.
No. 2	2.05	in.	4.04	in.
No. 3	2.03	in.	4.03	in.
Average	2.05	in.	4.05	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	365.70	g
Initial Dry Specimen WT, Wd	252.77	g
Initial Area, Ao	3.29	in^2
Initial Volume, Vo	13.33	in^3
Initial Bulk Unit Weight,	104.5	pcf
Initial Dry Unit Weight,	72.2	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.52	g		g
3. WT WET SOIL + TARE	137.75	g		g
4. WT DRY SOIL + TARE	119.15	g		g
5. WT WATER, Ww	18.60	g		g
6. WT DRY SOIL, Ws	41.63	g		g
7. MOISTURE CONTENT, W	44.68	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.07	in.	4.11	in.
No. 2	2.04	in.	4.07	in.
No. 3	2.02	in.	4.09	in.
Average	2.05	in.	4.09	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	368.99	g
Initial Dry Specimen WT, Wd	255.04	g
Initial Area, Ao	3.29	in^2
Initial Volume, Vo	13.44	in^3
Initial Bulk Unit Weight,	104.6	pcf
Initial Dry Unit Weight,	72.3	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	44.68	%
PROJECT No.:	SH0578		INITIAL VOLUME:	13.33	in³
SAMPLE No.:	CJ24-5-20150717-05		INITIAL TOTAL WEIGHT:	365.70	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	252.77	grams
TRACKING CODE:	A569				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.05	2.05	13.33		365.70					0.00
1	4.04	2.03	13.06	-2.01	361.51	1.43	1.63	0.20	0.08	0.08
2	4.03	2.03	13.01	-2.38	359.34	1.42	1.52	0.10	0.04	0.12
3	4.01	2.03	12.99	-2.53	355.95	1.42	1.47	0.05	0.02	0.14
4	4.02	2.01	12.74	-4.45	355.20	1.42	1.46	0.03	0.01	0.15
5	4.01	2.03	12.95	-2.86	355.30	1.42	1.45	0.02	0.01	0.16
6	4.02	2.00	12.62	-5.34	355.19	1.42	1.45	0.03	0.01	0.17
7	4.02	2.01	12.75	-4.36	355.04	1.41	1.45	0.04	0.02	0.19
8	4.01	2.01	12.73	-4.49	355.44	1.41	1.42	0.01	0.01	0.20
9	4.01	2.00	12.62	-5.34	355.44	1.41	1.44	0.03	0.01	0.21
10	4.01	2.00	12.59	-5.55	355.79	1.40	1.43	0.02	0.01	0.22
11	4.01	2.02	12.89	-3.30	356.10	1.41	1.43	0.03	0.01	0.23
12	4.01	2.02	12.83	-3.71	355.94	1.41	1.43	0.02	0.01	0.24

DIAMETER

INITIAL	2.07	2.05	2.03
1	2.05	2.03	2.01
2	2.06	2.03	2.00
3	2.06	2.03	2.00
4	2.03	2.00	1.99
5	2.05	2.03	2.00
6	2.02	2.00	1.98
7	2.03	2.00	2.00
8	2.03	2.00	1.99
9	2.02	2.00	1.99
10	2.02	2.00	1.97
11	2.05	2.02	2.00
12	2.04	2.02	1.99

HEIGHT

4.07	4.04	4.03
4.03	4.05	4.03
4.01	4.04	4.03
4.01	4.02	4.01
4.01	4.01	4.05
4.01	4.01	4.01
4.01	4.01	4.03
4.01	4.02	4.03
4.01	4.01	4.02
4.00	4.02	4.01
4.01	4.02	4.02
4.03	4.01	4.00
3.99	4.03	4.02

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	44.68	%
PROJECT No.:	SH0578	INITIAL VOLUME:	13.44	in³
SAMPLE No.:	CJ24-5-20150717-05C	INITIAL TOTAL WEIGHT:	368.99	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	255.04	grams
TRACKING CODE:	A569			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.09	2.05	13.44		368.99					0.00
1	4.07	2.04	13.32	-0.83	370.13	1.41	1.44	0.03	0.01	0.01
2	4.06	2.05	13.35	-0.64	370.15	1.40	1.41	0.01	0.00	0.02
3	4.06	2.03	13.20	-1.74	370.25	1.40	1.40	0.00	0.00	0.02
4	4.07	2.04	13.35	-0.63	369.98	1.41	1.42	0.01	0.00	0.02
5	4.06	2.04	13.25	-1.41	370.15	1.40	1.42	0.01	0.00	0.03
6	4.06	2.02	13.03	-3.03	369.90	1.40	1.41	0.01	0.00	0.03
7	4.07	2.05	13.37	-0.48	369.89	1.39	1.41	0.02	0.01	0.04
8	4.07	2.04	13.35	-0.62	370.07	1.39	1.39	0.01	0.00	0.04
9	4.06	2.04	13.22	-1.62	369.95	1.39	1.40	0.01	0.01	0.05
10	4.06	2.03	13.19	-1.85	370.04	1.39	1.40	0.02	0.01	0.05
11	4.06	2.04	13.27	-1.27	369.98	1.39	1.41	0.02	0.01	0.06
12	4.06	2.03	13.18	-1.94	370.08	1.39	1.41	0.02	0.01	0.07

DIAMETER

INITIAL	2.07	2.04	2.02
1	2.06	2.04	2.03
2	2.07	2.05	2.02
3	2.05	2.03	2.03
4	2.06	2.05	2.03
5	2.06	2.03	2.03
6	2.03	2.02	2.01
7	2.07	2.05	2.02
8	2.06	2.04	2.03
9	2.05	2.03	2.02
10	2.05	2.03	2.02
11	2.06	2.04	2.02
12	2.05	2.03	2.02

HEIGHT

4.11	4.07	4.09
4.06	4.07	4.09
4.06	4.08	4.05
4.06	4.06	4.06
4.06	4.07	4.07
4.06	4.07	4.06
4.05	4.07	4.05
4.05	4.06	4.08
4.07	4.06	4.09
4.06	4.07	4.06
4.05	4.07	4.06
4.07	4.06	4.05
4.05	4.06	4.08

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	CJ24-5-20150717-05
PROJECT No.:	SH0578	SAMPLE No. (Control):	CJ24-5-20150717-05C
START DATE:	9/16/2015	SAMPLE DESCRIPTION:	61 Day
TRACKING CODE:	A569		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	104.5	pcf	104.6	pcf
2. DRY UNIT WEIGHT	72.2	pcf	72.3	pcf
3. MOISTURE CONTENT	44.68	%	44.68	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-5.5	%	-3.0	%
2. TOTAL MASS LOSS	0.24	%	0.07	%
3. RELATIVE MASS LOSS	0.17	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	CH22-(20)-20150718-06
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	CH22-(20)-20150718-06C
START DATE:	8/18/2015	SAMPLE DESCRIPTION:	30 Day
TRACKING CODE:	A300		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.73	g		g
3. WT WET SOIL + TARE	126.96	g		g
4. WT DRY SOIL + TARE	111.76	g		g
5. WT WATER, Ww	15.20	g		g
6. WT DRY SOIL, Ws	35.03	g		g
7. MOISTURE CONTENT, W	43.39	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.07	in.	4.04	in.
No. 2	2.05	in.	4.02	in.
No. 3	2.02	in.	4.04	in.
Average	2.04	in.	4.03	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	368.72	g
Initial Dry Specimen WT, Wd	257.14	g
Initial Area, Ao	3.28	in^2
Initial Volume, Vo	13.25	in^3
Initial Bulk Unit Weight,	106.0	pcf
Initial Dry Unit Weight,	73.9	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.73	g		g
3. WT WET SOIL + TARE	126.96	g		g
4. WT DRY SOIL + TARE	111.76	g		g
5. WT WATER, Ww	15.20	g		g
6. WT DRY SOIL, Ws	35.03	g		g
7. MOISTURE CONTENT, W	43.39	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.05	in.	4.04	in.
No. 2	2.03	in.	4.04	in.
No. 3	2.02	in.	4.04	in.
Average	2.03	in.	4.04	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	369.22	g
Initial Dry Specimen WT, Wd	257.49	g
Initial Area, Ao	3.25	in^2
Initial Volume, Vo	13.13	in^3
Initial Bulk Unit Weight,	107.1	pcf
Initial Dry Unit Weight,	74.7	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	43.39	%
PROJECT No.:	SH0578	INITIAL VOLUME:	13.25	in³
SAMPLE No.:	CH22-(20)-20150718-06	INITIAL TOTAL WEIGHT:	368.72	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	257.14	grams
TRACKING CODE:	A300			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.03	2.04	13.25		368.72					0.00
1	4.02	2.02	12.89	-2.73	361.66	1.36	1.39	0.03	0.01	0.01
2	4.02	2.02	12.94	-2.36	360.37	1.36	1.36	0.00	0.00	0.01
3	4.02	2.03	12.94	-2.34	359.63	1.40	1.41	0.01	0.00	0.01
4	4.02	2.03	12.99	-1.94	357.35	1.43	1.43	0.00	0.00	0.01
5	4.02	2.02	12.94	-2.32	357.59	1.42	1.43	0.00	0.00	0.02
6	4.01	2.03	12.97	-2.09	357.57	1.43	1.43	0.00	0.00	0.02
7	4.02	2.02	12.90	-2.66	357.37	1.43	1.43	0.00	0.00	0.02
8	4.02	2.03	12.97	-2.12	357.79	1.43	1.43	0.00	0.00	0.02
9	4.02	2.02	12.82	-3.23	358.09	1.43	1.45	0.02	0.01	0.02
10	4.01	2.01	12.78	-3.56	358.22	1.43	1.43	0.00	0.00	0.03
11	4.02	2.02	12.82	-3.20	358.48	1.43	1.43	0.00	0.00	0.03
12	4.01	2.02	12.84	-3.05	358.68	1.42	1.42	0.00	0.00	0.03

DIAMETER

INITIAL	2.07	2.05	2.02
1	2.04	2.02	2.00
2	2.05	2.02	2.00
3	2.05	2.02	2.00
4	2.05	2.02	2.01
5	2.05	2.02	2.01
6	2.05	2.03	2.00
7	2.04	2.02	2.00
8	2.05	2.03	2.00
9	2.04	2.01	2.00
10	2.04	2.01	2.00
11	2.04	2.01	2.00
12	2.03	2.01	2.01

HEIGHT

4.04	4.02	4.04
4.02	4.03	4.02
4.02	4.03	4.02
4.02	4.01	4.02
4.02	4.02	4.01
4.01	4.03	4.02
4.02	4.01	4.02
4.02	4.02	4.01
4.01	4.03	4.01
4.02	4.01	4.02
4.01	4.01	4.02
4.01	4.01	4.03
4.02	4.01	4.02

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	43.39	%
PROJECT No.:	SH0578	INITIAL VOLUME:	13.13	in³
SAMPLE No.:	CH22-(20)-20150718-06C	INITIAL TOTAL WEIGHT:	369.22	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	257.49	grams
TRACKING CODE:	A300			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.04	2.03	13.13		369.22					0.00
1	4.05	2.04	13.25	0.88	370.09	1.37	1.38	0.01	0.00	0.00
2	4.04	2.03	13.13	-0.02	371.26	1.37	1.37	0.00	0.00	0.00
3	4.05	2.05	13.31	1.35	370.45	1.41	1.41	0.00	0.00	0.00
4	4.04	2.05	13.29	1.21	370.22	1.41	1.41	0.00	0.00	0.00
5	4.04	2.04	13.16	0.25	370.69	1.41	1.41	0.00	0.00	0.00
6	4.05	2.05	13.29	1.23	370.67	1.40	1.40	0.00	0.00	0.00
7	4.04	2.04	13.26	1.01	370.48	1.41	1.41	0.00	0.00	0.00
8	4.04	2.04	13.18	0.41	370.71	1.41	1.41	0.00	0.00	0.01
9	4.04	2.04	13.25	0.92	370.54	1.40	1.41	0.00	0.00	0.01
10	3.70	2.04	12.05	-8.21	370.75	1.41	1.41	0.00	0.00	0.01
11	4.04	2.03	13.07	-0.45	370.75	1.41	1.41	0.00	0.00	0.01
12	4.04	2.03	13.14	0.03	370.78	1.42	1.42	0.00	0.00	0.01

DIAMETER

INITIAL	2.05	2.03	2.02
1	2.06	2.03	2.03
2	2.04	2.03	2.03
3	2.07	2.05	2.02
4	2.07	2.04	2.03
5	2.05	2.03	2.02
6	2.07	2.04	2.02
7	2.07	2.04	2.02
8	2.05	2.04	2.03
9	2.07	2.04	2.02
10	2.06	2.04	2.02
11	2.04	2.03	2.02
12	2.06	2.03	2.02

HEIGHT

4.04	4.04	4.04
4.05	4.06	4.03
4.05	4.03	4.04
4.04	4.07	4.03
4.04	4.05	4.05
4.04	4.04	4.04
4.05	4.05	4.04
4.03	4.04	4.04
4.04	4.05	4.04
4.04	4.04	4.04
3.04	4.04	4.03
4.04	4.03	4.05
4.05	4.04	4.04

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT: Macon AGL
PROJECT No.: SH0578
START DATE: 8/18/2015
TRACKING CODE: A300

SAMPLE No. (Test): CH22-(20)-20150718-06
SAMPLE No. (Control): CH22-(20)-20150718-06C
SAMPLE DESCRIPTION: 30 Day

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	106.0	pcf	107.1	pcf
2. DRY UNIT WEIGHT	73.9	pcf	74.7	pcf
3. MOISTURE CONTENT	43.39	%	43.39	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-3.6	%	-8.2	%
2. TOTAL MASS LOSS	0.03	%	0.01	%
3. RELATIVE MASS LOSS	0.02	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	CF20-(10)-20150718-07
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	CF20-(10)-20150718-07C
START DATE:	8/18/2015	SAMPLE DESCRIPTION:	30 Day
TRACKING CODE:	A301		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.57	g		g
3. WT WET SOIL + TARE	126.94	g		g
4. WT DRY SOIL + TARE	112.51	g		g
5. WT WATER, Ww	14.43	g		g
6. WT DRY SOIL, Ws	34.94	g		g
7. MOISTURE CONTENT, W	41.30	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.06	in.	4.04	in.
No. 2	2.04	in.	4.05	in.
No. 3	2.02	in.	4.04	in.
Average	2.04	in.	4.04	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	377.82	g
Initial Dry Specimen WT, Wd	267.39	g
Initial Area, Ao	3.27	in^2
Initial Volume, Vo	13.24	in^3
Initial Bulk Unit Weight,	108.7	pcf
Initial Dry Unit Weight,	76.9	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.57	g		g
3. WT WET SOIL + TARE	126.94	g		g
4. WT DRY SOIL + TARE	112.51	g		g
5. WT WATER, Ww	14.43	g		g
6. WT DRY SOIL, Ws	34.94	g		g
7. MOISTURE CONTENT, W	41.30	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.02	in.	4.03	in.
No. 2	2.03	in.	4.03	in.
No. 3	2.06	in.	4.03	in.
Average	2.03	in.	4.03	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	376.54	g
Initial Dry Specimen WT, Wd	266.48	g
Initial Area, Ao	3.25	in^2
Initial Volume, Vo	13.09	in^3
Initial Bulk Unit Weight,	109.6	pcf
Initial Dry Unit Weight,	77.5	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	41.30	%
PROJECT No.:	SH0578		INITIAL VOLUME:	13.24	in³
SAMPLE No.:	CF20-(10)-20150718-07		INITIAL TOTAL WEIGHT:	377.82	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	267.39	grams
TRACKING CODE:	A301				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.04	2.04	13.24		377.82					0.00
1	4.03	2.02	12.86	-2.90	369.64	1.37	1.48	0.11	0.04	0.04
2	4.01	2.00	12.65	-4.49	368.57	1.36	1.39	0.03	0.01	0.05
3	4.02	2.01	12.78	-3.46	367.13	1.41	1.54	0.12	0.05	0.10
4	4.02	2.01	12.81	-3.29	366.16	1.42	1.47	0.04	0.02	0.11
5	4.03	2.01	12.80	-3.36	366.52	1.43	1.56	0.14	0.05	0.16
6	4.03	2.01	12.74	-3.81	366.49	1.43	1.49	0.06	0.02	0.19
7	4.02	2.02	12.82	-3.17	366.30	1.42	1.46	0.04	0.02	0.20
8	4.02	2.02	12.94	-2.27	366.66	1.42	1.46	0.05	0.02	0.22
9	4.02	2.02	12.82	-3.17	366.73	1.43	1.47	0.05	0.02	0.24
10	4.02	2.02	12.90	-2.58	366.82	1.42	1.45	0.03	0.01	0.25
11	4.02	2.02	12.84	-3.02	367.00	1.43	1.47	0.04	0.02	0.27
12	4.03	2.02	12.91	-2.49	367.37	1.43	1.45	0.03	0.01	0.28

DIAMETER

INITIAL	2.06	2.04	2.02
1	2.04	2.01	2.00
2	2.03	2.00	1.98
3	2.04	2.00	1.99
4	2.04	2.00	2.00
5	2.04	2.00	1.99
6	2.04	1.99	1.99
7	2.04	2.01	2.00
8	2.05	2.02	2.00
9	2.03	2.01	2.00
10	2.04	2.02	2.00
11	2.04	2.02	2.00
12	2.05	2.01	2.00

HEIGHT

4.04	4.05	4.04
4.05	4.02	4.01
4.02	4.01	4.00
4.05	4.01	4.00
4.01	4.02	4.04
4.05	4.02	4.01
4.03	4.02	4.05
4.02	4.03	4.01
4.04	4.01	4.02
4.03	4.02	4.00
4.04	4.02	4.01
4.03	4.02	4.01
4.05	4.02	4.03

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	41.30	%
PROJECT No.:	SH0578	INITIAL VOLUME:	13.09	in³
SAMPLE No.:	CF20-(10)-20150718-07C	INITIAL TOTAL WEIGHT:	376.54	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	266.48	grams
TRACKING CODE:	A301			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.03	2.03	13.09		376.54					0.00
1	4.04	2.05	13.28	1.40	377.49	1.37	1.38	0.00	0.00	0.00
2	4.04	2.03	13.12	0.21	378.44	1.37	1.37	0.00	0.00	0.00
3	4.04	2.03	13.10	0.04	377.51	1.41	1.42	0.00	0.00	0.00
4	4.03	2.04	13.21	0.91	377.70	1.41	1.42	0.01	0.00	0.00
5	4.04	2.05	13.35	1.96	377.82	1.40	1.40	0.00	0.00	0.01
6	4.04	2.04	13.22	0.95	377.94	1.42	1.42	0.00	0.00	0.01
7	4.04	2.04	13.16	0.51	377.65	1.42	1.43	0.01	0.00	0.01
8	4.04	2.05	13.29	1.48	377.73	1.42	1.42	0.00	0.00	0.01
9	4.04	2.04	13.21	0.90	377.87	1.41	1.41	0.00	0.00	0.01
10	4.03	2.04	13.14	0.32	377.88	1.41	1.41	0.00	0.00	0.01
11	4.04	2.05	13.29	1.48	377.75	1.42	1.42	0.00	0.00	0.02
12	4.04	2.05	13.30	1.54	377.90	1.42	1.42	0.00	0.00	0.02

DIAMETER

INITIAL	2.02	2.03	2.06
1	2.02	2.05	2.07
2	2.02	2.03	2.05
3	2.02	2.03	2.05
4	2.03	2.05	2.05
5	2.03	2.05	2.08
6	2.03	2.04	2.06
7	2.02	2.04	2.05
8	2.02	2.05	2.07
9	2.02	2.04	2.06
10	2.02	2.04	2.05
11	2.03	2.05	2.07
12	2.03	2.05	2.07

HEIGHT

4.03	4.03	4.03
4.03	4.05	4.04
4.03	4.04	4.03
4.03	4.05	4.03
4.00	4.05	4.04
4.03	4.05	4.04
4.04	4.03	4.04
4.04	4.04	4.04
4.03	4.05	4.04
4.03	4.04	4.03
4.04	4.04	4.03
4.05	4.04	4.04
4.03	4.04	4.04

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	CF20-(10)-20150718-07
PROJECT No.:	SH0578	SAMPLE No. (Control):	CF20-(10)-20150718-07C
START DATE:	8/18/2015	SAMPLE DESCRIPTION:	30 Day
TRACKING CODE:	A301		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	108.7	pcf	109.6	pcf
2. DRY UNIT WEIGHT	76.9	pcf	77.5	pcf
3. MOISTURE CONTENT	41.30	%	41.30	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-4.5	%	-2.0	%
2. TOTAL MASS LOSS	0.28	%	0.02	%
3. RELATIVE MASS LOSS	0.26	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	CC21-20-20150720-08
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	CC21-20-20150720-08C
START DATE:	8/18/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A302		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.78	g		g
3. WT WET SOIL + TARE	128.36	g		g
4. WT DRY SOIL + TARE	112.23	g		g
5. WT WATER, Ww	16.13	g		g
6. WT DRY SOIL, Ws	35.45	g		g
7. MOISTURE CONTENT, W	45.50	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.07	in.	4.04	in.
No. 2	2.05	in.	4.04	in.
No. 3	2.02	in.	4.04	in.
Average	2.05	in.	4.04	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	369.27	g
Initial Dry Specimen WT, Wd	253.79	g
Initial Area, Ao	3.30	in^2
Initial Volume, Vo	13.32	in^3
Initial Bulk Unit Weight,	105.6	pcf
Initial Dry Unit Weight,	72.6	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.78	g		g
3. WT WET SOIL + TARE	128.36	g		g
4. WT DRY SOIL + TARE	112.23	g		g
5. WT WATER, Ww	16.13	g		g
6. WT DRY SOIL, Ws	35.45	g		g
7. MOISTURE CONTENT, W	45.50	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.03	in.	4.04	in.
No. 2	2.02	in.	4.03	in.
No. 3	2.05	in.	4.03	in.
Average	2.03	in.	4.03	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	371.94	g
Initial Dry Specimen WT, Wd	255.63	g
Initial Area, Ao	3.24	in^2
Initial Volume, Vo	13.05	in^3
Initial Bulk Unit Weight,	108.5	pcf
Initial Dry Unit Weight,	74.6	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	45.50	%
PROJECT No.:	SH0578		INITIAL VOLUME:	13.32	in³
SAMPLE No.:	CC21-20-20150720-08		INITIAL TOTAL WEIGHT:	369.27	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	253.79	grams
TRACKING CODE:	A302				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.04	2.05	13.32		369.27					0.00
1	4.04	2.03	13.03	-2.20	360.51	1.37	1.40	0.03	0.01	0.01
2	4.03	2.02	12.95	-2.80	358.26	1.37	1.38	0.01	0.01	0.02
3	4.02	2.03	13.00	-2.40	357.80	1.53	1.53	0.00	0.00	0.02
4	4.02	2.01	12.71	-4.61	356.77	1.43	1.46	0.03	0.01	0.03
5	4.03	2.02	12.93	-2.93	357.08	1.42	1.43	0.01	0.00	0.04
6	4.02	2.01	12.78	-4.08	357.14	1.43	1.43	0.01	0.00	0.04
7	4.03	2.01	12.75	-4.27	357.39	1.42	1.42	0.00	0.00	0.04
8	4.03	2.00	12.72	-4.53	357.69	1.43	1.44	0.01	0.01	0.04
9	4.03	2.00	12.69	-4.70	357.66	1.42	1.43	0.01	0.00	0.05
10	4.02	2.01	12.76	-4.18	358.01	1.42	1.43	0.01	0.00	0.05
11	4.03	2.02	12.92	-2.98	358.24	1.43	1.43	0.01	0.00	0.05
12	4.02	2.02	12.87	-3.42	358.33	1.43	1.43	0.01	0.00	0.06

DIAMETER

INITIAL	2.07	2.05	2.02
1	2.05	2.02	2.00
2	2.04	2.02	2.01
3	2.06	2.02	2.00
4	2.02	2.00	2.00
5	2.04	2.03	2.00
6	2.03	2.00	2.00
7	2.03	2.00	2.00
8	2.03	1.99	1.99
9	2.03	1.99	1.99
10	2.03	2.00	1.99
11	2.05	2.02	2.00
12	2.04	2.02	1.99

HEIGHT

4.04	4.04	4.04
4.04	4.05	4.04
4.04	4.03	4.03
4.02	4.01	4.03
4.01	4.02	4.02
4.03	4.03	4.03
4.02	4.02	4.04
4.03	4.02	4.03
4.02	4.02	4.04
4.02	4.03	4.05
4.03	4.03	4.01
4.02	4.02	4.04
4.02	4.02	4.03

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	45.50	%
PROJECT No.:	SH0578	INITIAL VOLUME:	13.05	in^3
SAMPLE No.:	CC21-20-20150720-08C	INITIAL TOTAL WEIGHT:	371.94	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	255.63	grams
TRACKING CODE:	A302			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in^3)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.03	2.03	13.05		371.94					0.00
1	4.05	2.03	13.12	0.52	373.54	1.37	1.38	0.01	0.01	0.01
2	4.05	2.04	13.18	0.97	373.30	1.37	1.36	0.00	0.00	0.00
3	4.04	2.04	13.22	1.25	373.13	1.41	1.41	0.00	0.00	0.00
4	4.04	2.03	13.12	0.49	373.14	1.42	1.42	0.00	0.00	0.01
5	4.04	2.03	13.12	0.47	373.14	1.41	1.42	0.00	0.00	0.01
6	4.04	2.04	13.16	0.82	373.38	1.42	1.42	0.00	0.00	0.01
7	4.04	2.04	13.25	1.54	373.42	1.42	1.42	0.00	0.00	0.01
8	4.05	2.03	13.16	0.80	373.44	1.41	1.42	0.00	0.00	0.01
9	4.04	2.04	13.18	0.97	373.60	1.42	1.42	0.00	0.00	0.01
10	4.04	2.03	13.09	0.31	373.51	1.42	1.42	0.00	0.00	0.01
11	4.05	2.04	13.22	1.30	373.60	1.42	1.42	0.00	0.00	0.01
12	4.04	2.04	13.17	0.89	373.54	1.42	1.42	0.00	0.00	0.01

DIAMETER

INITIAL	2.03	2.02	2.05
1	2.02	2.03	2.05
2	2.02	2.03	2.05
3	2.03	2.04	2.06
4	2.02	2.03	2.05
5	2.02	2.03	2.05
6	2.02	2.03	2.05
7	2.03	2.05	2.06
8	2.02	2.03	2.05
9	2.02	2.03	2.05
10	2.02	2.03	2.05
11	2.03	2.04	2.05
12	2.02	2.04	2.05

HEIGHT

4.04	4.03	4.03
4.05	4.04	4.05
4.05	4.05	4.05
4.04	4.03	4.05
4.04	4.03	4.04
4.03	4.04	4.04
4.05	4.04	4.04
4.04	4.05	4.04
4.06	4.05	4.04
4.04	4.04	4.05
4.05	4.05	4.04
4.06	4.04	4.05
4.04	4.04	4.05

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	CC21-20-20150720-08
PROJECT No.:	SH0578	SAMPLE No. (Control):	CC21-20-20150720-08C
START DATE:	8/18/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A302		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	105.6	pcf	108.5	pcf
2. DRY UNIT WEIGHT	72.6	pcf	74.6	pcf
3. MOISTURE CONTENT	45.50	%	45.50	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-4.7	%	-1.5	%
2. TOTAL MASS LOSS	0.06	%	0.01	%
3. RELATIVE MASS LOSS	0.04	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	CA21-5-20150720-09
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	CA21-5-20150720-09C
START DATE:	8/18/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A303		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.61	g		g
3. WT WET SOIL + TARE	127.44	g		g
4. WT DRY SOIL + TARE	111.87	g		g
5. WT WATER, Ww	15.57	g		g
6. WT DRY SOIL, Ws	34.26	g		g
7. MOISTURE CONTENT, W	45.45	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.07	in.	4.06	in.
No. 2	2.05	in.	4.04	in.
No. 3	2.02	in.	4.03	in.
Average	2.05	in.	4.04	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	368.01	g
Initial Dry Specimen WT, Wd	253.02	g
Initial Area, Ao	3.29	in^2
Initial Volume, Vo	13.32	in^3
Initial Bulk Unit Weight,	105.2	pcf
Initial Dry Unit Weight,	72.4	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.61	g		g
3. WT WET SOIL + TARE	127.44	g		g
4. WT DRY SOIL + TARE	111.87	g		g
5. WT WATER, Ww	15.57	g		g
6. WT DRY SOIL, Ws	34.26	g		g
7. MOISTURE CONTENT, W	45.45	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.02	in.	4.05	in.
No. 2	2.04	in.	4.08	in.
No. 3	2.03	in.	4.06	in.
Average	2.03	in.	4.06	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	369.56	g
Initial Dry Specimen WT, Wd	254.09	g
Initial Area, Ao	3.24	in^2
Initial Volume, Vo	13.16	in^3
Initial Bulk Unit Weight,	107.0	pcf
Initial Dry Unit Weight,	73.6	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	45.45	%
PROJECT No.:	SH0578		INITIAL VOLUME:	13.32	in³
SAMPLE No.:	CA21-5-20150720-09		INITIAL TOTAL WEIGHT:	368.01	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	253.02	grams
TRACKING CODE:	A303				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.04	2.05	13.32		368.01					0.00
1	4.03	2.01	12.77	-4.10	356.35	1.37	1.47	0.11	0.04	0.04
2	4.02	2.00	12.67	-4.86	354.83	1.36	1.36	0.00	0.00	0.04
3	4.01	2.01	12.73	-4.42	354.91	1.41	1.43	0.02	0.01	0.05
4	4.02	2.00	12.65	-5.04	353.33	1.42	1.44	0.03	0.01	0.06
5	4.02	2.00	12.61	-5.34	353.44	1.41	1.43	0.01	0.00	0.07
6	4.02	2.00	12.61	-5.36	353.62	1.42	1.43	0.02	0.01	0.07
7	4.03	2.00	12.61	-5.36	354.11	1.42	1.43	0.01	0.00	0.08
8	4.02	2.00	12.66	-4.96	354.40	1.42	1.43	0.01	0.00	0.08
9	4.02	2.00	12.59	-5.48	355.61	1.42	1.44	0.02	0.01	0.09
10	4.02	2.00	12.62	-5.24	355.72	1.42	1.42	0.01	0.00	0.09
11	4.02	2.01	12.82	-3.77	356.34	1.42	1.43	0.01	0.00	0.09
12	4.01	2.01	12.73	-4.43	357.14	1.42	1.46	0.03	0.01	0.10

DIAMETER

INITIAL	2.07	2.05	2.02
1	2.04	2.00	1.99
2	2.03	1.99	1.99
3	2.04	2.00	1.99
4	2.02	1.99	2.00
5	2.02	1.99	1.99
6	2.02	1.99	1.99
7	2.02	1.98	1.99
8	2.03	2.00	1.99
9	2.02	1.99	1.99
10	2.03	1.99	1.99
11	2.04	2.02	1.99
12	2.04	2.00	1.99

HEIGHT

4.06	4.04	4.03
4.03	4.03	4.02
4.02	4.01	4.03
4.01	4.02	4.00
4.00	4.03	4.03
4.00	4.03	4.02
4.03	4.02	4.02
4.03	4.02	4.03
4.01	4.02	4.02
4.02	4.01	4.02
4.02	4.01	4.02
4.03	4.01	4.02
4.02	4.02	4.01

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	45.45	%
PROJECT No.:	SH0578	INITIAL VOLUME:	13.16	in³
SAMPLE No.:	CA21-5-20150720-09C	INITIAL TOTAL WEIGHT:	369.56	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	254.09	grams
TRACKING CODE:	A303			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.06	2.03	13.16		369.56					0.00
1	4.08	2.04	13.33	1.35	370.59	1.37	1.39	0.01	0.01	0.01
2	4.07	2.03	13.21	0.39	371.19	1.37	1.37	0.00	0.00	0.00
3	4.07	2.04	13.33	1.28	370.83	1.42	1.42	0.00	0.00	0.01
4	4.07	2.04	13.33	1.32	370.78	1.43	1.43	0.00	0.00	0.01
5	4.07	2.04	13.31	1.17	371.08	1.42	1.43	0.00	0.00	0.01
6	4.07	2.04	13.33	1.30	371.11	1.42	1.42	0.00	0.00	0.01
7	4.07	2.04	13.32	1.21	370.94	1.42	1.42	0.00	0.00	0.01
8	4.06	2.04	13.33	1.34	371.18	1.42	1.43	0.01	0.00	0.01
9	4.07	2.03	13.25	0.72	371.36	1.42	1.43	0.00	0.00	0.01
10	4.07	2.04	13.30	1.06	371.41	1.43	1.43	0.00	0.00	0.01
11	4.08	2.04	13.28	0.96	371.37	1.42	1.44	0.01	0.01	0.02
12	4.07	2.04	13.29	1.02	371.32	1.43	1.43	0.00	0.00	0.02

DIAMETER

INITIAL	2.02	2.04	2.03
1	2.02	2.04	2.06
2	2.02	2.03	2.05
3	2.02	2.05	2.06
4	2.02	2.04	2.06
5	2.02	2.05	2.05
6	2.02	2.05	2.06
7	2.02	2.04	2.06
8	2.02	2.04	2.07
9	2.02	2.04	2.05
10	2.02	2.04	2.06
11	2.02	2.04	2.05
12	2.02	2.04	2.06

HEIGHT

4.05	4.08	4.06
4.08	4.08	4.07
4.08	4.05	4.06
4.08	4.06	4.07
4.06	4.09	4.07
4.08	4.05	4.09
4.07	4.05	4.08
4.08	4.06	4.06
4.05	4.07	4.07
4.09	4.05	4.08
4.08	4.05	4.07
4.07	4.10	4.06
4.05	4.07	4.07

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	CA21-5-20150720-09
PROJECT No.:	SH0578	SAMPLE No. (Control):	CA21-5-20150720-09C
START DATE:	8/18/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A303		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	105.2	pcf	107.0	pcf
2. DRY UNIT WEIGHT	72.4	pcf	73.6	pcf
3. MOISTURE CONTENT	45.45	%	45.45	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-5.5	%	-1.3	%
2. TOTAL MASS LOSS	0.10	%	0.02	%
3. RELATIVE MASS LOSS	0.08	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	BZ18-10-20150721-10
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	BZ18-10-20150721-10C
START DATE:	8/18/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A304		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.40	g		g
3. WT WET SOIL + TARE	128.22	g		g
4. WT DRY SOIL + TARE	106.95	g		g
5. WT WATER, Ww	21.27	g		g
6. WT DRY SOIL, Ws	29.55	g		g
7. MOISTURE CONTENT, W	71.98	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.05	in.	4.02	in.
No. 2	2.04	in.	4.03	in.
No. 3	2.02	in.	4.03	in.
Average	2.04	in.	4.02	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	331.87	g
Initial Dry Specimen WT, Wd	192.97	g
Initial Area, Ao	3.25	in^2
Initial Volume, Vo	13.09	in^3
Initial Bulk Unit Weight,	96.6	pcf
Initial Dry Unit Weight,	56.2	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.40	g		g
3. WT WET SOIL + TARE	128.22	g		g
4. WT DRY SOIL + TARE	106.95	g		g
5. WT WATER, Ww	21.27	g		g
6. WT DRY SOIL, Ws	29.55	g		g
7. MOISTURE CONTENT, W	71.98	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	1.99	in.	4.02	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.02	in.
Average	2.00	in.	4.02	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	323.03	g
Initial Dry Specimen WT, Wd	187.83	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.59	in^3
Initial Bulk Unit Weight,	97.7	pcf
Initial Dry Unit Weight,	56.8	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	71.98	%
PROJECT No.:	SH0578	INITIAL VOLUME:	13.09	in³
SAMPLE No.:	BZ18-10-20150721-10	INITIAL TOTAL WEIGHT:	331.87	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	192.97	grams
TRACKING CODE:	A304			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.02	2.04	13.09		331.87					0.00
1	4.03	2.01	12.72	-2.81	321.61	1.36	1.39	0.02	0.01	0.01
2	4.01	2.00	12.62	-3.59	319.56	1.36	1.33	-0.03	-0.02	0.00
3	4.01	2.00	12.57	-3.97	320.12	1.42	1.43	0.01	0.00	0.00
4	4.01	2.01	12.72	-2.87	319.48	1.43	1.44	0.01	0.00	0.00
5	4.02	2.00	12.67	-3.21	320.66	1.42	1.43	0.00	0.00	0.01
6	4.01	2.00	12.65	-3.36	320.64	1.43	1.44	0.01	0.00	0.01
7	4.01	2.00	12.61	-3.66	320.80	1.43	1.45	0.02	0.01	0.02
8	4.02	2.00	12.65	-3.40	321.20	1.43	1.44	0.01	0.01	0.03
9	4.02	2.00	12.63	-3.53	321.19	1.43	1.45	0.02	0.01	0.03
10	4.01	2.00	12.55	-4.16	321.62	1.43	1.45	0.02	0.01	0.05
11	4.01	2.00	12.59	-3.83	322.21	1.43	1.45	0.02	0.01	0.06
12	4.01	2.00	12.57	-3.96	322.86	1.43	1.47	0.04	0.02	0.08

DIAMETER

INITIAL	2.05	2.04	2.02
1	2.04	1.99	1.99
2	2.02	2.00	1.99
3	2.03	1.98	1.98
4	2.04	2.00	1.99
5	2.03	1.99	1.99
6	2.03	1.99	1.99
7	2.03	1.99	1.99
8	2.03	1.99	1.99
9	2.02	2.00	1.98
10	2.02	1.99	1.98
11	2.02	2.00	1.98
12	2.02	1.99	1.98

HEIGHT

4.02	4.03	4.03
4.03	4.04	4.01
3.98	4.03	4.02
4.01	4.02	3.99
4.00	4.02	4.01
4.02	4.01	4.02
4.01	4.00	4.02
4.01	4.01	4.02
4.02	4.01	4.02
4.02	4.00	4.03
4.01	3.99	4.02
4.02	4.01	4.01
4.01	4.01	4.02

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	71.98	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.59	in³
SAMPLE No.:	BZ18-10-20150721-10C	INITIAL TOTAL WEIGHT:	323.03	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	187.83	grams
TRACKING CODE:	A304			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.02	2.00	12.59		323.03					0.00
1	4.03	2.00	12.66	0.53	324.91	1.37	1.39	0.01	0.01	0.01
2	4.02	2.00	12.67	0.66	325.51	1.37	1.37	0.00	0.00	0.01
3	4.02	2.00	12.68	0.74	324.06	1.41	1.41	0.00	0.00	0.01
4	4.02	2.01	12.71	0.94	324.34	1.42	1.42	0.00	0.00	0.01
5	4.03	2.00	12.70	0.85	324.54	1.42	1.42	0.00	0.00	0.01
6	4.03	2.00	12.68	0.75	324.52	1.43	1.43	0.00	0.00	0.01
7	4.03	2.01	12.75	1.28	324.66	1.42	1.42	0.00	0.00	0.01
8	4.03	2.00	12.69	0.84	324.76	1.42	1.43	0.01	0.00	0.01
9	4.02	2.01	12.70	0.91	324.85	1.42	1.43	0.00	0.00	0.01
10	4.02	2.00	12.69	0.76	324.65	1.42	1.42	0.00	0.00	0.01
11	4.02	2.01	12.70	0.91	324.88	1.42	1.42	0.00	0.00	0.01
12	4.03	2.00	12.67	0.61	324.93	1.41	1.41	0.00	0.00	0.01

DIAMETER

INITIAL	1.99	2.00	2.00
1	1.99	2.00	2.01
2	2.00	2.00	2.01
3	2.00	2.00	2.01
4	2.00	2.01	2.01
5	2.00	2.00	2.01
6	2.00	2.00	2.01
7	2.00	2.01	2.01
8	1.99	2.00	2.01
9	2.00	2.01	2.01
10	2.00	2.00	2.01
11	2.00	2.01	2.01
12	1.99	2.00	2.00

HEIGHT

4.02	4.01	4.02
4.03	4.02	4.03
4.02	4.02	4.03
4.03	4.01	4.03
4.02	4.02	4.02
4.03	4.01	4.03
4.03	4.03	4.02
4.02	4.04	4.03
4.03	4.03	4.02
4.03	4.02	4.01
4.02	4.02	4.02
4.02	4.02	4.03
4.04	4.01	4.04

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	BZ18-10-20150721-10
PROJECT No.:	SH0578	SAMPLE No. (Control):	BZ18-10-20150721-10C
START DATE:	8/18/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A304		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	96.6	pcf	97.7	pcf
2. DRY UNIT WEIGHT	56.2	pcf	56.8	pcf
3. MOISTURE CONTENT	71.98	%	71.98	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-4.2	%	-1.3	%
2. TOTAL MASS LOSS	0.08	%	0.01	%
3. RELATIVE MASS LOSS	0.06	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	BW19-15-20150721-11
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	BW19-15-20150721-11C
START DATE:	8/18/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A305		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.22	g		g
3. WT WET SOIL + TARE	129.28	g		g
4. WT DRY SOIL + TARE	107.32	g		g
5. WT WATER, Ww	21.96	g		g
6. WT DRY SOIL, Ws	31.10	g		g
7. MOISTURE CONTENT, W	70.61	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	4.03	in.
No. 2	2.01	in.	4.02	in.
No. 3	1.99	in.	4.03	in.
Average	2.00	in.	4.03	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	326.24	g
Initial Dry Specimen WT, Wd	191.22	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.66	in^3
Initial Bulk Unit Weight,	98.2	pcf
Initial Dry Unit Weight,	57.6	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.22	g		g
3. WT WET SOIL + TARE	129.28	g		g
4. WT DRY SOIL + TARE	107.32	g		g
5. WT WATER, Ww	21.96	g		g
6. WT DRY SOIL, Ws	31.10	g		g
7. MOISTURE CONTENT, W	70.61	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.02	in.	4.03	in.
No. 2	2.04	in.	4.02	in.
No. 3	2.06	in.	4.04	in.
Average	2.04	in.	4.03	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	331.74	g
Initial Dry Specimen WT, Wd	194.44	g
Initial Area, Ao	3.27	in^2
Initial Volume, Vo	13.17	in^3
Initial Bulk Unit Weight,	95.9	pcf
Initial Dry Unit Weight,	56.2	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	70.61	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.66	in³
SAMPLE No.:	BW19-15-20150721-11		INITIAL TOTAL WEIGHT:	326.24	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	191.22	grams
TRACKING CODE:	A305				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.03	2.00	12.66		326.24					0.00
1	4.01	1.97	12.26	-3.12	314.50	1.37	1.42	0.05	0.03	0.03
2	4.01	1.98	12.29	-2.92	313.69	1.36	1.46	0.09	0.05	0.08
3	4.01	1.98	12.36	-2.34	313.03	1.41	1.43	0.02	0.01	0.09
4	3.99	1.97	12.20	-3.60	313.60	1.42	1.46	0.04	0.02	0.11
5	4.01	1.97	12.20	-3.62	314.72	1.43	1.44	0.02	0.01	0.12
6	4.00	1.97	12.25	-3.19	315.07	1.43	1.47	0.04	0.02	0.14
7	4.00	1.97	12.23	-3.39	315.41	1.43	1.44	0.01	0.01	0.14
8	4.00	1.97	12.19	-3.68	315.69	1.43	1.49	0.06	0.03	0.18
9	4.00	1.97	12.15	-4.03	315.66	1.43	1.46	0.04	0.02	0.19
10	4.00	1.97	12.16	-3.95	316.33	1.43	1.48	0.05	0.03	0.22
11	4.00	1.97	12.15	-4.01	316.41	1.43	1.47	0.04	0.02	0.24
12	4.00	1.96	12.14	-4.11	317.05	1.43	1.46	0.03	0.02	0.25

DIAMETER

INITIAL	2.01	2.01	1.99
1	1.98	1.96	1.97
2	1.98	1.98	1.97
3	1.98	1.96	2.00
4	1.99	1.97	1.96
5	1.98	1.97	1.96
6	1.99	1.97	1.96
7	1.99	1.96	1.96
8	1.98	1.96	1.97
9	1.98	1.96	1.96
10	1.99	1.96	1.95
11	1.98	1.97	1.95
12	1.98	1.96	1.95

HEIGHT

4.03	4.02	4.03
4.01	4.00	4.03
4.00	4.03	4.00
4.03	4.00	3.99
3.98	4.01	3.99
4.02	4.00	4.00
3.99	4.02	4.00
4.01	3.99	4.02
4.00	4.01	4.01
3.99	4.02	3.98
4.00	4.02	3.98
4.00	4.01	4.01
4.02	3.98	4.01

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	70.61	%
PROJECT No.:	SH0578	INITIAL VOLUME:	13.17	in³
SAMPLE No.:	BW19-15-20150721-11C	INITIAL TOTAL WEIGHT:	331.74	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	194.44	grams
TRACKING CODE:	A305			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.03	2.04	13.17		331.74					0.00
1	4.04	2.03	13.13	-0.33	334.34	1.37	1.38	0.01	0.00	0.00
2	4.03	2.04	13.12	-0.36	334.18	1.37	1.37	-0.01	0.00	0.00
3	4.03	2.05	13.25	0.61	333.29	1.42	1.42	0.00	0.00	0.00
4	4.03	2.03	13.11	-0.48	333.28	1.42	1.42	0.00	0.00	0.00
5	4.04	2.04	13.20	0.21	333.40	1.43	1.43	0.00	0.00	0.00
6	4.03	2.05	13.28	0.80	333.43	1.42	1.42	0.00	0.00	0.00
7	4.03	2.05	13.34	1.25	333.50	1.43	1.43	0.00	0.00	0.00
8	4.04	2.04	13.21	0.29	333.71	1.43	1.43	0.00	0.00	0.01
9	4.03	2.03	13.08	-0.68	333.67	1.42	1.42	0.00	0.00	0.01
10	4.03	2.03	13.10	-0.57	333.43	1.43	1.43	0.00	0.00	0.01
11	4.04	2.03	13.13	-0.34	333.72	1.42	1.43	0.00	0.00	0.01
12	4.04	2.04	13.14	-0.25	333.62	1.42	1.43	0.00	0.00	0.01

DIAMETER

INITIAL	2.02	2.04	2.06
1	2.02	2.03	2.06
2	2.02	2.03	2.05
3	2.02	2.05	2.07
4	2.02	2.04	2.04
5	2.02	2.04	2.06
6	2.02	2.05	2.07
7	2.03	2.06	2.07
8	2.02	2.05	2.05
9	2.02	2.03	2.04
10	2.02	2.03	2.05
11	2.02	2.03	2.05
12	2.02	2.04	2.05

HEIGHT

4.03	4.02	4.04
4.04	4.04	4.04
4.04	4.03	4.03
4.04	4.03	4.03
4.05	4.02	4.03
4.04	4.04	4.04
4.03	4.04	4.03
4.03	4.03	4.04
4.05	4.03	4.04
4.03	4.03	4.04
4.03	4.03	4.04
4.04	4.03	4.05
4.04	4.03	4.04

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	BW19-15-20150721-11
PROJECT No.:	SH0578	SAMPLE No. (Control):	BW19-15-20150721-11C
START DATE:	8/18/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A305		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	98.2	pcf	95.9	pcf
2. DRY UNIT WEIGHT	57.6	pcf	56.2	pcf
3. MOISTURE CONTENT	70.61	%	70.61	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-4.1	%	-1.2	%
2. TOTAL MASS LOSS	0.25	%	0.01	%
3. RELATIVE MASS LOSS	0.25	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	BU19-5-20150722-12
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	BU19-5-20150722-12C
START DATE:	8/19/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A307		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	114.43	g		g
3. WT WET SOIL + TARE	176.49	g		g
4. WT DRY SOIL + TARE	154.29	g		g
5. WT WATER, Ww	22.20	g		g
6. WT DRY SOIL, Ws	39.86	g		g
7. MOISTURE CONTENT, W	55.69	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	4.00	in.
No. 2	2.00	in.	3.98	in.
No. 3	1.99	in.	4.01	in.
Average	2.00	in.	3.99	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	335.84	g
Initial Dry Specimen WT, Wd	215.70	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.53	in^3
Initial Bulk Unit Weight,	102.1	pcf
Initial Dry Unit Weight,	65.6	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	114.43	g		g
3. WT WET SOIL + TARE	176.49	g		g
4. WT DRY SOIL + TARE	154.29	g		g
5. WT WATER, Ww	22.20	g		g
6. WT DRY SOIL, Ws	39.86	g		g
7. MOISTURE CONTENT, W	55.69	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	4.02	in.
No. 2	2.01	in.	4.03	in.
No. 3	2.00	in.	4.02	in.
Average	2.00	in.	4.02	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	337.09	g
Initial Dry Specimen WT, Wd	216.51	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.64	in^3
Initial Bulk Unit Weight,	101.6	pcf
Initial Dry Unit Weight,	65.2	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	55.69	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.53	in³
SAMPLE No.:	BU19-5-20150722-12	INITIAL TOTAL WEIGHT:	335.84	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	215.70	grams
TRACKING CODE:	A307			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	3.99	2.00	12.53		335.84					0.00
1	3.99	1.96	12.03	-4.02	325.53	1.38	1.35	-0.02	-0.01	-0.01
2	3.98	1.98	12.28	-2.07	324.66	1.42	1.43	0.01	0.00	-0.01
3	3.99	1.98	12.24	-2.36	324.80	1.42	1.43	0.01	0.00	0.00
4	3.99	1.99	12.35	-1.51	325.40	1.42	1.43	0.00	0.00	0.00
5	3.98	1.97	12.13	-3.19	324.44	1.41	1.42	0.01	0.00	0.00
6	3.99	1.97	12.21	-2.62	324.95	1.42	1.42	0.00	0.00	0.00
7	3.98	1.97	12.14	-3.12	325.27	1.42	1.43	0.01	0.01	0.01
8	3.99	1.97	12.18	-2.82	325.07	1.41	1.42	0.01	0.01	0.01
9	3.99	1.97	12.21	-2.61	324.48	1.42	1.44	0.02	0.01	0.02
10	3.99	1.97	12.12	-3.31	325.74	1.42	1.43	0.01	0.01	0.03
11	3.98	1.97	12.09	-3.52	325.66	1.42	1.43	0.02	0.01	0.03
12	3.98	1.97	12.14	-3.13	326.05	1.41	1.43	0.01	0.01	0.04

DIAMETER

INITIAL	2.01	2.00	1.99
1	1.98	1.96	1.94
2	1.99	1.97	1.99
3	1.99	1.96	1.98
4	2.00	1.99	1.97
5	1.99	1.97	1.96
6	1.98	1.96	1.98
7	1.98	1.96	1.98
8	1.99	1.97	1.96
9	1.97	1.97	1.98
10	1.97	1.96	1.97
11	1.98	1.96	1.95
12	1.98	1.96	1.97

HEIGHT

4.00	3.98	4.01
4.00	3.97	3.99
3.99	3.99	3.97
3.99	3.99	3.98
4.00	3.99	3.96
3.96	4.00	3.99
4.00	3.99	3.98
3.99	3.96	3.98
3.98	3.98	4.00
4.01	4.00	3.97
3.99	3.99	4.00
4.00	3.98	3.97
3.96	3.99	3.98

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	55.69	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.64	in³
SAMPLE No.:	BU19-5-20150722-12C	INITIAL TOTAL WEIGHT:	337.09	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	216.51	grams
TRACKING CODE:	A307			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.02	2.00	12.64		337.09					0.00
1	4.03	2.00	12.70	0.48	339.56	1.36	1.32	-0.04	-0.02	-0.02
2	4.01	2.01	12.69	0.38	338.66	1.42	1.42	0.00	0.00	-0.02
3	4.02	2.00	12.62	-0.17	338.96	1.43	1.43	0.00	0.00	-0.02
4	4.03	2.01	12.80	1.25	339.06	1.41	1.41	0.00	0.00	-0.02
5	4.02	2.00	12.67	0.24	338.89	1.43	1.43	0.00	0.00	-0.02
6	4.03	2.00	12.69	0.33	338.79	1.42	1.42	0.00	0.00	-0.01
7	4.03	2.00	12.68	0.30	339.22	1.42	1.42	0.00	0.00	-0.01
8	4.03	2.00	12.64	0.00	339.23	1.42	1.42	0.00	0.00	-0.01
9	4.03	2.00	12.65	0.02	339.30	1.42	1.43	0.01	0.00	-0.01
10	4.03	2.00	12.68	0.27	339.35	1.42	1.43	0.00	0.00	-0.01
11	4.02	2.00	12.63	-0.11	339.22	1.42	1.42	0.00	0.00	-0.01
12	4.03	2.00	12.70	0.47	339.21	1.42	1.42	0.00	0.00	-0.01

DIAMETER

INITIAL	2.00	2.01	2.00
1	2.00	2.01	2.00
2	2.01	2.01	2.00
3	2.01	2.00	2.00
4	2.01	2.02	2.00
5	2.01	2.00	2.00
6	2.00	2.00	2.00
7	2.00	2.00	2.00
8	2.00	2.00	2.00
9	2.00	2.00	2.00
10	2.01	2.00	2.00
11	2.00	2.00	2.00
12	2.00	2.01	2.00

HEIGHT

4.02	4.03	4.02
4.04	4.02	4.02
4.02	4.02	4.01
4.01	4.02	4.03
4.03	4.04	4.03
4.02	4.03	4.01
4.04	4.02	4.03
4.04	4.02	4.02
4.02	4.02	4.04
4.02	4.02	4.04
4.04	4.02	4.02
4.03	4.03	4.02
4.04	4.02	4.03

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	BU19-5-20150722-12
PROJECT No.:	SH0578	SAMPLE No. (Control):	BU19-5-20150722-12C
START DATE:	8/19/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A307		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	102.1	pcf	101.6	pcf
2. DRY UNIT WEIGHT	65.6	pcf	65.2	pcf
3. MOISTURE CONTENT	55.69	%	55.69	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-4.0	%	-1.2	%
2. TOTAL MASS LOSS	0.04	%	-0.01	%
3. RELATIVE MASS LOSS	0.05	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	BS17-10-20150722-13B
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	BS17-10-20150722-13B (C)
START DATE:	8/25/2015	SAMPLE DESCRIPTION:	34 Day
TRACKING CODE:	A338		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	112.30	g		g
3. WT WET SOIL + TARE	271.57	g		g
4. WT DRY SOIL + TARE	211.52	g		g
5. WT WATER, Ww	60.05	g		g
6. WT DRY SOIL, Ws	99.22	g		g
7. MOISTURE CONTENT, W	60.52	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.00	in.	4.05	in.
No. 2	2.00	in.	4.03	in.
No. 3	2.00	in.	4.02	in.
Average	2.00	in.	4.04	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	328.23	g
Initial Dry Specimen WT, Wd	204.48	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.69	in^3
Initial Bulk Unit Weight,	98.5	pcf
Initial Dry Unit Weight,	61.4	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	112.30	g		g
3. WT WET SOIL + TARE	271.57	g		g
4. WT DRY SOIL + TARE	211.52	g		g
5. WT WATER, Ww	60.05	g		g
6. WT DRY SOIL, Ws	99.22	g		g
7. MOISTURE CONTENT, W	60.52	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	4.02	in.
No. 2	2.00	in.	4.00	in.
No. 3	2.00	in.	4.03	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	329.45	g
Initial Dry Specimen WT, Wd	205.24	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.58	in^3
Initial Bulk Unit Weight,	99.7	pcf
Initial Dry Unit Weight,	62.1	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	60.52	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.69	in³
SAMPLE No.:	BS17-10-20150722-13B	INITIAL TOTAL WEIGHT:	328.23	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	204.48	grams
TRACKING CODE:	A338			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.04	2.00	12.69		328.23					0.00
1	3.98	1.97	12.15	-4.26	315.79	1.42	1.46	0.04	0.02	0.02
2	3.98	1.98	12.28	-3.24	313.82	1.42	1.44	0.02	0.01	0.03
3	4.00	1.97	12.20	-3.91	313.24	1.41	1.41	0.00	0.00	0.03
4	3.99	1.98	12.29	-3.19	313.34	1.41	1.42	0.00	0.00	0.03
5	3.98	1.98	12.19	-4.00	313.05	1.42	1.43	0.01	0.01	0.04
6	3.99	1.95	11.94	-5.95	313.62	1.41	1.41	0.00	0.00	0.04
7	3.98	1.95	11.93	-6.01	313.48	1.41	1.42	0.00	0.00	0.04
8	3.99	1.95	11.89	-6.36	313.38	1.42	1.42	0.01	0.00	0.04
9	3.98	1.96	11.95	-5.86	313.29	1.42	1.42	0.01	0.00	0.05
10	3.98	1.97	12.18	-4.04	314.01	1.42	1.43	0.01	0.00	0.05
11	3.99	1.96	12.05	-5.07	313.64	1.42	1.42	0.01	0.00	0.05
12	3.99	1.97	12.10	-4.67	314.51	1.41	1.42	0.01	0.00	0.06

DIAMETER

INITIAL	2.00	2.00	2.00
1	1.97	1.99	1.96
2	1.99	1.99	1.97
3	1.98	1.97	1.97
4	2.00	1.97	1.97
5	1.99	1.98	1.96
6	1.96	1.94	1.96
7	1.97	1.94	1.95
8	1.96	1.95	1.94
9	1.97	1.95	1.94
10	1.99	1.98	1.95
11	1.96	1.97	1.95
12	1.98	1.98	1.94

HEIGHT

4.05	4.03	4.02
3.99	3.97	3.98
4.00	3.98	3.98
3.98	3.99	4.02
3.96	3.98	4.03
4.00	3.96	3.97
4.02	3.98	3.99
3.97	4.00	3.98
4.00	3.97	4.00
3.99	3.97	3.98
3.96	3.97	4.01
3.99	3.97	4.02
3.98	3.98	4.01

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	60.52	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.58	in³
SAMPLE No.:	BS17-10-20150722-13B (C)	INITIAL TOTAL WEIGHT:	329.45	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	205.24	grams
TRACKING CODE:	A338			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.58		329.45					0.00
1	3.99	2.00	12.58	0.00	330.22	1.42	1.44	0.02	0.01	0.01
2	4.00	2.00	12.59	0.04	330.46	1.42	1.43	0.01	0.00	0.01
3	4.00	2.00	12.62	0.31	330.47	1.42	1.43	0.01	0.00	0.01
4	4.01	2.00	12.58	-0.02	330.65	1.42	1.42	0.00	0.00	0.02
5	4.00	2.00	12.57	-0.14	330.57	1.42	1.42	0.00	0.00	0.02
6	4.01	2.00	12.56	-0.19	330.82	1.43	1.43	0.00	0.00	0.02
7	4.00	2.00	12.57	-0.09	330.97	1.43	1.43	0.00	0.00	0.02
8	4.01	2.00	12.57	-0.11	330.99	1.42	1.43	0.00	0.00	0.02
9	4.00	2.00	12.56	-0.20	331.19	1.42	1.43	0.00	0.00	0.02
10	4.00	2.00	12.55	-0.27	331.18	1.42	1.42	0.00	0.00	0.03
11	4.00	2.00	12.57	-0.12	331.04	1.43	1.43	0.00	0.00	0.03
12	4.01	2.00	12.59	0.08	331.14	1.42	1.42	0.00	0.00	0.03

DIAMETER

INITIAL	2.00	2.00	2.00
1	2.01	2.01	2.00
2	2.01	2.00	2.00
3	2.00	2.01	2.00
4	2.01	2.00	2.00
5	2.00	2.00	2.00
6	2.00	1.99	2.00
7	2.00	2.00	2.00
8	1.99	2.00	2.00
9	2.00	2.00	2.00
10	2.00	2.00	2.00
11	2.00	2.00	2.00
12	2.00	2.01	2.00

HEIGHT

4.02	4.00	4.03
4.00	3.99	3.99
4.01	4.00	3.98
4.00	4.00	4.01
4.02	4.01	4.00
3.99	4.02	3.99
4.02	4.00	4.00
4.00	4.02	3.99
4.02	3.99	4.01
4.02	4.00	3.99
4.01	3.98	4.00
4.02	3.99	4.00
4.01	3.99	4.02

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT: Macon AGL
PROJECT No.: SH0578
START DATE: 8/25/2015
TRACKING CODE: A338

SAMPLE No. (Test): BS17-10-20150722-13B
SAMPLE No. (Control): BS17-10-20150722-13B (C)
SAMPLE DESCRIPTION: 34 Day

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	98.5	pcf	99.7	pcf
2. DRY UNIT WEIGHT	61.4	pcf	62.1	pcf
3. MOISTURE CONTENT	60.52	%	60.52	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-6.4	%	-0.3	%
2. TOTAL MASS LOSS	0.06	%	0.03	%
3. RELATIVE MASS LOSS	0.03	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	BS15-5-20150723-14B
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	BS15-5-20150723-14B (C)
START DATE:	8/25/2015	SAMPLE DESCRIPTION:	33 Day
TRACKING CODE:	A339		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	114.99	g		g
3. WT WET SOIL + TARE	166.36	g		g
4. WT DRY SOIL + TARE	146.74	g		g
5. WT WATER, Ww	19.62	g		g
6. WT DRY SOIL, Ws	31.75	g		g
7. MOISTURE CONTENT, W	61.80	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	4.02	in.
No. 2	2.00	in.	4.03	in.
No. 3	1.99	in.	4.04	in.
Average	2.00	in.	4.03	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	326.70	g
Initial Dry Specimen WT, Wd	201.92	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.65	in^3
Initial Bulk Unit Weight,	98.4	pcf
Initial Dry Unit Weight,	60.8	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	114.99	g		g
3. WT WET SOIL + TARE	166.36	g		g
4. WT DRY SOIL + TARE	146.74	g		g
5. WT WATER, Ww	19.62	g		g
6. WT DRY SOIL, Ws	31.75	g		g
7. MOISTURE CONTENT, W	61.80	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	4.02	in.
No. 2	2.00	in.	4.03	in.
No. 3	2.00	in.	4.08	in.
Average	2.00	in.	4.04	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	330.25	g
Initial Dry Specimen WT, Wd	204.12	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.73	in^3
Initial Bulk Unit Weight,	98.8	pcf
Initial Dry Unit Weight,	61.1	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	61.80	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.65	in³
SAMPLE No.:	BS15-5-20150723-14B		INITIAL TOTAL WEIGHT:	326.70	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	201.92	grams
TRACKING CODE:	A339				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.03	2.00	12.65		326.70					0.00
1	3.99	1.97	12.19	-3.67	313.87	1.42	1.47	0.05	0.03	0.03
2	3.99	1.97	12.19	-3.66	311.65	1.42	1.48	0.06	0.03	0.06
3	4.00	1.97	12.19	-3.65	311.23	1.42	1.44	0.02	0.01	0.07
4	4.00	1.97	12.20	-3.59	311.08	1.41	1.48	0.07	0.03	0.10
5	3.98	1.97	12.09	-4.43	312.49	1.42	1.43	0.01	0.01	0.11
6	3.99	1.97	12.11	-4.27	312.47	1.42	1.44	0.02	0.01	0.12
7	3.98	1.97	12.13	-4.11	312.79	1.42	1.43	0.01	0.00	0.12
8	3.98	1.96	12.03	-4.95	312.71	1.42	1.42	0.00	0.00	0.12
9	3.98	1.96	12.00	-5.13	312.73	1.42	1.43	0.01	0.01	0.13
10	3.98	1.96	12.03	-4.92	313.04	1.42	1.43	0.01	0.01	0.13
11	3.98	1.96	11.98	-5.29	313.30	1.42	1.45	0.04	0.02	0.15
12	3.97	1.95	11.90	-5.97	313.82	1.42	1.45	0.03	0.01	0.17

DIAMETER

INITIAL	2.01	2.00	1.99
1	2.00	1.96	1.96
2	2.00	1.95	1.97
3	1.99	1.97	1.96
4	1.99	1.96	1.97
5	1.99	1.95	1.96
6	1.99	1.96	1.95
7	1.99	1.95	1.96
8	1.98	1.96	1.95
9	1.96	1.96	1.96
10	1.99	1.95	1.95
11	1.99	1.96	1.94
12	1.96	1.95	1.95

HEIGHT

4.02	4.03	4.04
3.99	4.00	3.97
3.97	4.00	3.99
4.00	3.98	4.00
4.00	4.00	3.99
3.99	3.98	3.98
4.00	3.99	3.99
4.00	3.98	3.97
3.98	3.98	3.98
3.97	3.99	3.99
3.99	3.97	3.97
3.98	3.98	3.97
3.97	3.97	3.98

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	61.80	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.73	in³
SAMPLE No.:	BS15-5-20150723-14B (C)	INITIAL TOTAL WEIGHT:	330.25	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	204.12	grams
TRACKING CODE:	A339			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.04	2.00	12.73		330.25					0.00
1	4.03	2.00	12.70	-0.23	331.07	1.42	1.45	0.02	0.01	0.01
2	4.03	2.00	12.70	-0.23	331.19	1.43	1.43	0.00	0.00	0.01
3	4.03	2.00	12.68	-0.38	331.20	1.41	1.42	0.00	0.00	0.01
4	4.04	2.00	12.71	-0.18	331.55	1.43	1.43	0.01	0.00	0.02
5	4.03	2.00	12.72	-0.04	331.41	1.42	1.42	0.00	0.00	0.02
6	4.04	2.00	12.73	0.00	331.71	1.42	1.42	0.00	0.00	0.02
7	4.02	2.00	12.70	-0.22	331.69	1.42	1.42	0.00	0.00	0.02
8	4.04	2.00	12.67	-0.50	331.62	1.42	1.43	0.01	0.00	0.02
9	4.04	2.00	12.72	-0.07	331.91	1.42	1.42	0.00	0.00	0.02
10	4.04	2.00	12.66	-0.50	331.69	1.42	1.42	0.00	0.00	0.02
11	4.05	2.00	12.71	-0.16	331.65	1.42	1.42	0.00	0.00	0.02
12	4.04	2.00	12.71	-0.14	331.87	1.42	1.42	0.00	0.00	0.02

DIAMETER

INITIAL	2.00	2.00	2.00
1	2.00	2.01	2.00
2	2.01	2.00	2.00
3	2.00	2.00	2.01
4	2.01	2.00	2.00
5	2.01	2.00	2.00
6	2.00	2.01	2.00
7	2.01	2.01	2.00
8	2.00	2.00	2.00
9	2.00	2.00	2.00
10	2.00	2.00	2.00
11	2.00	2.00	2.00
12	2.00	2.00	2.00

HEIGHT

4.02	4.03	4.08
4.01	4.02	4.07
4.01	4.07	4.00
4.01	4.06	4.03
4.07	4.00	4.05
4.02	4.07	4.01
4.08	4.01	4.04
4.01	4.06	4.00
4.01	4.05	4.06
4.09	4.03	4.01
4.01	4.04	4.07
4.10	4.00	4.04
4.06	4.01	4.07

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	BS15-5-20150723-14B
PROJECT No.:	SH0578	SAMPLE No. (Control):	BS15-5-20150723-14B (C)
START DATE:	8/25/2015	SAMPLE DESCRIPTION:	33 Day
TRACKING CODE:	A339		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	98.4	pcf	98.8	pcf
2. DRY UNIT WEIGHT	60.8	pcf	61.1	pcf
3. MOISTURE CONTENT	61.80	%	61.80	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-6.0	%	-0.5	%
2. TOTAL MASS LOSS	0.17	%	0.02	%
3. RELATIVE MASS LOSS	0.14	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	BS13-20-20150724-15
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	BS13-20-20150724-15C
START DATE:	8/21/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A332		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.00	g		g
3. WT WET SOIL + TARE	130.11	g		g
4. WT DRY SOIL + TARE	102.34	g		g
5. WT WATER, Ww	27.77	g		g
6. WT DRY SOIL, Ws	25.34	g		g
7. MOISTURE CONTENT, W	109.59	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.00	in.	4.00	in.
No. 2	2.00	in.	4.00	in.
No. 3	2.00	in.	3.99	in.
Average	2.00	in.	4.00	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	290.49	g
Initial Dry Specimen WT, Wd	138.60	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.53	in^3
Initial Bulk Unit Weight,	88.3	pcf
Initial Dry Unit Weight,	42.1	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.00	g		g
3. WT WET SOIL + TARE	130.11	g		g
4. WT DRY SOIL + TARE	102.34	g		g
5. WT WATER, Ww	27.77	g		g
6. WT DRY SOIL, Ws	25.34	g		g
7. MOISTURE CONTENT, W	109.59	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	3.93	in.
No. 2	2.01	in.	3.95	in.
No. 3	2.00	in.	3.96	in.
Average	2.00	in.	3.95	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	286.14	g
Initial Dry Specimen WT, Wd	136.52	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.43	in^3
Initial Bulk Unit Weight,	87.7	pcf
Initial Dry Unit Weight,	41.8	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	109.59	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.53	in³
SAMPLE No.:	BS13-20-20150724-15		INITIAL TOTAL WEIGHT:	290.49	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	138.60	grams
TRACKING CODE:	A332				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	2.00	12.53		290.49					0.00
1	3.99	1.96	11.98	-4.40	271.00	1.37	1.55	0.19	0.13	0.13
2	3.97	1.96	11.96	-4.56	268.30	1.41	4.23	2.81	2.03	2.16
3	3.98	1.97	12.08	-3.61	260.81	1.42	2.81	1.39	1.00	3.17
4	0.00	0.00	0.00	-100.00		1.41	24.30	22.89	16.52	19.68
5	0.00	0.00	0.00	-100.00				0.00	0.00	19.68
6	0.00	0.00	0.00	-100.00				0.00	0.00	19.68
7	0.00	0.00	0.00	-100.00				0.00	0.00	19.68
8	0.00	0.00	0.00	-100.00				0.00	0.00	19.68
9	0.00	0.00	0.00	-100.00				0.00	0.00	19.68
10	0.00	0.00	0.00	-100.00				0.00	0.00	19.68
11	0.00	0.00	0.00	-100.00				0.00	0.00	19.68
12	0.00	0.00	0.00	-100.00				0.00	0.00	19.68

DIAMETER

INITIAL	2.00	2.00	2.00
1	1.97	1.95	1.95
2	1.95	1.95	1.97
3	1.96	1.96	1.98
4			
5			
6			
7			
8			
9			
10			
11			
12			

HEIGHT

4.00	4.00	3.99
3.98	3.97	4.02
3.97	3.97	3.98
3.97	3.98	3.99

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	109.59	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.43	in³
SAMPLE No.:	BS13-20-20150724-15C	INITIAL TOTAL WEIGHT:	286.14	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	136.52	grams
TRACKING CODE:	A332			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	3.95	2.00	12.43		286.14					0.00
1	3.95	2.00	12.42	-0.12	288.08	1.38	1.33	-0.04	-0.03	-0.03
2	3.94	2.00	12.40	-0.24	287.06	1.41	1.41	0.00	0.00	-0.03
3	3.93	2.00	12.33	-0.79	287.26	1.42	1.42	0.00	0.00	-0.03
4	0.00	0.00	0.00	-100.00				0.00	0.00	-0.03
5	0.00	0.00	0.00	-100.00				0.00	0.00	-0.03
6	0.00	0.00	0.00	-100.00				0.00	0.00	-0.03
7	0.00	0.00	0.00	-100.00				0.00	0.00	-0.03
8	0.00	0.00	0.00	-100.00				0.00	0.00	-0.03
9	0.00	0.00	0.00	-100.00				0.00	0.00	-0.03
10	0.00	0.00	0.00	-100.00				0.00	0.00	-0.03
11	0.00	0.00	0.00	-100.00				0.00	0.00	-0.03
12	0.00	0.00	0.00	-100.00				0.00	0.00	-0.03

DIAMETER

INITIAL	2.00	2.01	2.00
1	2.00	2.01	2.00
2	2.00	2.01	2.00
3	2.00	2.00	2.00
4			
5			
6			
7			
8			
9			
10			
11			
12			

HEIGHT

3.93	3.95	3.96
3.95	3.95	3.95
3.93	3.94	3.94
3.93	3.94	3.93

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	BS13-20-20150724-15
PROJECT No.:	SH0578	SAMPLE No. (Control):	BS13-20-20150724-15C
START DATE:	8/21/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A332		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	88.3	pcf	87.7	pcf
2. DRY UNIT WEIGHT	42.1	pcf	41.8	pcf
3. MOISTURE CONTENT	109.59	%	109.59	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-4.6	%	-0.8	%
2. TOTAL MASS LOSS	19.68	%	-0.03	%
3. RELATIVE MASS LOSS	19.71	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	BS13-20-20150724-15
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	BS13-20-20150724-15C
START DATE:	9/28/2015	SAMPLE DESCRIPTION:	66 Day
TRACKING CODE:	A404		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.24	g		g
3. WT WET SOIL + TARE	134.99	g		g
4. WT DRY SOIL + TARE	107.73	g		g
5. WT WATER, Ww	27.26	g		g
6. WT DRY SOIL, Ws	31.49	g		g
7. MOISTURE CONTENT, W	86.57	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.00	in.	3.98	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.00	in.
Average	2.00	in.	3.99	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	290.10	g
Initial Dry Specimen WT, Wd	155.49	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.57	in^3
Initial Bulk Unit Weight,	88.0	pcf
Initial Dry Unit Weight,	47.1	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.24	g		g
3. WT WET SOIL + TARE	134.99	g		g
4. WT DRY SOIL + TARE	107.73	g		g
5. WT WATER, Ww	27.26	g		g
6. WT DRY SOIL, Ws	31.49	g		g
7. MOISTURE CONTENT, W	86.57	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	1.99	in.	4.03	in.
No. 2	1.00	in.	4.03	in.
No. 3	2.00	in.	4.02	in.
Average	1.66	in.	4.03	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	295.15	g
Initial Dry Specimen WT, Wd	158.20	g
Initial Area, Ao	2.17	in^2
Initial Volume, Vo	8.74	in^3
Initial Bulk Unit Weight,	128.7	pcf
Initial Dry Unit Weight,	69.0	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	86.57	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.57	in³
SAMPLE No.:	BS13-20-20150724-15		INITIAL TOTAL WEIGHT:	290.10	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	155.49	grams
TRACKING CODE:	A404				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	3.99	2.00	12.57		290.10					0.00
1	3.98	1.97	12.07	-3.91	280.39	1.41	1.42	0.01	0.01	0.01
2	3.95	1.95	11.79	-6.21	276.71	1.41	1.43	0.02	0.01	0.02
3	3.95	1.94	11.65	-7.28	272.54	1.41	1.57	0.16	0.10	0.12
4	3.96	1.94	11.69	-6.96	272.99	1.39	1.47	0.08	0.05	0.17
5	0.00	0.00	0.00	-100.00		169.31	244.48	75.17	48.34	48.52
6	0.00	0.00	0.00	-100.00				0.00	0.00	48.52
7	0.00	0.00	0.00	-100.00				0.00	0.00	48.52
8	0.00	0.00	0.00	-100.00				0.00	0.00	48.52
9	0.00	0.00	0.00	-100.00				0.00	0.00	48.52
10	0.00	0.00	0.00	-100.00				0.00	0.00	48.52
11	0.00	0.00	0.00	-100.00				0.00	0.00	48.52
12	0.00	0.00	0.00	-100.00				0.00	0.00	48.52

DIAMETER

INITIAL	2.00	2.00	2.00
1	1.97	1.97	1.96
2	1.95	1.95	1.95
3	1.95	1.93	1.93
4	1.97	1.94	1.91
5			
6			
7			
8			
9			
10			
11			
12			

HEIGHT

3.98	4.01	4.00
4.00	4.01	3.92
3.92	3.98	3.94
3.91	3.96	4.00
3.95	3.94	4.00

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	86.57	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.59	in³
SAMPLE No.:	BS13-20-20150724-15C	INITIAL TOTAL WEIGHT:	295.15	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	158.20	grams
TRACKING CODE:	A404			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.03	2.00	12.59		295.15					0.00
1	4.02	2.00	12.67	0.63	295.76	1.42	1.42	0.01	0.00	0.00
2	4.02	2.00	12.59	-0.01	295.77	1.41	1.41	0.00	0.00	0.00
3	4.02	2.00	12.57	-0.19	295.80	1.41	1.41	0.00	0.00	0.01
4	4.02	2.00	12.66	0.54	295.84	1.40	1.40	0.00	0.00	0.01
5	0.00	0.00	0.00	-100.00				0.00	0.00	0.01
6	0.00	0.00	0.00	-100.00				0.00	0.00	0.01
7	0.00	0.00	0.00	-100.00				0.00	0.00	0.01
8	0.00	0.00	0.00	-100.00				0.00	0.00	0.01
9	0.00	0.00	0.00	-100.00				0.00	0.00	0.01
10	0.00	0.00	0.00	-100.00				0.00	0.00	0.01
11	0.00	0.00	0.00	-100.00				0.00	0.00	0.01
12	0.00	0.00	0.00	-100.00				0.00	0.00	0.01

DIAMETER

INITIAL	1.99	2.00	2.00
1	2.01	2.01	2.00
2	2.00	2.00	1.99
3	2.00	1.99	1.99
4	2.01	2.00	2.00
5			
6			
7			
8			
9			
10			
11			
12			

HEIGHT

4.03	4.03	4.02
4.01	4.02	4.03
4.04	4.01	4.01
4.03	4.02	4.01
4.03	4.01	4.02

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	BS13-20-20150724-15
PROJECT No.:	SH0578	SAMPLE No. (Control):	BS13-20-20150724-15C
START DATE:	9/28/2015	SAMPLE DESCRIPTION:	66 Day
TRACKING CODE:	A404		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	88.0	pcf	128.7	pcf
2. DRY UNIT WEIGHT	47.1	pcf	69.0	pcf
3. MOISTURE CONTENT	86.57	%	86.57	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-7.3	%	-0.6	%
2. TOTAL MASS LOSS	48.52	%	0.01	%
3. RELATIVE MASS LOSS	48.51	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	BS13-20-20150724-15
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	BS13-20-20150724-15C
START DATE:	10/26/2015	SAMPLE DESCRIPTION:	94 Day
TRACKING CODE:	A480		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	49.89	g		g
3. WT WET SOIL + TARE	65.42	g		g
4. WT DRY SOIL + TARE	57.86	g		g
5. WT WATER, Ww	7.56	g		g
6. WT DRY SOIL, Ws	7.97	g		g
7. MOISTURE CONTENT, W	94.86	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.00	in.	4.03	in.
No. 2	2.00	in.	4.00	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	292.26	g
Initial Dry Specimen WT, Wd	149.99	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.56	in^3
Initial Bulk Unit Weight,	88.6	pcf
Initial Dry Unit Weight,	45.5	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	49.89	g		g
3. WT WET SOIL + TARE	65.42	g		g
4. WT DRY SOIL + TARE	57.86	g		g
5. WT WATER, Ww	7.56	g		g
6. WT DRY SOIL, Ws	7.97	g		g
7. MOISTURE CONTENT, W	94.86	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	4.00	in.
No. 2	2.00	in.	4.03	in.
No. 3	2.00	in.	3.99	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	290.77	g
Initial Dry Specimen WT, Wd	149.22	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.60	in^3
Initial Bulk Unit Weight,	87.9	pcf
Initial Dry Unit Weight,	45.1	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	94.86	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.56	in³
SAMPLE No.:	BS13-20-20150724-15	INITIAL TOTAL WEIGHT:	292.26	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	149.99	grams
TRACKING CODE:	A480			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.56		292.26					0.00
1	3.99	1.95	11.93	-5.04	280.21	1.39	1.41	0.02	0.01	0.01
2	3.98	1.95	11.86	-5.55	278.00	1.38	1.45	0.07	0.04	0.06
3	3.99	1.96	11.99	-4.55	277.44	1.38	1.45	0.06	0.04	0.10
4	3.98	1.95	11.84	-5.69	277.06	1.38	1.50	0.12	0.08	0.18
5	3.98	1.94	11.78	-6.21	277.85	1.38	1.49	0.11	0.07	0.25
6	3.99	1.95	11.88	-5.43	274.61	1.38	1.74	0.36	0.24	0.49
7	3.96	1.96	11.92	-5.08	276.71	1.38	1.84	0.46	0.31	0.80
8	3.95	1.95	11.77	-6.28	269.47	1.38	3.83	2.45	1.63	2.43
9	3.88	1.94	11.42	-9.07	265.61	1.38	4.11	2.73	1.82	4.25
10	3.97	1.98	12.27	-2.30	264.12	1.38	19.08	17.70	11.80	16.05
11	2.95	1.96	8.90	-29.12	132.15	170.71	223.41	52.70	35.13	51.18
12	0.00	0.00	0.00	-100.00				0.00	0.00	51.18

DIAMETER

INITIAL	2.00	2.00	2.00
1	1.96	1.94	1.95
2	1.97	1.93	1.94
3	1.96	1.95	1.95
4	1.96	1.94	1.94
5	1.96	1.93	1.94
6	1.97	1.93	1.94
7	1.94	1.95	1.98
8	1.93	1.94	1.97
9	1.94	1.92	1.96
10	2.00	1.97	1.99
11	1.97	1.97	1.93
12			

HEIGHT

4.03	4.00	4.01
4.01	3.99	3.98
3.98	3.97	3.99
3.97	3.98	4.02
3.99	3.98	3.98
3.97	3.98	3.99
3.99	4.00	3.97
3.94	4.01	3.93
3.87	3.98	4.02
3.99	4.00	3.64
4.00	3.96	3.94
3.02	3.02	2.82

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	94.86	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.61	in³
SAMPLE No.:	BS13-20-20150724-15C	INITIAL TOTAL WEIGHT:	290.77	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	149.22	grams
TRACKING CODE:	A480			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.61		290.77					0.00
1	3.99	2.00	12.55	-0.43	291.72	1.38	1.39	0.00	0.00	0.00
2	4.02	2.00	12.61	0.00	291.88	1.38	1.38	0.00	0.00	0.00
3	4.00	1.99	12.49	-0.93	291.79	1.38	1.38	0.00	0.00	0.01
4	4.04	2.00	12.71	0.81	292.01	1.38	1.38	0.00	0.00	0.01
5	4.01	1.99	12.53	-0.64	291.87	1.38	1.39	0.00	0.00	0.01
6	4.03	2.00	12.66	0.41	292.07	1.38	1.38	0.00	0.00	0.01
7	4.01	2.00	12.62	0.09	291.84	1.38	1.38	0.00	0.00	0.01
8	4.01	1.99	12.53	-0.60	291.79	1.38	1.38	0.00	0.00	0.01
9	4.03	2.00	12.70	0.73	292.03	1.38	1.38	0.00	0.00	0.01
10	4.02	2.00	12.63	0.20	291.88	1.48	1.48	0.00	0.00	0.01
11	4.01	2.00	12.60	-0.02	291.82	1.38	1.38	0.00	0.00	0.02
12	0.00	0.00	0.00	-100.00				0.00	0.00	0.02

DIAMETER

INITIAL	2.00	2.00	2.00
1	2.01	2.00	2.00
2	2.00	2.00	2.00
3	1.99	2.00	2.00
4	2.01	2.00	2.00
5	1.99	1.99	2.00
6	2.00	2.00	2.00
7	2.01	2.00	2.00
8	1.99	2.00	2.00
9	2.01	2.00	2.00
10	2.00	2.00	2.00
11	2.00	2.00	2.00
12			

HEIGHT

4.01	4.03	3.99
3.99	4.01	3.97
4.02	4.06	3.99
4.00	4.04	3.96
4.04	4.07	4.00
4.01	4.06	3.96
4.02	4.06	4.01
4.05	3.96	4.00
4.01	4.05	3.98
4.01	4.08	4.00
4.02	4.05	3.99
4.01	4.01	4.00

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT: Macon AGL
PROJECT No.: SH0578
START DATE: 10/26/2015
TRACKING CODE: A480

SAMPLE No. (Test): BS13-20-20150724-15
SAMPLE No. (Control): BS13-20-20150724-15C
SAMPLE DESCRIPTION: 94 Day

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	88.6	pcf	87.9	pcf
2. DRY UNIT WEIGHT	45.5	pcf	45.1	pcf
3. MOISTURE CONTENT	94.86	%	94.86	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-29.1	%	-0.9	%
2. TOTAL MASS LOSS	51.18	%	0.02	%
3. RELATIVE MASS LOSS	51.17	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	BO11-15-20150725-16
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	BO11-15-20150725-16C
START DATE:	8/22/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A333		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	172.09	g		g
3. WT WET SOIL + TARE	264.74	g		g
4. WT DRY SOIL + TARE	232.39	g		g
5. WT WATER, Ww	32.35	g		g
6. WT DRY SOIL, Ws	60.30	g		g
7. MOISTURE CONTENT, W	53.65	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.00	in.	4.06	in.
No. 2	2.00	in.	4.05	in.
No. 3	2.00	in.	4.02	in.
Average	2.00	in.	4.04	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	340.30	g
Initial Dry Specimen WT, Wd	221.48	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.67	in^3
Initial Bulk Unit Weight,	102.3	pcf
Initial Dry Unit Weight,	66.6	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	172.09	g		g
3. WT WET SOIL + TARE	264.74	g		g
4. WT DRY SOIL + TARE	232.39	g		g
5. WT WATER, Ww	32.35	g		g
6. WT DRY SOIL, Ws	60.30	g		g
7. MOISTURE CONTENT, W	53.65	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	3.99	in.
No. 2	2.00	in.	4.01	in.
No. 3	1.99	in.	4.02	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	334.33	g
Initial Dry Specimen WT, Wd	217.59	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.52	in^3
Initial Bulk Unit Weight,	101.7	pcf
Initial Dry Unit Weight,	66.2	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	53.65	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.67	in³
SAMPLE No.:	BO11-15-20150725-16	INITIAL TOTAL WEIGHT:	340.30	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	221.48	grams
TRACKING CODE:	A333			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.04	2.00	12.67		340.30					0.00
1	4.02	1.97	12.22	-3.58	327.08	1.37	1.40	0.03	0.01	0.01
2	4.01	1.97	12.23	-3.49	325.79	1.42	1.45	0.03	0.02	0.03
3	4.01	1.97	12.19	-3.83	325.54	1.42	1.50	0.08	0.04	0.07
4	4.01	1.97	12.16	-4.01	325.29	1.41	1.45	0.04	0.02	0.09
5	4.00	1.96	12.06	-4.86	325.44	1.41	1.46	0.05	0.02	0.11
6	4.00	1.96	12.02	-5.17	325.77	1.41	1.44	0.03	0.01	0.12
7	4.01	1.96	12.11	-4.43	325.76	1.42	1.45	0.02	0.01	0.13
8	4.01	1.97	12.19	-3.78	325.38	1.42	1.47	0.05	0.02	0.15
9	4.00	1.96	12.06	-4.85	325.42	1.42	1.58	0.16	0.07	0.22
10	4.00	1.95	11.94	-5.80	324.83	1.42	1.52	0.10	0.05	0.27
11	4.00	1.96	12.08	-4.68	325.25	1.42	1.46	0.04	0.02	0.29
12	3.99	1.95	11.92	-5.97	325.36	1.42	1.44	0.02	0.01	0.30

DIAMETER

INITIAL	2.00	2.00	2.00
1	1.98	1.96	1.96
2	1.97	1.98	1.96
3	1.98	1.96	1.96
4	1.97	1.97	1.96
5	1.97	1.96	1.95
6	1.97	1.95	1.95
7	1.97	1.96	1.95
8	1.98	1.97	1.96
9	1.96	1.96	1.96
10	1.97	1.94	1.93
11	1.98	1.96	1.95
12	1.97	1.94	1.94

HEIGHT

4.06	4.05	4.02
4.03	4.03	4.02
4.00	4.01	4.02
4.01	4.00	4.03
3.99	4.02	4.02
3.99	4.01	3.99
4.00	3.99	4.02
4.01	4.00	4.01
4.01	4.00	4.03
4.01	3.99	4.00
4.03	3.99	3.99
3.98	4.02	3.99
4.00	4.00	3.98

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	53.65	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.52	in³
SAMPLE No.:	BO11-15-20150725-16C		INITIAL TOTAL WEIGHT:	334.33	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	217.59	grams
TRACKING CODE:	A333				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.52		334.33					0.00
1	4.01	2.00	12.61	0.70	337.88	1.36	1.33	-0.03	-0.02	-0.02
2	4.01	2.00	12.59	0.52	337.03	1.42	1.42	0.00	0.00	-0.01
3	4.00	1.99	12.49	-0.24	337.27	1.42	1.44	0.02	0.01	-0.01
4	4.02	2.01	12.77	1.98	337.44	1.42	1.42	0.00	0.00	0.00
5	4.02	2.00	12.57	0.33	337.51	1.41	1.42	1.41	0.65	0.64
6	4.01	2.00	12.59	0.50	337.33	1.42	1.43	0.01	0.01	0.65
7	4.02	2.00	12.66	1.09	337.49	1.42	1.43	0.01	0.00	0.65
8	4.01	1.99	12.53	0.03	337.60	1.42	1.43	0.01	0.00	0.65
9	4.01	2.00	12.59	0.54	337.56	1.42	1.43	0.01	0.00	0.66
10	4.01	2.00	12.56	0.27	337.59	1.42	1.43	0.01	0.01	0.67
11	4.01	2.00	12.59	0.55	337.53	1.42	1.43	0.01	0.01	0.67
12	4.01	2.00	12.60	0.60	337.88	1.41	1.42	0.01	0.01	0.68

DIAMETER

INITIAL	2.00	2.00	1.99
1	2.00	2.01	2.00
2	2.00	2.00	2.00
3	1.99	2.00	2.00
4	2.02	2.01	2.00
5	1.99	2.00	2.00
6	2.00	2.00	2.00
7	2.01	2.01	2.00
8	1.99	2.00	2.00
9	2.00	2.00	2.00
10	1.99	2.00	2.00
11	2.01	2.00	2.00
12	2.00	2.00	2.00

HEIGHT

3.99	4.01	4.02
4.00	4.02	4.02
4.00	4.01	4.01
3.99	4.02	4.00
4.00	4.03	4.03
4.01	4.01	4.03
4.02	4.00	4.02
4.02	4.01	4.01
4.02	3.99	4.02
4.02	3.99	4.03
3.99	4.02	4.01
3.99	4.02	4.01
3.98	4.04	4.02

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	BO11-15-20150725-16
PROJECT No.:	SH0578	SAMPLE No. (Control):	BO11-15-20150725-16C
START DATE:	8/22/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A333		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	102.3	pcf	101.7	pcf
2. DRY UNIT WEIGHT	66.6	pcf	66.2	pcf
3. MOISTURE CONTENT	53.65	%	53.65	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-6.0	%	-2.0	%
2. TOTAL MASS LOSS	0.30	%	0.68	%
3. RELATIVE MASS LOSS	-0.38	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	BM9-10-20150727-17
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	BM9-10-20150727-17C
START DATE:	8/24/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A335		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	116.75	g		g
3. WT WET SOIL + TARE	177.27	g		g
4. WT DRY SOIL + TARE	154.89	g		g
5. WT WATER, Ww	22.38	g		g
6. WT DRY SOIL, Ws	38.14	g		g
7. MOISTURE CONTENT, W	58.68	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.00	in.	3.99	in.
No. 2	2.00	in.	3.99	in.
No. 3	1.99	in.	3.99	in.
Average	2.00	in.	3.99	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	330.00	g
Initial Dry Specimen WT, Wd	207.97	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.52	in^3
Initial Bulk Unit Weight,	100.4	pcf
Initial Dry Unit Weight,	63.3	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	116.75	g		g
3. WT WET SOIL + TARE	177.27	g		g
4. WT DRY SOIL + TARE	154.89	g		g
5. WT WATER, Ww	22.38	g		g
6. WT DRY SOIL, Ws	38.14	g		g
7. MOISTURE CONTENT, W	58.68	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	4.00	in.
No. 2	2.00	in.	4.00	in.
No. 3	2.00	in.	3.99	in.
Average	2.00	in.	4.00	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	331.84	g
Initial Dry Specimen WT, Wd	209.13	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.52	in^3
Initial Bulk Unit Weight,	101.0	pcf
Initial Dry Unit Weight,	63.6	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	58.68	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.52	in³
SAMPLE No.:	BM9-10-20150727-17		INITIAL TOTAL WEIGHT:	330.00	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	207.97	grams
TRACKING CODE:	A335				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	3.99	2.00	12.52		330.00					0.00
1	3.98	1.97	12.10	-3.37	317.83	1.42	1.45	0.03	0.01	0.01
2	3.99	1.96	12.07	-3.62	316.82	1.43	1.44	0.01	0.01	0.02
3	3.99	1.97	12.22	-2.44	317.26	1.43	1.44	0.01	0.01	0.02
4	3.98	1.98	12.20	-2.59	317.36	1.42	1.42	0.00	0.00	0.03
5	3.98	1.97	12.09	-3.44	317.89	1.43	1.44	0.01	0.00	0.03
6	3.98	1.96	11.95	-4.53	317.99	1.42	1.43	0.01	0.00	0.03
7	3.97	1.97	12.12	-3.21	318.49	1.42	1.43	0.01	0.01	0.04
8	3.99	1.97	12.10	-3.34	317.52	1.42	1.44	0.02	0.01	0.05
9	3.98	1.95	11.94	-4.65	319.02	1.42	1.44	0.02	0.01	0.06
10	3.98	1.96	12.01	-4.12	319.04	1.42	1.43	0.01	0.01	0.06
11	3.98	1.96	11.97	-4.37	318.54	1.42	1.44	0.01	0.01	0.07
12	3.99	1.96	12.02	-3.99	319.64	1.43	1.44	0.02	0.01	0.07

DIAMETER

INITIAL	2.00	2.00	1.99
1	1.98	1.96	1.96
2	1.98	1.95	1.96
3	1.99	1.97	1.96
4	1.98	1.97	1.98
5	1.99	1.96	1.95
6	1.97	1.94	1.96
7	2.00	1.96	1.95
8	1.98	1.95	1.97
9	1.97	1.95	1.94
10	1.99	1.95	1.94
11	1.98	1.95	1.94
12	1.98	1.95	1.96

HEIGHT

3.99	3.99	3.99
3.97	3.98	4.00
3.99	4.01	3.98
4.00	3.99	3.98
3.98	3.99	3.97
3.99	3.97	3.98
3.98	3.98	3.98
3.97	3.98	3.98
3.98	4.01	3.98
3.98	3.98	3.98
3.97	3.98	3.97
3.98	3.99	3.98
3.99	3.99	3.98

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	58.68	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.52	in³
SAMPLE No.:	BM9-10-20150727-17C	INITIAL TOTAL WEIGHT:	331.84	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	209.13	grams
TRACKING CODE:	A335			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	2.00	12.52		331.84					0.00
1	3.99	2.00	12.59	0.58	333.92	1.42	1.42	0.01	0.00	0.00
2	4.00	2.67	22.33	78.39	333.81	1.42	1.42	0.00	0.00	0.00
3	4.00	2.00	12.62	0.83	334.00	1.42	1.42	0.00	0.00	0.00
4	4.01	2.00	12.61	0.72	334.22	1.41	1.41	0.00	0.00	0.00
5	4.00	2.00	12.56	0.30	334.23	1.41	1.41	0.00	0.00	0.00
6	4.00	2.00	12.61	0.71	334.29	1.41	1.41	0.00	0.00	0.01
7	4.00	2.00	12.60	0.63	334.48	1.42	1.42	0.00	0.00	0.01
8	3.99	2.00	12.55	0.27	334.48	1.41	1.42	0.00	0.00	0.01
9	4.00	2.00	12.56	0.34	334.39	1.42	1.42	0.00	0.00	0.01
10	4.00	2.00	12.57	0.42	334.53	1.42	1.42	0.00	0.00	0.01
11	4.00	2.00	12.57	0.38	334.45	1.42	1.42	0.00	0.00	0.01
12	4.00	2.00	12.61	0.70	334.52	1.42	1.42	0.00	0.00	0.01

DIAMETER

INITIAL	2.00	2.00	2.00
1	2.01	2.01	2.00
2	4.00	2.00	2.00
3	2.00	2.01	2.00
4	2.00	2.01	2.00
5	2.00	2.00	2.00
6	2.00	2.01	2.00
7	2.00	2.00	2.00
8	2.00	2.00	2.00
9	2.01	2.00	2.00
10	2.00	2.00	2.00
11	2.00	2.00	2.00
12	2.01	2.01	2.00

HEIGHT

4.00	4.00	3.99
4.00	3.98	4.00
4.00	4.00	4.00
3.99	4.01	4.00
4.01	4.00	4.01
4.00	4.01	4.00
4.00	4.00	4.00
4.00	4.00	4.00
4.00	4.00	3.99
4.00	4.00	3.99
4.00	3.99	4.00
4.00	4.00	4.00
4.01	3.99	4.00

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	BM9-10-20150727-17
PROJECT No.:	SH0578	SAMPLE No. (Control):	BM9-10-20150727-17C
START DATE:	8/24/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A335		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	100.4	pcf	101.0	pcf
2. DRY UNIT WEIGHT	63.3	pcf	63.6	pcf
3. MOISTURE CONTENT	58.68	%	58.68	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-4.7	%	-78.4	%
2. TOTAL MASS LOSS	0.07	%	0.01	%
3. RELATIVE MASS LOSS	0.06	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	BJ8-5-20150728-18B
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	BJ8-5-20150728-18B (C)
START DATE:	9/16/2015	SAMPLE DESCRIPTION:	50 Day
TRACKING CODE:	A389		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.73	g		g
3. WT WET SOIL + TARE	127.05	g		g
4. WT DRY SOIL + TARE	106.66	g		g
5. WT WATER, Ww	20.39	g		g
6. WT DRY SOIL, Ws	29.93	g		g
7. MOISTURE CONTENT, W	68.13	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	1.98	in.	3.98	in.
No. 2	1.99	in.	3.98	in.
No. 3	2.00	in.	3.99	in.
Average	1.99	in.	3.98	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	318.28	g
Initial Dry Specimen WT, Wd	189.31	g
Initial Area, Ao	3.11	in^2
Initial Volume, Vo	12.37	in^3
Initial Bulk Unit Weight,	98.0	pcf
Initial Dry Unit Weight,	58.3	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.73	g		g
3. WT WET SOIL + TARE	127.05	g		g
4. WT DRY SOIL + TARE	106.66	g		g
5. WT WATER, Ww	20.39	g		g
6. WT DRY SOIL, Ws	29.93	g		g
7. MOISTURE CONTENT, W	68.13	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	1.99	in.	4.05	in.
No. 2	2.00	in.	4.04	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.03	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	320.15	g
Initial Dry Specimen WT, Wd	190.42	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.62	in^3
Initial Bulk Unit Weight,	96.6	pcf
Initial Dry Unit Weight,	57.5	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	68.13	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.37	in³
SAMPLE No.:	BJ8-5-20150728-18B		INITIAL TOTAL WEIGHT:	318.28	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	189.31	grams
TRACKING CODE:	A389				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	3.98	1.99	12.37		318.28					0.00
1	3.98	1.97	12.13	-1.94	309.88	1.41	1.43	0.02	0.01	0.01
2	3.97	1.95	11.92	-3.60	307.82	1.41	1.41	0.00	0.00	0.01
3	3.97	1.96	12.00	-2.95	307.81	1.41	1.42	0.01	0.00	0.02
4	3.97	1.97	12.10	-2.18	308.16	1.42	1.42	0.00	0.00	0.02
5	3.97	1.96	11.98	-3.11	308.01	1.42	1.45	0.04	0.02	0.04
6	3.97	1.96	11.98	-3.13	308.55	1.40	1.41	0.01	0.01	0.04
7	3.97	1.96	11.90	-3.74	308.89	1.40	1.48	0.08	0.04	0.08
8	3.97	1.96	11.98	-3.13	308.93	1.39	1.41	0.02	0.01	0.10
9	3.97	1.96	12.01	-2.89	309.40	1.39	1.42	0.03	0.02	0.11
10	3.99	1.97	12.20	-1.31	309.43	1.39	1.55	0.16	0.09	0.20
11	3.96	1.96	11.93	-3.54	310.41	1.39	1.43	0.05	0.02	0.22
12	3.96	1.96	12.00	-3.00	310.54	1.39	1.44	0.05	0.02	0.25

DIAMETER

INITIAL	1.98	1.99	2.00
1	1.98	1.97	1.96
2	1.97	1.95	1.95
3	1.98	1.96	1.95
4	1.99	1.97	1.94
5	1.98	1.95	1.94
6	1.97	1.95	1.95
7	1.96	1.95	1.95
8	1.99	1.95	1.95
9	1.99	1.96	1.95
10	1.99	1.97	1.97
11	1.96	1.95	1.96
12	1.98	1.96	1.95

HEIGHT

3.98	3.98	3.99
3.98	3.97	3.98
3.97	3.98	3.97
3.96	3.98	3.97
3.96	3.99	3.97
3.98	3.96	3.98
3.98	3.96	3.96
3.98	3.97	3.95
3.96	3.94	4.00
3.97	3.95	3.98
3.99	3.94	4.04
3.95	3.97	3.96
3.95	3.95	3.97

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	68.13	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.62	in³
SAMPLE No.:	BJ8-5-20150728-18B (C)	INITIAL TOTAL WEIGHT:	320.15	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	190.42	grams
TRACKING CODE:	A389			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.03	2.00	12.62		320.15					0.00
1	4.01	1.99	12.47	-1.23	321.36	1.42	1.44	0.02	0.01	0.01
2	4.02	2.00	12.58	-0.37	321.12	1.42	1.42	0.00	0.00	0.01
3	4.01	1.99	12.54	-0.66	321.71	1.41	1.42	0.00	0.00	0.02
4	4.01	2.01	12.67	0.38	321.58	1.41	1.42	0.00	0.00	0.02
5	4.01	1.99	12.53	-0.73	321.83	1.41	1.41	0.00	0.00	0.02
6	4.02	2.00	12.62	0.01	321.51	1.41	1.41	0.00	0.00	0.02
7	4.01	2.00	12.58	-0.38	321.63	1.41	1.41	0.00	0.00	0.02
8	4.03	2.00	12.68	0.47	321.62	1.39	1.39	0.00	0.00	0.02
9	4.01	2.01	12.67	0.35	321.63	1.39	1.40	0.01	0.00	0.02
10	4.01	2.00	12.63	0.04	321.68	1.39	1.40	0.01	0.00	0.03
11	4.02	2.00	12.66	0.29	321.79	1.39	1.40	0.00	0.00	0.03
12	4.01	2.00	12.57	-0.42	321.70	1.39	1.40	0.00	0.00	0.03

DIAMETER

INITIAL	1.99	2.00	2.00
1	1.99	1.98	2.00
2	1.99	2.00	2.00
3	1.99	1.99	2.00
4	2.01	2.01	2.00
5	1.99	2.00	2.00
6	2.01	2.00	2.00
7	2.00	2.00	2.00
8	2.01	2.00	2.00
9	2.01	2.01	2.00
10	2.01	2.00	2.00
11	2.01	2.00	2.00
12	2.00	2.00	2.00

HEIGHT

4.05	4.04	4.01
4.01	3.96	4.05
4.05	3.97	4.05
4.01	3.97	4.05
3.98	4.04	4.01
4.02	3.98	4.03
4.05	4.02	3.98
3.97	4.06	4.01
4.04	4.01	4.03
3.98	4.04	4.01
4.05	4.01	3.98
4.02	3.98	4.05
3.97	4.03	4.02

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT: Macon AGL
PROJECT No.: SH0578
START DATE: 9/16/2015
TRACKING CODE: A389

SAMPLE No. (Test): BJ8-5-20150728-18B
SAMPLE No. (Control): BJ8-5-20150728-18B (C)
SAMPLE DESCRIPTION: 50 Day

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	98.0	pcf	96.6	pcf
2. DRY UNIT WEIGHT	58.3	pcf	57.5	pcf
3. MOISTURE CONTENT	68.13	%	68.13	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-3.7	%	-1.2	%
2. TOTAL MASS LOSS	0.25	%	0.03	%
3. RELATIVE MASS LOSS	0.22	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	BD8-10-20150729-19
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	BD8-10-20150729-19C
START DATE:	8/26/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A340		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.74	g		g
3. WT WET SOIL + TARE	126.15	g		g
4. WT DRY SOIL + TARE	108.22	g		g
5. WT WATER, Ww	17.93	g		g
6. WT DRY SOIL, Ws	31.48	g		g
7. MOISTURE CONTENT, W	56.96	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	1.99	in.	4.00	in.
No. 2	2.00	in.	4.00	in.
No. 3	2.00	in.	4.02	in.
Average	1.99	in.	4.01	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	330.77	g
Initial Dry Specimen WT, Wd	210.74	g
Initial Area, Ao	3.12	in^2
Initial Volume, Vo	12.52	in^3
Initial Bulk Unit Weight,	100.6	pcf
Initial Dry Unit Weight,	64.1	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.74	g		g
3. WT WET SOIL + TARE	126.15	g		g
4. WT DRY SOIL + TARE	108.22	g		g
5. WT WATER, Ww	17.93	g		g
6. WT DRY SOIL, Ws	31.48	g		g
7. MOISTURE CONTENT, W	56.96	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	1.99	in.	3.99	in.
No. 2	2.00	in.	3.99	in.
No. 3	1.99	in.	4.00	in.
Average	1.99	in.	3.99	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	329.07	g
Initial Dry Specimen WT, Wd	209.66	g
Initial Area, Ao	3.12	in^2
Initial Volume, Vo	12.47	in^3
Initial Bulk Unit Weight,	100.5	pcf
Initial Dry Unit Weight,	64.0	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	56.96	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.52	in³
SAMPLE No.:	BD8-10-20150729-19	INITIAL TOTAL WEIGHT:	330.77	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	210.74	grams
TRACKING CODE:	A340			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	1.99	12.52		330.77					0.00
1	3.98	1.95	11.93	-4.69	316.27	1.43	1.44	0.01	0.01	0.01
2	3.98	1.95	11.91	-4.91	314.41	1.43	1.45	0.02	0.01	0.02
3	3.97	1.95	11.88	-5.09	313.20	1.42	1.48	0.06	0.03	0.04
4	3.97	1.96	11.97	-4.43	313.17	1.43	1.46	0.03	0.02	0.06
5	3.98	1.95	11.86	-5.24	313.80	1.44	1.55	0.11	0.05	0.11
6	3.97	1.95	11.84	-5.44	313.86	1.43	1.64	0.21	0.10	0.21
7	3.96	1.95	11.84	-5.45	314.05	1.42	1.62	0.20	0.09	0.31
8	3.96	1.94	11.70	-6.54	314.20	1.43	1.63	0.20	0.10	0.40
9	3.96	1.94	11.71	-6.50	313.12	1.42	1.63	0.21	0.10	0.50
10	3.95	1.94	11.74	-6.24	313.93	1.43	1.81	0.38	0.18	0.68
11	3.95	1.94	11.67	-6.78	313.39	1.42	1.78	0.36	0.17	0.85
12	3.95	1.94	11.70	-6.57	312.25	1.43	1.60	0.17	0.08	0.94

DIAMETER

INITIAL	1.99	2.00	2.00
1	1.98	1.94	1.94
2	1.97	1.94	1.94
3	1.98	1.94	1.93
4	1.98	1.94	1.95
5	1.97	1.95	1.93
6	1.97	1.95	1.93
7	1.97	1.94	1.94
8	1.97	1.93	1.93
9	1.96	1.93	1.93
10	1.97	1.95	1.92
11	1.97	1.92	1.93
12	1.96	1.94	1.92

HEIGHT

4.00	4.00	4.02
3.98	4.00	3.97
4.00	3.98	3.96
3.97	3.98	3.96
3.97	3.96	3.99
3.99	3.97	3.97
3.97	3.95	3.97
3.99	3.95	3.95
3.98	3.95	3.95
3.99	3.94	3.95
3.95	3.94	3.97
3.95	3.95	3.94
3.94	3.96	3.96

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	56.96	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.47	in³
SAMPLE No.:	BD8-10-20150729-19C	INITIAL TOTAL WEIGHT:	329.07	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	209.66	grams
TRACKING CODE:	A340			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	3.99	1.99	12.47		329.07					0.00
1	3.99	2.00	12.57	0.82	331.55	1.42	1.42	0.01	0.00	0.00
2	4.00	2.00	12.52	0.42	331.33	1.42	1.42	0.01	0.00	0.01
3	3.99	2.01	12.66	1.50	331.57	1.41	1.41	0.00	0.00	0.01
4	4.00	2.00	12.55	0.64	331.53	1.41	1.42	0.01	0.01	0.01
5	4.00	2.00	12.60	1.00	331.37	1.42	1.43	0.01	0.00	0.02
6	4.00	2.00	12.59	0.97	331.61	1.42	1.43	0.01	0.00	0.02
7	4.01	2.00	12.62	1.17	331.80	1.41	1.42	0.01	0.00	0.02
8	4.00	2.00	12.62	1.17	331.72	1.42	1.42	0.01	0.00	0.03
9	4.00	2.00	12.50	0.25	331.82	1.42	1.43	0.01	0.01	0.03
10	4.00	2.00	12.52	0.37	331.82	1.41	1.42	0.01	0.00	0.04
11	4.00	2.00	12.58	0.89	331.82	1.42	1.42	0.01	0.00	0.04
12	4.00	2.00	12.52	0.39	331.63	1.42	1.43	0.01	0.00	0.04

DIAMETER

INITIAL	1.99	2.00	1.99
1	1.99	2.01	2.00
2	2.00	2.00	2.00
3	2.01	2.02	2.00
4	2.00	2.00	2.00
5	2.01	2.01	2.00
6	2.01	2.00	2.00
7	2.00	2.01	2.00
8	2.00	2.01	2.00
9	1.99	2.00	2.00
10	1.99	2.00	2.00
11	2.00	2.00	2.00
12	1.99	2.00	2.00

HEIGHT

3.99	3.99	4.00
4.00	3.99	3.99
4.00	4.00	3.99
3.99	4.00	3.99
3.99	4.00	4.00
4.00	4.00	4.00
4.00	4.01	4.00
4.00	4.02	4.00
4.00	4.00	4.00
4.01	4.00	4.00
4.01	4.00	4.00
4.01	4.01	3.99
4.00	4.02	3.99

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	BD8-10-20150729-19
PROJECT No.:	SH0578	SAMPLE No. (Control):	BD8-10-20150729-19C
START DATE:	8/26/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A340		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	100.6	pcf	100.5	pcf
2. DRY UNIT WEIGHT	64.1	pcf	64.0	pcf
3. MOISTURE CONTENT	56.96	%	56.96	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-6.8	%	-1.5	%
2. TOTAL MASS LOSS	0.94	%	0.04	%
3. RELATIVE MASS LOSS	0.89	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	AY7-15-20150730-20
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	AY7-15-20150730-20C
START DATE:	8/27/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A344		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.78	g		g
3. WT WET SOIL + TARE	127.71	g		g
4. WT DRY SOIL + TARE	109.05	g		g
5. WT WATER, Ww	18.66	g		g
6. WT DRY SOIL, Ws	32.27	g		g
7. MOISTURE CONTENT, W	57.82	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.00	in.	3.99	in.
No. 2	2.00	in.	4.00	in.
No. 3	2.00	in.	4.00	in.
Average	2.00	in.	4.00	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	330.47	g
Initial Dry Specimen WT, Wd	209.39	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.53	in^3
Initial Bulk Unit Weight,	100.5	pcf
Initial Dry Unit Weight,	63.7	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.78	g		g
3. WT WET SOIL + TARE	127.71	g		g
4. WT DRY SOIL + TARE	109.05	g		g
5. WT WATER, Ww	18.66	g		g
6. WT DRY SOIL, Ws	32.27	g		g
7. MOISTURE CONTENT, W	57.82	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.01	in.	4.00	in.
No. 2	2.01	in.	3.99	in.
No. 3	2.00	in.	4.00	in.
Average	2.01	in.	4.00	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	331.84	g
Initial Dry Specimen WT, Wd	210.26	g
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.63	in^3
Initial Bulk Unit Weight,	100.1	pcf
Initial Dry Unit Weight,	63.4	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	57.82	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.53	in³
SAMPLE No.:	AY7-15-20150730-20		INITIAL TOTAL WEIGHT:	330.47	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	209.39	grams
TRACKING CODE:	A344				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	2.00	12.53		330.47					0.00
1	4.00	1.98	12.29	-1.90	320.58	1.42	1.44	0.02	0.01	0.01
2	4.02	1.98	12.43	-0.79	320.80	1.41	1.43	0.02	0.01	0.02
3	3.99	1.98	12.23	-2.39	319.98	1.41	1.44	0.02	0.01	0.03
4	3.99	1.97	12.22	-2.43	320.16	1.42	1.49	0.07	0.03	0.06
5	3.99	1.97	12.14	-3.09	319.95	1.42	1.51	0.09	0.04	0.11
6	3.99	1.98	12.33	-1.56	320.60	1.43	1.46	0.03	0.01	0.12
7	3.99	1.97	12.15	-3.01	321.01	1.43	1.44	0.01	0.00	0.12
8	3.99	1.97	12.22	-2.47	321.67	1.43	1.44	0.02	0.01	0.13
9	3.99	1.97	12.11	-3.35	321.55	1.42	1.46	0.03	0.02	0.15
10	3.99	1.97	12.17	-2.86	322.36	1.42	1.45	0.04	0.02	0.16
11	3.99	1.97	12.14	-3.05	322.51	1.43	1.47	0.04	0.02	0.18
12	3.98	1.97	12.08	-3.56	322.31	1.42	1.45	0.03	0.01	0.20

DIAMETER

INITIAL	2.00	2.00	2.00
1	1.99	1.97	1.98
2	1.99	1.98	1.98
3	1.99	1.96	1.97
4	1.99	1.96	1.97
5	1.98	1.96	1.96
6	1.99	1.98	1.98
7	1.98	1.96	1.96
8	1.98	1.97	1.97
9	1.98	1.96	1.95
10	1.99	1.97	1.96
11	1.98	1.96	1.97
12	1.98	1.96	1.96

HEIGHT

3.99	4.00	4.00
4.00	4.02	3.98
4.03	4.00	4.03
3.99	3.99	3.99
3.99	4.00	3.99
4.00	3.99	3.98
3.99	4.00	3.98
3.98	3.99	4.00
4.00	3.98	3.99
3.99	3.99	3.99
3.98	4.00	3.98
3.98	3.99	3.99
3.98	3.97	3.99

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	57.82	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.63	in³
SAMPLE No.:	AY7-15-20150730-20C	INITIAL TOTAL WEIGHT:	331.84	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	210.26	grams
TRACKING CODE:	A344			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	2.01	12.63		331.84					0.00
1	4.01	2.00	12.54	-0.71	333.03	1.43	1.45	0.02	0.01	0.01
2	4.01	2.02	12.81	1.38	333.35	1.42	1.44	0.02	0.01	0.02
3	4.00	2.00	12.60	-0.25	333.34	1.43	1.44	0.01	0.01	0.03
4	4.01	2.01	12.65	0.17	333.56	1.43	1.46	0.03	0.01	0.04
5	4.00	2.00	12.53	-0.81	333.50	1.43	1.44	0.01	0.00	0.04
6	4.00	2.00	12.61	-0.16	333.54	1.42	1.44	0.02	0.01	0.05
7	4.01	2.00	12.66	0.19	333.63	1.43	1.46	0.03	0.01	0.06
8	4.00	2.00	12.56	-0.57	333.61	1.43	1.45	0.02	0.01	0.07
9	4.00	2.00	12.53	-0.85	333.55	1.42	1.44	0.02	0.01	0.08
10	4.00	2.00	12.60	-0.23	333.73	1.43	1.44	0.01	0.01	0.08
11	4.01	2.01	12.68	0.35	333.36	1.42	1.44	0.01	0.01	0.09
12	4.00	2.00	12.53	-0.86	333.49	1.42	1.44	0.02	0.01	0.10

DIAMETER

INITIAL	2.01	2.01	2.00
1	2.00	2.00	2.00
2	2.02	2.02	2.02
3	2.00	2.00	2.00
4	2.01	2.01	2.00
5	1.99	2.00	2.00
6	2.00	2.01	2.00
7	2.01	2.00	2.00
8	2.00	2.00	2.00
9	1.99	2.00	2.00
10	2.01	2.00	2.00
11	2.01	2.00	2.00
12	1.99	2.00	2.00

HEIGHT

4.00	3.99	4.00
4.01	4.01	4.00
4.02	4.01	4.01
4.00	4.00	4.01
4.02	4.00	4.00
4.01	4.01	4.00
4.00	4.00	4.01
4.01	4.02	4.00
4.01	4.00	4.00
4.00	4.00	4.00
4.00	4.00	4.00
4.01	4.00	4.01
4.02	4.01	3.99

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	AY7-15-20150730-20
PROJECT No.:	SH0578	SAMPLE No. (Control):	AY7-15-20150730-20C
START DATE:	8/27/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A344		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	100.5	pcf	100.1	pcf
2. DRY UNIT WEIGHT	63.7	pcf	63.4	pcf
3. MOISTURE CONTENT	57.82	%	57.82	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-3.6	%	-1.4	%
2. TOTAL MASS LOSS	0.20	%	0.10	%
3. RELATIVE MASS LOSS	0.10	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	AR10-5-20150731-21
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	AR10-5-20150731-21C
START DATE:	8/28/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A351		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.56	g		g
3. WT WET SOIL + TARE	134.56	g		g
4. WT DRY SOIL + TARE	114.51	g		g
5. WT WATER, Ww	20.05	g		g
6. WT DRY SOIL, Ws	36.95	g		g
7. MOISTURE CONTENT, W	54.26	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.00	in.	3.99	in.
No. 2	2.00	in.	4.00	in.
No. 3	2.00	in.	3.98	in.
Average	2.00	in.	3.99	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	333.05	g
Initial Dry Specimen WT, Wd	215.90	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.54	in^3
Initial Bulk Unit Weight,	101.2	pcf
Initial Dry Unit Weight,	65.6	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.56	g		g
3. WT WET SOIL + TARE	134.56	g		g
4. WT DRY SOIL + TARE	114.51	g		g
5. WT WATER, Ww	20.05	g		g
6. WT DRY SOIL, Ws	36.95	g		g
7. MOISTURE CONTENT, W	54.26	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.01	in.	4.01	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	335.59	g
Initial Dry Specimen WT, Wd	217.54	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.64	in^3
Initial Bulk Unit Weight,	101.2	pcf
Initial Dry Unit Weight,	65.6	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	54.26	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.54	in³
SAMPLE No.:	AR10-5-20150731-21		INITIAL TOTAL WEIGHT:	333.05	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	215.90	grams
TRACKING CODE:	A351				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	3.99	2.00	12.54		333.05					0.00
1	3.97	1.98	12.22	-2.59	325.31	1.41	1.43	0.01	0.01	0.01
2	3.97	1.99	12.34	-1.62	323.98	1.41	1.43	0.01	0.01	0.01
3	3.97	1.98	12.18	-2.88	323.55	1.42	1.43	0.01	0.00	0.02
4	3.97	1.98	12.20	-2.72	322.59	1.42	1.45	0.03	0.02	0.03
5	3.97	1.97	12.13	-3.33	323.00	1.41	1.42	0.01	0.00	0.04
6	3.97	1.98	12.21	-2.65	323.23	1.41	1.47	0.06	0.03	0.07
7	3.97	1.97	12.10	-3.56	323.24	1.41	1.44	0.02	0.01	0.08
8	3.96	1.98	12.19	-2.84	323.36	1.41	1.47	0.05	0.02	0.10
9	3.97	1.97	12.15	-3.13	323.60	1.41	1.43	0.01	0.01	0.11
10	3.97	1.97	12.11	-3.45	323.21	1.41	1.42	0.02	0.01	0.11
11	3.97	1.97	12.07	-3.77	323.80	1.42	1.46	0.05	0.02	0.14
12	3.97	1.97	12.06	-3.85	324.37	1.41	1.45	0.04	0.02	0.15

DIAMETER

INITIAL	2.00	2.00	2.00
1	1.99	1.97	1.98
2	2.00	1.99	1.98
3	1.99	1.97	1.97
4	2.00	1.97	1.97
5	1.99	1.96	1.96
6	1.99	1.97	1.97
7	1.99	1.96	1.96
8	1.99	1.98	1.97
9	1.99	1.97	1.96
10	1.99	1.97	1.96
11	1.98	1.96	1.96
12	1.98	1.96	1.96

HEIGHT

3.99	4.00	3.98
3.95	3.99	3.97
3.98	3.98	3.97
3.99	3.96	3.97
3.98	3.98	3.96
3.97	3.98	3.96
3.97	3.96	3.97
3.97	3.99	3.96
3.96	3.95	3.98
3.96	3.97	3.98
3.96	3.98	3.96
3.97	3.97	3.97
3.97	3.96	3.98

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	54.26	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.64	in³
SAMPLE No.:	AR10-5-20150731-21C	INITIAL TOTAL WEIGHT:	335.59	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	217.54	grams
TRACKING CODE:	A351			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.64		335.59					0.00
1	4.02	2.00	12.57	-0.52	337.44	1.42	1.44	0.01	0.01	0.01
2	4.02	2.01	12.77	1.08	337.82	1.42	1.42	0.00	0.00	0.01
3	4.01	2.01	12.75	0.88	337.72	1.41	1.41	0.00	0.00	0.01
4	4.01	1.99	12.49	-1.20	337.55	1.41	1.42	0.01	0.00	0.01
5	4.02	1.99	12.50	-1.06	337.67	1.42	1.42	0.00	0.00	0.01
6	4.02	1.99	12.49	-1.19	337.77	1.41	1.41	0.00	0.00	0.01
7	4.02	2.01	12.71	0.61	337.92	1.42	1.44	0.02	0.01	0.02
8	4.02	2.01	12.73	0.70	338.05	1.42	1.43	0.01	0.00	0.03
9	4.02	2.01	12.79	1.23	338.06	1.42	1.42	0.01	0.00	0.03
10	4.03	2.01	12.80	1.27	338.22	1.41	1.41	0.01	0.00	0.03
11	4.02	2.01	12.76	0.96	338.02	1.42	1.43	0.00	0.00	0.03
12	4.01	2.01	12.76	0.94	338.03	1.41	1.43	0.02	0.01	0.04

DIAMETER

INITIAL	2.01	2.00	2.00
1	1.98	2.00	2.01
2	2.02	2.01	2.00
3	2.02	2.01	2.00
4	1.98	1.99	2.00
5	1.98	1.99	2.00
6	1.98	1.99	2.00
7	2.02	2.00	2.00
8	2.01	2.01	2.01
9	2.02	2.01	2.00
10	2.02	2.01	2.00
11	2.02	2.02	2.00
12	2.02	2.01	2.00

HEIGHT

4.01	4.01	4.01
4.01	4.03	4.01
4.01	4.03	4.02
4.01	4.01	4.02
4.01	4.02	4.01
4.02	4.03	4.02
4.01	4.02	4.02
4.02	4.01	4.01
4.03	4.02	4.00
4.03	4.02	4.01
4.04	4.04	4.02
4.02	4.01	4.02
4.02	4.01	4.01

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	AR10-5-20150731-21
PROJECT No.:	SH0578	SAMPLE No. (Control):	AR10-5-20150731-21C
START DATE:	8/28/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A351		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	101.2	pcf	101.2	pcf
2. DRY UNIT WEIGHT	65.6	pcf	65.6	pcf
3. MOISTURE CONTENT	54.26	%	54.26	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-3.8	%	-1.3	%
2. TOTAL MASS LOSS	0.15	%	0.04	%
3. RELATIVE MASS LOSS	0.11	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	AP10-10-20150801-22
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	AP10-10-20150801-22C
START DATE:	8/29/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A352		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	171.52	g		g
3. WT WET SOIL + TARE	317.73	g		g
4. WT DRY SOIL + TARE	266.62	g		g
5. WT WATER, Ww	51.11	g		g
6. WT DRY SOIL, Ws	95.10	g		g
7. MOISTURE CONTENT, W	53.74	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	4.05	in.
No. 2	2.01	in.	4.06	in.
No. 3	2.00	in.	4.07	in.
Average	2.00	in.	4.06	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	339.94	g
Initial Dry Specimen WT, Wd	221.11	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.80	in^3
Initial Bulk Unit Weight,	101.2	pcf
Initial Dry Unit Weight,	65.8	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	171.52	g		g
3. WT WET SOIL + TARE	317.73	g		g
4. WT DRY SOIL + TARE	266.62	g		g
5. WT WATER, Ww	51.11	g		g
6. WT DRY SOIL, Ws	95.10	g		g
7. MOISTURE CONTENT, W	53.74	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.01	in.	4.03	in.
No. 2	2.00	in.	4.04	in.
No. 3	2.00	in.	4.03	in.
Average	2.00	in.	4.03	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	338.95	g
Initial Dry Specimen WT, Wd	220.46	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.68	in^3
Initial Bulk Unit Weight,	101.8	pcf
Initial Dry Unit Weight,	66.2	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	53.74	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.80	in³
SAMPLE No.:	AP10-10-20150801-22	INITIAL TOTAL WEIGHT:	339.94	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	221.11	grams
TRACKING CODE:	A352			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.06	2.00	12.80		339.94					0.00
1	4.04	1.97	12.33	-3.65	329.96	1.41	1.43	0.02	0.01	0.01
2	4.03	1.97	12.32	-3.68	327.36	1.41	1.43	0.02	0.01	0.01
3	4.03	1.97	12.27	-4.13	326.77	1.42	1.43	0.01	0.00	0.02
4	4.02	1.97	12.22	-4.47	325.28	1.42	1.43	0.01	0.01	0.03
5	4.01	1.96	12.17	-4.89	325.97	1.42	1.44	0.02	0.01	0.03
6	4.02	1.97	12.24	-4.35	327.77	1.41	1.43	0.02	0.01	0.04
7	4.02	1.96	12.16	-4.95	327.24	1.42	1.44	0.02	0.01	0.05
8	4.01	1.96	12.14	-5.12	327.50	1.42	1.46	0.04	0.02	0.07
9	4.01	1.96	12.15	-5.02	327.94	1.42	1.49	0.07	0.03	0.10
10	4.02	1.97	12.24	-4.36	328.27	1.42	1.46	0.04	0.02	0.12
11	4.01	1.96	12.13	-5.17	328.17	1.42	1.48	0.06	0.03	0.15
12	4.01	1.96	12.04	-5.89	328.58	1.41	1.51	0.10	0.05	0.19

DIAMETER

INITIAL	2.01	2.01	2.00
1	1.98	1.97	1.96
2	1.98	1.98	1.97
3	1.99	1.96	1.96
4	1.99	1.96	1.96
5	1.98	1.96	1.96
6	1.98	1.96	1.97
7	1.98	1.96	1.95
8	1.98	1.96	1.96
9	1.98	1.96	1.95
10	1.98	1.98	1.95
11	1.98	1.96	1.95
12	1.97	1.95	1.95

HEIGHT

4.05	4.06	4.07
4.03	4.07	4.02
4.03	4.02	4.03
4.04	4.01	4.04
4.02	4.02	4.02
4.03	4.01	4.01
4.01	4.04	4.00
4.01	4.02	4.03
4.02	4.01	4.00
4.02	4.02	4.00
4.04	4.01	4.02
4.04	4.00	4.01
4.02	4.00	4.01

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	53.74	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.68	in³
SAMPLE No.:	AP10-10-20150801-22C	INITIAL TOTAL WEIGHT:	338.95	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	220.46	grams
TRACKING CODE:	A352			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.03	2.00	12.68		338.95					0.00
1	4.04	2.00	12.71	0.20	340.02	1.42	1.43	0.01	0.01	0.01
2	4.03	2.00	12.68	0.01	340.35	1.43	1.43	0.00	0.00	0.01
3	4.03	1.99	12.60	-0.67	340.48	1.42	1.43	0.00	0.00	0.01
4	4.03	2.00	12.64	-0.34	340.27	1.43	1.43	0.00	0.00	0.01
5	4.04	2.00	12.73	0.34	340.63	1.42	1.42	0.00	0.00	0.01
6	4.03	2.00	12.65	-0.24	340.78	1.43	1.43	0.00	0.00	0.01
7	4.03	2.01	12.80	0.93	340.69	1.43	1.43	0.00	0.00	0.01
8	4.03	2.00	12.61	-0.59	340.75	1.42	1.43	0.01	0.01	0.02
9	4.04	2.01	12.76	0.58	340.72	1.43	1.43	0.00	0.00	0.02
10	4.04	2.01	12.77	0.68	340.79	1.41	1.42	0.00	0.00	0.02
11	4.04	2.01	12.82	1.11	340.65	1.42	1.43	0.01	0.00	0.03
12	4.03	1.99	12.58	-0.79	340.57	1.42	1.43	0.01	0.00	0.03

DIAMETER

INITIAL	2.01	2.00	2.00
1	2.01	2.00	2.00
2	1.99	2.00	2.01
3	1.99	1.99	2.00
4	2.00	1.99	2.00
5	2.01	2.00	2.00
6	2.00	2.01	2.00
7	2.02	2.01	2.00
8	2.00	2.00	2.00
9	2.02	2.00	2.00
10	2.01	2.01	2.00
11	2.02	2.01	2.00
12	1.99	1.99	2.00

HEIGHT

4.03	4.04	4.03
4.04	4.04	4.03
4.04	4.03	4.03
4.04	4.03	4.03
4.04	4.02	4.04
4.04	4.04	4.04
4.03	4.03	4.02
4.04	4.04	4.03
4.03	4.02	4.04
4.04	4.04	4.04
4.04	4.03	4.05
4.02	4.06	4.05
4.02	4.01	4.04

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	AP10-10-20150801-22
PROJECT No.:	SH0578	SAMPLE No. (Control):	AP10-10-20150801-22C
START DATE:	8/29/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A352		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	101.2	pcf	101.8	pcf
2. DRY UNIT WEIGHT	65.8	pcf	66.2	pcf
3. MOISTURE CONTENT	53.74	%	53.74	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-5.9	%	-1.1	%
2. TOTAL MASS LOSS	0.19	%	0.03	%
3. RELATIVE MASS LOSS	0.16	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	AH10-12-20150803-23
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	AH10-12-20150803-23C
START DATE:	8/31/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A353		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	114.06	g		g
3. WT WET SOIL + TARE	176.10	g		g
4. WT DRY SOIL + TARE	154.96	g		g
5. WT WATER, Ww	21.14	g		g
6. WT DRY SOIL, Ws	40.90	g		g
7. MOISTURE CONTENT, W	51.69	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.02	in.	4.01	in.
No. 2	2.01	in.	4.00	in.
No. 3	2.00	in.	4.01	in.
Average	2.01	in.	4.01	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	339.15	g
Initial Dry Specimen WT, Wd	223.59	g
Initial Area, Ao	3.17	in^2
Initial Volume, Vo	12.70	in^3
Initial Bulk Unit Weight,	101.7	pcf
Initial Dry Unit Weight,	67.1	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	114.06	g		g
3. WT WET SOIL + TARE	176.10	g		g
4. WT DRY SOIL + TARE	154.96	g		g
5. WT WATER, Ww	21.14	g		g
6. WT DRY SOIL, Ws	40.90	g		g
7. MOISTURE CONTENT, W	51.69	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.02	in.	4.01	in.
No. 2	2.01	in.	4.01	in.
No. 3	2.00	in.	4.02	in.
Average	2.01	in.	4.01	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	340.59	g
Initial Dry Specimen WT, Wd	224.53	g
Initial Area, Ao	3.17	in^2
Initial Volume, Vo	12.72	in^3
Initial Bulk Unit Weight,	102.0	pcf
Initial Dry Unit Weight,	67.2	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	51.69	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.70	in³
SAMPLE No.:	AH10-12-20150803-23		INITIAL TOTAL WEIGHT:	339.15	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	223.59	grams
TRACKING CODE:	A353				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.01	12.70		339.15					0.00
1	3.99	1.97	12.18	-4.11	331.11	1.42	1.46	0.04	0.02	0.02
2	3.99	1.98	12.29	-3.27	329.05	1.42	1.43	0.01	0.00	0.02
3	3.99	1.98	12.28	-3.33	330.58	1.41	1.42	0.01	0.00	0.02
4	3.99	1.97	12.12	-4.56	330.05	1.42	1.43	0.01	0.00	0.03
5	3.98	1.97	12.19	-4.01	329.32	1.42	1.43	0.01	0.00	0.03
6	3.99	1.98	12.34	-2.89	330.11	1.42	1.96	0.54	0.24	0.27
7	3.99	1.98	12.28	-3.31	329.92	1.42	1.45	0.03	0.01	0.28
8	3.98	1.98	12.31	-3.07	329.18	1.41	1.43	0.02	0.01	0.29
9	3.98	1.98	12.25	-3.58	329.95	1.41	1.42	0.01	0.01	0.30
10	3.98	1.97	12.18	-4.12	329.00	1.41	1.42	0.01	0.00	0.30
11	3.98	1.97	12.09	-4.81	330.35	1.41	1.43	0.01	0.01	0.31
12	3.97	1.98	12.18	-4.14	329.72	1.41	1.43	0.02	0.01	0.32

DIAMETER

INITIAL	2.02	2.01	2.00
1	1.98	1.96	1.97
2	1.99	1.98	1.97
3	1.99	1.97	1.97
4	1.97	1.96	1.96
5	1.98	1.97	1.97
6	2.00	1.98	1.98
7	2.00	1.98	1.97
8	2.00	1.98	1.97
9	1.99	1.98	1.97
10	1.99	1.97	1.97
11	1.98	1.97	1.95
12	1.99	1.97	1.96

HEIGHT

4.01	4.00	4.01
4.00	3.99	3.99
3.99	3.98	3.99
3.99	3.99	3.99
3.99	3.99	3.99
3.99	3.98	3.99
3.99	4.00	3.99
3.98	3.99	3.99
3.97	3.99	3.98
3.97	3.98	3.99
3.99	3.97	3.99
3.99	3.98	3.98
3.97	3.97	3.98

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	51.69	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.72	in³
SAMPLE No.:	AH10-12-20150803-23C	INITIAL TOTAL WEIGHT:	340.59	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	224.53	grams
TRACKING CODE:	A353			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.01	12.72		340.59					0.00
1	4.02	2.00	12.64	-0.62	342.50	1.42	1.43	0.02	0.01	0.01
2	4.02	1.99	12.57	-1.20	342.55	1.42	1.43	0.01	0.00	0.01
3	4.02	2.00	12.61	-0.89	343.03	1.42	1.43	0.00	0.00	0.01
4	4.02	1.99	12.54	-1.46	343.20	1.42	1.43	0.00	0.00	0.01
5	4.03	2.01	12.73	0.10	343.36	1.42	1.42	0.00	0.00	0.01
6	4.03	2.00	12.61	-0.86	343.16	1.43	1.43	0.01	0.00	0.02
7	4.02	2.00	12.62	-0.82	343.18	1.42	1.42	0.00	0.00	0.02
8	4.02	2.01	12.73	0.08	343.31	1.41	1.42	0.00	0.00	0.02
9	4.02	2.00	12.59	-1.03	343.29	1.42	1.42	0.00	0.00	0.02
10	4.02	2.01	12.74	0.15	343.07	1.42	1.43	0.01	0.00	0.03
11	4.01	2.00	12.61	-0.91	343.16	1.42	1.43	0.01	0.00	0.03
12	4.02	2.00	12.60	-0.99	342.83	1.42	1.43	0.01	0.01	0.04

DIAMETER

INITIAL	2.02	2.01	2.00
1	2.00	2.00	2.00
2	1.99	2.00	2.00
3	2.00	2.00	2.00
4	1.99	1.99	2.00
5	2.01	2.00	2.00
6	1.99	2.00	2.00
7	2.00	2.00	2.00
8	2.02	2.01	2.00
9	1.99	2.00	2.00
10	2.02	2.01	2.00
11	2.00	2.00	2.00
12	2.01	1.99	2.00

HEIGHT

4.01	4.01	4.02
4.02	4.01	4.03
4.02	4.02	4.02
4.01	4.03	4.02
4.02	4.01	4.02
4.03	4.03	4.03
4.02	4.02	4.04
4.03	4.02	4.02
4.02	4.02	4.02
4.02	4.03	4.02
4.01	4.03	4.01
4.01	4.01	4.02
4.02	4.02	4.01

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	AH10-12-20150803-23
PROJECT No.:	SH0578	SAMPLE No. (Control):	AH10-12-20150803-23C
START DATE:	8/31/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A353		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	101.7	pcf	102.0	pcf
2. DRY UNIT WEIGHT	67.1	pcf	67.2	pcf
3. MOISTURE CONTENT	51.69	%	51.69	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-4.8	%	-1.5	%
2. TOTAL MASS LOSS	0.32	%	0.04	%
3. RELATIVE MASS LOSS	0.28	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	AB10-5-20150810-24
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	AB10-5-20150810-24C
START DATE:	9/8/2015	SAMPLE DESCRIPTION:	29 Day
TRACKING CODE:	A365		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	114.05	g		g
3. WT WET SOIL + TARE	181.26	g		g
4. WT DRY SOIL + TARE	157.57	g		g
5. WT WATER, Ww	23.69	g		g
6. WT DRY SOIL, Ws	43.52	g		g
7. MOISTURE CONTENT, W	54.43	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	4.00	in.
No. 2	2.01	in.	4.02	in.
No. 3	2.00	in.	4.03	in.
Average	2.01	in.	4.02	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	337.23	g
Initial Dry Specimen WT, Wd	218.36	g
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.70	in^3
Initial Bulk Unit Weight,	101.2	pcf
Initial Dry Unit Weight,	65.5	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	114.05	g		g
3. WT WET SOIL + TARE	181.26	g		g
4. WT DRY SOIL + TARE	157.57	g		g
5. WT WATER, Ww	23.69	g		g
6. WT DRY SOIL, Ws	43.52	g		g
7. MOISTURE CONTENT, W	54.43	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	4.00	in.
No. 2	2.02	in.	4.03	in.
No. 3	2.00	in.	4.04	in.
Average	2.01	in.	4.02	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	337.08	g
Initial Dry Specimen WT, Wd	218.27	g
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.71	in^3
Initial Bulk Unit Weight,	101.0	pcf
Initial Dry Unit Weight,	65.4	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	54.43	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.70	in³
SAMPLE No.:	AB10-5-20150810-24	INITIAL TOTAL WEIGHT:	337.23	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	218.36	grams
TRACKING CODE:	A365			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.02	2.01	12.70		337.23					0.00
1	4.01	1.98	12.33	-2.90	330.02	1.43	1.46	0.04	0.02	0.02
2	4.01	1.98	12.34	-2.78	327.15	1.43	1.44	0.01	0.01	0.02
3	3.99	1.96	12.09	-4.79	327.62	1.43	1.45	0.02	0.01	0.03
4	4.00	1.98	12.35	-2.73	327.91	1.43	1.43	0.01	0.00	0.03
5	4.00	1.97	12.23	-3.69	327.08	1.42	1.44	0.01	0.01	0.04
6	4.00	1.98	12.28	-3.30	327.56	1.43	1.44	0.01	0.01	0.05
7	4.00	1.96	12.09	-4.76	327.75	1.43	1.44	0.01	0.00	0.05
8	3.99	1.98	12.26	-3.41	327.80	1.43	1.44	0.02	0.01	0.06
9	3.99	1.98	12.26	-3.41	328.07	1.42	1.43	0.01	0.01	0.06
10	3.99	1.96	11.99	-5.52	328.28	1.39	1.42	0.03	0.01	0.08
11	3.99	1.98	12.29	-3.23	327.74	1.40	1.44	0.03	0.02	0.09
12	3.99	1.98	12.35	-2.75	328.05	1.39	1.40	0.01	0.00	0.10

DIAMETER

INITIAL	2.01	2.01	2.00
1	1.98	1.97	1.98
2	1.99	1.98	1.98
3	1.98	1.96	1.96
4	1.99	1.97	1.98
5	1.98	1.97	1.97
6	2.00	1.96	1.98
7	1.98	1.96	1.95
8	1.99	1.97	1.97
9	1.99	1.97	1.98
10	1.97	1.95	1.95
11	1.98	1.97	1.98
12	1.99	1.97	1.99

HEIGHT

4.00	4.02	4.03
4.01	4.03	3.99
4.01	3.99	4.02
3.98	4.01	3.99
4.00	3.98	4.02
4.01	3.97	4.01
3.99	3.98	4.01
4.01	3.98	3.99
4.00	4.01	3.96
3.98	3.97	4.01
4.00	3.97	4.01
3.97	3.99	4.01
4.00	4.02	3.96

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	54.43	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.71	in³
SAMPLE No.:	AB10-5-20150810-24C	INITIAL TOTAL WEIGHT:	337.08	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	218.27	grams
TRACKING CODE:	A365			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.02	2.01	12.71		337.08					0.00
1	4.01	2.00	12.65	-0.47	338.01	1.41	1.43	0.02	0.01	0.01
2	4.02	2.01	12.68	-0.23	338.24	1.42	1.42	0.00	0.00	0.01
3	4.01	2.00	12.67	-0.34	338.11	1.42	1.42	0.00	0.00	0.01
4	4.02	2.00	12.63	-0.68	338.11	1.42	1.42	0.00	0.00	0.01
5	4.02	2.00	12.65	-0.49	338.41	1.40	1.41	0.00	0.00	0.01
6	4.02	2.01	12.69	-0.17	338.26	1.41	1.41	0.00	0.00	0.02
7	4.03	2.00	12.66	-0.41	338.13	1.41	1.42	0.01	0.00	0.02
8	4.01	2.01	12.67	-0.33	338.13	1.41	1.42	0.01	0.00	0.02
9	4.01	2.01	12.67	-0.34	338.14	1.41	1.42	0.01	0.00	0.03
10	4.02	2.00	12.64	-0.59	338.16	1.38	1.39	0.01	0.00	0.03
11	4.02	2.01	12.69	-0.14	338.08	1.39	1.40	0.01	0.00	0.03
12	4.01	2.00	12.67	-0.31	338.11	1.39	1.40	0.00	0.00	0.04

DIAMETER

INITIAL	2.00	2.02	2.00
1	2.01	2.00	2.00
2	2.01	2.00	2.00
3	2.01	2.00	2.00
4	2.00	2.00	2.00
5	2.00	2.00	2.00
6	2.01	2.01	2.00
7	2.00	2.00	2.00
8	2.02	2.00	2.00
9	2.01	2.01	2.00
10	2.00	2.00	2.00
11	2.01	2.00	2.00
12	2.01	2.01	2.00

HEIGHT

4.00	4.03	4.04
4.02	4.02	3.99
4.02	4.02	4.01
4.04	4.01	4.00
4.00	4.02	4.03
4.03	4.01	4.04
4.01	4.01	4.04
4.02	4.02	4.04
4.03	4.00	3.99
4.02	4.01	3.99
3.99	4.05	4.03
4.03	4.01	4.02
4.00	4.00	4.05

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	AB10-5-20150810-24
PROJECT No.:	SH0578	SAMPLE No. (Control):	AB10-5-20150810-24C
START DATE:	9/8/2015	SAMPLE DESCRIPTION:	29 Day
TRACKING CODE:	A365		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	101.2	pcf	101.0	pcf
2. DRY UNIT WEIGHT	65.5	pcf	65.4	pcf
3. MOISTURE CONTENT	54.43	%	54.43	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-5.5	%	-0.7	%
2. TOTAL MASS LOSS	0.10	%	0.04	%
3. RELATIVE MASS LOSS	0.06	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	C11-25-20150811-25
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	C11-25-20150811-25C
START DATE:	9/8/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A366		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	113.22	g		g
3. WT WET SOIL + TARE	174.08	g		g
4. WT DRY SOIL + TARE	151.48	g		g
5. WT WATER, Ww	22.60	g		g
6. WT DRY SOIL, Ws	38.26	g		g
7. MOISTURE CONTENT, W	59.07	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	4.00	in.
No. 2	2.02	in.	4.02	in.
No. 3	2.00	in.	4.03	in.
Average	2.01	in.	4.02	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	331.37	g
Initial Dry Specimen WT, Wd	208.32	g
Initial Area, Ao	3.17	in^2
Initial Volume, Vo	12.74	in^3
Initial Bulk Unit Weight,	99.1	pcf
Initial Dry Unit Weight,	62.3	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	113.22	g		g
3. WT WET SOIL + TARE	174.08	g		g
4. WT DRY SOIL + TARE	151.48	g		g
5. WT WATER, Ww	22.60	g		g
6. WT DRY SOIL, Ws	38.26	g		g
7. MOISTURE CONTENT, W	59.07	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.02	in.	4.00	in.
No. 2	2.02	in.	4.02	in.
No. 3	2.01	in.	4.03	in.
Average	2.01	in.	4.02	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	331.77	g
Initial Dry Specimen WT, Wd	208.57	g
Initial Area, Ao	3.19	in^2
Initial Volume, Vo	12.80	in^3
Initial Bulk Unit Weight,	98.8	pcf
Initial Dry Unit Weight,	62.1	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	59.07	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.74	in³
SAMPLE No.:	C11-25-20150811-25		INITIAL TOTAL WEIGHT:	331.37	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	208.32	grams
TRACKING CODE:	A366				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.02	2.01	12.74		331.37					0.00
1	3.99	1.96	12.05	-5.38	318.93	1.42	1.49	0.07	0.03	0.03
2	3.98	1.96	12.00	-5.74	315.34	1.42	1.44	0.02	0.01	0.05
3	3.97	1.96	12.01	-5.72	316.19	1.41	1.42	0.01	0.00	0.05
4	3.98	1.96	12.04	-5.49	315.61	1.42	1.42	0.01	0.00	0.05
5	3.97	1.96	11.97	-6.00	316.47	1.41	1.44	0.03	0.01	0.07
6	3.97	1.96	11.95	-6.19	315.88	1.41	1.43	0.02	0.01	0.08
7	3.98	1.96	12.00	-5.78	315.81	1.40	1.41	0.01	0.01	0.08
8	3.98	1.96	11.96	-6.12	315.87	1.42	1.43	0.01	0.01	0.09
9	3.97	1.96	11.94	-6.24	315.58	1.41	1.43	0.02	0.01	0.10
10	3.97	1.95	11.87	-6.77	315.88	1.38	1.48	0.10	0.05	0.15
11	3.97	1.96	12.00	-5.80	315.35	1.39	1.42	0.03	0.01	0.16
12	3.96	1.96	11.90	-6.54	315.88	1.39	1.41	0.02	0.01	0.17

DIAMETER

INITIAL	2.01	2.02	2.00
1	1.97	1.96	1.96
2	1.98	1.96	1.95
3	1.98	1.96	1.95
4	1.97	1.96	1.96
5	1.98	1.96	1.94
6	1.98	1.96	1.93
7	1.97	1.95	1.96
8	1.97	1.95	1.96
9	1.97	1.95	1.96
10	1.97	1.95	1.93
11	1.99	1.95	1.94
12	1.98	1.96	1.93

HEIGHT

4.00	4.02	4.03
4.01	3.98	3.98
3.97	4.00	3.97
3.96	3.97	3.97
3.98	3.98	3.97
3.96	3.97	3.99
3.96	3.97	3.99
3.99	3.98	3.98
3.99	3.96	3.98
3.98	3.98	3.96
3.97	3.99	3.96
3.97	3.97	3.97
3.95	3.96	3.98

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	59.07	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.80	in³
SAMPLE No.:	C11-25-20150811-25C	INITIAL TOTAL WEIGHT:	331.77	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	208.57	grams
TRACKING CODE:	A366			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.02	2.01	12.80		331.77					0.00
1	4.04	2.01	12.82	0.22	332.85	1.42	1.45	0.03	0.02	0.02
2	4.02	2.00	12.63	-1.31	333.04	1.42	1.43	0.01	0.00	0.02
3	4.02	2.01	12.76	-0.27	333.00	1.43	1.43	0.00	0.00	0.02
4	4.00	2.00	12.56	-1.89	332.96	1.43	1.43	0.00	0.00	0.02
5	4.01	2.00	12.58	-1.72	333.02	1.42	1.42	0.00	0.00	0.03
6	4.01	2.00	12.53	-2.06	333.11	1.42	1.43	0.00	0.00	0.03
7	4.01	2.00	12.65	-1.13	332.91	1.42	1.43	0.01	0.00	0.03
8	4.01	2.01	12.68	-0.93	332.89	1.43	1.44	0.01	0.00	0.03
9	4.02	2.01	12.77	-0.22	332.89	1.42	1.43	0.01	0.00	0.04
10	4.00	2.00	12.52	-2.20	332.80	1.39	1.41	0.02	0.01	0.05
11	4.01	2.00	12.59	-1.58	332.91	1.40	1.43	0.02	0.01	0.06
12	4.02	2.01	12.70	-0.72	332.90	1.40	1.40	0.01	0.00	0.06

DIAMETER

INITIAL	2.02	2.02	2.01
1	2.02	2.01	2.00
2	2.00	2.00	2.00
3	2.02	2.01	2.00
4	1.99	2.00	2.00
5	2.00	1.99	2.00
6	1.99	1.99	2.00
7	2.01	2.01	2.00
8	2.02	2.01	2.00
9	2.02	2.01	2.00
10	2.00	1.99	2.00
11	2.00	2.00	2.00
12	2.02	2.01	2.00

HEIGHT

4.00	4.02	4.03
4.04	4.04	4.02
4.02	4.00	4.03
4.03	4.03	4.01
4.00	3.98	4.02
4.02	4.02	4.00
4.01	4.02	3.99
4.02	4.02	3.98
4.02	4.03	3.98
4.02	4.02	4.03
4.00	4.02	3.98
4.02	4.02	3.99
4.01	4.01	4.02

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	C11-25-20150811-25
PROJECT No.:	SH0578	SAMPLE No. (Control):	C11-25-20150811-25C
START DATE:	9/8/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A366		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	99.1	pcf	98.8	pcf
2. DRY UNIT WEIGHT	62.3	pcf	62.1	pcf
3. MOISTURE CONTENT	59.07	%	59.07	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-6.8	%	-2.2	%
2. TOTAL MASS LOSS	0.17	%	0.06	%
3. RELATIVE MASS LOSS	0.11	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	H10-5-20150812-26
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	H10-5-20150812-26C
START DATE:	9/9/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A367		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.62	g		g
3. WT WET SOIL + TARE	140.01	g		g
4. WT DRY SOIL + TARE	115.54	g		g
5. WT WATER, Ww	24.47	g		g
6. WT DRY SOIL, Ws	37.92	g		g
7. MOISTURE CONTENT, W	64.53	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.00	in.	4.01	in.
No. 2	2.00	in.	1.01	in.
No. 3	2.00	in.	4.02	in.
Average	2.00	in.	3.02	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	327.85	g
Initial Dry Specimen WT, Wd	199.26	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	9.46	in^3
Initial Bulk Unit Weight,	132.0	pcf
Initial Dry Unit Weight,	80.2	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.62	g		g
3. WT WET SOIL + TARE	140.01	g		g
4. WT DRY SOIL + TARE	115.54	g		g
5. WT WATER, Ww	24.47	g		g
6. WT DRY SOIL, Ws	37.92	g		g
7. MOISTURE CONTENT, W	64.53	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	4.01	in.
No. 2	2.00	in.	4.00	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	326.91	g
Initial Dry Specimen WT, Wd	198.69	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.60	in^3
Initial Bulk Unit Weight,	98.9	pcf
Initial Dry Unit Weight,	60.1	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	64.53	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.60	in³
SAMPLE No.:	H10-5-20150812-26		INITIAL TOTAL WEIGHT:	327.85	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	199.26	grams
TRACKING CODE:	A367				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.02	2.00	12.60		327.85					0.00
1	4.00	1.97	12.19	-3.20	316.33	1.42	1.54	0.12	0.06	0.06
2	3.99	1.97	12.21	-3.04	312.71	1.42	1.50	0.08	0.04	0.10
3	3.99	1.97	12.22	-2.99	313.46	1.42	1.49	0.07	0.04	0.14
4	3.98	1.96	12.08	-4.14	313.02	1.42	1.45	0.03	0.01	0.15
5	3.98	1.97	12.09	-4.03	313.25	1.41	1.49	0.09	0.04	0.19
6	3.98	1.96	12.03	-4.48	313.78	1.42	1.44	0.02	0.01	0.21
7	3.98	1.95	11.91	-5.48	313.83	1.41	1.44	0.03	0.02	0.22
8	3.98	1.96	12.03	-4.46	314.36	1.41	1.46	0.05	0.03	0.25
9	3.98	1.96	12.03	-4.53	314.15	1.41	1.44	0.04	0.02	0.26
10	3.99	1.96	11.97	-4.94	314.00	1.40	1.42	0.02	0.01	0.28
11	3.98	1.96	12.05	-4.38	313.34	1.40	1.42	0.02	0.01	0.28
12	3.98	1.95	11.92	-5.40	315.06	1.40	1.47	0.08	0.04	0.32

DIAMETER

INITIAL	2.00	2.00	2.00
1	1.98	1.96	1.96
2	2.00	1.97	1.95
3	2.00	1.97	1.96
4	1.98	1.96	1.95
5	1.98	1.96	1.95
6	1.98	1.96	1.95
7	1.97	1.94	1.94
8	1.99	1.96	1.94
9	1.98	1.95	1.95
10	1.96	1.96	1.95
11	1.98	1.95	1.95
12	1.97	1.95	1.95

HEIGHT

4.01	4.01	4.02
4.00	3.99	4.02
3.99	3.99	4.00
3.99	4.00	3.99
3.98	3.99	3.98
3.98	3.99	3.99
3.99	3.97	3.98
3.99	3.98	3.97
3.98	3.98	4.00
3.98	3.98	3.99
3.98	3.98	4.01
3.98	3.98	3.99
3.97	3.97	3.99

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	64.53	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.60	in³
SAMPLE No.:	H10-5-20150812-26C	INITIAL TOTAL WEIGHT:	326.91	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	198.69	grams
TRACKING CODE:	A367			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.60		326.91					0.00
1	4.02	2.01	12.69	0.72	328.22	1.41	1.43	0.02	0.01	0.01
2	4.02	2.00	12.68	0.63	328.40	1.41	1.42	0.00	0.00	0.01
3	4.03	2.00	12.68	0.69	328.44	1.41	1.42	0.00	0.00	0.01
4	4.01	2.01	12.69	0.74	328.52	1.41	1.42	0.01	0.00	0.01
5	4.03	2.00	12.64	0.35	328.50	1.42	1.42	0.00	0.00	0.01
6	4.02	2.00	12.63	0.26	328.63	1.40	1.41	0.00	0.00	0.02
7	4.01	2.01	12.72	0.94	328.49	1.41	1.41	0.00	0.00	0.02
8	4.02	2.00	12.68	0.63	328.54	1.40	1.41	0.00	0.00	0.02
9	4.02	2.00	12.66	0.52	328.54	1.40	1.41	0.00	0.00	0.02
10	4.02	2.01	12.71	0.88	328.55	1.39	1.39	0.00	0.00	0.02
11	4.03	2.00	12.67	0.56	328.34	1.39	1.39	0.00	0.00	0.02
12	4.01	2.01	12.68	0.67	328.41	1.39	1.40	0.01	0.00	0.03

DIAMETER

INITIAL	2.00	2.00	2.00
1	2.01	2.00	2.00
2	2.01	2.00	2.00
3	2.00	2.00	2.00
4	2.01	2.01	2.00
5	2.00	2.00	2.00
6	2.01	2.00	2.00
7	2.02	2.01	2.00
8	2.01	2.01	2.00
9	2.01	2.00	2.00
10	2.02	2.00	2.00
11	2.00	2.00	2.00
12	2.02	2.00	2.00

HEIGHT

4.01	4.00	4.01
4.03	4.01	4.02
4.04	4.03	4.00
4.03	4.03	4.02
4.01	4.02	4.02
4.02	4.01	4.05
4.01	4.03	4.01
4.02	4.02	4.01
4.02	4.01	4.02
4.00	4.03	4.02
4.02	4.00	4.04
4.01	4.03	4.04
4.02	4.00	4.02

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	H10-5-20150812-26
PROJECT No.:	SH0578	SAMPLE No. (Control):	H10-5-20150812-26C
START DATE:	9/9/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A367		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	132.0	pcf	98.9	pcf
2. DRY UNIT WEIGHT	80.2	pcf	60.1	pcf
3. MOISTURE CONTENT	64.53	%	64.53	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-5.5	%	-0.9	%
2. TOTAL MASS LOSS	0.32	%	0.03	%
3. RELATIVE MASS LOSS	0.30	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	S9-10-20150813-27
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	S9-10-20150813-27C
START DATE:	9/10/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A382		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	66.12	g		g
3. WT WET SOIL + TARE	132.61	g		g
4. WT DRY SOIL + TARE	108.87	g		g
5. WT WATER, Ww	23.74	g		g
6. WT DRY SOIL, Ws	42.75	g		g
7. MOISTURE CONTENT, W	55.53	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.00	in.	4.02	in.
No. 2	2.00	in.	4.02	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	336.05	g
Initial Dry Specimen WT, Wd	216.06	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.60	in^3
Initial Bulk Unit Weight,	101.6	pcf
Initial Dry Unit Weight,	65.3	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	66.12	g		g
3. WT WET SOIL + TARE	132.61	g		g
4. WT DRY SOIL + TARE	108.87	g		g
5. WT WATER, Ww	23.74	g		g
6. WT DRY SOIL, Ws	42.75	g		g
7. MOISTURE CONTENT, W	55.53	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	1.99	in.	4.01	in.
No. 2	2.00	in.	4.02	in.
No. 3	2.00	in.	4.00	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	335.43	g
Initial Dry Specimen WT, Wd	215.67	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.53	in^3
Initial Bulk Unit Weight,	102.0	pcf
Initial Dry Unit Weight,	65.6	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	55.53	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.60	in³
SAMPLE No.:	S9-10-20150813-27		INITIAL TOTAL WEIGHT:	336.05	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	216.06	grams
TRACKING CODE:	A382				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.60		336.05					0.00
1	4.00	1.98	12.35	-1.95	322.88	1.42	1.43	0.01	0.00	0.00
2	4.00	1.99	12.39	-1.70	323.74	1.42	1.43	0.00	0.00	0.01
3	3.99	1.98	12.24	-2.85	323.70	1.42	1.42	0.00	0.00	0.01
4	3.99	1.98	12.25	-2.81	324.35	1.42	1.43	0.01	0.00	0.01
5	3.99	1.97	12.19	-3.26	325.11	1.42	1.42	0.01	0.00	0.02
6	3.99	1.98	12.31	-2.27	325.03	1.42	1.43	0.01	0.00	0.02
7	3.99	1.97	12.17	-3.43	325.47	1.42	1.44	0.02	0.01	0.03
8	3.99	1.98	12.31	-2.31	325.78	1.42	1.42	0.01	0.00	0.03
9	3.97	1.97	12.13	-3.77	325.82	1.38	1.39	0.01	0.01	0.04
10	3.98	1.97	12.16	-3.52	327.47	1.40	1.41	0.02	0.01	0.05
11	3.99	1.97	12.14	-3.62	327.11	1.40	1.41	0.02	0.01	0.05
12	3.98	1.97	12.15	-3.58	327.76	1.40	1.42	0.02	0.01	0.06

DIAMETER

INITIAL	2.00	2.00	2.00
1	1.99	1.97	1.99
2	2.00	1.98	1.98
3	1.98	1.97	1.98
4	1.99	1.97	1.97
5	1.98	1.97	1.97
6	1.99	1.97	1.98
7	1.98	1.97	1.97
8	1.99	1.98	1.98
9	1.98	1.96	1.97
10	1.98	1.97	1.97
11	1.98	1.96	1.97
12	1.98	1.97	1.97

HEIGHT

4.02	4.02	4.01
3.98	4.00	4.02
4.02	3.97	4.01
3.98	4.01	3.97
3.99	4.00	3.97
3.99	4.00	3.97
4.01	3.99	3.98
4.01	3.96	3.99
4.01	3.98	3.98
3.97	3.99	3.96
3.98	3.99	3.96
4.00	3.97	3.99
3.96	3.97	4.01

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	55.53	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.53	in³
SAMPLE No.:	S9-10-20150813-27C	INITIAL TOTAL WEIGHT:	335.43	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	215.67	grams
TRACKING CODE:	A382			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.53		335.43					0.00
1	3.99	2.00	12.52	-0.06	336.39	1.42	1.42	0.00	0.00	0.00
2	4.01	2.00	12.59	0.49	336.60	1.42	1.42	0.00	0.00	0.00
3	4.00	2.01	12.71	1.48	336.56	1.42	1.42	0.01	0.00	0.01
4	4.00	2.00	12.54	0.13	336.52	1.41	1.41	0.01	0.00	0.01
5	4.00	1.99	12.51	-0.14	336.56	1.41	1.42	0.00	0.00	0.01
6	4.01	2.00	12.66	1.03	336.47	1.42	1.42	0.00	0.00	0.01
7	4.01	2.01	12.71	1.50	336.45	1.42	1.43	0.02	0.01	0.02
8	4.00	2.01	12.66	1.06	336.45	1.41	1.41	0.01	0.00	0.02
9	4.01	2.00	12.65	0.96	336.58	1.38	1.38	0.01	0.00	0.02
10	4.00	2.00	12.63	0.82	336.46	1.39	1.40	0.01	0.01	0.03
11	4.01	2.01	12.73	1.65	336.49	1.39	1.40	0.01	0.00	0.03
12	4.01	2.01	12.70	1.36	336.49	1.39	1.40	0.01	0.01	0.04

DIAMETER

INITIAL	1.99	2.00	2.00
1	1.99	2.00	2.00
2	2.00	2.00	2.00
3	2.02	2.01	2.00
4	2.00	2.00	2.00
5	1.99	2.00	2.00
6	2.01	2.00	2.00
7	2.02	2.01	2.00
8	2.02	2.00	2.00
9	2.02	2.00	2.00
10	2.01	2.01	2.00
11	2.02	2.01	2.00
12	2.01	2.01	2.00

HEIGHT

4.01	4.02	4.00
4.00	3.99	3.99
4.00	4.02	4.00
4.00	4.01	4.00
4.00	3.99	4.01
4.00	4.01	4.00
3.99	4.01	4.03
4.00	4.03	4.00
4.01	4.00	4.00
4.00	4.02	4.00
4.02	3.99	3.99
4.00	4.02	4.01
4.02	4.00	4.01

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	S9-10-20150813-27
PROJECT No.:	SH0578	SAMPLE No. (Control):	S9-10-20150813-27C
START DATE:	9/10/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A382		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	101.6	pcf	102.0	pcf
2. DRY UNIT WEIGHT	65.3	pcf	65.6	pcf
3. MOISTURE CONTENT	55.53	%	55.53	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-3.8	%	-1.7	%
2. TOTAL MASS LOSS	0.06	%	0.04	%
3. RELATIVE MASS LOSS	0.02	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	E13-5-20150814-28
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	E13-5-20150814-28C
START DATE:	9/11/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A383		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.30	g		g
3. WT WET SOIL + TARE	166.21	g		g
4. WT DRY SOIL + TARE	131.01	g		g
5. WT WATER, Ww	35.20	g		g
6. WT DRY SOIL, Ws	54.71	g		g
7. MOISTURE CONTENT, W	64.34	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.00	in.	4.01	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.00	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	321.89	g
Initial Dry Specimen WT, Wd	195.87	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.56	in^3
Initial Bulk Unit Weight,	97.7	pcf
Initial Dry Unit Weight,	59.4	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.30	g		g
3. WT WET SOIL + TARE	166.21	g		g
4. WT DRY SOIL + TARE	131.01	g		g
5. WT WATER, Ww	35.20	g		g
6. WT DRY SOIL, Ws	54.71	g		g
7. MOISTURE CONTENT, W	64.34	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.01	in.	4.02	in.
No. 2	2.01	in.	4.02	in.
No. 3	2.00	in.	4.02	in.
Average	2.00	in.	4.02	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	321.39	g
Initial Dry Specimen WT, Wd	195.56	g
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.68	in^3
Initial Bulk Unit Weight,	96.6	pcf
Initial Dry Unit Weight,	58.8	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	64.34	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.56	in³
SAMPLE No.:	E13-5-20150814-28	INITIAL TOTAL WEIGHT:	321.89	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	195.87	grams
TRACKING CODE:	A383			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.56		321.89					0.00
1	3.99	1.97	12.18	-3.03	308.05	1.42	1.46	0.03	0.02	0.02
2	3.99	1.96	12.03	-4.23	306.82	1.42	1.44	0.02	0.01	0.03
3	3.98	1.97	12.17	-3.10	306.50	1.42	1.44	0.02	0.01	0.03
4	3.97	1.96	11.99	-4.54	305.42	1.42	1.44	0.02	0.01	0.05
5	3.98	1.96	12.00	-4.44	306.32	1.41	1.44	0.03	0.01	0.06
6	3.97	1.97	12.05	-4.04	306.67	1.41	1.44	0.03	0.01	0.07
7	3.97	1.96	12.01	-4.35	306.67	1.42	1.56	0.14	0.07	0.14
8	3.97	1.96	11.96	-4.72	307.31	1.41	1.81	0.40	0.20	0.35
9	3.97	1.95	11.91	-5.16	302.60	1.38	3.81	2.43	1.24	1.59
10	3.97	1.95	11.79	-6.08	302.36	1.40	2.72	1.32	0.67	2.26
11	3.87	1.96	11.68	-6.96	300.16	1.40	1.91	0.51	0.26	2.52
12	3.90	1.96	11.76	-6.36	300.13	1.40	1.51	0.11	0.06	2.58

DIAMETER

INITIAL	2.00	2.00	2.00
1	1.98	1.97	1.96
2	1.96	1.95	1.96
3	1.98	1.97	1.96
4	1.97	1.95	1.96
5	1.97	1.96	1.95
6	1.97	1.97	1.95
7	1.97	1.95	1.97
8	1.97	1.95	1.96
9	1.96	1.94	1.96
10	1.96	1.95	1.92
11	1.95	1.96	1.97
12	1.96	1.95	1.97

HEIGHT

4.01	4.01	4.00
4.00	4.00	3.98
3.97	3.99	3.99
3.99	3.99	3.97
3.96	4.00	3.96
3.97	3.99	3.99
3.98	3.99	3.95
3.96	3.98	3.98
3.97	3.98	3.97
3.95	3.97	3.99
3.96	3.98	3.97
3.98	3.99	3.64
3.97	3.96	3.76

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	64.34	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.67	in³
SAMPLE No.:	E13-5-20150814-28C	INITIAL TOTAL WEIGHT:	321.39	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	195.56	grams
TRACKING CODE:	A383			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.67		321.39					0.00
1	4.02	2.01	12.72	0.42	322.49	1.42	1.43	0.01	0.01	0.01
2	4.02	1.99	12.52	-1.14	322.88	1.43	1.43	0.00	0.00	0.01
3	4.01	2.01	12.74	0.60	322.94	1.43	1.43	0.00	0.00	0.01
4	4.02	2.00	12.64	-0.19	322.91	1.42	1.42	0.00	0.00	0.01
5	4.02	2.00	12.62	-0.37	322.95	1.42	1.42	0.00	0.00	0.01
6	4.03	2.00	12.60	-0.52	322.93	1.42	1.42	0.00	0.00	0.01
7	4.02	2.00	12.58	-0.69	322.70	1.42	1.42	0.01	0.00	0.01
8	4.03	2.00	12.66	-0.08	322.93	1.42	1.42	0.00	0.00	0.02
9	4.02	2.00	12.64	-0.22	322.85	1.39	1.39	0.00	0.00	0.02
10	4.02	2.00	12.64	-0.21	322.80	1.40	1.41	0.00	0.00	0.02
11	4.02	2.00	12.63	-0.33	322.88	1.40	1.41	0.00	0.00	0.02
12	4.02	2.00	12.64	-0.22	322.78	1.40	1.41	0.00	0.00	0.02

DIAMETER

INITIAL	2.01	2.01	2.00
1	2.01	2.01	2.00
2	1.99	1.99	2.00
3	2.02	2.01	2.00
4	2.01	2.00	2.00
5	2.00	2.00	2.00
6	2.00	1.99	2.00
7	1.99	1.99	2.00
8	2.01	1.99	2.00
9	2.00	2.00	2.00
10	2.00	2.00	2.00
11	2.00	2.00	2.00
12	2.00	2.00	2.00

HEIGHT

4.02	4.02	4.01
4.03	4.01	4.02
4.03	4.04	3.99
4.01	4.01	4.02
4.00	4.02	4.02
3.99	4.02	4.03
4.01	4.03	4.04
4.03	4.00	4.04
4.03	4.01	4.04
4.00	4.03	4.02
4.01	4.02	4.04
4.04	4.00	4.02
4.03	4.02	4.02

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	E13-5-20150814-28
PROJECT No.:	SH0578	SAMPLE No. (Control):	E13-5-20150814-28C
START DATE:	9/11/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A383		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	97.7	pcf	96.6	pcf
2. DRY UNIT WEIGHT	59.4	pcf	58.8	pcf
3. MOISTURE CONTENT	64.34	%	64.34	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-7.0	%	-1.1	%
2. TOTAL MASS LOSS	2.58	%	0.02	%
3. RELATIVE MASS LOSS	2.56	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	C17-10-20150815-29
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	C17-10-20150815-29C
START DATE:	9/12/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A384		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.80	g		g
3. WT WET SOIL + TARE	175.26	g		g
4. WT DRY SOIL + TARE	139.28	g		g
5. WT WATER, Ww	35.98	g		g
6. WT DRY SOIL, Ws	62.48	g		g
7. MOISTURE CONTENT, W	57.59	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	1.99	in.	3.99	in.
No. 2	1.99	in.	4.01	in.
No. 3	2.00	in.	4.00	in.
Average	1.99	in.	4.00	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	331.85	g
Initial Dry Specimen WT, Wd	210.58	g
Initial Area, Ao	3.12	in^2
Initial Volume, Vo	12.49	in^3
Initial Bulk Unit Weight,	101.2	pcf
Initial Dry Unit Weight,	64.2	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.80	g		g
3. WT WET SOIL + TARE	175.26	g		g
4. WT DRY SOIL + TARE	139.28	g		g
5. WT WATER, Ww	35.98	g		g
6. WT DRY SOIL, Ws	62.48	g		g
7. MOISTURE CONTENT, W	57.59	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.01	in.	4.01	in.
No. 2	2.00	in.	4.00	in.
No. 3	2.00	in.	4.00	in.
Average	2.00	in.	4.00	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	333.35	g
Initial Dry Specimen WT, Wd	211.53	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.61	in^3
Initial Bulk Unit Weight,	100.7	pcf
Initial Dry Unit Weight,	63.9	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	57.59	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.49	in³
SAMPLE No.:	C17-10-20150815-29		INITIAL TOTAL WEIGHT:	331.85	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	210.58	grams
TRACKING CODE:	A384				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	1.99	12.49		331.85					0.00
1	3.99	1.97	12.20	-2.38	321.41	1.42	1.61	0.19	0.09	0.09
2	3.99	1.98	12.24	-2.01	321.14	1.42	1.48	0.06	0.03	0.12
3	3.98	1.97	12.17	-2.58	320.71	1.42	1.49	0.07	0.03	0.15
4	3.97	1.98	12.21	-2.28	319.98	1.41	1.42	0.00	0.00	0.16
5	3.97	1.97	12.14	-2.81	320.08	1.42	1.48	0.06	0.03	0.18
6	3.98	1.97	12.11	-3.06	320.18	1.43	1.49	0.06	0.03	0.21
7	3.97	1.98	12.20	-2.36	320.80	1.43	1.51	0.08	0.04	0.25
8	3.98	1.96	12.06	-3.50	320.82	1.41	1.61	0.20	0.09	0.34
9	3.97	1.96	11.94	-4.43	319.63	1.38	1.48	0.10	0.05	0.39
10	3.98	1.97	12.09	-3.24	320.03	1.40	1.56	0.16	0.08	0.47
11	3.96	1.96	11.96	-4.29	319.62	1.40	1.49	0.09	0.04	0.51
12	3.96	1.96	11.98	-4.09	320.01	1.40	1.61	0.21	0.10	0.61

DIAMETER

INITIAL	1.99	1.99	2.00
1	1.99	1.96	1.97
2	1.99	1.97	1.97
3	1.99	1.97	1.96
4	1.99	1.97	1.97
5	1.99	1.97	1.96
6	2.00	1.96	1.95
7	2.00	1.97	1.97
8	1.99	1.96	1.95
9	1.97	1.95	1.95
10	1.98	1.96	1.96
11	1.98	1.96	1.94
12	1.98	1.96	1.95

HEIGHT

3.99	4.01	4.00
4.01	3.99	3.98
4.01	3.97	3.99
4.00	3.98	3.96
3.96	3.99	3.97
3.97	3.99	3.96
3.97	3.97	3.99
3.97	3.96	3.99
3.98	3.98	3.97
3.98	3.96	3.96
3.98	3.97	3.98
3.95	3.98	3.96
3.97	3.95	3.96

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	57.59	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.61	in³
SAMPLE No.:	C17-10-20150815-29C	INITIAL TOTAL WEIGHT:	333.35	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	211.53	grams
TRACKING CODE:	A384			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	2.00	12.61		333.35					0.00
1	4.01	2.00	12.65	0.27	334.88	1.41	1.43	0.02	0.01	0.01
2	4.01	2.00	12.66	0.35	335.11	1.42	1.42	0.00	0.00	0.01
3	4.01	2.01	12.68	0.53	335.16	1.41	1.41	0.00	0.00	0.01
4	4.01	2.01	12.65	0.33	335.30	1.40	1.47	0.07	0.03	0.04
5	4.01	2.00	12.56	-0.39	335.20	1.41	1.42	0.00	0.00	0.04
6	4.02	2.00	12.57	-0.30	335.08	1.41	1.41	0.00	0.00	0.05
7	4.01	2.01	12.69	0.63	335.11	1.41	1.42	0.00	0.00	0.05
8	4.01	2.00	12.58	-0.28	335.13	1.41	1.41	0.00	0.00	0.05
9	4.01	2.00	12.65	0.34	335.06	1.38	1.38	0.00	0.00	0.05
10	4.00	2.01	12.64	0.25	335.00	1.39	1.40	0.01	0.00	0.05
11	4.01	2.00	12.67	0.44	335.09	1.39	1.39	0.00	0.00	0.06
12	4.01	2.00	12.57	-0.35	335.02	1.39	1.40	0.01	0.00	0.06

DIAMETER

INITIAL	2.01	2.00	2.00
1	2.01	2.00	2.00
2	2.01	2.00	2.00
3	2.02	2.01	2.00
4	2.01	2.01	2.00
5	2.00	1.99	2.00
6	2.00	2.00	2.00
7	2.01	2.01	2.00
8	2.00	2.00	2.00
9	2.01	2.00	2.00
10	2.01	2.01	2.00
11	2.01	2.00	2.00
12	2.00	1.99	2.00

HEIGHT

4.01	4.00	4.00
4.01	4.02	4.01
4.02	4.01	4.01
4.01	4.01	4.01
4.00	4.01	4.00
4.01	4.01	4.01
4.01	4.03	4.01
4.02	4.01	4.01
4.01	4.01	4.01
4.00	4.01	4.02
4.01	4.00	4.00
4.02	4.01	4.01
4.01	4.01	4.01

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	C17-10-20150815-29
PROJECT No.:	SH0578	SAMPLE No. (Control):	C17-10-20150815-29C
START DATE:	9/12/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A384		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	101.2	pcf	100.7	pcf
2. DRY UNIT WEIGHT	64.2	pcf	63.9	pcf
3. MOISTURE CONTENT	57.59	%	57.59	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-4.4	%	-0.6	%
2. TOTAL MASS LOSS	0.61	%	0.06	%
3. RELATIVE MASS LOSS	0.55	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	H18-5-20150817-30
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	H18-5-20150817-30C
START DATE:	9/14/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A385		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.15	g		g
3. WT WET SOIL + TARE	127.55	g		g
4. WT DRY SOIL + TARE	110.21	g		g
5. WT WATER, Ww	17.34	g		g
6. WT DRY SOIL, Ws	34.06	g		g
7. MOISTURE CONTENT, W	50.91	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	1.99	in.	4.03	in.
No. 2	1.99	in.	4.01	in.
No. 3	2.00	in.	4.02	in.
Average	1.99	in.	4.02	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	342.92	g
Initial Dry Specimen WT, Wd	227.23	g
Initial Area, Ao	3.12	in^2
Initial Volume, Vo	12.55	in^3
Initial Bulk Unit Weight,	104.1	pcf
Initial Dry Unit Weight,	69.0	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.15	g		g
3. WT WET SOIL + TARE	127.55	g		g
4. WT DRY SOIL + TARE	110.21	g		g
5. WT WATER, Ww	17.34	g		g
6. WT DRY SOIL, Ws	34.06	g		g
7. MOISTURE CONTENT, W	50.91	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	1.99	in.	4.01	in.
No. 2	1.99	in.	3.99	in.
No. 3	2.00	in.	4.01	in.
Average	1.99	in.	4.00	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	340.69	g
Initial Dry Specimen WT, Wd	225.76	g
Initial Area, Ao	3.12	in^2
Initial Volume, Vo	12.48	in^3
Initial Bulk Unit Weight,	104.0	pcf
Initial Dry Unit Weight,	68.9	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	50.91	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.55	in³
SAMPLE No.:	H18-5-20150817-30		INITIAL TOTAL WEIGHT:	342.92	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	227.23	grams
TRACKING CODE:	A385				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.02	1.99	12.55		342.92					0.00
1	3.99	1.97	12.16	-3.10	329.91	1.42	1.46	0.05	0.02	0.02
2	3.98	1.97	12.13	-3.37	329.75	1.41	1.43	0.01	0.01	0.03
3	3.97	1.96	11.97	-4.67	329.31	1.40	1.44	0.03	0.01	0.04
4	3.97	1.96	11.95	-4.82	328.15	1.41	1.50	0.10	0.04	0.08
5	3.98	1.96	11.96	-4.71	328.29	1.41	1.59	0.18	0.08	0.16
6	3.97	1.96	11.96	-4.71	327.79	1.40	1.69	0.29	0.13	0.29
7	3.98	1.96	12.03	-4.15	327.50	1.41	1.52	0.11	0.05	0.34
8	3.97	1.96	11.95	-4.80	327.73	1.40	1.53	0.13	0.06	0.40
9	3.97	1.95	11.88	-5.35	327.51	1.39	1.48	0.10	0.04	0.44
10	3.97	1.96	11.92	-4.99	327.80	1.39	1.49	0.10	0.04	0.48
11	3.98	1.95	11.93	-4.98	327.22	1.39	1.44	0.06	0.03	0.51
12	3.98	1.96	11.97	-4.66	327.44	1.38	1.46	0.07	0.03	0.54

DIAMETER

INITIAL	1.99	1.99	2.00
1	1.98	1.97	1.96
2	1.99	1.97	1.96
3	1.96	1.95	1.97
4	1.98	1.95	1.95
5	1.96	1.94	1.97
6	1.97	1.95	1.95
7	1.97	1.95	1.97
8	1.97	1.94	1.96
9	1.97	1.94	1.95
10	1.97	1.94	1.96
11	1.98	1.94	1.94
12	1.97	1.94	1.96

HEIGHT

4.03	4.01	4.02
4.00	3.97	3.98
4.00	3.96	3.99
3.96	4.01	3.95
3.95	3.99	3.96
3.97	4.01	3.95
3.96	3.94	4.01
3.98	4.01	3.96
3.99	3.99	3.95
3.98	3.98	3.94
3.99	3.98	3.94
4.00	3.97	3.97
3.96	3.97	4.00

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	50.91	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.48	in³
SAMPLE No.:	H18-5-20150817-30C	INITIAL TOTAL WEIGHT:	340.69	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	225.76	grams
TRACKING CODE:	A385			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	1.99	12.48		340.69					0.00
1	4.01	2.00	12.57	0.76	342.69	1.41	1.43	0.01	0.01	0.01
2	4.01	2.00	12.58	0.81	342.88	1.42	1.42	0.00	0.00	0.01
3	4.01	2.01	12.68	1.65	343.01	1.42	1.42	0.01	0.00	0.01
4	4.03	2.01	12.73	2.00	343.24	1.41	1.42	0.01	0.00	0.01
5	4.01	2.01	12.69	1.69	343.15	1.42	1.42	0.01	0.00	0.02
6	4.01	2.00	12.60	0.95	343.19	1.41	1.41	0.00	0.00	0.02
7	4.02	2.00	12.56	0.67	343.16	1.41	1.41	0.00	0.00	0.02
8	4.01	2.00	12.65	1.40	343.26	1.41	1.41	0.00	0.00	0.02
9	4.01	2.00	12.56	0.66	343.23	1.39	1.40	0.01	0.00	0.02
10	4.01	2.00	12.55	0.62	343.03	1.39	1.40	0.01	0.00	0.03
11	4.00	2.00	12.56	0.62	343.04	1.39	1.39	0.00	0.00	0.03
12	4.01	2.01	12.70	1.80	342.82	1.39	1.40	0.01	0.00	0.03

DIAMETER

INITIAL	1.99	1.99	2.00
1	2.00	2.00	2.00
2	2.00	2.00	2.00
3	2.01	2.01	2.00
4	2.01	2.00	2.00
5	2.02	2.01	2.00
6	2.00	2.00	2.00
7	1.99	2.00	2.00
8	2.01	2.00	2.00
9	2.00	2.00	2.00
10	2.00	2.00	2.00
11	2.00	2.00	1.99
12	2.02	2.01	2.00

HEIGHT

4.01	3.99	4.01
4.02	4.00	4.01
4.02	4.01	3.99
4.02	4.01	3.99
4.05	4.04	4.00
4.01	4.00	4.01
4.01	4.00	4.01
4.00	4.04	4.02
4.03	4.00	4.01
4.00	4.00	4.03
4.02	4.00	3.99
4.03	3.99	3.99
4.02	4.00	4.01

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	H18-5-20150817-30
PROJECT No.:	SH0578	SAMPLE No. (Control):	H18-5-20150817-30C
START DATE:	9/14/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A385		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	104.1	pcf	104.0	pcf
2. DRY UNIT WEIGHT	69.0	pcf	68.9	pcf
3. MOISTURE CONTENT	50.91	%	50.91	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-5.4	%	-2.0	%
2. TOTAL MASS LOSS	0.54	%	0.03	%
3. RELATIVE MASS LOSS	0.51	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	K21-10-20150818-31
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	K21-10-20150818-31C
START DATE:	9/15/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A386		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.64	g		g
3. WT WET SOIL + TARE	130.59	g		g
4. WT DRY SOIL + TARE	111.78	g		g
5. WT WATER, Ww	18.81	g		g
6. WT DRY SOIL, Ws	35.14	g		g
7. MOISTURE CONTENT, W	53.53	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.02	in.	4.00	in.
No. 2	2.01	in.	4.00	in.
No. 3	2.00	in.	4.00	in.
Average	2.01	in.	4.00	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	339.60	g
Initial Dry Specimen WT, Wd	221.20	g
Initial Area, Ao	3.17	in^2
Initial Volume, Vo	12.69	in^3
Initial Bulk Unit Weight,	101.9	pcf
Initial Dry Unit Weight,	66.4	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.64	g		g
3. WT WET SOIL + TARE	130.59	g		g
4. WT DRY SOIL + TARE	111.78	g		g
5. WT WATER, Ww	18.81	g		g
6. WT DRY SOIL, Ws	35.14	g		g
7. MOISTURE CONTENT, W	53.53	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	4.01	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	342.75	g
Initial Dry Specimen WT, Wd	223.25	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.60	in^3
Initial Bulk Unit Weight,	103.7	pcf
Initial Dry Unit Weight,	67.5	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	53.53	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.69	in³
SAMPLE No.:	K21-10-20150818-31	INITIAL TOTAL WEIGHT:	339.60	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	221.20	grams
TRACKING CODE:	A386			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	2.01	12.69		339.60					0.00
1	3.98	1.97	12.13	-4.45	328.02	1.41	1.48	0.07	0.03	0.03
2	3.98	1.98	12.22	-3.74	326.31	1.40	1.42	0.02	0.01	0.04
3	3.97	1.96	11.95	-5.87	326.65	1.41	1.44	0.03	0.01	0.05
4	3.97	1.98	12.23	-3.69	327.24	1.40	1.44	0.04	0.02	0.07
5	3.98	1.96	11.97	-5.69	326.25	1.40	1.44	0.03	0.02	0.08
6	3.97	1.96	12.00	-5.43	326.91	1.40	1.45	0.04	0.02	0.10
7	3.97	1.98	12.22	-3.76	326.98	1.41	1.49	0.08	0.04	0.14
8	3.98	1.98	12.21	-3.81	327.29	1.37	1.40	0.02	0.01	0.15
9	3.96	1.97	12.08	-4.82	327.23	1.39	1.43	0.04	0.02	0.17
10	3.97	1.97	12.11	-4.62	326.98	1.39	1.43	0.04	0.02	0.19
11	3.97	1.96	11.92	-6.09	327.83	1.39	1.44	0.05	0.02	0.21
12	3.97	1.95	11.92	-6.08	321.75	1.39	1.43	0.04	0.02	0.23

DIAMETER

INITIAL	2.02	2.01	2.00
1	1.99	1.96	1.96
2	2.01	1.97	1.96
3	1.98	1.95	1.95
4	2.00	1.98	1.96
5	1.97	1.94	1.96
6	1.97	1.95	1.96
7	2.00	1.98	1.96
8	2.00	1.97	1.97
9	1.99	1.96	1.96
10	1.99	1.96	1.96
11	1.96	1.95	1.96
12	1.96	1.95	1.95

HEIGHT

4.00	4.00	4.00
3.98	3.98	3.99
3.97	3.99	3.97
3.97	3.97	3.96
3.97	3.97	3.98
3.99	3.96	3.98
3.98	3.96	3.98
3.97	3.97	3.98
3.96	3.99	3.98
3.95	3.96	3.98
3.96	3.97	3.98
3.97	3.97	3.97
3.97	3.98	3.97

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	53.53	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.60	in³
SAMPLE No.:	K21-10-20150818-31C	INITIAL TOTAL WEIGHT:	342.75	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	223.25	grams
TRACKING CODE:	A386			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.60		342.75					0.00
1	4.02	2.00	12.64	0.33	344.09	1.42	1.44	0.02	0.01	0.01
2	4.02	2.00	12.67	0.57	344.35	1.42	1.43	0.00	0.00	0.01
3	4.02	2.00	12.66	0.52	344.47	1.42	1.42	0.00	0.00	0.01
4	4.03	2.00	12.70	0.82	344.46	1.42	1.43	0.01	0.00	0.01
5	4.03	2.00	12.70	0.80	344.43	1.42	1.42	0.01	0.00	0.02
6	4.02	2.00	12.66	0.47	344.40	1.42	1.43	0.01	0.00	0.02
7	4.02	2.00	12.67	0.60	344.50	1.42	1.42	0.01	0.00	0.02
8	4.03	2.00	12.66	0.54	344.40	1.38	1.39	0.01	0.00	0.02
9	4.02	2.00	12.68	0.63	344.23	1.40	1.41	0.01	0.00	0.03
10	4.02	2.00	12.65	0.44	344.28	1.40	1.41	0.01	0.00	0.03
11	4.02	2.00	12.68	0.64	344.27	1.40	1.41	0.01	0.00	0.04
12	4.03	2.00	12.70	0.83	344.29	1.40	1.41	0.01	0.00	0.04

DIAMETER

INITIAL	2.00	2.00	2.00
1	2.00	2.00	2.00
2	2.00	2.00	2.00
3	2.01	2.00	2.00
4	2.00	2.00	2.00
5	2.01	2.00	2.00
6	2.01	2.00	2.00
7	2.01	2.00	2.00
8	2.00	2.00	2.00
9	2.01	2.00	2.00
10	2.00	2.00	2.00
11	2.00	2.01	2.00
12	2.01	2.00	2.00

HEIGHT

4.01	4.01	4.01
4.03	4.02	4.01
4.03	4.03	4.01
4.03	4.01	4.02
4.01	4.05	4.04
4.04	4.03	4.02
4.03	4.02	4.01
4.03	4.02	4.02
4.03	4.04	4.01
4.03	4.02	4.02
4.03	4.02	4.01
4.03	4.02	4.01
4.03	4.04	4.03

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	K21-10-20150818-31
PROJECT No.:	SH0578	SAMPLE No. (Control):	K21-10-20150818-31C
START DATE:	9/15/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A386		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	101.9	pcf	103.7	pcf
2. DRY UNIT WEIGHT	66.4	pcf	67.5	pcf
3. MOISTURE CONTENT	53.53	%	53.53	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-6.1	%	-0.8	%
2. TOTAL MASS LOSS	0.23	%	0.04	%
3. RELATIVE MASS LOSS	0.19	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	S21-15-20150819-32
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	S21-15-20150819-32C
START DATE:	9/16/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A387		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.38	g		g
3. WT WET SOIL + TARE	121.27	g		g
4. WT DRY SOIL + TARE	103.20	g		g
5. WT WATER, Ww	18.07	g		g
6. WT DRY SOIL, Ws	26.82	g		g
7. MOISTURE CONTENT, W	67.38	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.00	in.	4.00	in.
No. 2	1.99	in.	3.99	in.
No. 3	2.00	in.	4.00	in.
Average	2.00	in.	3.99	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	320.95	g
Initial Dry Specimen WT, Wd	191.75	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.49	in^3
Initial Bulk Unit Weight,	97.9	pcf
Initial Dry Unit Weight,	58.5	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.38	g		g
3. WT WET SOIL + TARE	121.27	g		g
4. WT DRY SOIL + TARE	103.20	g		g
5. WT WATER, Ww	18.07	g		g
6. WT DRY SOIL, Ws	26.82	g		g
7. MOISTURE CONTENT, W	67.38	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.01	in.	4.01	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.00	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	323.58	g
Initial Dry Specimen WT, Wd	193.33	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.61	in^3
Initial Bulk Unit Weight,	97.8	pcf
Initial Dry Unit Weight,	58.4	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	67.38	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.49	in³
SAMPLE No.:	S21-15-20150819-32		INITIAL TOTAL WEIGHT:	320.95	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	191.75	grams
TRACKING CODE:	A387				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	3.99	2.00	12.49		320.95					0.00
1	3.98	1.96	11.96	-4.27	309.68	1.42	1.44	0.02	0.01	0.01
2	3.98	1.96	11.99	-4.06	306.32	1.42	1.45	0.03	0.01	0.02
3	3.97	1.97	12.05	-3.57	307.63	1.42	1.43	0.01	0.01	0.03
4	3.97	1.96	12.03	-3.71	308.08	1.43	1.46	0.03	0.02	0.05
5	3.98	1.96	12.06	-3.44	306.90	1.42	1.68	0.26	0.14	0.18
6	3.98	1.97	12.17	-2.63	307.26	1.42	1.70	0.28	0.15	0.33
7	3.97	1.97	12.06	-3.45	305.64	1.41	2.66	1.24	0.65	0.98
8	3.99	1.96	12.03	-3.69	305.52	1.40	1.71	0.31	0.16	1.14
9	3.44	1.97	10.51	-15.84	262.80	1.40	27.89	26.49	13.81	14.95
10	3.66	1.97	11.10	-11.17	263.80	1.40	1.62	0.22	0.11	15.06
11	3.40	1.97	10.31	-17.48	262.28	1.40	2.40	1.00	0.52	15.58
12	3.42	1.97	10.48	-16.12	255.63	1.40	5.66	4.26	2.22	17.81

DIAMETER

INITIAL	2.00	1.99	2.00
1	1.97	1.95	1.95
2	1.99	1.95	1.94
3	1.99	1.96	1.95
4	1.99	1.95	1.95
5	1.97	1.96	1.96
6	1.98	1.97	1.97
7	1.98	1.95	1.96
8	1.99	1.95	1.94
9	1.97	1.96	1.99
10	1.96	1.95	1.99
11	1.97	1.95	1.98
12	1.97	1.97	1.98

HEIGHT

4.00	3.99	4.00
3.99	3.97	3.98
3.98	3.99	3.97
3.97	3.97	3.97
3.97	3.96	3.98
3.99	3.99	3.97
3.97	3.97	3.99
3.97	3.97	3.97
4.00	3.98	3.98
3.17	3.65	3.50
3.39	3.98	3.60
3.28	3.39	3.52
3.61	3.25	3.41

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	67.38	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.61	in³
SAMPLE No.:	S21-15-20150819-32C	INITIAL TOTAL WEIGHT:	323.58	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	193.33	grams
TRACKING CODE:	A387			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.61		323.58					0.00
1	4.01	2.00	12.58	-0.22	325.10	1.41	1.42	0.01	0.01	0.01
2	4.00	1.99	12.49	-0.98	325.29	1.41	1.41	0.00	0.00	0.01
3	4.02	2.01	12.69	0.66	325.44	1.40	1.43	0.03	0.01	0.02
4	4.01	2.01	12.70	0.73	325.37	1.42	1.42	0.00	0.00	0.02
5	4.01	1.99	12.54	-0.57	325.15	1.40	1.41	0.01	0.00	0.02
6	4.01	2.01	12.73	0.92	325.18	1.41	1.41	0.00	0.00	0.03
7	4.01	2.00	12.59	-0.13	325.23	1.40	1.41	0.00	0.00	0.03
8	4.00	2.00	12.60	-0.09	325.15	1.39	1.39	0.00	0.00	0.03
9	4.01	2.00	12.55	-0.47	325.05	1.39	1.40	0.01	0.00	0.03
10	4.00	2.00	12.53	-0.63	325.21	1.39	1.39	0.00	0.00	0.04
11	4.01	2.01	12.71	0.75	325.17	1.39	1.39	0.00	0.00	0.04
12	4.00	1.99	12.48	-1.02	325.06	1.39	1.39	0.00	0.00	0.04

DIAMETER

INITIAL	2.01	2.00	2.00
1	1.99	2.00	2.00
2	1.99	1.99	2.00
3	2.01	2.01	2.00
4	2.02	2.01	2.00
5	1.99	1.99	2.00
6	2.02	2.01	2.00
7	2.01	1.99	2.00
8	2.00	2.01	2.00
9	1.99	2.00	2.00
10	2.00	2.00	2.00
11	2.02	2.01	2.00
12	1.99	1.99	2.00

HEIGHT

4.01	4.01	4.00
4.00	4.00	4.03
3.99	4.02	3.99
4.01	4.01	4.03
4.00	4.02	4.00
4.02	4.00	4.02
4.02	4.01	4.02
4.01	4.00	4.02
4.02	3.99	4.01
4.00	4.00	4.02
3.99	3.99	4.02
3.98	4.03	4.00
4.01	4.01	3.99

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	S21-15-20150819-32
PROJECT No.:	SH0578	SAMPLE No. (Control):	S21-15-20150819-32C
START DATE:	9/16/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A387		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	97.9	pcf	97.8	pcf
2. DRY UNIT WEIGHT	58.5	pcf	58.4	pcf
3. MOISTURE CONTENT	67.38	%	67.38	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-17.5	%	-1.0	%
2. TOTAL MASS LOSS	17.81	%	0.04	%
3. RELATIVE MASS LOSS	17.77	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	S21-15-20150819-32
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	S21-15-20150819-32C
START DATE:	10/26/2015	SAMPLE DESCRIPTION:	68 Day
TRACKING CODE:	A481		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	50.18	g		g
3. WT WET SOIL + TARE	63.74	g		g
4. WT DRY SOIL + TARE	58.53	g		g
5. WT WATER, Ww	5.21	g		g
6. WT DRY SOIL, Ws	8.35	g		g
7. MOISTURE CONTENT, W	62.40	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	4.02	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.02	in.
Average	2.00	in.	4.02	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	324.38	g
Initial Dry Specimen WT, Wd	199.75	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.66	in^3
Initial Bulk Unit Weight,	97.6	pcf
Initial Dry Unit Weight,	60.1	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	50.18	g		g
3. WT WET SOIL + TARE	63.74	g		g
4. WT DRY SOIL + TARE	58.53	g		g
5. WT WATER, Ww	5.21	g		g
6. WT DRY SOIL, Ws	8.35	g		g
7. MOISTURE CONTENT, W	62.40	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	4.01	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	323.04	g
Initial Dry Specimen WT, Wd	198.92	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.58	in^3
Initial Bulk Unit Weight,	97.8	pcf
Initial Dry Unit Weight,	60.2	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	62.40	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.66	in³
SAMPLE No.:	S21-15-20150819-32		INITIAL TOTAL WEIGHT:	324.38	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	199.75	grams
TRACKING CODE:	A481				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.02	2.00	12.66		324.38					0.00
1	4.00	1.97	12.14	-4.07	311.07	1.40	1.41	0.01	0.01	0.01
2	4.01	1.97	12.21	-3.58	310.27	1.39	1.40	0.01	0.00	0.01
3	3.99	1.96	12.03	-4.96	311.16	1.39	1.41	0.02	0.01	0.02
4	4.01	1.96	12.08	-4.59	311.36	1.40	1.41	0.02	0.01	0.03
5	4.01	1.97	12.27	-3.05	312.07	1.39	1.42	0.03	0.01	0.04
6	4.03	1.98	12.38	-2.22	311.20	1.40	1.42	0.02	0.01	0.05
7	4.00	1.97	12.15	-4.01	311.31	1.39	1.74	0.34	0.17	0.22
8	3.97	1.96	11.94	-5.68	309.67	1.39	1.86	0.47	0.24	0.46
9	4.01	1.96	12.04	-4.90	310.03	1.40	1.63	0.24	0.12	0.58
10	3.96	1.96	11.96	-5.55	310.09	1.39	1.92	0.52	0.26	0.84
11	4.03	1.96	12.14	-4.14	309.54	1.40	1.52	0.13	0.06	0.90
12	3.96	1.96	11.98	-5.38	308.06	1.39	2.42	1.02	0.51	1.42

DIAMETER

INITIAL	2.01	2.00	2.00
1	1.99	1.96	1.95
2	1.99	1.96	1.95
3	1.98	1.94	1.96
4	1.98	1.95	1.94
5	1.99	1.99	1.95
6	1.99	1.99	1.95
7	1.98	1.96	1.96
8	1.98	1.91	1.98
9	1.97	1.94	1.96
10	1.99	1.95	1.95
11	1.96	1.95	1.97
12	1.98	1.96	1.95

HEIGHT

4.02	4.01	4.02
4.02	4.00	3.98
4.00	4.03	4.01
4.00	3.98	3.99
4.01	4.02	3.99
4.01	4.01	4.02
4.05	4.02	4.02
3.99	4.00	4.02
3.86	4.01	4.02
3.99	4.00	4.03
4.02	3.86	4.00
4.10	3.99	4.01
3.83	4.05	3.99

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	62.40	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.58	in³
SAMPLE No.:	S21-15-20150819-32C	INITIAL TOTAL WEIGHT:	323.04	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	198.92	grams
TRACKING CODE:	A481			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.58		323.04					0.00
1	4.01	2.00	12.63	0.41	324.38	1.39	1.40	0.01	0.01	0.01
2	4.01	2.00	12.61	0.25	324.57	1.38	1.39	0.01	0.00	0.01
3	4.01	2.00	12.60	0.19	324.73	1.39	1.39	0.00	0.00	0.01
4	4.02	2.00	12.64	0.48	325.00	1.38	1.39	0.00	0.00	0.01
5	4.02	2.00	12.66	0.65	325.00	1.39	1.39	0.00	0.00	0.01
6	4.02	2.00	12.62	0.30	325.13	1.39	1.39	0.00	0.00	0.01
7	4.01	2.00	12.64	0.51	324.69	1.39	1.39	0.01	0.00	0.02
8	4.02	2.00	12.59	0.08	324.88	1.39	1.39	0.00	0.00	0.02
9	4.01	2.00	12.62	0.32	325.04	1.38	1.39	0.01	0.00	0.02
10	4.02	2.00	12.66	0.61	324.88	1.38	1.39	0.00	0.00	0.02
11	4.02	2.00	12.63	0.39	324.93	1.39	1.39	0.00	0.00	0.03
12	4.01	2.00	12.63	0.40	324.90	1.39	1.39	0.00	0.00	0.03

DIAMETER

INITIAL	2.00	2.00	2.00
1	2.01	2.01	2.00
2	2.00	2.00	2.00
3	2.00	2.00	2.00
4	2.00	2.00	2.00
5	2.01	2.00	2.00
6	2.00	2.00	2.00
7	2.01	2.00	2.00
8	2.00	2.00	2.00
9	2.00	2.00	2.00
10	2.00	2.00	2.00
11	2.00	2.00	2.00
12	2.00	2.00	2.00

HEIGHT

4.01	4.01	4.01
4.01	4.01	3.99
3.99	4.00	4.02
4.01	3.99	4.01
4.02	4.01	4.01
4.02	4.01	4.02
4.01	4.02	4.02
4.03	4.00	4.01
4.03	4.02	4.00
4.01	4.01	4.02
4.01	4.02	4.03
4.02	4.04	4.00
4.00	4.00	4.04

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	S21-15-20150819-32
PROJECT No.:	SH0578	SAMPLE No. (Control):	S21-15-20150819-32C
START DATE:	10/26/2015	SAMPLE DESCRIPTION:	68 Day
TRACKING CODE:	A481		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	97.6	pcf	97.8	pcf
2. DRY UNIT WEIGHT	60.1	pcf	60.2	pcf
3. MOISTURE CONTENT	62.40	%	62.40	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-5.7	%	-0.6	%
2. TOTAL MASS LOSS	1.42	%	0.03	%
3. RELATIVE MASS LOSS	1.39	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	X20-5-20150820-33
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	X20-5-20150820-33C
START DATE:	9/17/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A391		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.99	g		g
3. WT WET SOIL + TARE	136.43	g		g
4. WT DRY SOIL + TARE	112.86	g		g
5. WT WATER, Ww	23.57	g		g
6. WT DRY SOIL, Ws	35.87	g		g
7. MOISTURE CONTENT, W	65.71	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	4.04	in.
No. 2	2.00	in.	4.05	in.
No. 3	2.00	in.	4.02	in.
Average	2.00	in.	4.04	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	321.31	g
Initial Dry Specimen WT, Wd	193.90	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.73	in^3
Initial Bulk Unit Weight,	96.1	pcf
Initial Dry Unit Weight,	58.0	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.99	g		g
3. WT WET SOIL + TARE	136.43	g		g
4. WT DRY SOIL + TARE	112.86	g		g
5. WT WATER, Ww	23.57	g		g
6. WT DRY SOIL, Ws	35.87	g		g
7. MOISTURE CONTENT, W	65.71	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	3.96	in.
No. 2	2.00	in.	3.98	in.
No. 3	2.00	in.	4.05	in.
Average	2.00	in.	4.00	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	319.87	g
Initial Dry Specimen WT, Wd	193.03	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.57	in^3
Initial Bulk Unit Weight,	96.9	pcf
Initial Dry Unit Weight,	58.5	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	65.71	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.73	in³
SAMPLE No.:	X20-5-20150820-33		INITIAL TOTAL WEIGHT:	321.31	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	193.90	grams
TRACKING CODE:	A391				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.04	2.00	12.73		321.31					0.00
1	4.00	1.96	12.05	-5.33	298.66	1.42	1.49	0.07	0.04	0.04
2	4.00	1.96	12.06	-5.29	302.80	1.42	1.52	0.10	0.05	0.09
3	4.00	1.95	11.98	-5.94	301.38	1.42	1.54	0.12	0.06	0.15
4	4.01	1.93	11.76	-7.65	297.22	1.42	1.62	0.20	0.10	0.25
5	3.99	1.95	11.88	-6.72	298.01	1.42	1.57	0.15	0.08	0.33
6	3.99	1.94	11.79	-7.42	298.80	1.42	1.55	0.13	0.07	0.40
7	3.98	1.94	11.76	-7.63	298.95	1.38	1.56	0.18	0.09	0.49
8	3.99	1.96	11.98	-5.92	296.38	1.40	1.87	0.47	0.24	0.73
9	3.99	1.95	11.94	-6.25	295.73	1.40	1.69	0.30	0.15	0.89
10	3.99	1.98	12.29	-3.44	293.71	1.40	2.73	1.33	0.69	1.57
11	3.78	1.98	11.65	-8.50	277.12	1.40	10.76	9.36	4.83	6.40
12	0.00	0.00	0.00	-100.00	150.27	113.07	193.01	79.94	41.23	47.63

DIAMETER

INITIAL	2.01	2.00	2.00
1	1.96	1.95	1.97
2	1.97	1.95	1.96
3	1.96	1.95	1.95
4	1.96	1.93	1.91
5	1.96	1.92	1.96
6	1.95	1.94	1.93
7	1.95	1.91	1.96
8	1.96	1.94	1.96
9	1.98	1.93	1.95
10	2.02	1.96	1.96
11	2.04	1.96	1.94
12			

HEIGHT

4.04	4.05	4.02
4.01	4.00	4.00
4.01	4.01	3.99
4.01	4.00	4.00
4.02	4.00	4.02
4.00	3.98	3.98
4.00	3.98	3.99
3.97	3.98	3.98
3.98	3.98	4.00
4.01	3.98	3.99
3.97	3.98	4.02
4.00	3.27	4.06

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	65.71	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.57	in^3
SAMPLE No.:	X20-5-20150820-33C	INITIAL TOTAL WEIGHT:	319.87	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	193.03	grams
TRACKING CODE:	A391			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in^3)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	2.00	12.57		319.87					0.00
1	4.01	2.00	12.66	0.65	321.06	1.43	1.43	0.00	0.00	0.00
2	4.01	2.00	12.61	0.27	321.18	1.43	1.44	0.00	0.00	0.00
3	4.00	2.00	12.60	0.19	321.20	1.43	1.44	0.00	0.00	0.01
4	4.02	2.00	12.64	0.50	321.56	1.43	1.44	0.00	0.00	0.01
5	4.01	2.00	12.62	0.33	321.46	1.44	1.44	0.00	0.00	0.01
6	4.02	2.00	12.69	0.95	321.59	1.42	1.42	0.00	0.00	0.01
7	4.01	2.00	12.61	0.32	321.61	1.39	1.40	0.01	0.00	0.02
8	4.01	2.00	12.63	0.40	321.48	1.41	1.42	0.01	0.01	0.02
9	4.00	2.00	12.59	0.12	321.57	1.41	1.41	0.00	0.00	0.02
10	4.00	2.00	12.62	0.35	321.59	1.41	1.41	0.00	0.00	0.03
11	3.99	2.00	12.56	-0.10	321.54	1.41	1.41	0.00	0.00	0.03
12	0.00	0.00	0.00	-100.00	321.66	1.41	1.41	0.00	0.00	0.03

DIAMETER

INITIAL	2.00	2.00	2.00
1	2.01	2.01	2.00
2	2.00	2.00	2.00
3	2.00	2.00	2.00
4	2.01	2.00	2.00
5	2.01	2.00	2.00
6	2.01	2.00	2.00
7	2.01	2.00	2.00
8	2.01	2.00	2.00
9	2.00	2.00	2.00
10	2.01	2.00	2.00
11	2.01	2.00	2.00
12			

HEIGHT

3.96	3.98	4.05
4.06	3.95	4.02
4.01	3.96	4.07
3.98	4.07	3.97
4.06	3.97	4.03
3.99	4.08	3.95
4.06	3.96	4.05
3.99	3.96	4.08
4.01	3.95	4.07
3.96	4.00	4.03
3.96	4.04	4.01
3.95	4.04	3.98

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	X20-5-20150820-33
PROJECT No.:	SH0578	SAMPLE No. (Control):	X20-5-20150820-33C
START DATE:	9/17/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A391		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	96.1	pcf	96.9	pcf
2. DRY UNIT WEIGHT	58.0	pcf	58.5	pcf
3. MOISTURE CONTENT	65.71	%	65.71	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-8.5	%	-1.0	%
2. TOTAL MASS LOSS	47.63	%	0.03	%
3. RELATIVE MASS LOSS	47.60	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	X20-5-20150820-33
PROJECT No.:	SH5078	SAMPLE No. (Specimen No. 2)	X20-5-20150820-33C
START DATE:	11/2/2015	SAMPLE DESCRIPTION:	74 Day
TRACKING CODE:	A521		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	63.70	g		g
3. WT WET SOIL + TARE	140.37	g		g
4. WT DRY SOIL + TARE	110.96	g		g
5. WT WATER, Ww	29.41	g		g
6. WT DRY SOIL, Ws	47.26	g		g
7. MOISTURE CONTENT, W	62.23	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	4.01	in.
No. 2	2.01	in.	4.03	in.
No. 3	2.00	in.	4.00	in.
Average	2.01	in.	4.01	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	320.76	g
Initial Dry Specimen WT, Wd	197.72	g
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.68	in^3
Initial Bulk Unit Weight,	96.4	pcf
Initial Dry Unit Weight,	59.4	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	63.70	g		g
3. WT WET SOIL + TARE	140.37	g		g
4. WT DRY SOIL + TARE	110.96	g		g
5. WT WATER, Ww	29.41	g		g
6. WT DRY SOIL, Ws	47.26	g		g
7. MOISTURE CONTENT, W	62.23	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	4.03	in.
No. 2	2.00	in.	4.03	in.
No. 3	2.00	in.	4.00	in.
Average	2.00	in.	4.02	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	321.33	g
Initial Dry Specimen WT, Wd	198.07	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.64	in^3
Initial Bulk Unit Weight,	96.8	pcf
Initial Dry Unit Weight,	59.7	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	62.23	%
PROJECT No.:	SH5078	INITIAL VOLUME:	12.68	in³
SAMPLE No.:	X20-5-20150820-33	INITIAL TOTAL WEIGHT:	320.76	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	197.72	grams
TRACKING CODE:	A521			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.01	12.68		320.76					0.00
1	3.98	1.96	12.07	-4.82	304.50	1.39	1.42	0.03	0.02	0.02
2	3.98	1.96	12.04	-5.06	303.57	1.39	1.43	0.04	0.02	0.04
3	3.98	1.96	12.05	-4.95	302.41	1.39	1.41	0.01	0.01	0.04
4	3.99	1.96	12.03	-5.15	302.25	1.39	1.43	0.03	0.02	0.06
5	3.97	1.95	11.83	-6.75	303.69	1.39	1.42	0.03	0.01	0.07
6	3.99	1.94	11.85	-6.60	303.43	1.39	1.42	0.03	0.01	0.09
7	3.97	1.94	11.74	-7.44	304.89	1.39	1.40	0.01	0.01	0.09
8	3.97	1.94	11.79	-7.04	304.09	1.39	1.43	0.04	0.02	0.12
9	3.98	1.94	11.74	-7.40	304.36	1.39	1.44	0.05	0.02	0.14
10	3.96	1.96	11.94	-5.86	304.54	1.39	1.43	0.04	0.02	0.16
11	3.98	1.95	11.85	-6.56	302.99	1.39	1.47	0.08	0.04	0.20
12	3.98	1.96	11.98	-5.56	303.20	1.39	1.52	0.13	0.07	0.27

DIAMETER

INITIAL	2.01	2.01	2.00
1	1.99	1.96	1.95
2	1.99	1.95	1.95
3	1.99	1.95	1.95
4	1.99	1.95	1.94
5	1.97	1.93	1.94
6	1.96	1.93	1.94
7	1.96	1.92	1.94
8	1.96	1.93	1.94
9	1.95	1.92	1.94
10	1.99	1.95	1.94
11	1.97	1.94	1.93
12	1.97	1.95	1.95

HEIGHT

4.01	4.03	4.00
3.98	3.96	4.02
3.97	3.96	4.01
4.00	3.96	3.99
3.99	3.98	4.01
3.96	3.97	3.99
4.00	4.00	3.97
4.00	3.96	3.96
3.95	3.95	4.00
3.96	4.02	3.97
3.95	3.98	3.95
3.95	4.00	3.98
3.98	4.00	3.97

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	62.23	%
PROJECT No.:	SH5078	INITIAL VOLUME:	12.64	in³
SAMPLE No.:	X20-5-20150820-33C	INITIAL TOTAL WEIGHT:	321.33	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	198.07	grams
TRACKING CODE:	A521			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.02	2.00	12.64		321.33					0.00
1	4.01	2.00	12.61	-0.29	322.38	1.40	1.41	0.00	0.00	0.00
2	4.02	2.01	12.72	0.62	322.56	1.40	1.41	0.00	0.00	0.00
3	4.02	2.01	12.69	0.37	322.84	1.40	1.41	0.00	0.00	0.01
4	4.03	2.00	12.71	0.53	322.88	1.40	1.41	0.00	0.00	0.01
5	4.02	2.00	12.61	-0.23	321.96	1.40	1.41	0.00	0.00	0.01
6	4.01	2.00	12.57	-0.54	322.28	1.40	1.41	0.00	0.00	0.01
7	4.02	2.00	12.64	0.01	322.47	1.40	1.41	0.00	0.00	0.01
8	4.01	2.00	12.58	-0.51	322.32	1.40	1.41	0.01	0.00	0.01
9	4.02	2.00	12.67	0.26	322.44	1.41	1.41	0.00	0.00	0.02
10	4.01	2.00	12.56	-0.63	322.74	1.40	1.42	0.01	0.01	0.02
11	4.01	2.00	12.58	-0.52	322.56	1.39	1.40	0.01	0.01	0.03
12	4.03	2.00	12.65	0.09	322.66	1.39	1.39	0.00	0.00	0.03

DIAMETER

INITIAL	2.00	2.00	2.00
1	2.00	2.00	2.00
2	2.02	2.01	2.00
3	2.01	2.01	2.00
4	2.01	2.00	2.01
5	2.00	2.00	2.00
6	2.00	2.00	2.00
7	2.01	2.00	2.00
8	2.00	2.00	2.00
9	2.02	2.00	2.00
10	2.00	2.00	2.00
11	2.00	2.00	2.00
12	2.00	2.01	2.00

HEIGHT

4.03	4.03	4.00
3.99	4.03	4.01
4.01	3.99	4.05
4.02	4.04	4.00
4.03	4.02	4.03
4.03	4.01	4.02
3.99	4.04	4.00
4.02	4.03	4.00
3.99	4.02	4.02
4.02	4.00	4.03
3.99	4.01	4.01
3.99	4.03	4.00
4.03	4.00	4.05

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	X20-5-20150820-33
PROJECT No.:	SH5078	SAMPLE No. (Control):	X20-5-20150820-33C
START DATE:	11/2/2015	SAMPLE DESCRIPTION:	74 Day
TRACKING CODE:	A521		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	96.4	pcf	96.8	pcf
2. DRY UNIT WEIGHT	59.4	pcf	59.7	pcf
3. MOISTURE CONTENT	62.23	%	62.23	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-7.4	%	-0.6	%
2. TOTAL MASS LOSS	0.27	%	0.03	%
3. RELATIVE MASS LOSS	0.24	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	AG23-10-20150822-34
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	AG23-10-20150822-34C
START DATE:	9/21/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A394		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.52	g		g
3. WT WET SOIL + TARE	136.35	g		g
4. WT DRY SOIL + TARE	116.30	g		g
5. WT WATER, Ww	20.05	g		g
6. WT DRY SOIL, Ws	38.78	g		g
7. MOISTURE CONTENT, W	51.70	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	4.01	in.
No. 2	2.00	in.	4.02	in.
No. 3	2.00	in.	4.04	in.
Average	2.00	in.	4.02	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	330.08	g
Initial Dry Specimen WT, Wd	217.58	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.68	in^3
Initial Bulk Unit Weight,	99.1	pcf
Initial Dry Unit Weight,	65.4	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.52	g		g
3. WT WET SOIL + TARE	136.35	g		g
4. WT DRY SOIL + TARE	116.30	g		g
5. WT WATER, Ww	20.05	g		g
6. WT DRY SOIL, Ws	38.78	g		g
7. MOISTURE CONTENT, W	51.70	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	4.03	in.
No. 2	1.99	in.	4.00	in.
No. 3	2.00	in.	4.03	in.
Average	2.00	in.	4.02	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	328.04	g
Initial Dry Specimen WT, Wd	216.24	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.57	in^3
Initial Bulk Unit Weight,	99.4	pcf
Initial Dry Unit Weight,	65.5	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	51.70	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.68	in³
SAMPLE No.:	AG23-10-20150822-34		INITIAL TOTAL WEIGHT:	330.08	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	217.58	grams
TRACKING CODE:	A394				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.02	2.00	12.68		330.08					0.00
1	3.98	1.95	11.87	-6.40	312.27	1.42	1.60	0.19	0.09	0.09
2	3.97	1.94	11.78	-7.09	309.07	1.42	1.51	0.09	0.04	0.13
3	3.97	1.93	11.60	-8.52	305.45	1.41	1.81	0.40	0.18	0.31
4	3.97	1.93	11.65	-8.12	306.97	1.41	1.42	0.00	0.00	0.31
5	3.96	1.94	11.74	-7.41	307.00	1.41	1.87	0.46	0.21	0.53
6	3.96	1.93	11.64	-8.18	307.33	1.38	1.76	0.38	0.18	0.70
7	3.97	1.93	11.66	-8.09	306.85	1.40	1.56	0.17	0.08	0.78
8	3.96	1.94	11.74	-7.43	306.57	1.40	1.54	0.14	0.07	0.85
9	3.95	1.94	11.63	-8.33	306.22	1.40	1.40	0.00	0.00	0.85
10	3.96	1.94	11.67	-7.97	306.50	1.39	1.45	0.06	0.03	0.87
11	3.96	1.93	11.63	-8.31	306.10	1.40	1.48	0.08	0.04	0.91
12	3.95	1.94	11.63	-8.31	306.97	1.39	1.47	0.08	0.04	0.95

DIAMETER

INITIAL	2.01	2.00	2.00
1	1.96	1.94	1.94
2	1.97	1.93	1.93
3	1.94	1.92	1.93
4	1.95	1.92	1.93
5	1.96	1.94	1.92
6	1.95	1.92	1.93
7	1.95	1.92	1.93
8	1.96	1.93	1.93
9	1.94	1.94	1.93
10	1.95	1.92	1.93
11	1.95	1.92	1.93
12	1.94	1.93	1.93

HEIGHT

4.01	4.02	4.04
3.95	4.00	3.97
3.95	3.97	3.99
3.95	3.96	3.99
3.96	3.96	4.00
3.96	3.98	3.95
3.95	4.01	3.92
3.99	3.95	3.96
3.99	3.95	3.96
3.95	3.98	3.93
3.96	3.99	3.94
3.96	3.93	3.97
3.98	3.93	3.96

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	51.70	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.57	in³
SAMPLE No.:	AG23-10-20150822-34C	INITIAL TOTAL WEIGHT:	328.04	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	216.24	grams
TRACKING CODE:	A394			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.02	2.00	12.57		328.04					0.00
1	4.01	2.00	12.57	-0.06	328.79	1.40	1.42	0.02	0.01	0.01
2	4.01	2.01	12.68	0.82	329.09	1.41	1.42	0.01	0.00	0.01
3	4.01	2.00	12.58	0.03	329.05	1.40	1.41	0.00	0.00	0.01
4	4.01	2.00	12.64	0.53	329.15	1.41	1.75	0.33	0.15	0.17
5	4.02	2.00	12.62	0.34	329.24	1.41	1.41	0.00	0.00	0.17
6	4.01	2.00	12.56	-0.10	329.13	1.38	1.38	0.00	0.00	0.17
7	4.01	2.01	12.66	0.71	329.23	1.39	1.40	0.00	0.00	0.17
8	4.01	2.01	12.66	0.68	329.21	1.39	1.40	0.01	0.00	0.18
9	4.01	2.00	12.65	0.62	329.34	1.39	1.40	0.00	0.00	0.18
10	4.00	2.01	12.65	0.58	329.26	1.39	1.39	0.00	0.00	0.18
11	4.00	2.00	12.58	0.08	329.22	1.39	1.40	0.00	0.00	0.18
12	4.00	2.00	12.55	-0.19	329.20	1.39	1.40	0.01	0.00	0.19

DIAMETER

INITIAL	2.00	1.99	2.00
1	2.00	2.00	2.00
2	2.02	2.01	2.00
3	2.00	2.00	2.00
4	2.01	2.00	2.00
5	2.00	2.00	2.00
6	2.00	2.00	2.00
7	2.01	2.01	2.00
8	2.01	2.01	2.00
9	2.01	2.01	2.00
10	2.01	2.01	2.00
11	2.00	2.00	2.00
12	2.00	2.00	2.00

HEIGHT

4.03	4.00	4.03
4.01	4.04	3.99
4.03	3.99	4.00
4.00	4.02	4.02
4.00	4.00	4.03
4.02	3.99	4.03
4.00	3.99	4.03
4.03	4.00	3.99
4.02	3.98	4.02
4.02	4.01	4.00
3.98	4.01	4.01
4.00	3.98	4.02
4.01	4.03	3.98

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	AG23-10-20150822-34
PROJECT No.:	SH0578	SAMPLE No. (Control):	AG23-10-20150822-34C
START DATE:	9/21/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A394		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	99.1	pcf	99.4	pcf
2. DRY UNIT WEIGHT	65.4	pcf	65.5	pcf
3. MOISTURE CONTENT	51.70	%	51.70	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-8.5	%	-0.8	%
2. TOTAL MASS LOSS	0.95	%	0.19	%
3. RELATIVE MASS LOSS	0.76	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	AN24-15-20150824-35
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	AN24-15-20150824-35C
START DATE:	9/21/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A395		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.74	g		g
3. WT WET SOIL + TARE	139.83	g		g
4. WT DRY SOIL + TARE	114.25	g		g
5. WT WATER, Ww	25.58	g		g
6. WT DRY SOIL, Ws	37.51	g		g
7. MOISTURE CONTENT, W	68.20	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	1.99	in.	4.01	in.
No. 2	1.99	in.	4.01	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	330.19	g
Initial Dry Specimen WT, Wd	196.31	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.54	in^3
Initial Bulk Unit Weight,	100.3	pcf
Initial Dry Unit Weight,	59.6	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.74	g		g
3. WT WET SOIL + TARE	139.83	g		g
4. WT DRY SOIL + TARE	114.25	g		g
5. WT WATER, Ww	25.58	g		g
6. WT DRY SOIL, Ws	37.51	g		g
7. MOISTURE CONTENT, W	68.20	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.01	in.	4.03	in.
No. 2	2.00	in.	4.02	in.
No. 3	2.00	in.	4.04	in.
Average	2.00	in.	4.03	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	329.71	g
Initial Dry Specimen WT, Wd	196.03	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.71	in^3
Initial Bulk Unit Weight,	98.8	pcf
Initial Dry Unit Weight,	58.8	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	68.20	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.54	in³
SAMPLE No.:	AN24-15-20150824-35	INITIAL TOTAL WEIGHT:	330.19	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	196.31	grams
TRACKING CODE:	A395			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.54		330.19					0.00
1	3.99	1.98	12.26	-2.22	322.41	1.42	1.44	0.02	0.01	0.01
2	3.99	1.97	12.15	-3.11	320.07	1.42	1.43	0.01	0.00	0.01
3	4.01	1.96	12.15	-3.13	319.40	1.43	1.44	0.01	0.00	0.02
4	4.00	1.97	12.21	-2.67	318.91	1.42	1.43	0.02	0.01	0.03
5	4.00	1.97	12.23	-2.46	318.50	1.42	1.43	0.01	0.01	0.03
6	3.99	1.97	12.15	-3.12	318.81	1.39	1.44	0.06	0.03	0.06
7	3.99	1.97	12.18	-2.92	321.43	1.40	1.43	0.03	0.02	0.08
8	3.99	1.97	12.23	-2.50	319.50	1.40	1.41	0.01	0.01	0.08
9	3.99	1.97	12.19	-2.82	319.82	1.40	1.42	0.02	0.01	0.09
10	4.00	1.97	12.16	-3.01	320.32	1.40	1.42	0.02	0.01	0.10
11	3.99	1.97	12.17	-2.98	321.18	1.40	1.42	0.02	0.01	0.11
12	3.98	1.97	12.18	-2.90	320.86	1.40	1.42	0.01	0.01	0.12

DIAMETER

INITIAL	1.99	1.99	2.00
1	1.99	1.97	1.97
2	1.98	1.97	1.96
3	1.98	1.96	1.95
4	1.99	1.97	1.96
5	1.98	1.97	1.97
6	1.99	1.96	1.96
7	1.97	1.97	1.97
8	1.99	1.97	1.97
9	1.99	1.97	1.97
10	1.99	1.97	1.95
11	1.98	1.97	1.97
12	1.99	1.96	1.97

HEIGHT

4.01	4.01	4.01
3.98	3.98	4.00
3.98	3.98	4.00
4.02	4.04	3.97
4.02	4.00	4.00
4.00	4.00	4.01
4.00	3.97	3.99
3.99	3.99	4.00
4.00	4.02	3.97
3.99	3.99	3.98
4.00	4.00	3.99
3.98	3.97	4.01
3.99	3.97	3.99

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	68.20	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.71	in³
SAMPLE No.:	AN24-15-20150824-35C	INITIAL TOTAL WEIGHT:	329.71	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	196.03	grams
TRACKING CODE:	A395			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.03	2.00	12.71		329.71					0.00
1	4.03	2.00	12.73	0.13	330.58	1.41	1.41	0.00	0.00	0.00
2	4.03	2.01	12.80	0.70	330.71	1.41	1.41	0.00	0.00	0.00
3	4.03	2.01	12.75	0.32	330.88	1.42	1.42	0.00	0.00	0.01
4	4.04	2.01	12.82	0.85	330.72	1.41	1.41	0.00	0.00	0.01
5	4.03	2.01	12.77	0.50	330.91	1.42	1.42	0.00	0.00	0.01
6	4.03	2.00	12.66	-0.37	331.00	1.38	1.38	0.00	0.00	0.01
7	4.03	2.00	12.60	-0.91	330.82	1.39	1.40	0.01	0.00	0.01
8	4.04	2.00	12.67	-0.30	330.96	1.39	1.41	0.01	0.01	0.02
9	4.04	2.00	12.68	-0.27	330.94	1.39	1.40	0.01	0.00	0.02
10	4.03	2.01	12.80	0.71	330.94	1.39	1.40	0.01	0.00	0.02
11	4.02	2.01	12.76	0.41	331.08	1.39	1.40	0.01	0.00	0.03
12	4.03	1.99	12.58	-1.02	330.92	1.39	1.40	0.01	0.01	0.03

DIAMETER

INITIAL	2.01	2.00	2.00
1	2.01	2.00	2.00
2	2.02	2.01	2.00
3	2.02	2.01	2.00
4	2.03	2.00	2.00
5	2.01	2.01	2.00
6	2.00	2.00	2.00
7	1.99	2.00	2.00
8	2.01	1.99	2.00
9	2.00	2.00	2.00
10	2.02	2.01	2.00
11	2.02	2.01	2.00
12	1.99	1.99	2.00

HEIGHT

4.03	4.02	4.04
4.05	4.02	4.03
4.02	4.04	4.03
4.01	4.03	4.04
4.05	4.04	4.04
4.04	4.03	4.03
4.03	4.03	4.02
4.04	4.01	4.03
4.05	4.02	4.04
4.04	4.02	4.05
4.04	4.04	4.03
4.02	4.03	4.03
4.02	4.02	4.05

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	AN24-15-20150824-35
PROJECT No.:	SH0578	SAMPLE No. (Control):	AN24-15-20150824-35C
START DATE:	9/21/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A395		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	100.3	pcf	98.8	pcf
2. DRY UNIT WEIGHT	59.6	pcf	58.8	pcf
3. MOISTURE CONTENT	68.20	%	68.20	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-3.1	%	-1.0	%
2. TOTAL MASS LOSS	0.12	%	0.03	%
3. RELATIVE MASS LOSS	0.08	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	AV24-5-20150825-36
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	AV24-5-20150825-36C
START DATE:	9/22/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A396		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.64	g		g
3. WT WET SOIL + TARE	123.95	g		g
4. WT DRY SOIL + TARE	109.97	g		g
5. WT WATER, Ww	13.98	g		g
6. WT DRY SOIL, Ws	33.33	g		g
7. MOISTURE CONTENT, W	41.94	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	4.01	in.
No. 2	2.00	in.	4.00	in.
No. 3	2.00	in.	4.02	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	355.72	g
Initial Dry Specimen WT, Wd	250.61	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.60	in^3
Initial Bulk Unit Weight,	107.6	pcf
Initial Dry Unit Weight,	75.8	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.64	g		g
3. WT WET SOIL + TARE	123.95	g		g
4. WT DRY SOIL + TARE	109.97	g		g
5. WT WATER, Ww	13.98	g		g
6. WT DRY SOIL, Ws	33.33	g		g
7. MOISTURE CONTENT, W	41.94	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	1.99	in.	4.02	in.
No. 2	1.99	in.	4.01	in.
No. 3	2.00	in.	4.00	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	356.11	g
Initial Dry Specimen WT, Wd	250.88	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.55	in^3
Initial Bulk Unit Weight,	108.1	pcf
Initial Dry Unit Weight,	76.2	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	41.94	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.60	in³
SAMPLE No.:	AV24-5-20150825-36		INITIAL TOTAL WEIGHT:	355.72	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	250.61	grams
TRACKING CODE:	A396				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.60		355.72					0.00
1	3.98	1.97	12.18	-3.35	347.87	1.41	1.41	0.00	0.00	0.00
2	3.98	1.98	12.20	-3.19	346.43	1.41	1.43	0.02	0.01	0.01
3	3.99	1.98	12.27	-2.62	346.23	1.41	1.43	0.03	0.01	0.02
4	3.98	1.97	12.16	-3.47	346.25	1.41	1.43	0.02	0.01	0.03
5	3.98	1.97	12.19	-3.23	346.58	1.41	1.49	0.08	0.03	0.06
6	3.98	1.98	12.21	-3.12	346.75	1.39	1.48	0.08	0.03	0.09
7	3.99	1.97	12.20	-3.18	346.84	1.39	1.48	0.08	0.03	0.13
8	3.98	1.97	12.12	-3.79	346.91	1.39	1.45	0.05	0.02	0.15
9	3.98	1.98	12.24	-2.82	347.61	1.39	1.49	0.10	0.04	0.19
10	3.98	1.98	12.22	-3.05	347.10	1.39	1.58	0.18	0.07	0.26
11	3.98	1.98	12.24	-2.85	347.18	1.39	1.48	0.08	0.03	0.29
12	3.99	1.97	12.19	-3.24	347.43	1.39	1.56	0.17	0.07	0.36

DIAMETER

INITIAL	2.01	2.00	2.00
1	1.99	1.97	1.96
2	2.00	1.97	1.96
3	1.99	1.97	1.98
4	1.99	1.97	1.96
5	1.99	1.97	1.96
6	1.98	1.97	1.98
7	1.99	1.97	1.96
8	1.99	1.96	1.96
9	1.99	1.97	1.98
10	1.98	1.97	1.98
11	1.98	1.98	1.98
12	1.99	1.97	1.96

HEIGHT

4.01	4.00	4.02
3.99	3.99	3.97
3.98	3.99	3.98
3.99	3.99	4.00
3.98	3.98	3.99
3.98	4.00	3.98
3.97	3.99	3.98
3.98	3.99	4.00
3.97	3.97	3.99
3.98	3.98	3.99
3.99	3.98	3.98
3.98	3.99	3.98
4.01	3.98	3.98

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	41.94	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.55	in³
SAMPLE No.:	AV24-5-20150825-36C	INITIAL TOTAL WEIGHT:	356.11	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	250.88	grams
TRACKING CODE:	A396			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.55		356.11					0.00
1	4.01	2.00	12.63	0.67	357.53	1.42	1.45	0.03	0.01	0.01
2	4.02	2.00	12.63	0.64	357.84	1.41	1.42	0.00	0.00	0.01
3	4.02	2.01	12.74	1.56	357.75	1.41	1.41	0.00	0.00	0.02
4	4.01	2.00	12.63	0.69	357.89	1.41	1.42	0.01	0.00	0.02
5	4.01	2.00	12.54	-0.02	357.99	1.41	1.42	0.01	0.00	0.02
6	4.01	2.00	12.56	0.15	358.10	1.40	1.40	0.00	0.00	0.02
7	4.01	2.00	12.64	0.79	357.90	1.40	1.40	0.01	0.00	0.03
8	4.01	2.00	12.66	0.87	357.95	1.39	1.40	0.00	0.00	0.03
9	4.01	2.00	12.57	0.16	357.64	1.39	1.40	0.00	0.00	0.03
10	4.00	2.00	12.60	0.44	358.22	1.40	1.40	0.00	0.00	0.03
11	4.01	2.00	12.57	0.21	357.90	1.39	1.41	0.02	0.01	0.04
12	4.01	2.00	12.56	0.08	357.76	1.40	1.40	0.01	0.00	0.04

DIAMETER

INITIAL	1.99	1.99	2.00
1	2.00	2.01	2.00
2	2.00	2.00	2.00
3	2.02	2.01	2.00
4	2.01	2.00	2.00
5	2.00	2.00	2.00
6	2.00	2.00	2.00
7	2.00	2.01	2.00
8	2.01	2.00	2.00
9	2.00	2.00	2.00
10	2.01	2.00	2.00
11	2.00	2.00	2.00
12	2.00	2.00	2.00

HEIGHT

4.02	4.01	4.00
4.00	4.00	4.02
4.04	4.00	4.01
4.02	4.03	4.00
4.00	4.00	4.02
4.00	4.01	4.01
4.00	4.01	4.01
4.00	4.02	4.01
4.01	4.02	4.00
4.00	4.02	4.01
4.00	4.01	4.00
4.02	4.00	4.01
4.00	4.01	4.01

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	AV24-5-20150825-36
PROJECT No.:	SH0578	SAMPLE No. (Control):	AV24-5-20150825-36C
START DATE:	9/22/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A396		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	107.6	pcf	108.1	pcf
2. DRY UNIT WEIGHT	75.8	pcf	76.2	pcf
3. MOISTURE CONTENT	41.94	%	41.94	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-3.8	%	-1.6	%
2. TOTAL MASS LOSS	0.36	%	0.04	%
3. RELATIVE MASS LOSS	0.32	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	BG23-10-20150826-37
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	BG23-10-20150826-37C
START DATE:	9/23/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A399		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.00	g		g
3. WT WET SOIL + TARE	130.38	g		g
4. WT DRY SOIL + TARE	112.99	g		g
5. WT WATER, Ww	17.39	g		g
6. WT DRY SOIL, Ws	35.99	g		g
7. MOISTURE CONTENT, W	48.32	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	4.01	in.
No. 2	2.00	in.	4.03	in.
No. 3	2.00	in.	4.03	in.
Average	2.01	in.	4.02	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	346.57	g
Initial Dry Specimen WT, Wd	233.67	g
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.71	in^3
Initial Bulk Unit Weight,	103.9	pcf
Initial Dry Unit Weight,	70.0	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.00	g		g
3. WT WET SOIL + TARE	130.38	g		g
4. WT DRY SOIL + TARE	112.99	g		g
5. WT WATER, Ww	17.39	g		g
6. WT DRY SOIL, Ws	35.99	g		g
7. MOISTURE CONTENT, W	48.32	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	4.03	in.
No. 2	1.99	in.	4.01	in.
No. 3	2.00	in.	4.03	in.
Average	1.99	in.	4.02	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	346.56	g
Initial Dry Specimen WT, Wd	233.66	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.57	in^3
Initial Bulk Unit Weight,	105.0	pcf
Initial Dry Unit Weight,	70.8	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	48.32	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.71	in³
SAMPLE No.:	BG23-10-20150826-37	INITIAL TOTAL WEIGHT:	346.57	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	233.67	grams
TRACKING CODE:	A399			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.02	2.01	12.71		346.57					0.00
1	3.96	1.95	11.85	-6.77	330.35	1.41	1.50	0.09	0.04	0.04
2	3.96	1.94	11.74	-7.63	329.10	1.42	1.51	0.09	0.04	0.08
3	3.95	1.95	11.80	-7.19	329.53	1.42	1.57	0.15	0.06	0.14
4	3.96	1.95	11.77	-7.38	329.98	1.41	1.58	0.17	0.07	0.22
5	3.96	1.94	11.72	-7.77	329.92	1.38	1.56	0.18	0.08	0.29
6	3.96	1.96	11.97	-5.81	330.45	1.40	1.76	0.37	0.16	0.45
7	3.96	1.95	11.80	-7.16	330.44	1.40	1.75	0.35	0.15	0.60
8	3.96	1.95	11.81	-7.11	330.56	1.40	1.68	0.29	0.12	0.72
9	3.98	1.95	11.90	-6.36	330.45	1.39	1.93	0.54	0.23	0.95
10	3.98	1.95	11.92	-6.17	330.75	1.39	1.63	0.24	0.10	1.05
11	3.97	1.95	11.91	-6.25	329.92	1.40	2.18	0.78	0.33	1.39
12	3.97	1.95	11.92	-6.24	328.65	1.39	2.36	0.97	0.42	1.81

DIAMETER

INITIAL	2.01	2.00	2.00
1	1.97	1.94	1.94
2	1.96	1.93	1.93
3	1.97	1.93	1.95
4	1.96	1.94	1.93
5	1.95	1.93	1.94
6	1.98	1.95	1.95
7	1.96	1.94	1.94
8	1.96	1.95	1.93
9	1.97	1.94	1.95
10	1.97	1.95	1.94
11	1.98	1.96	1.93
12	1.98	1.94	1.94

HEIGHT

4.01	4.03	4.03
3.96	3.95	3.96
3.96	3.97	3.96
3.96	3.95	3.95
3.97	3.96	3.95
3.95	3.95	3.97
3.95	3.96	3.97
3.97	3.95	3.97
3.96	3.96	3.96
3.98	3.95	3.99
3.98	3.98	3.98
3.97	3.97	3.98
3.97	3.97	3.98

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	48.32	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.57	in³
SAMPLE No.:	BG23-10-20150826-37C	INITIAL TOTAL WEIGHT:	343.56	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	231.64	grams
TRACKING CODE:	A399			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.02	1.99	12.57		343.56					0.00
1	4.02	2.01	12.69	0.90	345.01	1.42	1.44	0.03	0.01	0.01
2	4.01	2.01	12.70	0.98	345.49	1.41	1.42	0.02	0.01	0.02
3	4.02	2.00	12.63	0.44	345.46	1.40	1.43	0.02	0.01	0.03
4	4.01	2.00	12.62	0.35	345.68	1.40	1.41	0.00	0.00	0.03
5	4.01	2.00	12.59	0.10	345.65	1.37	1.38	0.00	0.00	0.03
6	4.01	2.00	12.61	0.31	345.68	1.39	1.40	0.01	0.00	0.03
7	4.01	2.01	12.68	0.82	345.66	1.39	1.40	0.00	0.00	0.04
8	4.01	2.00	12.62	0.35	345.73	1.39	1.40	0.01	0.00	0.04
9	4.01	2.00	12.56	-0.13	345.72	1.39	1.40	0.01	0.00	0.04
10	4.01	2.00	12.63	0.43	345.67	1.39	1.39	0.00	0.00	0.04
11	4.01	2.00	12.58	0.01	345.75	1.39	1.40	0.00	0.00	0.05
12	4.01	2.00	12.66	0.67	345.68	1.39	1.39	0.00	0.00	0.05

DIAMETER

INITIAL	2.00	1.99	2.00
1	2.01	2.01	2.00
2	2.01	2.01	2.00
3	2.00	2.00	2.00
4	2.00	2.00	2.00
5	2.00	2.00	2.00
6	2.00	2.00	2.00
7	2.01	2.01	2.00
8	2.01	2.00	2.00
9	2.00	2.00	2.00
10	2.01	2.00	2.00
11	2.00	2.00	2.00
12	2.01	2.00	2.00

HEIGHT

4.01	4.03	4.03
4.02	4.00	4.03
4.02	4.02	4.00
4.02	4.02	4.02
4.01	4.01	4.01
4.01	4.01	4.00
4.02	4.02	4.00
4.00	4.02	4.02
4.02	4.00	4.00
4.01	4.02	4.00
4.02	4.00	4.00
4.00	4.00	4.03
4.01	4.03	4.00

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	BG23-10-20150826-37
PROJECT No.:	SH0578	SAMPLE No. (Control):	BG23-10-20150826-37C
START DATE:	9/23/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A399		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	103.9	pcf	105.0	pcf
2. DRY UNIT WEIGHT	70.0	pcf	70.8	pcf
3. MOISTURE CONTENT	48.32	%	48.32	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-7.8	%	-1.0	%
2. TOTAL MASS LOSS	1.81	%	0.05	%
3. RELATIVE MASS LOSS	1.76	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	CM27-15-20150828-38
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	CM27-15-20150828-38C
START DATE:	9/25/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A401		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.39	g		g
3. WT WET SOIL + TARE	137.11	g		g
4. WT DRY SOIL + TARE	119.96	g		g
5. WT WATER, Ww	17.15	g		g
6. WT DRY SOIL, Ws	43.57	g		g
7. MOISTURE CONTENT, W	39.36	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	4.01	in.
No. 2	2.01	in.	4.01	in.
No. 3	2.00	in.	4.00	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	361.58	g
Initial Dry Specimen WT, Wd	259.45	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.63	in^3
Initial Bulk Unit Weight,	109.0	pcf
Initial Dry Unit Weight,	78.2	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.39	g		g
3. WT WET SOIL + TARE	137.11	g		g
4. WT DRY SOIL + TARE	119.96	g		g
5. WT WATER, Ww	17.15	g		g
6. WT DRY SOIL, Ws	43.57	g		g
7. MOISTURE CONTENT, W	39.36	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	1.99	in.	4.00	in.
No. 2	1.99	in.	4.00	in.
No. 3	1.99	in.	4.03	in.
Average	1.99	in.	4.01	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	362.61	g
Initial Dry Specimen WT, Wd	260.19	g
Initial Area, Ao	3.11	in^2
Initial Volume, Vo	12.47	in^3
Initial Bulk Unit Weight,	110.8	pcf
Initial Dry Unit Weight,	79.5	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	39.36	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.63	in³
SAMPLE No.:	CM27-15-20150828-38		INITIAL TOTAL WEIGHT:	361.58	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	259.45	grams
TRACKING CODE:	A401				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.63		361.58					0.00
1	3.93	1.96	11.90	-5.83	348.65	1.41	1.59	0.18	0.07	0.07
2	3.93	1.96	11.85	-6.21	348.42	1.41	1.59	0.17	0.07	0.14
3	3.93	1.96	11.83	-6.35	347.89	1.41	1.61	0.20	0.08	0.21
4	3.93	1.96	11.82	-6.43	347.58	1.41	1.56	0.15	0.06	0.27
5	3.93	1.96	11.82	-6.41	347.45	1.39	1.55	0.16	0.06	0.33
6	3.94	1.96	11.93	-5.58	347.34	1.39	1.50	0.10	0.04	0.37
7	3.93	1.96	11.86	-6.15	347.23	1.40	1.51	0.12	0.05	0.42
8	3.93	1.97	11.92	-5.65	347.20	1.40	1.49	0.09	0.03	0.45
9	3.93	1.96	11.84	-6.30	347.08	1.40	1.51	0.11	0.04	0.49
10	3.94	1.96	11.91	-5.74	347.12	1.39	1.45	0.05	0.02	0.51
11	3.92	1.95	11.76	-6.89	347.08	1.38	1.46	0.08	0.03	0.54
12	3.93	1.96	11.88	-5.97	347.12	1.39	1.50	0.11	0.04	0.59

DIAMETER

INITIAL	2.01	2.01	2.00
1	1.97	1.96	1.96
2	1.96	1.95	1.96
3	1.96	1.95	1.96
4	1.96	1.95	1.96
5	1.96	1.95	1.96
6	1.98	1.96	1.95
7	1.97	1.96	1.96
8	1.98	1.96	1.96
9	1.97	1.95	1.96
10	1.98	1.96	1.95
11	1.96	1.96	1.95
12	1.97	1.97	1.95

HEIGHT

4.01	4.01	4.00
3.92	3.93	3.94
3.94	3.93	3.93
3.93	3.94	3.93
3.93	3.93	3.94
3.93	3.92	3.94
3.93	3.93	3.95
3.94	3.92	3.93
3.92	3.93	3.93
3.93	3.92	3.94
3.94	3.94	3.93
3.92	3.93	3.92
3.93	3.93	3.93

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	39.36	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.47	in³
SAMPLE No.:	CM27-15-20150828-38C	INITIAL TOTAL WEIGHT:	362.61	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	260.19	grams
TRACKING CODE:	A401			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	1.99	12.47		362.61					0.00
1	4.01	2.00	12.64	1.36	365.21	1.40	1.44	0.03	0.01	0.01
2	4.01	2.01	12.68	1.64	365.98	1.41	1.42	0.01	0.01	0.02
3	4.01	1.99	12.50	0.19	366.03	1.41	1.42	0.02	0.01	0.02
4	4.00	2.00	12.53	0.51	366.52	1.40	1.42	0.01	0.01	0.03
5	4.00	2.01	12.67	1.62	366.75	1.39	1.41	0.02	0.01	0.04
6	4.00	2.01	12.68	1.68	367.07	1.39	1.41	0.02	0.01	0.04
7	4.00	2.00	12.54	0.58	367.36	1.39	1.42	0.03	0.01	0.06
8	4.01	2.00	12.65	1.40	367.67	1.39	1.40	0.01	0.00	0.06
9	4.00	2.00	12.61	1.09	367.69	1.39	1.40	0.01	0.00	0.06
10	4.00	1.99	12.46	-0.13	367.74	1.39	1.41	0.02	0.01	0.07
11	4.00	2.00	12.52	0.40	367.69	1.37	1.39	0.02	0.01	0.08
12	4.00	1.99	12.45	-0.20	367.69	1.38	1.39	0.01	0.00	0.08

DIAMETER

INITIAL	1.99	1.99	1.99
1	2.01	2.00	2.00
2	2.01	2.01	2.00
3	1.99	1.99	1.99
4	2.00	2.00	2.00
5	2.01	2.01	2.00
6	2.02	2.01	2.00
7	2.00	2.00	2.00
8	2.01	2.01	2.00
9	2.01	2.00	2.00
10	1.99	1.99	1.98
11	2.00	2.00	2.00
12	1.99	1.99	1.98

HEIGHT

4.00	4.00	4.03
4.00	4.03	4.01
4.00	4.02	4.01
4.01	4.01	4.01
4.00	4.00	4.01
4.00	4.01	3.99
4.00	4.00	3.99
4.00	4.00	4.00
4.01	4.00	4.00
4.00	4.00	4.00
4.00	4.00	4.01
4.00	4.00	4.01
3.99	4.00	4.01

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT: Macon AGL
PROJECT No.: SH0578
START DATE: 9/25/2015
TRACKING CODE: A401

SAMPLE No. (Test): CM27-15-20150828-38
SAMPLE No. (Control): CM27-15-20150828-38C
SAMPLE DESCRIPTION: 28 Day

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	109.0	pcf	110.8	pcf
2. DRY UNIT WEIGHT	78.2	pcf	79.5	pcf
3. MOISTURE CONTENT	39.36	%	39.36	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-6.9	%	-1.7	%
2. TOTAL MASS LOSS	0.59	%	0.08	%
3. RELATIVE MASS LOSS	0.51	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	CC25-10-20150829-39
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	CC25-10-20150829-39C
START DATE:	9/26/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A402		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.53	g		g
3. WT WET SOIL + TARE	124.20	g		g
4. WT DRY SOIL + TARE	105.91	g		g
5. WT WATER, Ww	18.29	g		g
6. WT DRY SOIL, Ws	28.38	g		g
7. MOISTURE CONTENT, W	64.45	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	4.00	in.
No. 2	2.00	in.	4.02	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	318.97	g
Initial Dry Specimen WT, Wd	193.97	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.62	in^3
Initial Bulk Unit Weight,	96.3	pcf
Initial Dry Unit Weight,	58.5	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.53	g		g
3. WT WET SOIL + TARE	124.20	g		g
4. WT DRY SOIL + TARE	105.91	g		g
5. WT WATER, Ww	18.29	g		g
6. WT DRY SOIL, Ws	28.38	g		g
7. MOISTURE CONTENT, W	64.45	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.01	in.	3.98	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	3.99	in.
Average	2.00	in.	3.99	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	319.52	g
Initial Dry Specimen WT, Wd	194.30	g
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.60	in^3
Initial Bulk Unit Weight,	96.6	pcf
Initial Dry Unit Weight,	58.8	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	64.45	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.62	in³
SAMPLE No.:	CC25-10-20150829-39		INITIAL TOTAL WEIGHT:	318.97	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	193.97	grams
TRACKING CODE:	A402				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.62		318.97					0.00
1	3.98	1.94	11.75	-6.87	302.25	1.41	1.46	0.04	0.02	0.02
2	3.98	1.95	11.90	-5.74	303.76	1.42	1.47	0.04	0.02	0.04
3	3.96	1.94	11.69	-7.42	301.46	1.41	1.47	0.05	0.03	0.07
4	3.96	1.95	11.78	-6.65	300.94	1.41	1.47	0.06	0.03	0.10
5	3.96	1.94	11.75	-6.88	301.12	1.40	16.29	14.89	7.68	7.78
6	3.11	1.94	9.20	-27.14	229.51	1.40	30.05	28.66	14.77	22.55
7	3.43	1.94	10.20	-19.22	228.18	1.40	3.32	1.92	0.99	23.54
8	2.94	1.95	8.75	-30.66	225.17	1.40	15.32	13.92	7.18	30.72
9	3.10	1.95	9.26	-26.60	205.50	1.40		-1.40	-0.72	30.00
10	0.00	0.00	0.00	-100.00				0.00	0.00	30.00
11	0.00	0.00	0.00	-100.00				0.00	0.00	30.00
12	0.00	0.00	0.00	-100.00				0.00	0.00	30.00

DIAMETER

INITIAL	2.01	2.00	2.00
1	1.95	1.94	1.94
2	1.99	1.94	1.92
3	1.98	1.93	1.91
4	1.97	1.93	1.94
5	1.97	1.92	1.94
6	1.94	1.93	1.95
7	1.96	1.94	1.93
8	1.97	1.94	1.93
9	1.94	1.95	1.97
10			
11			
12			

HEIGHT

4.00	4.02	4.01
3.97	3.97	3.99
3.98	3.97	3.98
3.95	3.97	3.95
3.96	3.96	3.95
3.95	3.96	3.98
2.64	3.22	3.46
3.45	3.36	3.50
1.94	3.42	3.46
3.51	2.36	3.41

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	64.45	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.60	in³
SAMPLE No.:	CC25-10-20150829-39C	INITIAL TOTAL WEIGHT:	319.52	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	194.30	grams
TRACKING CODE:	A402			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	3.99	2.00	12.60		319.52					0.00
1	3.99	2.00	12.48	-0.91	320.76	1.41	1.43	0.02	0.01	0.01
2	4.01	2.00	12.59	-0.03	320.66	1.40	1.41	0.01	0.00	0.02
3	3.99	2.00	12.53	-0.56	320.98	1.40	1.40	0.00	0.00	0.02
4	3.99	2.00	12.50	-0.74	321.04	1.40	1.40	0.01	0.00	0.02
5	3.99	2.00	12.54	-0.49	321.09	1.38	1.39	0.00	0.00	0.02
6	3.99	2.01	12.63	0.27	321.07	1.38	1.39	0.00	0.00	0.02
7	3.99	2.01	12.63	0.24	321.37	1.38	1.39	0.00	0.00	0.03
8	3.98	2.01	12.60	0.05	321.11	1.38	1.39	0.00	0.00	0.03
9	3.99	2.01	12.59	-0.06	321.17	1.40		-1.40	-0.72	-0.69
10	0.00	0.00	0.00	-100.00				0.00	0.00	-0.69
11	0.00	0.00	0.00	-100.00				0.00	0.00	-0.69
12	0.00	0.00	0.00	-100.00				0.00	0.00	-0.69

DIAMETER

INITIAL	2.01	2.00	2.00
1	1.99	2.00	2.00
2	2.00	2.00	2.00
3	2.00	2.00	2.00
4	2.00	2.00	2.00
5	1.99	2.01	2.00
6	2.01	2.01	2.00
7	2.01	2.01	2.00
8	2.01	2.01	2.00
9	2.01	2.01	2.00
10			
11			
12			

HEIGHT

3.98	3.99	4.01
3.98	3.98	4.01
4.02	4.00	3.99
3.99	3.98	4.01
3.97	3.99	4.00
3.97	3.99	4.00
4.00	3.97	4.00
4.02	3.97	3.99
3.98	4.00	3.97
3.98	3.98	4.00

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	CC25-10-20150829-39
PROJECT No.:	SH0578	SAMPLE No. (Control):	CC25-10-20150829-39C
START DATE:	9/26/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A402		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	96.3	pcf	96.6	pcf
2. DRY UNIT WEIGHT	58.5	pcf	58.8	pcf
3. MOISTURE CONTENT	64.45	%	64.45	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-30.7	%	-0.9	%
2. TOTAL MASS LOSS	30.00	%	-0.69	%
3. RELATIVE MASS LOSS	30.69	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	CC25-10-20150829-39
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	CC25-10-20150829-39C
START DATE:	10/26/2015	SAMPLE DESCRIPTION:	58 Day
TRACKING CODE:	A482		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	49.10	g		g
3. WT WET SOIL + TARE	61.56	g		g
4. WT DRY SOIL + TARE	56.73	g		g
5. WT WATER, Ww	4.83	g		g
6. WT DRY SOIL, Ws	7.63	g		g
7. MOISTURE CONTENT, W	63.30	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.00	in.	4.00	in.
No. 2	2.00	in.	3.99	in.
No. 3	2.00	in.	3.99	in.
Average	2.00	in.	3.99	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	320.47	g
Initial Dry Specimen WT, Wd	196.24	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.56	in^3
Initial Bulk Unit Weight,	97.2	pcf
Initial Dry Unit Weight,	59.5	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	49.10	g		g
3. WT WET SOIL + TARE	61.56	g		g
4. WT DRY SOIL + TARE	56.73	g		g
5. WT WATER, Ww	4.83	g		g
6. WT DRY SOIL, Ws	7.63	g		g
7. MOISTURE CONTENT, W	63.30	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	3.99	in.
No. 2	2.00	in.	3.99	in.
No. 3	2.00	in.	3.99	in.
Average	2.00	in.	3.99	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	319.95	g
Initial Dry Specimen WT, Wd	195.92	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.53	in^3
Initial Bulk Unit Weight,	97.3	pcf
Initial Dry Unit Weight,	59.6	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	63.30	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.56	in³
SAMPLE No.:	CC25-10-20150829-39		INITIAL TOTAL WEIGHT:	320.47	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	196.24	grams
TRACKING CODE:	A482				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	3.99	2.00	12.56		320.47					0.00
1	3.99	1.96	12.06	-4.01	304.54	1.38	1.50	0.12	0.06	0.06
2	3.99	1.97	12.10	-3.66	304.54	1.40	1.69	0.29	0.15	0.21
3	3.98	1.96	12.04	-4.20	303.20	1.40	2.02	0.63	0.32	0.53
4	3.99	1.99	12.46	-0.86	303.07	1.40	1.67	0.27	0.14	0.67
5	3.99	1.98	12.25	-2.48	302.86	1.40	1.62	0.22	0.11	0.78
6	3.86	1.98	11.85	-5.66	295.59	1.39	6.38	4.99	2.54	3.32
7	3.89	1.94	11.56	-7.99	295.19	1.40	2.33	0.93	0.48	3.79
8	3.86	1.95	11.53	-8.26	294.96	1.40	2.00	0.60	0.31	4.10
9	2.56	1.98	7.89	-37.23	196.31	170.13	233.93	63.80	32.51	36.61
10	0.00	0.00	0.00	-100.00				0.00	0.00	36.61
11	0.00	0.00	0.00	-100.00				0.00	0.00	36.61
12	0.00	0.00	0.00	-100.00				0.00	0.00	36.61

DIAMETER

INITIAL	2.00	2.00	2.00
1	1.98	1.95	1.95
2	1.99	1.96	1.95
3	1.99	1.95	1.95
4	2.01	2.00	1.97
5	1.99	1.98	1.96
6	2.00	1.95	1.99
7	1.94	1.93	1.97
8	1.95	1.92	1.98
9	1.98	1.96	2.00
10			
11			
12			

HEIGHT

4.00	3.99	3.99
3.98	3.98	4.01
4.00	3.98	3.99
3.98	3.97	4.00
4.01	3.98	3.99
3.99	3.99	4.00
3.88	4.01	3.70
3.89	3.80	3.99
3.76	3.99	3.82
2.75	2.61	2.32

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	63.30	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.53	in³
SAMPLE No.:	CC25-10-20150829-39C	INITIAL TOTAL WEIGHT:	319.95	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	195.92	grams
TRACKING CODE:	A482			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	3.99	2.00	12.53		319.95					0.00
1	4.00	2.00	12.57	0.31	321.07	1.39	1.40	0.02	0.01	0.01
2	4.00	1.99	12.44	-0.71	231.02	1.40	1.40	0.01	0.00	0.01
3	3.99	2.01	12.64	0.87	321.42	1.40	1.40	0.00	0.00	0.01
4	4.00	2.00	12.51	-0.17	321.53	1.40	1.40	0.00	0.00	0.02
5	4.00	2.01	12.65	0.97	321.83	1.40	1.40	0.01	0.00	0.02
6	4.00	2.01	12.67	1.13	321.66	1.40	1.40	0.00	0.00	0.02
7	3.99	1.99	12.39	-1.11	321.26	1.40	1.40	0.00	0.00	0.02
8	4.00	2.00	12.52	-0.06	321.45	1.40	1.40	0.00	0.00	0.02
9	4.06	1.99	12.69	1.29	321.36	1.40	1.40	0.00	0.00	0.03
10	0.00	0.00	0.00	-100.00				0.00	0.00	0.03
11	0.00	0.00	0.00	-100.00				0.00	0.00	0.03
12	0.00	0.00	0.00	-100.00				0.00	0.00	0.03

DIAMETER

INITIAL	2.00	2.00	2.00
1	2.00	2.00	2.00
2	1.98	1.99	2.00
3	2.01	2.01	2.00
4	1.99	1.99	2.00
5	2.01	2.01	2.00
6	2.02	2.01	2.00
7	1.97	1.99	2.00
8	2.00	1.99	2.00
9	1.99	2.00	2.00
10			
11			
12			

HEIGHT

3.99	3.99	3.99
3.99	4.00	4.01
4.01	3.99	3.99
3.99	4.00	4.00
4.00	4.00	3.99
4.00	4.00	4.01
3.99	4.00	4.00
3.99	3.99	3.99
3.99	4.02	4.00
3.98	3.98	4.22

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	CC25-10-20150829-39
PROJECT No.:	SH0578	SAMPLE No. (Control):	CC25-10-20150829-39C
START DATE:	10/26/2015	SAMPLE DESCRIPTION:	58 Day
TRACKING CODE:	A482		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	97.2	pcf	97.3	pcf
2. DRY UNIT WEIGHT	59.5	pcf	59.6	pcf
3. MOISTURE CONTENT	63.30	%	63.30	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-37.2	%	-1.3	%
2. TOTAL MASS LOSS	36.61	%	0.03	%
3. RELATIVE MASS LOSS	36.59	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	BV26-5-20150901-40B
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	BV26-5-20150901-40B (C)
START DATE:	10/9/2015	SAMPLE DESCRIPTION:	38 Day
TRACKING CODE:	A457		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.40	g		g
3. WT WET SOIL + TARE	133.51	g		g
4. WT DRY SOIL + TARE	109.81	g		g
5. WT WATER, Ww	23.70	g		g
6. WT DRY SOIL, Ws	32.41	g		g
7. MOISTURE CONTENT, W	73.13	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.00	in.	4.01	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.03	in.
Average	2.00	in.	4.02	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	312.86	g
Initial Dry Specimen WT, Wd	180.71	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.66	in^3
Initial Bulk Unit Weight,	94.1	pcf
Initial Dry Unit Weight,	54.4	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.40	g		g
3. WT WET SOIL + TARE	133.51	g		g
4. WT DRY SOIL + TARE	109.81	g		g
5. WT WATER, Ww	23.70	g		g
6. WT DRY SOIL, Ws	32.41	g		g
7. MOISTURE CONTENT, W	73.13	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	4.00	in.
No. 2	2.00	in.	4.00	in.
No. 3	2.00	in.	4.00	in.
Average	2.00	in.	4.00	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	312.28	g
Initial Dry Specimen WT, Wd	180.38	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.54	in^3
Initial Bulk Unit Weight,	94.9	pcf
Initial Dry Unit Weight,	54.8	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	73.13	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.66	in³
SAMPLE No.:	BV26-5-20150901-40B		INITIAL TOTAL WEIGHT:	312.86	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	180.71	grams
TRACKING CODE:	A457				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.02	2.00	12.66		312.86					0.00
1	3.95	1.96	11.94	-5.72	287.89	1.40	1.42	0.02	0.01	0.01
2	3.94	1.97	12.00	-5.26	286.16	1.40	1.52	0.12	0.07	0.08
3	3.94	1.96	11.84	-6.51	282.35	1.40	3.84	2.44	1.35	1.43
4	3.94	1.93	11.48	-9.31	281.44	1.39	1.97	0.59	0.33	1.75
5	3.93	1.97	12.01	-5.14	280.06	1.39	2.29	0.91	0.50	2.25
6	0.00	0.00	0.00	-100.00	41.84	167.35	322.00	154.65	85.58	87.83
7	0.00	0.00	0.00	-100.00				0.00	0.00	87.83
8	0.00	0.00	0.00	-100.00				0.00	0.00	87.83
9	0.00	0.00	0.00	-100.00				0.00	0.00	87.83
10	0.00	0.00	0.00	-100.00				0.00	0.00	87.83
11	0.00	0.00	0.00	-100.00				0.00	0.00	87.83
12	0.00	0.00	0.00	-100.00				0.00	0.00	87.83

DIAMETER

INITIAL	2.00	2.00	2.00
1	1.96	1.96	1.97
2	1.98	1.94	1.98
3	1.96	1.93	1.97
4	1.92	1.94	1.91
5	2.00	1.95	1.97
6			
7			
8			
9			
10			
11			
12			

HEIGHT

4.01	4.01	4.03
3.96	3.94	3.96
3.94	3.93	3.94
3.95	3.93	3.94
3.93	3.97	3.92
3.92	3.93	3.96

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	73.13	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.54	in³
SAMPLE No.:	BV26-5-20150901-40B (C)	INITIAL TOTAL WEIGHT:	312.28	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	180.38	grams
TRACKING CODE:	A457			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	2.00	12.54		312.28					0.00
1	4.02	2.00	12.66	0.93	313.89	1.402	1.492	0.09	0.05	0.05
2	4.01	2.00	12.61	0.54	314.34	1.402	1.410	0.01	0.00	0.05
3	4.01	2.00	12.61	0.60	314.75	1.401	1.406	0.01	0.00	0.06
4	4.01	2.00	12.61	0.58	315.19	1.394	1.396	0.00	0.00	0.06
5	4.01	2.00	12.61	0.57	314.97	1.393	1.398	0.01	0.00	0.06
6	0.00	0.00	0.00	-100.00	314.96	1.377	1.380	0.00	0.00	0.06
7	0.00	0.00	0.00	-100.00				0.00	0.00	0.06
8	0.00	0.00	0.00	-100.00				0.00	0.00	0.06
9	0.00	0.00	0.00	-100.00				0.00	0.00	0.06
10	0.00	0.00	0.00	-100.00				0.00	0.00	0.06
11	0.00	0.00	0.00	-100.00				0.00	0.00	0.06
12	0.00	0.00	0.00	-100.00				0.00	0.00	0.06

DIAMETER

INITIAL	2.00	2.00	2.00
1	2.01	2.00	2.00
2	2.01	2.00	2.00
3	2.00	2.00	2.00
4	2.00	2.00	2.00
5	2.00	2.00	2.00
6			
7			
8			
9			
10			
11			
12			

HEIGHT

4.00	4.00	4.00
4.01	4.02	4.03
4.01	4.01	4.00
4.02	4.00	4.01
4.01	4.01	4.00
4.01	4.01	4.01

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	BV26-5-20150901-40B
PROJECT No.:	SH0578	SAMPLE No. (Control):	BV26-5-20150901-40B (C)
START DATE:	10/9/2015	SAMPLE DESCRIPTION:	38 Day
TRACKING CODE:	A457		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	94.1	pcf	94.9	pcf
2. DRY UNIT WEIGHT	54.4	pcf	54.8	pcf
3. MOISTURE CONTENT	73.13	%	73.13	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-9.3	%	-0.9	%
2. TOTAL MASS LOSS	87.83	%	0.06	%
3. RELATIVE MASS LOSS	87.77	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	BV26-5-20150901-40
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	BV26-5-20150901-40C
START DATE:	11/5/2015	SAMPLE DESCRIPTION:	65 Day
TRACKING CODE:	A531		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	63.32	g		g
3. WT WET SOIL + TARE	122.33	g		g
4. WT DRY SOIL + TARE	97.39	g		g
5. WT WATER, Ww	24.94	g		g
6. WT DRY SOIL, Ws	34.07	g		g
7. MOISTURE CONTENT, W	73.20	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	1.99	in.	3.99	in.
No. 2	1.99	in.	4.00	in.
No. 3	1.99	in.	4.00	in.
Average	1.99	in.	4.00	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	310.19	g
Initial Dry Specimen WT, Wd	179.09	g
Initial Area, Ao	3.11	in^2
Initial Volume, Vo	12.43	in^3
Initial Bulk Unit Weight,	95.0	pcf
Initial Dry Unit Weight,	54.9	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	63.32	g		g
3. WT WET SOIL + TARE	122.33	g		g
4. WT DRY SOIL + TARE	97.39	g		g
5. WT WATER, Ww	24.94	g		g
6. WT DRY SOIL, Ws	34.07	g		g
7. MOISTURE CONTENT, W	73.20	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	4.02	in.
No. 2	2.00	in.	3.98	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.00	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	312.16	g
Initial Dry Specimen WT, Wd	180.23	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.57	in^3
Initial Bulk Unit Weight,	94.6	pcf
Initial Dry Unit Weight,	54.6	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	73.20	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.43	in³
SAMPLE No.:	BV26-5-20150901-40		INITIAL TOTAL WEIGHT:	310.19	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	179.09	grams
TRACKING CODE:	A531				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	1.99	12.43		310.19					0.00
1	3.97	1.96	11.94	-3.97	287.51	1.40	1.46	0.07	0.04	0.04
2	4.00	1.99	12.49	0.48	318.82	1.39	2.17	0.78	0.44	0.47
3	3.99	1.94	11.84	-4.79	317.82	1.39	2.23	0.84	0.47	0.94
4	3.99	1.96	12.01	-3.41	317.59	1.40	2.37	0.98	0.55	1.49
5	0.00	0.00	0.00	-100.00	124.62	119.67	244.93	125.26	69.94	71.43
6	0.00	0.00	0.00	-100.00				0.00	0.00	71.43
7	0.00	0.00	0.00	-100.00				0.00	0.00	71.43
8	0.00	0.00	0.00	-100.00				0.00	0.00	71.43
9	0.00	0.00	0.00	-100.00				0.00	0.00	71.43
10	0.00	0.00	0.00	-100.00				0.00	0.00	71.43
11	0.00	0.00	0.00	-100.00				0.00	0.00	71.43
12	0.00	0.00	0.00	-100.00				0.00	0.00	71.43

DIAMETER

INITIAL	1.99	1.99	1.99
1	1.98	1.94	1.95
2	2.01	2.00	1.97
3	1.96	1.95	1.92
4	1.99	1.96	1.94
5			
6			
7			
8			
9			
10			
11			
12			

HEIGHT

3.99	4.00	4.00
3.96	3.97	3.98
4.01	4.00	4.00
4.00	3.98	3.99
3.99	4.00	3.97

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	73.20	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.57	in³
SAMPLE No.:	BV26-5-20150901-40C	INITIAL TOTAL WEIGHT:	312.16	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	180.23	grams
TRACKING CODE:	A531			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	2.00	12.57		312.16					0.00
1	4.00	2.00	12.63	0.45	313.81	1.39	1.40	0.01	0.00	0.00
2	3.99	2.00	12.57	-0.01	314.09	1.39	1.39	0.00	0.00	0.01
3	4.00	2.01	12.63	0.46	314.05	1.39	1.39	0.00	0.00	0.01
4	4.01	2.00	12.55	-0.16	313.78	1.39	1.44	0.04	0.02	0.03
5	0.00	0.00	0.00	-100.00	313.96	1.39	1.41	0.02	0.01	0.04
6	0.00	0.00	0.00	-100.00				0.00	0.00	0.04
7	0.00	0.00	0.00	-100.00				0.00	0.00	0.04
8	0.00	0.00	0.00	-100.00				0.00	0.00	0.04
9	0.00	0.00	0.00	-100.00				0.00	0.00	0.04
10	0.00	0.00	0.00	-100.00				0.00	0.00	0.04
11	0.00	0.00	0.00	-100.00				0.00	0.00	0.04
12	0.00	0.00	0.00	-100.00				0.00	0.00	0.04

DIAMETER

INITIAL	2.00	2.00	2.00
1	2.01	2.01	2.00
2	2.01	2.00	2.00
3	2.02	2.00	2.00
4	2.00	2.00	2.00
5			
6			
7			
8			
9			
10			
11			
12			

HEIGHT

4.02	3.98	4.01
4.01	4.00	3.99
3.99	4.00	3.99
4.00	4.00	3.99
4.00	4.01	4.00

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	BV26-5-20150901-40
PROJECT No.:	SH0578	SAMPLE No. (Control):	BV26-5-20150901-40C
START DATE:	11/5/2015	SAMPLE DESCRIPTION:	65 Day
TRACKING CODE:	A531		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	95.0	pcf	94.6	pcf
2. DRY UNIT WEIGHT	54.9	pcf	54.6	pcf
3. MOISTURE CONTENT	73.20	%	73.20	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-4.8	%	-0.5	%
2. TOTAL MASS LOSS	71.43	%	0.04	%
3. RELATIVE MASS LOSS	71.39	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	BU21-15-20150902-41
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	BU21-15-20150902-41C
START DATE:	9/30/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A425		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.23	g		g
3. WT WET SOIL + TARE	132.12	g		g
4. WT DRY SOIL + TARE	112.08	g		g
5. WT WATER, Ww	20.04	g		g
6. WT DRY SOIL, Ws	35.85	g		g
7. MOISTURE CONTENT, W	55.90	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	1.99	in.	3.99	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.00	in.
Average	1.99	in.	4.00	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	332.89	g
Initial Dry Specimen WT, Wd	213.53	g
Initial Area, Ao	3.12	in^2
Initial Volume, Vo	12.50	in^3
Initial Bulk Unit Weight,	101.5	pcf
Initial Dry Unit Weight,	65.1	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.23	g		g
3. WT WET SOIL + TARE	132.12	g		g
4. WT DRY SOIL + TARE	112.08	g		g
5. WT WATER, Ww	20.04	g		g
6. WT DRY SOIL, Ws	35.85	g		g
7. MOISTURE CONTENT, W	55.90	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	4.00	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.00	in.
Average	1.9988	in.	4.0050	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	336.44	g
Initial Dry Specimen WT, Wd	215.81	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.57	in^3
Initial Bulk Unit Weight,	102.0	pcf
Initial Dry Unit Weight,	65.4	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	55.90	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.50	in³
SAMPLE No.:	BU21-15-20150902-41		INITIAL TOTAL WEIGHT:	332.89	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	213.53	grams
TRACKING CODE:	A425				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	1.99	12.50		332.89					0.00
1	3.97	1.95	11.82	-5.40	320.16	1.42	1.45	0.03	0.01	0.01
2	3.97	1.94	11.78	-5.76	318.41	1.41	1.47	0.06	0.03	0.04
3	3.97	1.96	11.94	-4.44	318.64	1.39	1.49	0.10	0.05	0.09
4	3.98	1.97	12.17	-2.63	319.14	1.39	1.66	0.26	0.12	0.21
5	3.97	1.94	11.77	-5.83	319.30	1.39	1.72	0.32	0.15	0.36
6	3.97	1.94	11.78	-5.70	318.69	1.40	1.60	0.20	0.09	0.46
7	3.96	1.96	12.00	-3.98	319.80	1.40	1.56	0.16	0.08	0.53
8	3.97	1.96	11.94	-4.43	319.74	1.40	1.73	0.34	0.16	0.69
9	3.97	1.96	11.96	-4.31	319.80	1.38	1.79	0.41	0.19	0.89
10	3.98	1.96	12.05	-3.58	319.66	1.39	1.78	0.39	0.18	1.07
11	3.97	1.96	11.97	-4.20	319.60	1.39	1.88	0.49	0.23	1.30
12	3.97	1.95	11.82	-5.39	319.63	1.39	2.00	0.61	0.28	1.58

DIAMETER

INITIAL	1.99	2.00	2.00
1	1.95	1.95	1.94
2	1.95	1.94	1.95
3	1.98	1.95	1.95
4	2.01	1.97	1.95
5	1.95	1.94	1.94
6	1.94	1.94	1.95
7	1.99	1.96	1.94
8	1.95	1.96	1.96
9	1.98	1.94	1.95
10	1.98	1.95	1.96
11	1.96	1.95	1.96
12	1.96	1.93	1.95

HEIGHT

3.99	4.01	4.00
3.96	3.97	3.98
3.97	3.96	3.97
3.97	3.96	3.99
3.96	3.97	4.00
3.98	3.97	3.97
3.97	3.97	3.97
3.97	3.95	3.97
3.96	3.98	3.98
3.97	3.98	3.96
3.98	3.97	3.98
3.97	3.97	3.97
3.99	3.97	3.96

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	55.90	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.57	in³
SAMPLE No.:	BU21-15-20150902-41C	INITIAL TOTAL WEIGHT:	336.44	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	215.81	grams
TRACKING CODE:	A425			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.57		336.44					0.00
1	4.00	2.00	12.62	0.44	337.49	1.42	1.42	0.01	0.00	0.00
2	4.01	2.00	12.60	0.22	337.89	1.41	1.42	0.01	0.00	0.01
3	4.02	2.01	12.70	1.09	337.95	1.40	1.40	0.00	0.00	0.01
4	4.02	2.00	12.59	0.18	338.13	1.40	1.41	0.01	0.00	0.01
5	4.00	2.01	12.64	0.58	338.24	1.40	1.41	0.01	0.00	0.02
6	4.00	2.00	12.58	0.10	338.30	1.40	1.40	0.00	0.00	0.02
7	4.01	2.00	12.56	-0.08	338.44	1.40	1.41	0.01	0.00	0.02
8	4.00	2.00	12.55	-0.15	338.40	1.40	1.41	0.00	0.00	0.02
9	4.01	2.01	12.68	0.86	338.53	1.38	1.39	0.00	0.00	0.02
10	4.00	2.00	12.63	0.52	338.03	1.40	1.41	0.01	0.00	0.03
11	4.01	2.00	12.56	-0.05	338.19	1.40	1.40	0.01	0.00	0.03
12	4.00	2.01	12.65	0.69	338.27	1.40	1.40	0.01	0.00	0.03

DIAMETER

INITIAL	2.00	2.00	2.00
1	2.01	2.01	2.00
2	2.01	2.00	2.00
3	2.01	2.01	2.00
4	2.00	2.00	2.00
5	2.01	2.01	2.00
6	2.00	2.00	2.00
7	2.00	2.00	2.00
8	2.00	1.99	2.00
9	2.02	2.01	2.00
10	2.01	2.00	2.00
11	2.00	1.99	2.00
12	2.01	2.01	2.00

HEIGHT

4.00	4.01	4.00
4.00	4.00	4.00
4.00	4.00	4.01
4.01	4.03	4.02
4.01	4.03	4.01
4.00	4.00	4.00
4.00	4.00	4.01
4.00	4.02	4.00
4.00	4.00	4.01
4.02	4.00	4.00
4.01	4.00	4.01
4.01	4.01	4.00
4.01	4.00	4.00

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	BU21-15-20150902-41
PROJECT No.:	SH0578	SAMPLE No. (Control):	BU21-15-20150902-41C
START DATE:	9/30/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A425		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	101.5	pcf	102.0	pcf
2. DRY UNIT WEIGHT	65.1	pcf	65.4	pcf
3. MOISTURE CONTENT	55.90	%	55.90	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-5.8	%	-1.1	%
2. TOTAL MASS LOSS	1.58	%	0.03	%
3. RELATIVE MASS LOSS	1.55	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	BK21-10-20150903-42
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	BK21-10-20150903-42C
START DATE:	10/1/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A428		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.14	g		g
3. WT WET SOIL + TARE	140.14	g		g
4. WT DRY SOIL + TARE	115.64	g		g
5. WT WATER, Ww	24.50	g		g
6. WT DRY SOIL, Ws	39.50	g		g
7. MOISTURE CONTENT, W	62.03	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	3.99	in.
No. 2	2.00	in.	3.98	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	3.99	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	324.51	g
Initial Dry Specimen WT, Wd	200.28	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.58	in^3
Initial Bulk Unit Weight,	98.3	pcf
Initial Dry Unit Weight,	60.6	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.14	g		g
3. WT WET SOIL + TARE	140.14	g		g
4. WT DRY SOIL + TARE	115.64	g		g
5. WT WATER, Ww	24.50	g		g
6. WT DRY SOIL, Ws	39.50	g		g
7. MOISTURE CONTENT, W	62.03	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.01	in.	4.00	in.
No. 2	2.01	in.	4.00	in.
No. 3	2.00	in.	4.00	in.
Average	2.00	in.	4.00	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	325.72	g
Initial Dry Specimen WT, Wd	201.03	g
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.63	in^3
Initial Bulk Unit Weight,	98.2	pcf
Initial Dry Unit Weight,	60.6	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	62.03	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.58	in³
SAMPLE No.:	BK21-10-20150903-42		INITIAL TOTAL WEIGHT:	324.51	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	200.28	grams
TRACKING CODE:	A428				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	3.99	2.00	12.58		324.51					0.00
1	4.07	2.02	13.07	3.91	310.55	1.41	10.26	8.85	4.42	4.42
2	0.00	0.00	0.00	-100.00		111.51	237.84	126.33	63.08	67.49
3	0.00	0.00	0.00	-100.00				0.00	0.00	67.49
4	0.00	0.00	0.00	-100.00				0.00	0.00	67.49
5	0.00	0.00	0.00	-100.00				0.00	0.00	67.49
6	0.00	0.00	0.00	-100.00				0.00	0.00	67.49
7	0.00	0.00	0.00	-100.00				0.00	0.00	67.49
8	0.00	0.00	0.00	-100.00				0.00	0.00	67.49
9	0.00	0.00	0.00	-100.00				0.00	0.00	67.49
10	0.00	0.00	0.00	-100.00				0.00	0.00	67.49
11	0.00	0.00	0.00	-100.00				0.00	0.00	67.49
12	0.00	0.00	0.00	-100.00				0.00	0.00	67.49

DIAMETER

INITIAL	2.01	2.00	2.00
1	2.01	2.06	2.00
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

HEIGHT

3.99	3.98	4.01
4.07	4.08	4.07

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	62.03	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.63	in³
SAMPLE No.:	BK21-10-20150903-42C	INITIAL TOTAL WEIGHT:	325.72	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	201.03	grams
TRACKING CODE:	A428			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	2.00	12.63		325.72					0.00
1	4.01	2.00	12.57	-0.50	326.89	1.41	1.42	0.01	0.01	0.01
2	0.00	0.00	0.00	-100.00				0.00	0.00	0.01
3	0.00	0.00	0.00	-100.00				0.00	0.00	0.01
4	0.00	0.00	0.00	-100.00				0.00	0.00	0.01
5	0.00	0.00	0.00	-100.00				0.00	0.00	0.01
6	0.00	0.00	0.00	-100.00				0.00	0.00	0.01
7	0.00	0.00	0.00	-100.00				0.00	0.00	0.01
8	0.00	0.00	0.00	-100.00				0.00	0.00	0.01
9	0.00	0.00	0.00	-100.00				0.00	0.00	0.01
10	0.00	0.00	0.00	-100.00				0.00	0.00	0.01
11	0.00	0.00	0.00	-100.00				0.00	0.00	0.01
12	0.00	0.00	0.00	-100.00				0.00	0.00	0.01

DIAMETER

INITIAL	2.01	2.01	2.00
1	2.00	2.00	2.00
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

HEIGHT

4.00	4.00	4.00
4.01	4.00	4.01

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	BK21-10-20150903-42
PROJECT No.:	SH0578	SAMPLE No. (Control):	BK21-10-20150903-42C
START DATE:	10/1/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A428		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	98.3	pcf	98.2	pcf
2. DRY UNIT WEIGHT	60.6	pcf	60.6	pcf
3. MOISTURE CONTENT	62.03	%	62.03	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-3.9	%	-0.5	%
2. TOTAL MASS LOSS	67.49	%	0.01	%
3. RELATIVE MASS LOSS	67.49	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	BK21-10-20150903-42
PROJECT No.:	SH5078	SAMPLE No. (Specimen No. 2)	BK21-10-20150903-42C
START DATE:	11/2/2015	SAMPLE DESCRIPTION:	60 Day
TRACKING CODE:	A522		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.03	g		g
3. WT WET SOIL + TARE	138.33	g		g
4. WT DRY SOIL + TARE	114.48	g		g
5. WT WATER, Ww	23.85	g		g
6. WT DRY SOIL, Ws	38.45	g		g
7. MOISTURE CONTENT, W	62.03	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	4.00	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.00	in.
Average	2.00	in.	4.00	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	324.18	g
Initial Dry Specimen WT, Wd	200.08	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.60	in^3
Initial Bulk Unit Weight,	98.0	pcf
Initial Dry Unit Weight,	60.5	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.03	g		g
3. WT WET SOIL + TARE	138.33	g		g
4. WT DRY SOIL + TARE	114.48	g		g
5. WT WATER, Ww	23.85	g		g
6. WT DRY SOIL, Ws	38.45	g		g
7. MOISTURE CONTENT, W	62.03	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	1.99	in.	4.00	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	324.69	g
Initial Dry Specimen WT, Wd	200.39	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.53	in^3
Initial Bulk Unit Weight,	98.7	pcf
Initial Dry Unit Weight,	60.9	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	62.03	%
PROJECT No.:	SH5078		INITIAL VOLUME:	12.60	in³
SAMPLE No.:	BK21-10-20150903-42		INITIAL TOTAL WEIGHT:	324.18	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	200.08	grams
TRACKING CODE:	A522				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	2.00	12.60		324.18					0.00
1	3.99	1.96	12.07	-4.23	309.46	1.39	1.92	0.54	0.27	0.27
2	4.01	2.01	12.72	0.95	313.56	1.39	3.66	2.27	1.14	1.40
3	0.00	0.00	0.00	-100.00	53.65	170.11	366.70	196.59	98.26	99.66
4	0.00	0.00	0.00	-100.00				0.00	0.00	99.66
5	0.00	0.00	0.00	-100.00				0.00	0.00	99.66
6	0.00	0.00	0.00	-100.00				0.00	0.00	99.66
7	0.00	0.00	0.00	-100.00				0.00	0.00	99.66
8	0.00	0.00	0.00	-100.00				0.00	0.00	99.66
9	0.00	0.00	0.00	-100.00				0.00	0.00	99.66
10	0.00	0.00	0.00	-100.00				0.00	0.00	99.66
11	0.00	0.00	0.00	-100.00				0.00	0.00	99.66
12	0.00	0.00	0.00	-100.00				0.00	0.00	99.66

DIAMETER

INITIAL	2.01	2.00	2.00
1	1.98	1.95	1.96
2	2.01	2.01	2.00
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

HEIGHT

4.00	4.01	4.00
3.98	4.01	3.97
4.01	4.01	4.02

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	62.03	%
PROJECT No.:	SH5078	INITIAL VOLUME:	12.53	in³
SAMPLE No.:	BK21-10-20150903-42C	INITIAL TOTAL WEIGHT:	324.69	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	200.39	grams
TRACKING CODE:	A522			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.53		324.69					0.00
1	4.00	2.01	12.66	1.06	325.78	1.39	1.40	0.01	0.00	0.00
2	4.00	2.00	12.55	0.16	326.17	1.39	1.39	0.00	0.00	0.00
3	0.00	0.00	0.00	-100.00	326.30	1.39	1.40	0.01	0.00	0.01
4	0.00	0.00	0.00	-100.00				0.00	0.00	0.01
5	0.00	0.00	0.00	-100.00				0.00	0.00	0.01
6	0.00	0.00	0.00	-100.00				0.00	0.00	0.01
7	0.00	0.00	0.00	-100.00				0.00	0.00	0.01
8	0.00	0.00	0.00	-100.00				0.00	0.00	0.01
9	0.00	0.00	0.00	-100.00				0.00	0.00	0.01
10	0.00	0.00	0.00	-100.00				0.00	0.00	0.01
11	0.00	0.00	0.00	-100.00				0.00	0.00	0.01
12	0.00	0.00	0.00	-100.00				0.00	0.00	0.01

DIAMETER

INITIAL	1.99	2.00	2.00
1	2.02	2.01	2.00
2	2.00	2.00	2.00
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

HEIGHT

4.00	4.01	4.01
4.00	3.99	4.00
4.00	4.00	3.99

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	BK21-10-20150903-42
PROJECT No.:	SH5078	SAMPLE No. (Control):	BK21-10-20150903-42C
START DATE:	11/2/2015	SAMPLE DESCRIPTION:	60 Day
TRACKING CODE:	A522		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	98.0	pcf	98.7	pcf
2. DRY UNIT WEIGHT	60.5	pcf	60.9	pcf
3. MOISTURE CONTENT	62.03	%	62.03	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-4.2	%	-1.1	%
2. TOTAL MASS LOSS	99.66	%	0.01	%
3. RELATIVE MASS LOSS	99.65	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	AZ18-5-20150909-43
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	AZ18-5-20150909-43C
START DATE:	10/7/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A431		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.73	g		g
3. WT WET SOIL + TARE	127.67	g		g
4. WT DRY SOIL + TARE	110.78	g		g
5. WT WATER, Ww	16.89	g		g
6. WT DRY SOIL, Ws	34.05	g		g
7. MOISTURE CONTENT, W	49.60	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	3.98	in.
No. 2	2.00	in.	3.99	in.
No. 3	2.00	in.	3.98	in.
Average	2.00	in.	3.98	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	333.50	g
Initial Dry Specimen WT, Wd	222.92	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.53	in^3
Initial Bulk Unit Weight,	101.4	pcf
Initial Dry Unit Weight,	67.8	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.73	g		g
3. WT WET SOIL + TARE	127.67	g		g
4. WT DRY SOIL + TARE	110.78	g		g
5. WT WATER, Ww	16.89	g		g
6. WT DRY SOIL, Ws	34.05	g		g
7. MOISTURE CONTENT, W	49.60	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.01	in.	3.99	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	3.99	in.
Average	2.00	in.	4.00	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	336.97	g
Initial Dry Specimen WT, Wd	225.24	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.59	in^3
Initial Bulk Unit Weight,	101.9	pcf
Initial Dry Unit Weight,	68.1	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	49.60	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.53	in³
SAMPLE No.:	AZ18-5-20150909-43		INITIAL TOTAL WEIGHT:	333.50	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	222.92	grams
TRACKING CODE:	A431				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	3.98	2.00	12.53		333.50					0.00
1	3.95	1.95	11.81	-5.71	317.26	1.39	1.53	0.14	0.06	0.06
2	3.95	1.95	11.81	-5.71	316.46	1.39	1.57	0.18	0.08	0.14
3	3.95	1.95	11.84	-5.51	316.01	1.39	1.66	0.27	0.12	0.27
4	3.95	1.95	11.76	-6.18	317.07	1.39	1.57	0.18	0.08	0.35
5	3.97	1.95	11.92	-4.88	318.13	1.39	1.68	0.29	0.13	0.48
6	3.97	1.98	12.19	-2.71	317.39	1.39	1.81	0.42	0.19	0.67
7	3.96	1.97	12.05	-3.83	316.87	1.39	2.37	0.99	0.44	1.11
8	0.00	0.00	0.00	-100.00	120.87	115.86	246.59	130.73	58.65	59.76
9	0.00	0.00	0.00	-100.00				0.00	0.00	59.76
10	0.00	0.00	0.00	-100.00				0.00	0.00	59.76
11	0.00	0.00	0.00	-100.00				0.00	0.00	59.76
12	0.00	0.00	0.00	-100.00				0.00	0.00	59.76

DIAMETER

INITIAL	2.01	2.00	2.00
1	1.97	1.95	1.94
2	1.96	1.94	1.95
3	1.98	1.94	1.94
4	1.96	1.94	1.94
5	1.97	1.94	1.95
6	2.02	1.96	1.96
7	2.02	1.96	1.92
8			
9			
10			
11			
12			

HEIGHT

3.98	3.99	3.98
3.95	3.95	3.95
3.96	3.96	3.94
3.96	3.94	3.96
3.95	3.94	3.96
3.97	3.98	3.97
3.97	3.96	3.97
3.97	3.96	3.95

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	49.60	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.59	in³
SAMPLE No.:	AZ18-5-20150909-43C	INITIAL TOTAL WEIGHT:	336.97	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	225.24	grams
TRACKING CODE:	A431			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	2.00	12.59		336.97					0.00
1	4.00	2.01	12.64	0.39	337.98	1.40	1.41	0.01	0.00	0.00
2	4.00	2.00	12.53	-0.49	338.46	1.40	1.40	0.01	0.00	0.01
3	4.00	2.00	12.62	0.19	338.54	1.40	1.40	0.00	0.00	0.01
4	4.01	2.00	12.64	0.34	338.83	1.40	1.41	0.01	0.00	0.01
5	4.00	2.00	12.56	-0.27	338.65	1.40	1.40	0.00	0.00	0.02
6	4.00	2.00	12.55	-0.37	338.72	1.40	1.40	0.00	0.00	0.02
7	4.00	2.00	12.58	-0.11	338.65	1.39	1.40	0.00	0.00	0.02
8	0.00	0.00	0.00	-100.00	338.52	1.39	1.40	0.00	0.00	0.02
9	0.00	0.00	0.00	-100.00				0.00	0.00	0.02
10	0.00	0.00	0.00	-100.00				0.00	0.00	0.02
11	0.00	0.00	0.00	-100.00				0.00	0.00	0.02
12	0.00	0.00	0.00	-100.00				0.00	0.00	0.02

DIAMETER

INITIAL	2.01	2.00	2.00
1	2.01	2.00	2.00
2	2.00	2.00	2.00
3	2.01	2.00	2.00
4	2.01	2.00	2.00
5	2.00	2.00	2.00
6	2.00	2.00	2.00
7	2.00	2.00	2.00
8			
9			
10			
11			
12			

HEIGHT

3.99	4.01	3.99
4.00	4.02	4.00
4.01	4.01	3.99
3.99	4.01	3.99
3.99	4.02	4.01
3.99	4.01	4.01
4.01	4.00	3.99
4.00	4.02	3.99

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	AZ18-5-20150909-43
PROJECT No.:	SH0578	SAMPLE No. (Control):	AZ18-5-20150909-43C
START DATE:	10/7/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A431		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	101.4	pcf	101.9	pcf
2. DRY UNIT WEIGHT	67.8	pcf	68.1	pcf
3. MOISTURE CONTENT	49.60	%	49.60	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-6.2	%	-0.5	%
2. TOTAL MASS LOSS	59.76	%	0.02	%
3. RELATIVE MASS LOSS	59.74	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	AZ18-5-20150909-43
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	AZ18-5-20150909-43C
START DATE:	11/12/2015	SAMPLE DESCRIPTION:	64 Day
TRACKING CODE:	A539		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.59	g		g
3. WT WET SOIL + TARE	141.52	g		g
4. WT DRY SOIL + TARE	118.00	g		g
5. WT WATER, Ww	23.52	g		g
6. WT DRY SOIL, Ws	41.41	g		g
7. MOISTURE CONTENT, W	56.80	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.00	in.	4.01	in.
No. 2	2.00	in.	3.99	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	333.86	g
Initial Dry Specimen WT, Wd	212.92	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.56	in^3
Initial Bulk Unit Weight,	101.3	pcf
Initial Dry Unit Weight,	64.6	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.59	g		g
3. WT WET SOIL + TARE	141.52	g		g
4. WT DRY SOIL + TARE	118.00	g		g
5. WT WATER, Ww	23.52	g		g
6. WT DRY SOIL, Ws	41.41	g		g
7. MOISTURE CONTENT, W	56.80	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	4.02	in.
No. 2	2.00	in.	4.02	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.02	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	335.52	g
Initial Dry Specimen WT, Wd	213.98	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.63	in^3
Initial Bulk Unit Weight,	101.2	pcf
Initial Dry Unit Weight,	64.6	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	56.80	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.56	in³
SAMPLE No.:	AZ18-5-20150909-43	INITIAL TOTAL WEIGHT:	333.86	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	212.92	grams
TRACKING CODE:	A539			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.56		333.86					0.00
1	3.98	1.95	11.87	-5.45	318.56	1.40	1.47	0.07	0.04	0.04
2	3.98	1.96	11.98	-4.62	320.07	1.40	1.54	0.15	0.07	0.10
3	3.98	1.96	12.05	-4.03	321.85	1.40	1.66	0.26	0.12	0.23
4	3.99	1.96	12.03	-4.25	320.99	1.39	1.63	0.23	0.11	0.34
5	3.99	1.97	12.12	-3.48	322.59	1.39	1.56	0.17	0.08	0.41
6	3.98	1.97	12.17	-3.08	320.63	1.39	2.69	1.30	0.61	1.02
7	3.99	1.98	12.33	-1.79	319.79	1.38	2.54	1.16	0.55	1.57
8	0.00	0.00	0.00	-100.00	26.89	170.71	336.59	165.88	77.91	79.48
9	0.00	0.00	0.00	-100.00				0.00	0.00	79.48
10	0.00	0.00	0.00	-100.00				0.00	0.00	79.48
11	0.00	0.00	0.00	-100.00				0.00	0.00	79.48
12	0.00	0.00	0.00	-100.00				0.00	0.00	79.48

DIAMETER

INITIAL	2.00	2.00	2.00
1	1.98	1.94	1.93
2	1.98	1.94	1.96
3	2.00	1.94	1.95
4	1.97	1.94	1.97
5	2.00	1.94	1.96
6	1.99	1.96	1.98
7	2.00	1.98	1.97
8			
9			
10			
11			
12			

HEIGHT

4.01	3.99	4.01
3.96	4.00	3.97
3.98	3.97	3.98
3.95	3.98	4.01
3.98	4.01	3.96
4.00	3.98	4.00
3.98	3.96	3.98
3.94	4.01	4.02

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	56.80	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.63	in³
SAMPLE No.:	AZ18-5-20150909-43C	INITIAL TOTAL WEIGHT:	335.52	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	213.98	grams
TRACKING CODE:	A539			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.02	2.00	12.63		335.52					0.00
1	4.01	2.00	12.56	-0.53	336.54	1.39	1.40	0.01	0.00	0.00
2	4.02	2.00	12.62	-0.05	336.60	1.39	1.39	0.00	0.00	0.01
3	4.01	2.00	12.60	-0.17	337.01	1.39	1.39	0.00	0.00	0.01
4	4.01	2.00	12.61	-0.11	336.93	1.39	1.39	0.00	0.00	0.01
5	4.04	2.00	12.67	0.34	337.03	1.39	1.40	0.01	0.00	0.01
6	4.04	2.00	12.68	0.43	337.24	1.39	1.40	0.00	0.00	0.01
7	4.02	2.00	12.63	0.03	337.25	1.39	1.39	0.01	0.00	0.02
8	0.00	0.00	0.00	-100.00	337.14	1.38	1.39	0.01	0.00	0.02
9	0.00	0.00	0.00	-100.00				0.00	0.00	0.02
10	0.00	0.00	0.00	-100.00				0.00	0.00	0.02
11	0.00	0.00	0.00	-100.00				0.00	0.00	0.02
12	0.00	0.00	0.00	-100.00				0.00	0.00	0.02

DIAMETER

INITIAL	2.00	2.00	2.00
1	2.00	2.00	2.00
2	2.00	2.00	2.00
3	2.01	2.00	2.00
4	2.01	2.00	2.00
5	2.00	2.00	2.00
6	2.00	2.00	2.00
7	2.00	2.00	2.00
8			
9			
10			
11			
12			

HEIGHT

4.02	4.02	4.01
4.03	3.99	4.01
4.01	4.02	4.02
4.02	4.00	4.02
4.02	4.01	4.00
4.02	4.05	4.05
4.04	4.06	4.01
4.02	4.01	4.02

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	AZ18-5-20150909-43
PROJECT No.:	SH0578	SAMPLE No. (Control):	AZ18-5-20150909-43C
START DATE:	11/12/2015	SAMPLE DESCRIPTION:	64 Day
TRACKING CODE:	A539		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	101.3	pcf	101.2	pcf
2. DRY UNIT WEIGHT	64.6	pcf	64.6	pcf
3. MOISTURE CONTENT	56.80	%	56.80	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-5.4	%	-0.5	%
2. TOTAL MASS LOSS	79.48	%	0.02	%
3. RELATIVE MASS LOSS	79.46	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	AR18-15-20150910-44
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	AR18-15-20150910-44C
START DATE:	10/8/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A432		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.09	g		g
3. WT WET SOIL + TARE	159.73	g		g
4. WT DRY SOIL + TARE	133.47	g		g
5. WT WATER, Ww	26.26	g		g
6. WT DRY SOIL, Ws	56.38	g		g
7. MOISTURE CONTENT, W	46.58	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	4.01	in.
No. 2	2.00	in.	4.02	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	352.72	g
Initial Dry Specimen WT, Wd	240.64	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.64	in^3
Initial Bulk Unit Weight,	106.3	pcf
Initial Dry Unit Weight,	72.5	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.09	g		g
3. WT WET SOIL + TARE	159.73	g		g
4. WT DRY SOIL + TARE	133.47	g		g
5. WT WATER, Ww	26.26	g		g
6. WT DRY SOIL, Ws	56.38	g		g
7. MOISTURE CONTENT, W	46.58	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.01	in.	4.00	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	350.74	g
Initial Dry Specimen WT, Wd	239.29	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.61	in^3
Initial Bulk Unit Weight,	106.0	pcf
Initial Dry Unit Weight,	72.3	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	46.58	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.64	in³
SAMPLE No.:	AR18-15-20150910-44		INITIAL TOTAL WEIGHT:	352.72	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	240.64	grams
TRACKING CODE:	A432				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.64		352.72					0.00
1	3.98	1.97	12.11	-4.18	337.07	1.39	1.42	0.03	0.01	0.01
2	3.98	1.96	12.05	-4.64	337.96	1.40	1.42	0.02	0.01	0.02
3	3.98	1.97	12.09	-4.35	338.45	1.40	1.46	0.06	0.03	0.05
4	3.98	1.97	12.11	-4.18	338.85	1.40	1.45	0.05	0.02	0.07
5	3.99	1.96	12.09	-4.33	339.56	1.40	1.45	0.05	0.02	0.09
6	3.97	1.97	12.08	-4.41	339.49	1.39	1.47	0.08	0.03	0.12
7	3.98	1.96	12.07	-4.56	339.88	1.40	1.48	0.08	0.03	0.16
8	3.99	1.96	12.06	-4.63	339.36	1.40	1.70	0.30	0.12	0.28
9	3.99	1.96	12.11	-4.23	339.71	1.40	1.53	0.13	0.05	0.34
10	3.99	1.97	12.14	-3.94	339.33	1.40	1.50	0.10	0.04	0.38
11	3.99	1.96	12.07	-4.52	339.95	1.40	1.55	0.15	0.06	0.44
12	3.99	1.96	12.04	-4.75	340.32	1.40	1.54	0.15	0.06	0.50

DIAMETER

INITIAL	2.01	2.00	2.00
1	1.98	1.96	1.97
2	1.97	1.96	1.96
3	1.98	1.96	1.96
4	1.98	1.96	1.96
5	1.97	1.96	1.96
6	1.98	1.96	1.96
7	1.97	1.96	1.95
8	1.97	1.95	1.97
9	1.97	1.97	1.96
10	1.98	1.97	1.96
11	1.97	1.96	1.96
12	1.96	1.96	1.96

HEIGHT

4.01	4.02	4.01
3.97	4.00	3.98
3.98	3.97	4.00
3.98	3.99	3.97
3.98	4.00	3.97
3.97	3.99	4.02
3.97	3.98	3.97
3.98	3.98	3.99
3.98	4.00	3.98
3.99	4.00	4.00
3.98	4.00	3.98
3.99	3.99	3.98
3.97	4.01	3.99

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	46.58	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.61	in³
SAMPLE No.:	AR18-15-20150910-44C	INITIAL TOTAL WEIGHT:	350.74	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	239.29	grams
TRACKING CODE:	A432			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.61		350.74					0.00
1	4.01	2.00	12.60	-0.06	351.54	1.40	1.41	0.00	0.00	0.00
2	4.01	2.00	12.65	0.32	351.58	1.39	1.39	0.00	0.00	0.00
3	4.02	2.00	12.62	0.04	351.63	1.39	1.39	0.00	0.00	0.00
4	4.00	2.00	12.56	-0.37	351.84	1.39	1.40	0.00	0.00	0.00
5	4.00	2.00	12.60	-0.05	351.78	1.39	1.39	0.00	0.00	0.01
6	4.00	2.00	12.56	-0.39	351.81	1.38	1.38	0.00	0.00	0.01
7	4.01	2.00	12.61	0.03	351.60	1.39	1.39	0.00	0.00	0.01
8	4.00	2.00	12.55	-0.48	351.80	1.39	1.39	0.01	0.00	0.01
9	4.01	2.00	12.58	-0.24	351.85	1.39	1.39	0.00	0.00	0.01
10	4.00	2.00	12.56	-0.42	352.05	1.39	1.39	0.01	0.00	0.01
11	4.00	2.00	12.60	-0.05	352.10	1.39	1.39	0.00	0.00	0.02
12	4.00	2.00	12.54	-0.57	351.72	1.39	1.39	0.01	0.00	0.02

DIAMETER

INITIAL	2.01	2.00	2.00
1	2.00	2.00	2.00
2	2.01	2.01	2.00
3	2.00	2.00	2.00
4	2.00	2.00	2.00
5	2.01	2.00	2.00
6	2.00	2.00	2.00
7	2.01	2.00	2.00
8	2.00	2.00	2.00
9	2.00	2.00	2.00
10	2.00	2.00	2.00
11	2.01	2.00	2.00
12	1.99	2.00	2.00

HEIGHT

4.00	4.01	4.01
4.01	4.01	4.01
4.01	4.00	4.01
4.02	4.01	4.03
4.01	4.00	4.01
4.01	4.01	3.99
4.01	4.00	4.00
4.00	4.01	4.02
4.00	4.00	4.01
4.01	4.00	4.01
4.00	4.01	4.00
4.01	4.00	4.00
4.00	4.00	4.01

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	AR18-15-20150910-44
PROJECT No.:	SH0578	SAMPLE No. (Control):	AR18-15-20150910-44C
START DATE:	10/8/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A432		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	106.3	pcf	106.0	pcf
2. DRY UNIT WEIGHT	72.5	pcf	72.3	pcf
3. MOISTURE CONTENT	46.58	%	46.58	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-4.7	%	-0.6	%
2. TOTAL MASS LOSS	0.50	%	0.02	%
3. RELATIVE MASS LOSS	0.48	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	L16-10-20150911-45
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	L16-10-20150911-45C
START DATE:	10/9/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A453		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	116.76	g		g
3. WT WET SOIL + TARE	174.61	g		g
4. WT DRY SOIL + TARE	154.24	g		g
5. WT WATER, Ww	20.37	g		g
6. WT DRY SOIL, Ws	37.48	g		g
7. MOISTURE CONTENT, W	54.35	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	3.99	in.
No. 2	2.01	in.	4.00	in.
No. 3	2.00	in.	3.98	in.
Average	2.00	in.	3.99	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	340.48	g
Initial Dry Specimen WT, Wd	220.59	g
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.59	in^3
Initial Bulk Unit Weight,	103.0	pcf
Initial Dry Unit Weight,	66.8	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	116.76	g		g
3. WT WET SOIL + TARE	174.61	g		g
4. WT DRY SOIL + TARE	154.24	g		g
5. WT WATER, Ww	20.37	g		g
6. WT DRY SOIL, Ws	37.48	g		g
7. MOISTURE CONTENT, W	54.35	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	4.01	in.
No. 2	2.00	in.	4.00	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	340.16	g
Initial Dry Specimen WT, Wd	220.38	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.54	in^3
Initial Bulk Unit Weight,	103.3	pcf
Initial Dry Unit Weight,	66.9	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	54.35	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.59	in³
SAMPLE No.:	L16-10-20150911-45		INITIAL TOTAL WEIGHT:	340.48	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	220.59	grams
TRACKING CODE:	A453				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	3.99	2.00	12.59		340.48					0.00
1	3.99	1.97	12.22	-2.95	330.91	1.39	1.44	0.04	0.02	0.02
2	3.98	1.98	12.20	-3.10	329.94	1.40	1.43	0.04	0.02	0.04
3	3.97	1.98	12.17	-3.29	329.37	1.40	1.47	0.08	0.03	0.07
4	3.98	1.98	12.30	-2.29	329.36	1.40	1.46	0.06	0.03	0.10
5	3.99	1.97	12.19	-3.19	329.49	1.39	1.44	0.05	0.02	0.12
6	3.99	1.98	12.31	-2.21	329.32	1.38	1.45	0.08	0.03	0.16
7	4.00	1.98	12.35	-1.88	329.58	1.39	1.42	0.03	0.01	0.17
8	3.98	1.98	12.22	-2.91	329.53	1.39	1.43	0.04	0.02	0.19
9	3.99	1.97	12.20	-3.09	329.49	1.39	1.45	0.06	0.03	0.22
10	3.99	1.98	12.25	-2.70	330.16	1.39	1.42	0.03	0.01	0.23
11	3.98	1.98	12.24	-2.77	329.72	1.39	1.43	0.04	0.02	0.25
12	3.99	1.98	12.33	-2.06	330.06	1.39	1.42	0.02	0.01	0.26

DIAMETER

INITIAL	2.01	2.01	2.00
1	1.98	1.97	1.97
2	1.99	1.97	1.98
3	1.98	1.97	1.97
4	2.00	1.98	1.97
5	1.98	1.97	1.97
6	1.99	1.98	1.97
7	2.00	1.98	1.98
8	1.99	1.97	1.97
9	1.98	1.97	1.98
10	1.99	1.97	1.98
11	1.99	1.97	1.97
12	2.00	1.98	1.97

HEIGHT

3.99	4.00	3.98
3.99	3.98	4.00
3.98	3.97	3.99
3.99	3.96	3.98
3.97	3.98	4.00
3.99	3.98	3.99
3.99	4.00	3.99
4.02	3.98	3.99
4.00	3.98	3.97
3.98	4.00	3.99
4.00	3.98	4.00
4.00	3.99	3.96
4.02	3.99	3.97

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	54.35	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.54	in³
SAMPLE No.:	L16-10-20150911-45C	INITIAL TOTAL WEIGHT:	340.16	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	220.38	grams
TRACKING CODE:	A453			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.54		340.16					0.00
1	4.01	2.00	12.61	0.50	341.06	1.41	1.42	0.01	0.00	0.00
2	4.01	2.00	12.61	0.55	341.31	1.41	1.41	0.00	0.00	0.01
3	4.01	2.00	12.58	0.29	341.40	1.41	1.41	0.00	0.00	0.01
4	4.01	2.00	12.59	0.39	341.52	1.41	1.41	0.00	0.00	0.01
5	4.01	2.00	12.62	0.59	341.51	1.41	1.41	0.00	0.00	0.01
6	4.01	2.00	12.63	0.67	341.41	1.39	1.39	0.00	0.00	0.01
7	4.02	2.00	12.61	0.55	341.39	1.41	1.42	0.01	0.00	0.01
8	4.01	2.00	12.64	0.74	341.54	1.41	1.41	0.00	0.00	0.01
9	4.01	2.00	12.60	0.43	341.79	1.41	1.41	0.00	0.00	0.02
10	4.00	2.00	12.59	0.34	341.69	1.40	1.41	0.00	0.00	0.02
11	4.02	2.00	12.63	0.71	341.69	1.41	1.41	0.00	0.00	0.02
12	4.02	2.00	12.62	0.62	341.58	1.40	1.41	0.00	0.00	0.02

DIAMETER

INITIAL	2.00	2.00	2.00
1	2.01	2.00	2.00
2	2.01	2.00	2.00
3	2.00	2.00	2.00
4	2.01	2.00	2.00
5	2.01	2.00	2.00
6	2.01	2.00	2.00
7	2.00	2.00	2.00
8	2.01	2.00	2.00
9	2.01	2.00	2.00
10	2.01	2.00	2.00
11	2.00	2.00	2.00
12	2.00	2.00	2.00

HEIGHT

4.01	4.00	4.01
4.01	4.01	4.01
4.00	4.00	4.02
4.00	4.01	4.00
4.01	4.00	4.00
4.01	4.01	4.01
4.01	4.01	4.01
4.01	4.02	4.01
4.01	4.00	4.01
4.00	4.01	4.01
4.00	4.00	4.01
4.02	4.03	4.01
4.01	4.02	4.04

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	L16-10-20150911-45
PROJECT No.:	SH0578	SAMPLE No. (Control):	L16-10-20150911-45C
START DATE:	10/9/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A453		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	103.0	pcf	103.3	pcf
2. DRY UNIT WEIGHT	66.8	pcf	66.9	pcf
3. MOISTURE CONTENT	54.35	%	54.35	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-3.3	%	-0.7	%
2. TOTAL MASS LOSS	0.26	%	0.02	%
3. RELATIVE MASS LOSS	0.24	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	W17-10-20150914-46
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	W17-10-20150914-46C
START DATE:	10/13/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A454		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.51	g		g
3. WT WET SOIL + TARE	150.33	g		g
4. WT DRY SOIL + TARE	128.17	g		g
5. WT WATER, Ww	22.16	g		g
6. WT DRY SOIL, Ws	50.66	g		g
7. MOISTURE CONTENT, W	43.74	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.02	in.	4.01	in.
No. 2	2.01	in.	4.00	in.
No. 3	2.00	in.	4.02	in.
Average	2.01	in.	4.01	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	352.41	g
Initial Dry Specimen WT, Wd	245.17	g
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.67	in^3
Initial Bulk Unit Weight,	106.0	pcf
Initial Dry Unit Weight,	73.7	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.51	g		g
3. WT WET SOIL + TARE	150.33	g		g
4. WT DRY SOIL + TARE	128.17	g		g
5. WT WATER, Ww	22.16	g		g
6. WT DRY SOIL, Ws	50.66	g		g
7. MOISTURE CONTENT, W	43.74	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	4.01	in.
No. 2	2.00	in.	4.02	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	354.65	g
Initial Dry Specimen WT, Wd	246.73	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.61	in^3
Initial Bulk Unit Weight,	107.1	pcf
Initial Dry Unit Weight,	74.5	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	43.74	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.67	in³
SAMPLE No.:	W17-10-20150914-46	INITIAL TOTAL WEIGHT:	352.41	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	245.17	grams
TRACKING CODE:	A454			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.01	12.67		352.41					0.00
1	3.95	1.96	11.89	-6.10	338.14	1.39	1.51	0.11	0.05	0.05
2	3.95	1.97	11.98	-5.44	336.35	1.40	1.49	0.10	0.04	0.09
3	3.95	1.96	11.88	-6.23	337.04	1.39	1.44	0.04	0.02	0.10
4	3.95	1.96	11.87	-6.27	336.84	1.42	1.45	0.04	0.02	0.12
5	3.95	1.95	11.78	-6.99	336.71	1.39	1.47	0.07	0.03	0.15
6	3.95	1.97	11.98	-5.44	336.91	1.39	1.44	0.05	0.02	0.17
7	3.95	1.96	11.94	-5.72	336.33	1.39	1.45	0.06	0.02	0.19
8	3.96	1.95	11.89	-6.14	336.55	1.39	1.45	0.06	0.03	0.22
9	3.95	1.95	11.84	-6.54	336.73	1.39	1.46	0.07	0.03	0.25
10	3.95	1.97	11.99	-5.34	336.44	1.39	1.44	0.05	0.02	0.27
11	3.95	1.96	11.89	-6.11	336.51	1.39	1.45	0.06	0.02	0.29
12	3.94	1.96	11.96	-5.59	336.46	1.39	1.44	0.05	0.02	0.31

DIAMETER

INITIAL	2.02	2.01	2.00
1	1.97	1.95	1.96
2	1.99	1.95	1.96
3	1.96	1.96	1.95
4	1.98	1.95	1.95
5	1.97	1.94	1.94
6	1.99	1.95	1.96
7	1.99	1.95	1.95
8	1.97	1.95	1.95
9	1.97	1.95	1.95
10	1.99	1.95	1.96
11	1.97	1.95	1.96
12	1.98	1.96	1.96

HEIGHT

4.01	4.00	4.02
3.95	3.95	3.96
3.95	3.95	3.94
3.93	3.95	3.97
3.95	3.93	3.96
3.94	3.93	3.96
3.94	3.94	3.96
3.94	3.94	3.96
3.96	3.98	3.95
3.94	3.98	3.94
3.95	3.96	3.94
3.95	3.97	3.93
3.94	3.94	3.95

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	43.74	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.61	in³
SAMPLE No.:	W17-10-20150914-46C	INITIAL TOTAL WEIGHT:	354.65	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	246.73	grams
TRACKING CODE:	A454			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.61		354.65					0.00
1	4.00	2.00	12.59	-0.16	355.57	1.39	1.41	0.02	0.01	0.01
2	4.01	2.00	12.57	-0.30	355.56	1.39	1.40	0.01	0.00	0.01
3	4.00	2.00	12.56	-0.44	355.68	1.39	1.39	0.00	0.00	0.01
4	4.00	2.00	12.61	0.00	355.78	1.39	1.40	0.01	0.00	0.01
5	4.00	2.00	12.61	-0.05	355.88	1.39	1.39	0.01	0.00	0.02
6	4.02	2.00	12.63	0.13	355.78	1.38	1.39	0.01	0.00	0.02
7	4.00	2.00	12.57	-0.31	355.21	1.38	1.39	0.01	0.00	0.02
8	4.00	2.00	12.59	-0.18	355.37	1.38	1.39	0.01	0.00	0.03
9	4.00	2.00	12.60	-0.07	355.51	1.38	1.39	0.01	0.00	0.03
10	4.01	2.00	12.65	0.29	355.65	1.38	1.39	0.01	0.00	0.03
11	4.00	1.99	12.44	-1.40	353.64	1.38	1.41	0.03	0.01	0.05
12	4.00	2.00	12.53	-0.65	353.76	1.39	1.42	0.03	0.01	0.06

DIAMETER

INITIAL	2.00	2.00	2.00
1	2.01	2.00	2.00
2	2.00	2.00	2.00
3	2.00	2.00	2.00
4	2.01	2.01	2.00
5	2.01	2.00	2.00
6	2.00	2.00	2.00
7	2.00	2.00	2.00
8	2.00	2.00	2.00
9	2.00	2.00	2.00
10	2.01	2.00	2.00
11	1.98	1.99	1.99
12	1.99	2.00	2.00

HEIGHT

4.01	4.02	4.01
4.00	4.00	4.00
4.01	4.01	4.00
4.00	4.01	4.00
4.00	4.01	4.00
4.00	4.01	4.00
4.00	4.04	4.01
4.01	4.00	4.00
4.02	4.00	4.00
4.01	4.00	4.00
4.02	4.01	4.01
4.00	3.99	4.01
4.01	4.01	3.99

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	W17-10-20150914-46
PROJECT No.:	SH0578	SAMPLE No. (Control):	W17-10-20150914-46C
START DATE:	10/13/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A454		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	106.0	pcf	107.1	pcf
2. DRY UNIT WEIGHT	73.7	pcf	74.5	pcf
3. MOISTURE CONTENT	43.74	%	43.74	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-7.0	%	-1.4	%
2. TOTAL MASS LOSS	0.31	%	0.06	%
3. RELATIVE MASS LOSS	0.25	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	AF18-5-20150915-47
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	AF18-5-20150915-47C
START DATE:	10/13/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A456		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	67.28	g		g
3. WT WET SOIL + TARE	113.76	g		g
4. WT DRY SOIL + TARE	97.25	g		g
5. WT WATER, Ww	16.51	g		g
6. WT DRY SOIL, Ws	29.97	g		g
7. MOISTURE CONTENT, W	55.09	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	4.00	in.
No. 2	2.00	in.	4.00	in.
No. 3	2.00	in.	4.00	in.
Average	2.00	in.	4.00	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	338.33	g
Initial Dry Specimen WT, Wd	218.15	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.59	in^3
Initial Bulk Unit Weight,	102.4	pcf
Initial Dry Unit Weight,	66.0	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	67.28	g		g
3. WT WET SOIL + TARE	113.76	g		g
4. WT DRY SOIL + TARE	97.25	g		g
5. WT WATER, Ww	16.51	g		g
6. WT DRY SOIL, Ws	29.97	g		g
7. MOISTURE CONTENT, W	55.09	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.01	in.	4.00	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.00	in.
Average	2.00	in.	4.00	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	338.28	g
Initial Dry Specimen WT, Wd	218.12	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.61	in^3
Initial Bulk Unit Weight,	102.2	pcf
Initial Dry Unit Weight,	65.9	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	55.09	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.59	in³
SAMPLE No.:	AF18-5-20150915-47		INITIAL TOTAL WEIGHT:	338.33	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	218.15	grams
TRACKING CODE:	A456				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	2.00	12.59		338.33					0.00
1	3.98	1.96	12.06	-4.21	325.51	1.39	1.41	0.02	0.01	0.01
2	3.97	1.96	12.00	-4.70	322.41	1.39	1.40	0.01	0.01	0.02
3	3.98	1.96	11.97	-4.94	322.54	1.39	1.40	0.01	0.01	0.02
4	3.97	1.96	12.00	-4.70	322.70	1.39	1.40	0.01	0.01	0.03
5	3.97	1.96	11.94	-5.20	323.10	1.39	1.40	0.01	0.00	0.03
6	3.97	1.96	11.97	-4.94	323.15	1.39	1.41	0.03	0.01	0.04
7	3.97	1.96	11.93	-5.27	323.56	1.38	1.42	0.03	0.01	0.06
8	3.98	1.96	11.96	-4.99	323.84	1.38	1.41	0.03	0.01	0.07
9	3.96	1.96	11.91	-5.44	323.38	1.38	1.44	0.05	0.02	0.09
10	3.97	1.96	11.98	-4.84	323.76	1.38	1.45	0.06	0.03	0.12
11	3.97	1.96	11.96	-5.03	324.12	1.38	1.49	0.11	0.05	0.17
12	3.97	1.96	11.93	-5.28	325.43	1.38	1.43	0.04	0.02	0.19

DIAMETER

INITIAL	2.01	2.00	2.00
1	1.98	1.96	1.96
2	1.98	1.96	1.95
3	1.97	1.95	1.95
4	1.97	1.95	1.96
5	1.97	1.95	1.95
6	1.97	1.95	1.95
7	1.97	1.96	1.95
8	1.97	1.95	1.95
9	1.97	1.95	1.95
10	1.97	1.96	1.95
11	1.97	1.95	1.95
12	1.97	1.95	1.95

HEIGHT

4.00	4.00	4.00
3.98	3.98	3.98
3.97	3.97	3.98
3.97	3.98	3.98
3.98	3.97	3.97
3.97	3.96	3.98
3.98	3.97	3.96
3.97	3.97	3.96
3.98	3.98	3.97
3.96	3.97	3.96
3.97	3.97	3.97
3.98	3.96	3.97
3.98	3.97	3.95

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	55.09	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.61	in³
SAMPLE No.:	AF18-5-20150915-47C	INITIAL TOTAL WEIGHT:	338.28	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	218.12	grams
TRACKING CODE:	A456			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	2.00	12.61		338.28					0.00
1	4.01	2.00	12.60	-0.09	339.05	1.39	1.41	0.02	0.01	0.01
2	4.00	2.00	12.63	0.11	339.23	1.39	1.39	0.00	0.00	0.01
3	4.00	1.99	12.41	-1.64	339.31	1.39	1.39	0.00	0.00	0.01
4	4.01	2.00	12.59	-0.22	339.45	1.39	1.40	0.00	0.00	0.01
5	4.00	2.00	12.55	-0.49	339.35	1.39	1.40	0.00	0.00	0.02
6	4.00	2.00	12.61	0.00	339.45	1.39	1.39	0.01	0.00	0.02
7	4.00	2.00	12.60	-0.09	339.12	1.39	1.40	0.01	0.00	0.02
8	4.01	2.00	12.55	-0.50	339.19	1.39	1.39	0.01	0.00	0.03
9	4.00	2.00	12.55	-0.53	339.32	1.39	1.40	0.02	0.01	0.03
10	4.01	2.00	12.57	-0.30	339.27	1.39	1.39	0.01	0.00	0.04
11	4.01	2.00	12.56	-0.40	338.58	1.39	1.42	0.03	0.01	0.05
12	4.01	2.00	12.54	-0.56	338.80	1.39	1.41	0.02	0.01	0.06

DIAMETER

INITIAL	2.01	2.00	2.00
1	2.01	2.00	2.00
2	2.01	2.00	2.00
3	2.01	2.00	1.95
4	2.00	2.00	2.00
5	2.00	2.00	2.00
6	2.01	2.00	2.00
7	2.01	2.00	2.00
8	2.00	2.00	2.00
9	2.00	2.00	2.00
10	2.00	2.00	2.00
11	2.00	2.00	2.00
12	2.00	1.99	2.00

HEIGHT

4.00	4.01	4.00
4.01	4.01	4.01
4.01	4.00	4.01
4.01	4.00	4.00
4.01	4.01	4.00
4.00	4.01	4.00
4.01	4.00	4.01
4.00	4.01	4.00
4.00	4.01	4.01
3.99	4.00	4.01
4.00	4.01	4.01
4.01	4.01	4.02
4.01	4.00	4.01

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	AF18-5-20150915-47
PROJECT No.:	SH0578	SAMPLE No. (Control):	AF18-5-20150915-47C
START DATE:	10/13/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A456		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	102.4	pcf	102.2	pcf
2. DRY UNIT WEIGHT	66.0	pcf	65.9	pcf
3. MOISTURE CONTENT	55.09	%	55.09	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-5.4	%	-1.6	%
2. TOTAL MASS LOSS	0.19	%	0.06	%
3. RELATIVE MASS LOSS	0.13	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	AL18-10-20150916-48
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	AL18-10-20150916-48C
START DATE:	10/14/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A458		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	118.36	g		g
3. WT WET SOIL + TARE	174.18	g		g
4. WT DRY SOIL + TARE	154.52	g		g
5. WT WATER, Ww	19.66	g		g
6. WT DRY SOIL, Ws	36.16	g		g
7. MOISTURE CONTENT, W	54.37	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	4.01	in.
No. 2	2.00	in.	4.02	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	335.24	g
Initial Dry Specimen WT, Wd	217.17	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.60	in^3
Initial Bulk Unit Weight,	101.3	pcf
Initial Dry Unit Weight,	65.6	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	118.36	g		g
3. WT WET SOIL + TARE	174.18	g		g
4. WT DRY SOIL + TARE	154.52	g		g
5. WT WATER, Ww	19.66	g		g
6. WT DRY SOIL, Ws	36.16	g		g
7. MOISTURE CONTENT, W	54.37	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	3.99	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.00	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	336.35	g
Initial Dry Specimen WT, Wd	217.89	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.56	in^3
Initial Bulk Unit Weight,	102.0	pcf
Initial Dry Unit Weight,	66.1	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	54.37	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.60	in³
SAMPLE No.:	AL18-10-20150916-48	INITIAL TOTAL WEIGHT:	335.24	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	217.17	grams
TRACKING CODE:	A458			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.60		335.24					0.00
1	3.98	1.97	12.20	-3.23	326.40	1.39	1.50	0.11	0.05	0.05
2	3.99	1.98	12.21	-3.08	323.39	1.40	1.49	0.09	0.04	0.09
3	3.98	1.97	12.13	-3.72	323.54	1.40	1.44	0.04	0.02	0.11
4	3.98	1.97	12.13	-3.76	324.28	1.39	1.46	0.07	0.03	0.14
5	3.98	1.97	12.14	-3.66	324.65	1.38	1.43	0.06	0.03	0.17
6	3.98	1.97	12.14	-3.71	324.84	1.39	1.48	0.09	0.04	0.21
7	3.99	1.97	12.14	-3.70	325.33	1.39	1.51	0.12	0.05	0.26
8	3.98	1.97	12.17	-3.44	326.02	1.39	1.51	0.12	0.06	0.32
9	3.99	1.98	12.23	-2.97	326.05	1.39	1.49	0.10	0.05	0.36
10	4.00	1.97	12.20	-3.19	326.28	1.39	1.53	0.15	0.07	0.43
11	3.99	1.97	12.21	-3.13	326.29	1.39	1.59	0.20	0.09	0.52
12	4.00	1.97	12.21	-3.16	326.06	1.39	1.57	0.19	0.09	0.61

DIAMETER

INITIAL	2.01	2.00	2.00
1	1.98	1.97	1.97
2	1.99	1.97	1.97
3	1.98	1.97	1.97
4	1.97	1.97	1.96
5	1.98	1.97	1.97
6	1.98	1.97	1.97
7	1.99	1.96	1.96
8	1.98	1.97	1.97
9	1.99	1.97	1.97
10	1.97	1.97	1.97
11	1.98	1.97	1.97
12	1.99	1.96	1.97

HEIGHT

4.01	4.02	4.01
3.98	4.00	3.97
3.99	3.98	3.98
3.98	4.02	3.95
3.99	3.97	3.99
3.96	3.97	3.99
3.98	4.00	3.97
3.98	3.98	4.00
3.99	3.96	4.00
3.98	3.97	4.01
4.00	4.03	3.97
4.02	3.98	3.97
3.99	3.99	4.02

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	54.37	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.56	in³
SAMPLE No.:	AL18-10-20150916-48C	INITIAL TOTAL WEIGHT:	336.35	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	217.89	grams
TRACKING CODE:	A458			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	2.00	12.56		336.35					0.00
1	4.00	2.00	12.55	-0.07	337.22	1.40	1.40	0.00	0.00	0.00
2	4.00	2.00	12.53	-0.20	337.28	1.40	1.40	0.00	0.00	0.00
3	4.01	2.00	12.60	0.36	337.36	1.40	1.40	0.00	0.00	0.00
4	4.00	2.00	12.60	0.36	337.50	1.40	1.40	0.00	0.00	0.00
5	4.00	2.00	12.61	0.40	337.65	1.38	1.38	0.00	0.00	0.01
6	4.01	2.00	12.61	0.40	337.45	1.39	1.39	0.00	0.00	0.01
7	4.01	2.00	12.61	0.39	337.55	1.39	1.40	0.00	0.00	0.01
8	4.01	2.00	12.63	0.56	337.69	1.39	1.40	0.00	0.00	0.01
9	4.01	2.00	12.57	0.10	337.61	1.39	1.40	0.00	0.00	0.01
10	4.00	2.00	12.55	-0.03	337.67	1.39	1.39	0.00	0.00	0.01
11	4.01	2.00	12.57	0.10	337.36	1.39	1.40	0.01	0.00	0.01
12	4.01	2.00	12.61	0.38	337.27	1.39	1.40	0.00	0.00	0.02

DIAMETER

INITIAL	2.00	2.00	2.00
1	2.00	2.00	2.00
2	2.00	2.00	2.00
3	2.00	2.00	2.00
4	2.01	2.00	2.00
5	2.01	2.00	2.00
6	2.00	2.00	2.00
7	2.00	2.00	2.00
8	2.01	2.00	2.00
9	2.00	2.00	2.00
10	2.00	2.00	2.00
11	2.00	2.00	2.00
12	2.01	2.00	2.00

HEIGHT

3.99	4.01	4.01
3.99	4.00	4.00
3.99	4.00	4.00
4.03	4.00	4.01
4.00	4.01	3.99
4.02	4.00	4.00
4.01	4.02	4.00
4.02	4.00	4.02
4.01	4.01	4.01
4.01	4.03	4.00
4.01	4.01	3.99
4.02	4.00	4.00
4.00	4.03	3.99

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	AL18-10-20150916-48
PROJECT No.:	SH0578	SAMPLE No. (Control):	AL18-10-20150916-48C
START DATE:	10/14/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A458		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	101.3	pcf	102.0	pcf
2. DRY UNIT WEIGHT	65.6	pcf	66.1	pcf
3. MOISTURE CONTENT	54.37	%	54.37	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-3.8	%	-0.6	%
2. TOTAL MASS LOSS	0.61	%	0.02	%
3. RELATIVE MASS LOSS	0.59	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	BC11-15-20150917-49
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	BC11-15-20150917-49C
START DATE:	10/15/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A459		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.73	g		g
3. WT WET SOIL + TARE	130.85	g		g
4. WT DRY SOIL + TARE	113.47	g		g
5. WT WATER, Ww	17.38	g		g
6. WT DRY SOIL, Ws	36.74	g		g
7. MOISTURE CONTENT, W	47.31	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	4.00	in.
No. 2	2.00	in.	4.02	in.
No. 3	2.00	in.	3.99	in.
Average	2.00	in.	4.00	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	348.08	g
Initial Dry Specimen WT, Wd	236.30	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.59	in^3
Initial Bulk Unit Weight,	105.3	pcf
Initial Dry Unit Weight,	71.5	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.73	g		g
3. WT WET SOIL + TARE	130.85	g		g
4. WT DRY SOIL + TARE	113.47	g		g
5. WT WATER, Ww	17.38	g		g
6. WT DRY SOIL, Ws	36.74	g		g
7. MOISTURE CONTENT, W	47.31	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.01	in.	4.01	in.
No. 2	2.00	in.	4.03	in.
No. 3	2.00	in.	4.03	in.
Average	2.00	in.	4.02	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	349.39	g
Initial Dry Specimen WT, Wd	237.19	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.65	in^3
Initial Bulk Unit Weight,	105.2	pcf
Initial Dry Unit Weight,	71.4	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	47.31	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.59	in³
SAMPLE No.:	BC11-15-20150917-49		INITIAL TOTAL WEIGHT:	348.08	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	236.30	grams
TRACKING CODE:	A459				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	2.00	12.59		348.08					0.00
1	3.97	1.97	12.12	-3.73	335.92	1.40	1.44	0.04	0.02	0.02
2	3.98	1.97	12.11	-3.84	337.17	1.40	1.41	0.02	0.01	0.02
3	3.97	1.97	12.04	-4.35	336.54	1.40	1.43	0.03	0.01	0.03
4	3.97	1.97	12.15	-3.50	337.75	1.40	1.46	0.06	0.02	0.06
5	3.97	1.97	12.16	-3.40	337.25	1.40	1.45	0.05	0.02	0.08
6	3.98	1.97	12.11	-3.83	337.52	1.40	1.50	0.10	0.04	0.12
7	3.98	1.97	12.19	-3.21	338.01	1.39	1.47	0.08	0.03	0.16
8	3.97	1.97	12.13	-3.61	337.98	1.39	1.45	0.05	0.02	0.18
9	3.97	1.98	12.17	-3.32	338.41	1.40	1.49	0.09	0.04	0.22
10	3.98	1.97	12.15	-3.51	338.68	1.39	1.47	0.08	0.03	0.25
11	3.98	1.97	12.20	-3.11	339.10	1.40	1.50	0.10	0.04	0.30
12	4.00	1.98	12.25	-2.67	339.44	1.40	1.54	0.15	0.06	0.36

DIAMETER

INITIAL	2.01	2.00	2.00
1	1.98	1.97	1.96
2	1.98	1.96	1.96
3	1.98	1.96	1.96
4	1.99	1.96	1.96
5	1.99	1.97	1.96
6	1.99	1.96	1.96
7	2.00	1.96	1.96
8	1.99	1.97	1.96
9	1.99	1.97	1.97
10	1.99	1.96	1.97
11	1.99	1.97	1.97
12	1.99	1.97	1.97

HEIGHT

4.00	4.02	3.99
3.97	3.96	3.99
4.00	3.97	3.97
3.97	3.98	3.96
3.97	3.98	3.97
3.99	3.98	3.96
3.95	3.99	3.99
3.98	3.96	4.00
3.98	3.96	3.97
3.97	3.97	3.97
3.97	3.99	3.98
3.99	3.97	4.00
3.99	3.98	4.03

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	47.31	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.65	in³
SAMPLE No.:	BC11-15-20150917-49C	INITIAL TOTAL WEIGHT:	349.39	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	237.19	grams
TRACKING CODE:	A459			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.02	2.00	12.65		349.39					0.00
1	4.01	2.00	12.62	-0.23	350.55	1.39	1.40	0.01	0.00	0.00
2	4.02	2.00	12.67	0.13	350.87	1.39	1.39	0.01	0.00	0.00
3	4.01	2.01	12.68	0.24	350.85	1.39	1.39	0.01	0.00	0.01
4	4.02	2.00	12.64	-0.05	350.96	1.39	1.39	0.00	0.00	0.01
5	4.02	2.00	12.66	0.10	350.99	1.38	1.39	0.01	0.00	0.01
6	4.02	2.01	12.69	0.29	350.54	1.39	1.40	0.01	0.01	0.02
7	4.01	2.00	12.65	-0.01	350.69	1.38	1.39	0.01	0.00	0.02
8	4.02	2.00	12.65	-0.02	350.78	1.39	1.40	0.01	0.01	0.03
9	4.02	2.01	12.69	0.29	350.83	1.39	1.40	0.02	0.01	0.03
10	4.02	2.00	12.67	0.17	350.30	1.39	1.41	0.02	0.01	0.04
11	4.01	2.01	12.66	0.09	350.43	1.38	1.40	0.02	0.01	0.05
12	4.01	2.00	12.58	-0.57	350.40	1.39	1.40	0.01	0.00	0.06

DIAMETER

INITIAL	2.01	2.00	2.00
1	2.01	2.00	2.00
2	2.01	2.01	2.00
3	2.01	2.01	2.00
4	2.01	2.00	2.00
5	2.01	2.00	2.00
6	2.01	2.01	2.00
7	2.01	2.00	2.00
8	2.01	2.00	2.00
9	2.01	2.01	2.00
10	2.01	2.01	2.00
11	2.01	2.01	2.00
12	2.00	2.00	2.00

HEIGHT

4.01	4.03	4.03
4.01	4.01	4.02
4.02	4.01	4.02
4.01	4.01	4.01
4.01	4.01	4.03
4.02	4.03	4.02
4.02	4.00	4.02
4.02	4.01	4.01
4.02	4.01	4.02
4.02	4.02	4.02
4.01	4.01	4.02
4.00	4.00	4.02
4.02	4.01	4.01

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	BC11-15-20150917-49
PROJECT No.:	SH0578	SAMPLE No. (Control):	BC11-15-20150917-49C
START DATE:	10/15/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A459		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	105.3	pcf	105.2	pcf
2. DRY UNIT WEIGHT	71.5	pcf	71.4	pcf
3. MOISTURE CONTENT	47.31	%	47.31	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-4.4	%	-0.6	%
2. TOTAL MASS LOSS	0.36	%	0.06	%
3. RELATIVE MASS LOSS	0.30	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	K13-5-20150919-50
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	K13-5-20150919-50C
START DATE:	10/17/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A462		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	114.70	g		g
3. WT WET SOIL + TARE	186.89	g		g
4. WT DRY SOIL + TARE	162.27	g		g
5. WT WATER, Ww	24.62	g		g
6. WT DRY SOIL, Ws	47.57	g		g
7. MOISTURE CONTENT, W	51.76	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	1.99	in.	4.00	in.
No. 2	1.99	in.	4.01	in.
No. 3	1.99	in.	4.01	in.
Average	1.99	in.	4.01	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	341.11	g
Initial Dry Specimen WT, Wd	224.78	g
Initial Area, Ao	3.12	in^2
Initial Volume, Vo	12.48	in^3
Initial Bulk Unit Weight,	104.1	pcf
Initial Dry Unit Weight,	68.6	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	114.70	g		g
3. WT WET SOIL + TARE	186.89	g		g
4. WT DRY SOIL + TARE	162.27	g		g
5. WT WATER, Ww	24.62	g		g
6. WT DRY SOIL, Ws	47.57	g		g
7. MOISTURE CONTENT, W	51.76	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	4.00	in.
No. 2	2.00	in.	4.02	in.
No. 3	2.00	in.	4.00	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	340.58	g
Initial Dry Specimen WT, Wd	224.43	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.56	in^3
Initial Bulk Unit Weight,	103.3	pcf
Initial Dry Unit Weight,	68.1	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	51.76	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.48	in³
SAMPLE No.:	K13-5-20150919-50	INITIAL TOTAL WEIGHT:	341.11	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	224.78	grams
TRACKING CODE:	A462			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	1.99	12.48		341.11					0.00
1	3.97	1.96	11.95	-4.22	325.93	1.40	1.45	0.05	0.02	0.02
2	3.96	1.96	11.92	-4.50	325.57	1.40	1.43	0.03	0.01	0.03
3	3.96	1.96	11.95	-4.25	325.03	1.40	1.43	0.03	0.01	0.05
4	3.95	1.96	11.88	-4.78	325.65	1.40	1.43	0.03	0.01	0.06
5	3.95	1.96	11.89	-4.73	325.65	1.40	1.41	0.01	0.01	0.06
6	3.95	1.96	11.87	-4.91	323.76	1.40	1.55	0.15	0.07	0.13
7	3.95	1.96	11.88	-4.81	325.07	1.40	1.49	0.10	0.04	0.17
8	3.96	1.95	11.85	-5.05	324.76	1.40	1.44	0.05	0.02	0.19
9	3.95	1.96	11.87	-4.85	325.25	1.40	1.47	0.08	0.03	0.23
10	3.95	1.95	11.86	-4.96	325.03	1.40	1.43	0.04	0.02	0.24
11	3.95	1.96	11.90	-4.64	325.24	1.40	1.41	0.01	0.01	0.25
12	3.97	1.95	11.88	-4.83	324.79	1.40	1.56	0.16	0.07	0.32

DIAMETER

INITIAL	1.99	1.99	1.99
1	1.98	1.95	1.94
2	1.98	1.94	1.95
3	1.98	1.95	1.96
4	1.97	1.95	1.95
5	1.98	1.94	1.96
6	1.96	1.95	1.95
7	1.98	1.94	1.95
8	1.97	1.95	1.94
9	1.98	1.94	1.95
10	1.97	1.95	1.95
11	1.98	1.94	1.95
12	1.97	1.95	1.94

HEIGHT

4.00	4.01	4.01
3.97	3.98	3.96
3.96	3.95	3.97
3.96	3.96	3.96
3.95	3.94	3.96
3.96	3.95	3.95
3.95	3.95	3.96
3.94	3.96	3.96
3.96	3.97	3.94
3.95	3.94	3.96
3.95	3.95	3.96
3.96	3.95	3.95
3.96	3.98	3.97

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	51.76	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.56	in³
SAMPLE No.:	K13-5-20150919-50C		INITIAL TOTAL WEIGHT:	340.58	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	224.43	grams
TRACKING CODE:	A462				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.56		340.58					0.00
1	4.00	2.01	12.65	0.70	341.50	1.39	1.41	0.01	0.01	0.01
2	4.00	2.00	12.60	0.36	341.83	1.40	1.40	0.01	0.00	0.01
3	4.01	2.00	12.63	0.55	341.83	1.40	1.40	0.00	0.00	0.01
4	4.00	2.00	12.60	0.30	341.89	1.40	1.41	0.01	0.00	0.02
5	4.00	2.00	12.58	0.21	341.94	1.39	1.40	0.01	0.00	0.02
6	4.00	2.00	12.56	0.02	341.07	1.39	1.40	0.01	0.00	0.02
7	4.00	2.00	12.54	-0.15	341.47	1.39	1.39	0.00	0.00	0.03
8	4.01	2.00	12.64	0.62	341.64	1.39	1.40	0.01	0.00	0.03
9	4.00	2.00	12.61	0.38	341.70	1.39	1.40	0.01	0.00	0.03
10	4.01	2.00	12.56	0.02	340.93	1.39	1.41	0.02	0.01	0.04
11	4.00	2.00	12.57	0.12	341.16	1.39	1.41	0.02	0.01	0.05
12	4.01	2.00	12.63	0.58	341.20	1.39	1.40	0.01	0.00	0.05

DIAMETER

INITIAL	2.00	2.00	2.00
1	2.01	2.00	2.00
2	2.01	2.00	2.00
3	2.01	2.00	2.00
4	2.01	2.00	2.00
5	2.00	2.00	2.00
6	2.00	2.00	2.00
7	2.00	2.00	2.00
8	2.01	2.00	2.00
9	2.01	2.00	2.00
10	2.00	2.00	2.00
11	2.00	2.00	2.00
12	2.00	2.00	2.00

HEIGHT

4.00	4.02	4.00
4.02	4.00	4.00
4.00	4.00	4.00
4.00	3.99	4.03
4.00	4.01	4.00
4.00	4.02	3.99
4.00	3.99	4.02
4.00	3.99	4.02
4.02	4.02	4.00
4.02	3.99	4.00
4.00	4.02	4.02
4.01	3.99	4.01
4.04	4.01	3.99

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	K13-5-20150919-50
PROJECT No.:	SH0578	SAMPLE No. (Control):	K13-5-20150919-50C
START DATE:	10/17/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A462		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	104.1	pcf	103.3	pcf
2. DRY UNIT WEIGHT	68.6	pcf	68.1	pcf
3. MOISTURE CONTENT	51.76	%	51.76	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-5.0	%	-0.7	%
2. TOTAL MASS LOSS	0.32	%	0.05	%
3. RELATIVE MASS LOSS	0.27	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	Z14-10-20150922-51
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	Z14-10-20150922-51C
START DATE:	10/20/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A466		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	67.28	g		g
3. WT WET SOIL + TARE	116.07	g		g
4. WT DRY SOIL + TARE	99.23	g		g
5. WT WATER, Ww	16.84	g		g
6. WT DRY SOIL, Ws	31.95	g		g
7. MOISTURE CONTENT, W	52.71	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	4.03	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.05	in.
Average	2.00	in.	4.03	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	334.57	g
Initial Dry Specimen WT, Wd	219.09	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.68	in^3
Initial Bulk Unit Weight,	100.5	pcf
Initial Dry Unit Weight,	65.8	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	67.28	g		g
3. WT WET SOIL + TARE	116.07	g		g
4. WT DRY SOIL + TARE	99.23	g		g
5. WT WATER, Ww	16.84	g		g
6. WT DRY SOIL, Ws	31.95	g		g
7. MOISTURE CONTENT, W	52.71	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	1.99	in.	4.00	in.
No. 2	2.00	in.	4.02	in.
No. 3	2.00	in.	4.00	in.
Average	2.00	in.	4.00	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	333.91	g
Initial Dry Specimen WT, Wd	218.66	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.52	in^3
Initial Bulk Unit Weight,	101.6	pcf
Initial Dry Unit Weight,	66.5	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	52.71	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.68	in³
SAMPLE No.:	Z14-10-20150922-51		INITIAL TOTAL WEIGHT:	334.57	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	219.09	grams
TRACKING CODE:	A466				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.03	2.00	12.68		334.57					0.00
1	3.94	1.94	11.70	-7.73	314.22	1.39	1.47	0.08	0.04	0.04
2	3.93	1.93	11.53	-9.09	312.77	1.39	1.59	0.20	0.09	0.12
3	3.93	1.92	11.41	-10.03	312.30	1.39	1.91	0.51	0.23	0.36
4	3.92	1.93	11.53	-9.07	311.35	1.39	2.10	0.71	0.33	0.68
5	3.92	1.93	11.41	-10.07	311.18	1.39	1.66	0.27	0.12	0.81
6	3.92	1.91	11.17	-11.94	310.56	1.39	1.51	0.12	0.05	0.86
7	3.93	1.93	11.55	-8.93	310.60	1.39	1.69	0.30	0.14	1.00
8	3.93	1.93	11.48	-9.53	309.66	1.39	1.91	0.52	0.24	1.23
9	3.91	1.91	11.21	-11.59	309.96	1.39	1.75	0.37	0.17	1.40
10	3.92	1.91	11.17	-11.91	308.40	1.39	1.61	0.22	0.10	1.50
11	3.93	1.93	11.49	-9.38	309.16	1.39	1.65	0.26	0.12	1.62
12	3.94	1.92	11.37	-10.36	308.42	1.39	2.02	0.63	0.29	1.91

DIAMETER

INITIAL	2.01	2.00	2.00
1	1.97	1.93	1.93
2	1.95	1.93	1.92
3	1.94	1.92	1.92
4	1.94	1.93	1.94
5	1.94	1.92	1.92
6	1.94	1.91	1.87
7	1.95	1.92	1.93
8	1.94	1.92	1.93
9	1.91	1.91	1.91
10	1.91	1.91	1.90
11	1.94	1.92	1.93
12	1.94	1.91	1.90

HEIGHT

4.03	4.01	4.05
3.94	3.94	3.95
3.93	3.92	3.94
3.92	3.93	3.92
3.92	3.93	3.92
3.91	3.92	3.92
3.91	3.92	3.91
3.93	3.92	3.95
3.92	3.95	3.92
3.90	3.92	3.92
3.91	3.93	3.91
3.95	3.93	3.92
3.90	3.97	3.94

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	52.71	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.52	in³
SAMPLE No.:	Z14-10-20150922-51C	INITIAL TOTAL WEIGHT:	333.91	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	218.66	grams
TRACKING CODE:	A466			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	2.00	12.52		333.91					0.00
1	4.01	2.00	12.66	1.06	334.86	1.39	1.40	0.01	0.00	0.00
2	4.01	2.00	12.60	0.60	335.20	1.39	1.40	0.01	0.00	0.01
3	3.99	2.00	12.54	0.13	335.06	1.39	1.41	0.02	0.01	0.01
4	4.01	2.00	12.63	0.85	335.17	1.39	1.41	0.02	0.01	0.02
5	4.00	2.00	12.64	0.92	334.50	1.39	1.42	0.03	0.01	0.04
6	4.00	1.99	12.48	-0.30	334.66	1.39	1.41	0.02	0.01	0.05
7	4.00	2.00	12.64	0.96	334.71	1.39	1.41	0.02	0.01	0.06
8	4.00	2.00	12.51	-0.10	334.84	1.39	1.41	0.02	0.01	0.07
9	4.00	1.99	12.49	-0.26	332.83	1.39	1.69	0.30	0.14	0.20
10	4.00	2.00	12.56	0.27	332.99	1.39	1.42	0.03	0.01	0.22
11	3.99	1.99	12.40	-0.94	331.15	1.39	1.42	0.04	0.02	0.23
12	4.00	2.00	12.52	-0.02	333.23	1.39	1.42	0.03	0.02	0.25

DIAMETER

INITIAL	1.99	2.00	2.00
1	2.01	2.01	2.00
2	2.00	2.00	2.00
3	2.00	2.00	2.00
4	2.01	2.00	2.00
5	2.01	2.01	2.00
6	1.99	1.99	2.00
7	2.01	2.01	2.00
8	1.99	2.00	2.00
9	1.99	2.00	2.00
10	2.00	2.01	2.00
11	1.98	1.99	2.00
12	1.99	2.01	2.00

HEIGHT

4.00	4.02	4.00
4.03	4.00	4.00
4.02	4.01	4.01
3.99	4.01	3.98
4.02	4.00	4.00
4.01	4.00	4.01
4.00	3.98	4.01
3.98	4.00	4.03
4.00	3.98	4.01
3.98	4.00	4.01
4.01	4.00	3.98
4.01	3.96	4.01
4.01	3.98	4.01

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	Z14-10-20150922-51
PROJECT No.:	SH0578	SAMPLE No. (Control):	Z14-10-20150922-51C
START DATE:	10/20/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A466		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	100.5	pcf	101.6	pcf
2. DRY UNIT WEIGHT	65.8	pcf	66.5	pcf
3. MOISTURE CONTENT	52.71	%	52.71	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-11.9	%	-1.1	%
2. TOTAL MASS LOSS	1.91	%	0.25	%
3. RELATIVE MASS LOSS	1.66	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	AK15-5-20150923-52
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	AK15-5-20150923-52C
START DATE:	10/21/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A467		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.73	g		g
3. WT WET SOIL + TARE	134.92	g		g
4. WT DRY SOIL + TARE	115.94	g		g
5. WT WATER, Ww	18.98	g		g
6. WT DRY SOIL, Ws	39.21	g		g
7. MOISTURE CONTENT, W	48.41	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	4.01	in.
No. 2	2.01	in.	4.01	in.
No. 3	2.00	in.	3.99	in.
Average	2.00	in.	4.00	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	340.62	g
Initial Dry Specimen WT, Wd	229.52	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.63	in^3
Initial Bulk Unit Weight,	102.7	pcf
Initial Dry Unit Weight,	69.2	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.73	g		g
3. WT WET SOIL + TARE	134.92	g		g
4. WT DRY SOIL + TARE	115.94	g		g
5. WT WATER, Ww	18.98	g		g
6. WT DRY SOIL, Ws	39.21	g		g
7. MOISTURE CONTENT, W	48.41	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	4.01	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	341.54	g
Initial Dry Specimen WT, Wd	230.14	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.60	in^3
Initial Bulk Unit Weight,	103.3	pcf
Initial Dry Unit Weight,	69.6	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	48.41	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.63	in³
SAMPLE No.:	AK15-5-20150923-52	INITIAL TOTAL WEIGHT:	340.63	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	229.53	grams
TRACKING CODE:	A467			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	2.00	12.63		340.63					0.00
1	3.97	1.97	12.15	-3.82	328.11	1.39	1.41	0.01	0.01	0.01
2	3.96	1.97	12.09	-4.29	326.57	1.39	1.40	0.01	0.00	0.01
3	3.96	1.96	11.96	-5.31	326.84	1.38	1.39	0.01	0.00	0.02
4	3.96	1.97	12.08	-4.37	326.97	1.39	1.41	0.02	0.01	0.03
5	3.95	1.97	12.02	-4.82	327.04	1.39	1.41	0.02	0.01	0.04
6	3.96	1.97	12.05	-4.56	327.32	1.39	1.42	0.03	0.02	0.05
7	3.96	1.97	12.01	-4.92	327.05	1.39	1.41	0.02	0.01	0.06
8	3.96	1.95	11.86	-6.11	327.57	1.39	1.42	0.03	0.01	0.08
9	3.95	1.96	11.90	-5.79	327.28	1.39	1.41	0.02	0.01	0.09
10	3.97	1.97	12.06	-4.52	327.62	1.39	1.42	0.03	0.01	0.10
11	3.95	1.96	11.91	-5.67	327.71	1.39	1.42	0.04	0.02	0.12
12	3.96	1.97	12.02	-4.84	328.02	1.39	1.44	0.05	0.02	0.14

DIAMETER

INITIAL	2.01	2.01	2.00
1	1.99	1.97	1.96
2	1.96	1.99	1.96
3	1.97	1.95	1.96
4	1.99	1.97	1.95
5	1.99	1.96	1.96
6	1.99	1.97	1.95
7	1.98	1.96	1.96
8	1.95	1.95	1.96
9	1.96	1.95	1.96
10	1.99	1.97	1.95
11	1.96	1.96	1.96
12	1.99	1.96	1.95

HEIGHT

4.01	4.01	3.99
3.97	3.98	3.97
3.96	3.95	3.98
3.96	3.94	3.97
3.98	3.95	3.96
3.94	3.95	3.95
3.95	3.97	3.96
3.97	3.96	3.95
3.97	3.97	3.94
3.96	3.96	3.94
3.98	3.96	3.96
3.96	3.94	3.96
3.95	3.96	3.97

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	48.41	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.60	in³
SAMPLE No.:	AK15-5-20150923-52C	INITIAL TOTAL WEIGHT:	341.54	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	230.14	grams
TRACKING CODE:	A467			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.60		341.54					0.00
1	4.01	2.00	12.61	0.11	342.68	1.39	1.40	0.00	0.00	0.00
2	4.01	2.00	12.58	-0.12	342.49	1.39	1.40	0.00	0.00	0.00
3	4.01	2.00	12.61	0.12	342.62	1.38	1.38	0.01	0.00	0.00
4	4.01	2.00	12.61	0.05	341.86	1.39	1.40	0.01	0.00	0.01
5	4.00	2.00	12.58	-0.13	342.11	1.39	1.43	0.04	0.02	0.02
6	4.01	2.00	12.62	0.14	342.34	1.39	1.41	0.02	0.01	0.03
7	4.02	2.00	12.63	0.27	342.33	1.39	1.42	0.03	0.01	0.05
8	4.01	2.00	12.61	0.12	342.46	1.39	1.40	0.01	0.00	0.05
9	4.00	2.00	12.57	-0.20	341.47	1.39	1.44	0.05	0.02	0.07
10	4.02	2.00	12.60	-0.01	341.74	1.39	1.42	0.03	0.01	0.09
11	4.00	2.00	12.57	-0.21	341.91	1.39	1.42	0.03	0.01	0.10
12	4.02	2.00	12.58	-0.18	341.89	1.39	1.41	0.02	0.01	0.11

DIAMETER

INITIAL	2.00	2.00	2.00
1	2.01	2.00	2.00
2	2.00	2.00	2.00
3	2.01	2.00	2.00
4	2.01	2.00	2.00
5	2.00	2.00	2.00
6	2.00	2.00	2.00
7	2.00	2.00	2.00
8	2.00	2.00	2.01
9	1.99	2.00	2.00
10	1.99	2.00	2.00
11	1.99	2.00	2.00
12	1.99	2.00	2.00

HEIGHT

4.01	4.01	4.01
4.00	4.02	4.00
4.01	4.01	4.02
4.01	4.00	4.01
4.01	4.02	3.99
4.00	3.99	4.00
4.01	4.01	4.02
4.01	4.03	4.01
4.01	4.02	3.98
4.00	4.02	4.00
4.03	4.00	4.02
4.01	4.00	4.00
4.03	4.01	4.01

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	AK15-5-20150923-52
PROJECT No.:	SH0578	SAMPLE No. (Control):	AK15-5-20150923-52C
START DATE:	10/21/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A467		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	102.7	pcf	103.3	pcf
2. DRY UNIT WEIGHT	69.2	pcf	69.6	pcf
3. MOISTURE CONTENT	48.41	%	48.41	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-6.1	%	-0.3	%
2. TOTAL MASS LOSS	0.14	%	0.11	%
3. RELATIVE MASS LOSS	0.03	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	BI13-10-20150924-53
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	BI13-10-20150924-53C
START DATE:	10/22/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A474		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	116.75	g		g
3. WT WET SOIL + TARE	200.72	g		g
4. WT DRY SOIL + TARE	171.99	g		g
5. WT WATER, Ww	28.73	g		g
6. WT DRY SOIL, Ws	55.24	g		g
7. MOISTURE CONTENT, W	52.01	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	4.00	in.
No. 2	2.00	in.	4.02	in.
No. 3	2.00	in.	4.03	in.
Average	2.00	in.	4.02	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	342.27	g
Initial Dry Specimen WT, Wd	225.16	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.65	in^3
Initial Bulk Unit Weight,	103.1	pcf
Initial Dry Unit Weight,	67.8	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	116.75	g		g
3. WT WET SOIL + TARE	200.72	g		g
4. WT DRY SOIL + TARE	171.99	g		g
5. WT WATER, Ww	28.73	g		g
6. WT DRY SOIL, Ws	55.24	g		g
7. MOISTURE CONTENT, W	52.01	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	4.02	in.
No. 2	2.00	in.	4.00	in.
No. 3	2.00	in.	4.02	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	339.36	g
Initial Dry Specimen WT, Wd	223.25	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.59	in^3
Initial Bulk Unit Weight,	102.7	pcf
Initial Dry Unit Weight,	67.5	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	52.01	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.65	in³
SAMPLE No.:	BI13-10-20150924-53		INITIAL TOTAL WEIGHT:	342.27	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	225.16	grams
TRACKING CODE:	A474				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.02	2.00	12.65		342.27					0.00
1	3.99	1.96	12.01	-5.06	330.18	1.39	1.42	0.02	0.01	0.01
2	3.99	1.98	12.25	-3.11	331.17	1.39	1.45	0.06	0.03	0.04
3	3.99	1.97	12.16	-3.84	331.76	1.39	1.42	0.03	0.01	0.05
4	3.99	1.96	12.06	-4.65	331.93	1.39	1.55	0.16	0.07	0.12
5	4.00	1.96	12.12	-4.21	332.29	1.39	1.49	0.10	0.05	0.17
6	4.00	1.97	12.18	-3.70	333.23	1.39	1.75	0.36	0.16	0.33
7	4.01	1.97	12.15	-3.91	332.85	1.39	1.72	0.33	0.15	0.47
8	4.01	1.97	12.26	-3.04	330.88	1.39	2.22	0.83	0.37	0.85
9	4.01	1.97	12.17	-3.75	330.32	1.39	2.58	1.19	0.53	1.38
10	4.02	1.98	12.33	-2.55	330.85	1.39	2.31	0.92	0.41	1.78
11	4.01	1.97	12.18	-3.72	329.42	1.39	2.95	1.56	0.69	2.48
12	3.97	1.98	12.28	-2.93	286.79	1.39	30.01	28.62	12.71	15.19

DIAMETER

INITIAL	2.01	2.00	2.00
1	1.96	1.96	1.95
2	1.99	1.97	1.96
3	1.98	1.97	1.96
4	1.97	1.96	1.96
5	1.97	1.97	1.96
6	1.99	1.95	1.96
7	1.98	1.95	1.97
8	1.98	1.97	1.97
9	1.99	1.96	1.95
10	2.00	1.96	1.97
11	2.03	1.98	1.89
12	1.99	1.99	1.97

HEIGHT

4.00	4.02	4.03
3.99	3.99	4.00
4.00	4.00	3.99
4.00	3.96	4.01
4.00	3.97	4.00
4.01	3.99	3.99
4.02	3.98	4.01
4.02	3.99	4.01
4.01	4.03	3.98
4.00	4.03	4.01
4.02	4.03	4.01
4.02	4.02	4.00
4.03	3.89	4.00

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	52.01	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.59	in³
SAMPLE No.:	BI13-10-20150924-53C	INITIAL TOTAL WEIGHT:	339.36	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	223.25	grams
TRACKING CODE:	A474			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.59		339.36					0.00
1	4.01	2.00	12.64	0.38	340.90	1.39	1.40	0.01	0.01	0.01
2	4.01	2.00	12.58	-0.14	341.06	1.39	1.40	0.01	0.00	0.01
3	4.01	2.00	12.59	-0.04	342.03	1.39	1.39	0.01	0.00	0.01
4	4.01	2.00	12.60	0.02	340.70	1.39	1.39	0.01	0.00	0.02
5	4.00	2.00	12.59	0.00	340.94	1.39	1.40	0.01	0.00	0.02
6	4.01	2.00	12.58	-0.11	341.05	1.39	1.40	0.01	0.00	0.03
7	4.01	2.00	12.59	-0.02	341.08	1.38	1.40	0.01	0.01	0.03
8	4.00	2.00	12.52	-0.61	339.48	1.39	1.44	0.06	0.03	0.06
9	4.00	1.99	12.51	-0.69	339.95	1.38	1.42	0.03	0.01	0.07
10	4.00	1.99	12.46	-1.09	340.01	1.39	1.42	0.04	0.02	0.09
11	4.00	2.00	12.53	-0.53	340.07	1.39	1.44	0.05	0.02	0.11
12	4.01	1.99	12.50	-0.78	340.23	1.39	1.43	0.04	0.02	0.13

DIAMETER

INITIAL	2.00	2.00	2.00
1	2.01	2.01	2.00
2	2.00	2.00	2.00
3	2.00	2.00	2.00
4	1.99	2.00	2.01
5	2.00	2.00	2.01
6	2.00	2.00	2.00
7	2.00	2.00	2.00
8	1.99	2.00	2.00
9	1.98	2.00	2.00
10	1.98	1.99	2.00
11	1.99	2.00	2.00
12	1.98	2.00	2.00

HEIGHT

4.02	4.00	4.02
4.03	4.00	4.01
4.00	4.03	3.98
4.02	3.98	4.03
4.01	4.03	3.98
3.99	4.02	4.00
4.03	4.01	3.99
4.02	4.03	3.99
3.99	4.01	4.01
3.97	4.01	4.02
3.99	3.98	4.02
4.02	4.00	3.99
4.01	4.01	4.00

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	BI13-10-20150924-53
PROJECT No.:	SH0578	SAMPLE No. (Control):	BI13-10-20150924-53C
START DATE:	10/22/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A474		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	103.1	pcf	102.7	pcf
2. DRY UNIT WEIGHT	67.8	pcf	67.5	pcf
3. MOISTURE CONTENT	52.01	%	52.01	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-5.1	%	-1.1	%
2. TOTAL MASS LOSS	15.19	%	0.13	%
3. RELATIVE MASS LOSS	15.06	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	BB14-15-20150925-54
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	BB14-15-20150925-54C
START DATE:	10/23/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A477		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.00	g		g
3. WT WET SOIL + TARE	132.06	g		g
4. WT DRY SOIL + TARE	114.50	g		g
5. WT WATER, Ww	17.56	g		g
6. WT DRY SOIL, Ws	37.50	g		g
7. MOISTURE CONTENT, W	46.83	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	4.03	in.
No. 2	2.01	in.	4.00	in.
No. 3	2.00	in.	4.00	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	346.85	g
Initial Dry Specimen WT, Wd	236.23	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.64	in^3
Initial Bulk Unit Weight,	104.5	pcf
Initial Dry Unit Weight,	71.2	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.00	g		g
3. WT WET SOIL + TARE	132.06	g		g
4. WT DRY SOIL + TARE	114.50	g		g
5. WT WATER, Ww	17.56	g		g
6. WT DRY SOIL, Ws	37.50	g		g
7. MOISTURE CONTENT, W	46.83	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.01	in.	4.00	in.
No. 2	2.01	in.	3.99	in.
No. 3	2.00	in.	3.98	in.
Average	2.01	in.	3.99	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	345.26	g
Initial Dry Specimen WT, Wd	235.15	g
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.61	in^3
Initial Bulk Unit Weight,	104.3	pcf
Initial Dry Unit Weight,	71.1	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	46.83	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.64	in³
SAMPLE No.:	BB14-15-20150925-54		INITIAL TOTAL WEIGHT:	346.85	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	236.23	grams
TRACKING CODE:	A477				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.64		346.85					0.00
1	3.98	1.98	12.25	-3.14	338.58	1.39	1.40	0.02	0.01	0.01
2	3.98	1.98	12.24	-3.17	339.10	1.38	1.40	0.01	0.01	0.01
3	3.98	1.98	12.22	-3.37	338.72	1.38	1.40	0.02	0.01	0.02
4	3.99	1.99	12.36	-2.24	338.94	1.38	1.44	0.06	0.03	0.05
5	3.99	1.98	12.31	-2.63	338.89	1.38	1.41	0.03	0.01	0.06
6	3.98	1.99	12.38	-2.10	339.62	1.38	1.43	0.05	0.02	0.08
7	3.99	1.99	12.42	-1.79	339.72	1.38	1.46	0.08	0.03	0.11
8	3.98	1.98	12.28	-2.88	339.80	1.38	1.47	0.09	0.04	0.15
9	4.00	1.99	12.49	-1.25	339.99	1.38	1.45	0.07	0.03	0.18
10	3.99	1.99	12.39	-1.98	340.56	1.38	1.48	0.10	0.04	0.22
11	4.01	1.99	12.52	-1.01	340.82	1.48	1.58	0.11	0.05	0.27
12	4.01	1.99	12.47	-1.41	341.06	1.39	1.64	0.25	0.11	0.37

DIAMETER

INITIAL	2.01	2.01	2.00
1	1.99	1.97	1.98
2	2.00	1.97	1.97
3	1.97	1.97	1.99
4	2.00	1.98	1.98
5	2.00	1.98	1.97
6	2.00	1.98	1.99
7	2.00	1.99	1.99
8	1.98	1.97	1.99
9	2.01	1.99	1.99
10	2.00	1.98	1.98
11	1.99	1.99	2.00
12	1.98	1.99	1.99

HEIGHT

4.03	4.00	4.00
3.98	3.97	3.99
3.99	3.97	3.98
3.98	3.99	3.98
4.00	3.99	3.97
4.00	3.99	3.99
3.99	3.97	3.98
3.98	3.99	4.01
3.97	3.99	3.99
4.00	3.99	4.00
4.00	3.97	4.00
4.01	4.01	4.01
4.01	4.01	4.01

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	46.83	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.61	in³
SAMPLE No.:	BB14-15-20150925-54C	INITIAL TOTAL WEIGHT:	345.26	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	235.15	grams
TRACKING CODE:	A477			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	3.99	2.01	12.61		345.26					0.00
1	4.00	2.00	12.60	-0.01	346.29	1.39	1.40	0.01	0.00	0.00
2	3.99	2.00	12.60	-0.03	346.53	1.39	1.40	0.01	0.00	0.01
3	3.99	2.00	12.52	-0.71	346.69	1.38	1.39	0.01	0.00	0.01
4	4.00	1.99	12.50	-0.88	346.38	1.38	1.41	0.02	0.01	0.02
5	3.99	2.01	12.61	0.05	346.64	1.38	1.39	0.01	0.00	0.02
6	3.99	2.00	12.55	-0.47	346.69	1.39	1.41	0.03	0.01	0.04
7	3.99	2.01	12.60	-0.03	346.64	1.38	1.39	0.01	0.00	0.04
8	4.01	1.99	12.49	-0.92	345.92	1.38	1.44	0.06	0.02	0.06
9	4.00	1.99	12.49	-0.92	346.16	1.38	1.42	0.04	0.02	0.08
10	4.00	1.99	12.45	-1.26	346.35	1.39	1.42	0.03	0.01	0.09
11	4.00	2.00	12.53	-0.59	346.35	1.38	1.43	0.05	0.02	0.11
12	4.00	2.01	12.63	0.20	346.31	1.40	1.45	0.05	0.02	0.13

DIAMETER

INITIAL	2.01	2.01	2.00
1	2.01	2.00	2.00
2	2.01	2.01	2.00
3	2.00	2.00	2.00
4	2.00	1.99	1.99
5	2.00	2.01	2.01
6	2.00	2.00	2.01
7	2.00	2.01	2.01
8	1.99	1.99	1.99
9	1.99	1.99	2.00
10	1.99	1.99	1.99
11	1.99	2.00	2.00
12	2.00	2.01	2.01

HEIGHT

4.00	3.99	3.98
4.00	4.01	3.99
3.98	3.99	4.00
4.00	3.99	4.00
4.00	4.00	4.00
4.00	3.99	3.99
3.98	3.99	4.00
3.98	3.99	3.99
4.01	4.02	4.00
3.99	3.99	4.01
4.01	3.99	3.98
4.00	4.00	4.00
3.99	4.00	4.00

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	BB14-15-20150925-54
PROJECT No.:	SH0578	SAMPLE No. (Control):	BB14-15-20150925-54C
START DATE:	10/23/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A477		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	104.5	pcf	104.3	pcf
2. DRY UNIT WEIGHT	71.2	pcf	71.1	pcf
3. MOISTURE CONTENT	46.83	%	46.83	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-3.4	%	-1.3	%
2. TOTAL MASS LOSS	0.37	%	0.13	%
3. RELATIVE MASS LOSS	0.24	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	AQ15-5-20150928-55
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	AQ15-5-20150928-55C
START DATE:	10/26/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A478		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	114.70	g		g
3. WT WET SOIL + TARE	190.90	g		g
4. WT DRY SOIL + TARE	166.78	g		g
5. WT WATER, Ww	24.12	g		g
6. WT DRY SOIL, Ws	52.08	g		g
7. MOISTURE CONTENT, W	46.31	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.00	in.	4.01	in.
No. 2	2.00	in.	4.00	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	350.44	g
Initial Dry Specimen WT, Wd	239.51	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.60	in^3
Initial Bulk Unit Weight,	106.0	pcf
Initial Dry Unit Weight,	72.4	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	114.70	g		g
3. WT WET SOIL + TARE	190.90	g		g
4. WT DRY SOIL + TARE	166.78	g		g
5. WT WATER, Ww	24.12	g		g
6. WT DRY SOIL, Ws	52.08	g		g
7. MOISTURE CONTENT, W	46.31	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	4.00	in.
No. 2	2.00	in.	4.00	in.
No. 3	2.00	in.	4.00	in.
Average	2.00	in.	4.00	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	349.56	g
Initial Dry Specimen WT, Wd	238.91	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.56	in^3
Initial Bulk Unit Weight,	106.0	pcf
Initial Dry Unit Weight,	72.5	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	46.31	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.60	in³
SAMPLE No.:	AQ15-5-20150928-55	INITIAL TOTAL WEIGHT:	350.44	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	239.51	grams
TRACKING CODE:	A478			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.60		350.44					0.00
1	3.99	1.98	12.23	-2.92	340.34	1.39	1.40	0.01	0.00	0.00
2	3.98	1.97	12.16	-3.48	336.83	1.39	1.40	0.01	0.00	0.01
3	3.98	1.98	12.21	-3.07	336.84	1.39	1.40	0.01	0.00	0.01
4	3.98	1.97	12.19	-3.24	337.30	1.39	1.40	0.01	0.01	0.02
5	3.99	1.98	12.22	-3.02	337.15	1.39	1.39	0.00	0.00	0.02
6	3.98	1.97	12.18	-3.32	336.80	1.39	1.41	0.02	0.01	0.02
7	3.98	1.97	12.10	-3.94	337.37	1.39	1.40	0.01	0.00	0.03
8	3.97	1.97	12.15	-3.57	337.24	1.39	1.43	0.04	0.02	0.05
9	3.99	1.98	12.21	-3.04	338.00	1.39	1.41	0.02	0.01	0.06
10	3.98	1.97	12.15	-3.58	338.76	1.39	1.41	0.02	0.01	0.06
11	3.98	1.97	12.14	-3.66	339.31	1.39	1.41	0.03	0.01	0.07
12	3.98	1.97	12.18	-3.35	338.11	1.39	1.42	0.03	0.01	0.09

DIAMETER

INITIAL	2.00	2.00	2.00
1	1.99	1.97	1.97
2	1.98	1.96	1.97
3	1.99	1.97	1.97
4	1.99	1.96	1.97
5	1.97	1.97	1.99
6	1.99	1.97	1.97
7	1.98	1.96	1.96
8	1.98	1.97	1.97
9	1.98	1.97	1.97
10	1.98	1.97	1.97
11	1.98	1.97	1.97
12	1.99	1.97	1.97

HEIGHT

4.01	4.00	4.01
4.00	3.98	3.98
3.98	3.98	3.99
3.97	3.98	3.98
3.98	3.96	3.99
4.00	3.97	4.00
3.98	3.98	3.98
3.99	3.99	3.97
3.98	3.98	3.97
3.99	3.97	3.99
3.98	3.97	3.98
3.96	3.99	3.98
3.99	3.98	3.98

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	46.31	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.56	in³
SAMPLE No.:	AQ15-5-20150928-55C	INITIAL TOTAL WEIGHT:	349.56	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	238.91	grams
TRACKING CODE:	A478			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	2.00	12.56		349.56					0.00
1	4.01	1.99	12.52	-0.33	350.52	1.39	1.40	0.01	0.00	0.00
2	4.01	2.00	12.58	0.15	350.52	1.39	1.39	0.00	0.00	0.01
3	4.01	2.00	12.65	0.74	350.87	1.39	1.39	0.00	0.00	0.01
4	4.00	2.00	12.54	-0.12	351.04	1.39	1.39	0.00	0.00	0.01
5	4.01	1.99	12.49	-0.53	350.95	1.39	1.40	0.01	0.00	0.01
6	4.00	2.00	12.57	0.08	350.46	1.39	1.39	0.00	0.00	0.01
7	4.01	1.99	12.51	-0.43	350.74	1.39	1.39	0.00	0.00	0.02
8	4.00	2.00	12.57	0.11	350.75	1.39	1.39	0.00	0.00	0.02
9	4.01	2.00	12.54	-0.16	350.03	1.39	1.39	0.00	0.00	0.02
10	4.00	1.99	12.49	-0.55	350.52	1.39	1.39	0.00	0.00	0.02
11	4.00	2.00	12.56	0.05	350.62	1.39	1.40	0.01	0.01	0.03
12	4.01	1.99	12.48	-0.64	350.71	1.39	1.40	0.01	0.00	0.03

DIAMETER

INITIAL	2.00	2.00	2.00
1	2.00	1.99	2.00
2	2.00	2.00	2.00
3	2.01	2.01	2.00
4	2.00	2.00	2.00
5	1.99	1.99	2.00
6	2.00	2.00	2.00
7	1.99	1.99	2.00
8	2.00	2.00	2.00
9	1.99	2.00	2.00
10	1.99	1.99	2.00
11	2.00	2.01	2.00
12	1.99	1.99	2.00

HEIGHT

4.00	4.00	4.00
4.01	4.00	4.01
4.01	4.00	4.01
4.02	4.01	4.01
4.00	4.00	4.01
4.01	4.01	4.02
4.00	3.99	4.01
4.01	4.01	4.00
3.99	4.00	4.01
4.01	4.00	4.01
4.01	4.00	4.00
4.01	4.00	3.99
4.01	3.99	4.01

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	AQ15-5-20150928-55
PROJECT No.:	SH0578	SAMPLE No. (Control):	AQ15-5-20150928-55C
START DATE:	10/26/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A478		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	106.0	pcf	106.0	pcf
2. DRY UNIT WEIGHT	72.4	pcf	72.5	pcf
3. MOISTURE CONTENT	46.31	%	46.31	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-3.9	%	-0.7	%
2. TOTAL MASS LOSS	0.09	%	0.03	%
3. RELATIVE MASS LOSS	0.05	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	BO31-5-20151009-58
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	BO31-5-20151009-58C
START DATE:	11/6/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A525		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.52	g		g
3. WT WET SOIL + TARE	131.46	g		g
4. WT DRY SOIL + TARE	114.31	g		g
5. WT WATER, Ww	17.15	g		g
6. WT DRY SOIL, Ws	36.79	g		g
7. MOISTURE CONTENT, W	46.62	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	4.00	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.02	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	351.65	g
Initial Dry Specimen WT, Wd	239.84	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.64	in^3
Initial Bulk Unit Weight,	106.0	pcf
Initial Dry Unit Weight,	72.3	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.52	g		g
3. WT WET SOIL + TARE	131.46	g		g
4. WT DRY SOIL + TARE	114.31	g		g
5. WT WATER, Ww	17.15	g		g
6. WT DRY SOIL, Ws	36.79	g		g
7. MOISTURE CONTENT, W	46.62	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.01	in.	4.01	in.
No. 2	2.00	in.	4.02	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.02	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	351.88	g
Initial Dry Specimen WT, Wd	240.00	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.66	in^3
Initial Bulk Unit Weight,	105.9	pcf
Initial Dry Unit Weight,	72.2	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	46.62	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.64	in³
SAMPLE No.:	BO31-5-20151009-58		INITIAL TOTAL WEIGHT:	351.65	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	239.84	grams
TRACKING CODE:	A525				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.64		351.65					0.00
1	3.99	1.96	12.05	-4.71	335.31	1.39	1.47	0.08	0.03	0.03
2	3.98	1.97	12.10	-4.29	334.97	1.39	1.47	0.08	0.04	0.07
3	3.97	1.96	11.97	-5.35	335.40	1.39	1.45	0.06	0.03	0.09
4	3.99	1.96	11.97	-5.32	335.25	1.39	1.45	0.06	0.03	0.12
5	3.99	1.96	12.01	-5.02	335.28	1.39	1.44	0.05	0.02	0.14
6	3.99	1.96	12.04	-4.80	335.66	1.39	1.47	0.09	0.04	0.18
7	3.97	1.96	11.98	-5.25	336.21	1.39	1.48	0.09	0.04	0.22
8	3.99	1.96	11.98	-5.22	335.70	1.40	1.45	0.05	0.02	0.24
9	3.98	1.96	11.95	-5.45	336.91	1.40	1.47	0.07	0.03	0.27
10	3.98	1.95	11.93	-5.63	337.10	1.39	1.45	0.06	0.03	0.29
11	3.99	1.96	12.09	-4.39	336.91	1.39	1.45	0.06	0.02	0.31
12	3.99	1.96	12.05	-4.65	337.86	1.39	1.50	0.11	0.05	0.36

DIAMETER

INITIAL	2.01	2.00	2.00
1	1.98	1.95	1.95
2	1.99	1.95	1.96
3	1.98	1.95	1.95
4	1.98	1.94	1.95
5	1.98	1.95	1.95
6	1.98	1.95	1.95
7	1.97	1.95	1.96
8	1.97	1.95	1.95
9	1.97	1.94	1.96
10	1.96	1.94	1.96
11	1.98	1.96	1.95
12	1.98	1.95	1.96

HEIGHT

4.00	4.01	4.02
4.00	4.00	3.97
3.96	4.01	3.98
3.96	3.98	3.97
3.98	3.99	4.00
4.01	3.97	3.98
3.98	3.97	4.01
3.96	3.99	3.97
4.00	4.00	3.97
3.98	3.99	3.97
3.99	3.97	3.98
4.00	3.97	4.00
3.97	3.98	4.03

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	46.62	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.66	in³
SAMPLE No.:	BO31-5-20151009-58C	INITIAL TOTAL WEIGHT:	351.88	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	240.00	grams
TRACKING CODE:	A525			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.02	2.00	12.66		351.88					0.00
1	4.02	2.00	12.66	0.04	352.76	1.39	1.39	0.00	0.00	0.00
2	4.01	2.01	12.67	0.12	352.92	1.39	1.40	0.00	0.00	0.00
3	4.01	2.00	12.64	-0.11	353.08	1.39	1.39	0.00	0.00	0.00
4	4.03	2.00	12.66	0.04	352.63	1.39	1.40	0.00	0.00	0.01
5	4.02	2.00	12.65	-0.07	352.80	1.39	1.39	0.00	0.00	0.01
6	4.01	2.00	12.61	-0.35	352.84	1.39	1.40	0.01	0.00	0.01
7	4.02	2.00	12.68	0.17	352.97	1.39	1.39	0.00	0.00	0.01
8	4.03	2.00	12.71	0.40	352.87	1.39	1.39	0.00	0.00	0.01
9	4.01	2.00	12.61	-0.41	353.13	1.39	1.39	0.00	0.00	0.01
10	4.02	2.00	12.62	-0.34	352.93	1.39	1.39	0.00	0.00	0.02
11	4.03	2.00	12.68	0.19	352.99	1.39	1.39	0.00	0.00	0.02
12	4.02	2.00	12.63	-0.23	353.15	1.39	1.39	0.00	0.00	0.02

DIAMETER

INITIAL	2.01	2.00	2.00
1	2.01	2.00	2.00
2	2.01	2.01	2.00
3	2.01	2.00	2.00
4	2.00	2.00	2.00
5	2.01	2.00	2.00
6	2.00	2.00	2.00
7	2.01	2.00	2.00
8	2.01	2.00	2.00
9	2.00	2.00	2.00
10	2.00	2.00	2.00
11	2.01	2.00	2.00
12	2.00	2.00	2.00

HEIGHT

4.01	4.02	4.01
4.03	4.01	4.01
4.02	4.01	4.01
4.02	4.01	4.01
4.01	4.06	4.01
4.02	4.01	4.01
4.01	4.01	4.01
4.02	4.02	4.04
4.02	4.04	4.02
4.01	4.01	4.01
4.02	4.01	4.02
4.03	4.03	4.02
4.03	4.01	4.02

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	BO31-5-20151009-58
PROJECT No.:	SH0578	SAMPLE No. (Control):	BO31-5-20151009-58C
START DATE:	11/6/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A525		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	106.0	pcf	105.9	pcf
2. DRY UNIT WEIGHT	72.3	pcf	72.2	pcf
3. MOISTURE CONTENT	46.62	%	46.62	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-5.6	%	-0.4	%
2. TOTAL MASS LOSS	0.36	%	0.02	%
3. RELATIVE MASS LOSS	0.34	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	CF30-15-20151013-59
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	CF30-15-20151013-59C
START DATE:	11/10/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A537		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.69	g		g
3. WT WET SOIL + TARE	148.30	g		g
4. WT DRY SOIL + TARE	122.54	g		g
5. WT WATER, Ww	25.76	g		g
6. WT DRY SOIL, Ws	45.85	g		g
7. MOISTURE CONTENT, W	56.18	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	4.00	in.
No. 2	2.00	in.	4.00	in.
No. 3	2.00	in.	4.00	in.
Average	2.00	in.	4.00	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	335.80	g
Initial Dry Specimen WT, Wd	215.00	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.61	in^3
Initial Bulk Unit Weight,	101.4	pcf
Initial Dry Unit Weight,	65.0	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.69	g		g
3. WT WET SOIL + TARE	148.30	g		g
4. WT DRY SOIL + TARE	122.54	g		g
5. WT WATER, Ww	25.76	g		g
6. WT DRY SOIL, Ws	45.85	g		g
7. MOISTURE CONTENT, W	56.18	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.01	in.	4.00	in.
No. 2	2.00	in.	4.00	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	336.58	g
Initial Dry Specimen WT, Wd	215.50	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.63	in^3
Initial Bulk Unit Weight,	101.5	pcf
Initial Dry Unit Weight,	65.0	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	56.18	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.61	in³
SAMPLE No.:	CF30-15-20151013-59		INITIAL TOTAL WEIGHT:	335.80	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	215.00	grams
TRACKING CODE:	A537				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	2.00	12.61		335.80					0.00
1	3.98	1.97	12.15	-3.65	324.02	1.39	1.40	0.01	0.00	0.00
2	3.97	1.97	12.06	-4.34	319.87	1.39	1.40	0.01	0.00	0.01
3	3.97	1.97	12.07	-4.29	320.91	1.39	1.40	0.01	0.01	0.02
4	3.98	1.98	12.25	-2.88	321.33	1.39	1.42	0.03	0.01	0.03
5	3.97	1.98	12.22	-3.13	320.13	1.39	1.44	0.05	0.02	0.05
6	3.97	1.98	12.22	-3.07	321.98	1.38	1.47	0.09	0.04	0.09
7	3.99	1.99	12.38	-1.84	321.81	1.38	1.49	0.11	0.05	0.14
8	3.98	1.97	12.11	-3.95	321.65	1.38	1.56	0.18	0.08	0.22
9	0.00	0.00	0.00	-100.00	162.88	117.84	223.35	105.51	49.07	49.30
10	0.00	0.00	0.00	-100.00				0.00	0.00	49.30
11	0.00	0.00	0.00	-100.00				0.00	0.00	49.30
12	0.00	0.00	0.00	-100.00				0.00	0.00	49.30

DIAMETER

INITIAL	2.01	2.00	2.00
1	1.99	1.96	1.96
2	2.00	1.96	1.94
3	1.99	1.94	1.97
4	1.99	1.95	1.99
5	1.99	1.96	1.99
6	1.99	1.97	1.98
7	2.00	1.98	1.99
8	2.00	1.96	1.95
9			
10			
11			
12			

HEIGHT

4.00	4.00	4.00
3.99	3.98	3.99
3.98	3.97	3.97
3.98	3.96	3.97
3.98	3.97	3.98
3.97	3.97	3.98
3.97	3.97	3.98
3.98	3.99	4.00
3.98	3.98	3.98

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	56.18	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.63	in³
SAMPLE No.:	CF30-15-20151013-59C	INITIAL TOTAL WEIGHT:	336.58	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	215.50	grams
TRACKING CODE:	A537			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.63		336.58					0.00
1	4.00	2.00	12.63	-0.01	337.52	1.40	1.40	0.00	0.00	0.00
2	4.00	2.00	12.56	-0.59	336.99	1.40	1.40	0.00	0.00	0.00
3	4.01	2.00	12.62	-0.07	337.54	1.40	1.40	0.00	0.00	0.00
4	4.01	2.00	12.58	-0.42	337.43	1.40	1.40	0.00	0.00	0.00
5	4.01	2.00	12.60	-0.23	337.17	1.39	1.40	0.00	0.00	0.01
6	4.01	2.00	12.62	-0.08	337.11	1.39	1.39	0.00	0.00	0.01
7	4.00	2.00	12.63	-0.01	337.08	1.39	1.39	0.00	0.00	0.01
8	4.01	2.01	12.66	0.26	337.24	1.39	1.39	0.00	0.00	0.01
9	0.00	0.00	0.00	-100.00	337.29	1.38	1.39	0.01	0.01	0.01
10	0.00	0.00	0.00	-100.00				0.00	0.00	0.01
11	0.00	0.00	0.00	-100.00				0.00	0.00	0.01
12	0.00	0.00	0.00	-100.00				0.00	0.00	0.01

DIAMETER

INITIAL	2.01	2.00	2.00
1	2.01	2.00	2.00
2	2.00	2.00	2.00
3	2.01	2.00	2.00
4	2.00	2.00	2.00
5	2.01	2.00	2.00
6	2.00	2.00	2.00
7	2.01	2.00	2.00
8	2.01	2.00	2.00
9			
10			
11			
12			

HEIGHT

4.00	4.00	4.01
4.00	4.00	4.01
4.01	4.00	4.00
4.01	4.03	4.00
4.01	4.00	4.00
4.01	4.01	4.01
4.02	4.01	4.02
4.00	4.01	3.99
4.01	4.00	4.02

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	CF30-15-20151013-59
PROJECT No.:	SH0578	SAMPLE No. (Control):	CF30-15-20151013-59C
START DATE:	11/10/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A537		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	101.4	pcf	101.5	pcf
2. DRY UNIT WEIGHT	65.0	pcf	65.0	pcf
3. MOISTURE CONTENT	56.18	%	56.18	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-4.3	%	-0.6	%
2. TOTAL MASS LOSS	49.30	%	0.01	%
3. RELATIVE MASS LOSS	49.29	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	BV30-10-20151015-60
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	BV30-10-20151015-60C
START DATE:	11/12/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A540		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	65.05	g		g
3. WT WET SOIL + TARE	134.67	g		g
4. WT DRY SOIL + TARE	106.30	g		g
5. WT WATER, Ww	28.37	g		g
6. WT DRY SOIL, Ws	41.25	g		g
7. MOISTURE CONTENT, W	68.78	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	3.99	in.
No. 2	2.00	in.	4.00	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.00	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	320.82	g
Initial Dry Specimen WT, Wd	190.09	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.62	in^3
Initial Bulk Unit Weight,	96.9	pcf
Initial Dry Unit Weight,	57.4	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	65.05	g		g
3. WT WET SOIL + TARE	134.67	g		g
4. WT DRY SOIL + TARE	106.30	g		g
5. WT WATER, Ww	28.37	g		g
6. WT DRY SOIL, Ws	41.25	g		g
7. MOISTURE CONTENT, W	68.78	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	4.01	in.
No. 2	2.00	in.	4.03	in.
No. 3	2.00	in.	4.00	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	321.72	g
Initial Dry Specimen WT, Wd	190.62	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.63	in^3
Initial Bulk Unit Weight,	97.1	pcf
Initial Dry Unit Weight,	57.5	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	68.78	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.62	in³
SAMPLE No.:	BV30-10-20151015-60	INITIAL TOTAL WEIGHT:	320.82	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	190.09	grams
TRACKING CODE:	A540			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	2.00	12.62		320.82					0.00
1	3.99	1.95	11.91	-5.63	298.13	1.39	1.50	0.11	0.06	0.06
2	2.79	1.96	8.42	-33.29	203.17	115.83	176.67	60.84	32.01	32.06
3	2.70	1.95	8.03	-36.36	199.83	1.40	4.09	2.69	1.41	33.48
4	0.00	0.00	0.00	-100.00	104.78	115.84	175.55	59.71	31.41	64.89
5	0.00	0.00	0.00	-100.00				0.00	0.00	64.89
6	0.00	0.00	0.00	-100.00				0.00	0.00	64.89
7	0.00	0.00	0.00	-100.00				0.00	0.00	64.89
8	0.00	0.00	0.00	-100.00				0.00	0.00	64.89
9	0.00	0.00	0.00	-100.00				0.00	0.00	64.89
10	0.00	0.00	0.00	-100.00				0.00	0.00	64.89
11	0.00	0.00	0.00	-100.00				0.00	0.00	64.89
12	0.00	0.00	0.00	-100.00				0.00	0.00	64.89

DIAMETER

INITIAL	2.01	2.00	2.00
1	1.97	1.91	1.96
2	1.96	1.93	1.99
3	1.93	1.92	1.99
4			
5			
6			
7			
8			
9			
10			
11			
12			

HEIGHT

3.99	4.00	4.01
3.99	4.01	3.98
2.93	2.90	2.54
2.77	2.86	2.46

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	68.78	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.63	in^3
SAMPLE No.:	BV30-10-20151015-60C	INITIAL TOTAL WEIGHT:	321.73	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	190.63	grams
TRACKING CODE:	A540			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in^3)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.63		321.73					0.00
1	4.01	2.00	12.58	-0.34	322.25	1.39	1.39	0.01	0.00	0.00
2	4.02	2.00	12.62	-0.05	322.60	1.39	1.39	0.00	0.00	0.00
3	4.01	2.01	12.68	0.40	322.09	1.39	1.40	0.01	0.00	0.01
4	0.00	0.00	0.00	-100.00	322.51	1.39	1.39	0.00	0.00	0.01
5	0.00	0.00	0.00	-100.00				0.00	0.00	0.01
6	0.00	0.00	0.00	-100.00				0.00	0.00	0.01
7	0.00	0.00	0.00	-100.00				0.00	0.00	0.01
8	0.00	0.00	0.00	-100.00				0.00	0.00	0.01
9	0.00	0.00	0.00	-100.00				0.00	0.00	0.01
10	0.00	0.00	0.00	-100.00				0.00	0.00	0.01
11	0.00	0.00	0.00	-100.00				0.00	0.00	0.01
12	0.00	0.00	0.00	-100.00				0.00	0.00	0.01

DIAMETER

INITIAL	2.00	2.00	2.00
1	2.00	2.00	2.00
2	2.00	2.00	2.00
3	2.02	2.00	2.00
4			
5			
6			
7			
8			
9			
10			
11			
12			

HEIGHT

4.01	4.03	4.00
4.00	4.03	4.00
4.01	4.02	4.01
4.02	4.00	4.01

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	BV30-10-20151015-60
PROJECT No.:	SH0578	SAMPLE No. (Control):	BV30-10-20151015-60C
START DATE:	11/12/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A540		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	96.9	pcf	97.1	pcf
2. DRY UNIT WEIGHT	57.4	pcf	57.5	pcf
3. MOISTURE CONTENT	68.78	%	68.78	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-36.4	%	-0.4	%
2. TOTAL MASS LOSS	64.89	%	0.01	%
3. RELATIVE MASS LOSS	64.88	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	BD26-10-20151019-62
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	BD26-10-20151019-62C
START DATE:	11/16/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A554		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	118.39	g		g
3. WT WET SOIL + TARE	192.70	g		g
4. WT DRY SOIL + TARE	164.67	g		g
5. WT WATER, Ww	28.03	g		g
6. WT DRY SOIL, Ws	46.28	g		g
7. MOISTURE CONTENT, W	60.57	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.00	in.	4.01	in.
No. 2	1.99	in.	4.00	in.
No. 3	2.00	in.	4.03	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	331.77	g
Initial Dry Specimen WT, Wd	206.63	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.55	in^3
Initial Bulk Unit Weight,	100.7	pcf
Initial Dry Unit Weight,	62.7	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	118.39	g		g
3. WT WET SOIL + TARE	192.70	g		g
4. WT DRY SOIL + TARE	164.67	g		g
5. WT WATER, Ww	28.03	g		g
6. WT DRY SOIL, Ws	46.28	g		g
7. MOISTURE CONTENT, W	60.57	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.02	in.	4.02	in.
No. 2	2.01	in.	4.00	in.
No. 3	2.00	in.	4.01	in.
Average	2.01	in.	4.01	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	331.31	g
Initial Dry Specimen WT, Wd	206.34	g
Initial Area, Ao	3.17	in^2
Initial Volume, Vo	12.70	in^3
Initial Bulk Unit Weight,	99.4	pcf
Initial Dry Unit Weight,	61.9	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	60.57	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.55	in³
SAMPLE No.:	BD26-10-20151019-62		INITIAL TOTAL WEIGHT:	331.77	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	206.63	grams
TRACKING CODE:	A554				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.55		331.77					0.00
1	3.97	1.94	11.72	-6.59	312.56	1.39	1.65	0.26	0.13	0.13
2	3.97	1.95	11.79	-6.02	309.55	1.39	2.69	1.30	0.63	0.75
3	3.97	1.94	11.75	-6.32	309.24	1.39	2.47	1.08	0.52	1.28
4	3.72	1.92	10.82	-13.75	288.65	1.39	13.41	12.02	5.82	7.09
5	3.23	1.95	9.66	-22.98	260.24	78.00	112.88	34.88	16.88	23.97
6	3.17	1.95	9.51	-24.18	237.33	1.39	3.40	2.01	0.97	24.94
7	2.73	1.94	8.04	-35.89	204.47	1.39	23.83	22.44	10.86	35.80
8	0.00	0.00	0.00	-100.00				0.00	0.00	35.80
9	0.00	0.00	0.00	-100.00				0.00	0.00	35.80
10	0.00	0.00	0.00	-100.00				0.00	0.00	35.80
11	0.00	0.00	0.00	-100.00				0.00	0.00	35.80
12	0.00	0.00	0.00	-100.00				0.00	0.00	35.80

DIAMETER

INITIAL	2.00	1.99	2.00
1	1.96	1.93	1.92
2	1.96	1.92	1.95
3	1.97	1.93	1.92
4	1.95	1.94	1.88
5	1.96	1.93	1.97
6	1.94	1.98	1.95
7	1.93	1.93	1.95
8			
9			
10			
11			
12			

HEIGHT

4.01	4.00	4.03
3.95	3.97	3.98
3.97	3.98	3.96
3.97	3.96	3.98
3.23	3.97	3.97
3.10	3.45	3.15
3.34	3.09	3.10
3.03	2.77	2.40

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	60.57	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.70	in³
SAMPLE No.:	BD26-10-20151019-62C	INITIAL TOTAL WEIGHT:	331.31	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	206.34	grams
TRACKING CODE:	A554			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.01	12.70		331.31					0.00
1	4.02	2.00	12.61	-0.71	332.21	1.40	1.45	0.05	0.02	0.02
2	4.02	2.00	12.60	-0.78	332.47	1.40	1.41	0.01	0.00	0.03
3	4.01	2.00	12.65	-0.41	332.61	1.40	1.40	0.00	0.00	0.03
4	4.02	2.00	12.59	-0.84	332.37	1.40	1.42	0.02	0.01	0.04
5	4.01	2.00	12.59	-0.87	331.94	1.39	1.41	0.02	0.01	0.05
6	4.02	2.01	12.71	0.05	332.15	1.39	1.43	0.04	0.02	0.06
7	4.02	2.00	12.60	-0.78	332.40	1.39	1.41	0.02	0.01	0.08
8	0.00	0.00	0.00	-100.00				0.00	0.00	0.08
9	0.00	0.00	0.00	-100.00				0.00	0.00	0.08
10	0.00	0.00	0.00	-100.00				0.00	0.00	0.08
11	0.00	0.00	0.00	-100.00				0.00	0.00	0.08
12	0.00	0.00	0.00	-100.00				0.00	0.00	0.08

DIAMETER

INITIAL	2.02	2.01	2.00
1	2.00	2.00	2.00
2	2.00	2.00	2.00
3	2.01	2.00	2.00
4	2.00	2.00	2.00
5	2.00	2.00	2.00
6	2.01	2.01	2.00
7	1.99	2.00	2.00
8			
9			
10			
11			
12			

HEIGHT

4.02	4.00	4.01
4.02	4.02	4.01
4.02	4.01	4.03
4.01	4.02	4.00
4.03	4.01	4.01
4.02	4.01	4.00
4.02	4.02	4.01
4.03	4.01	4.02

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	BD26-10-20151019-62
PROJECT No.:	SH0578	SAMPLE No. (Control):	BD26-10-20151019-62C
START DATE:	11/16/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A554		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	100.7	pcf	99.4	pcf
2. DRY UNIT WEIGHT	62.7	pcf	61.9	pcf
3. MOISTURE CONTENT	60.57	%	60.57	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-35.9	%	-0.9	%
2. TOTAL MASS LOSS	35.80	%	0.08	%
3. RELATIVE MASS LOSS	35.73	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	BN46-15-20151020-63
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	BN46-15-20151020-63C
START DATE:	11/17/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A555		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.69	g		g
3. WT WET SOIL + TARE	138.23	g		g
4. WT DRY SOIL + TARE	119.07	g		g
5. WT WATER, Ww	19.16	g		g
6. WT DRY SOIL, Ws	42.38	g		g
7. MOISTURE CONTENT, W	45.21	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.00	in.	4.00	in.
No. 2	2.00	in.	3.99	in.
No. 3	2.00	in.	3.99	in.
Average	2.00	in.	3.99	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	353.88	g
Initial Dry Specimen WT, Wd	243.70	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.55	in^3
Initial Bulk Unit Weight,	107.4	pcf
Initial Dry Unit Weight,	74.0	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.69	g		g
3. WT WET SOIL + TARE	138.23	g		g
4. WT DRY SOIL + TARE	119.07	g		g
5. WT WATER, Ww	19.16	g		g
6. WT DRY SOIL, Ws	42.38	g		g
7. MOISTURE CONTENT, W	45.21	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.01	in.	4.00	in.
No. 2	2.00	in.	4.00	in.
No. 3	2.00	in.	4.00	in.
Average	2.00	in.	4.00	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	355.98	g
Initial Dry Specimen WT, Wd	245.15	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.60	in^3
Initial Bulk Unit Weight,	107.6	pcf
Initial Dry Unit Weight,	74.1	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	45.21	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.55	in³
SAMPLE No.:	BN46-15-20151020-63		INITIAL TOTAL WEIGHT:	353.88	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	243.70	grams
TRACKING CODE:	A555				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	3.99	2.00	12.55		353.88					0.00
1	3.98	1.97	12.19	-2.85	345.01	1.39	1.40	0.01	0.00	0.00
2	3.97	1.97	12.17	-3.04	341.04	1.39	1.41	0.02	0.01	0.01
3	3.98	1.98	12.22	-2.57	341.31	1.39	1.42	0.03	0.01	0.02
4	3.99	1.97	12.20	-2.77	341.48	1.39	1.42	0.03	0.01	0.03
5	3.97	1.98	12.19	-2.84	342.10	1.39	1.42	0.03	0.01	0.05
6	3.99	1.97	12.20	-2.77	342.87	1.39	1.45	0.06	0.02	0.07
7	3.98	1.98	12.22	-2.58	343.49	1.39	1.44	0.05	0.02	0.09
8	3.97	1.97	12.15	-3.17	344.08	1.39	1.49	0.10	0.04	0.13
9	3.98	1.98	12.18	-2.91	344.23	1.39	1.46	0.07	0.03	0.16
10	3.99	1.97	12.20	-2.78	344.60	1.39	1.49	0.10	0.04	0.20
11	3.96	1.98	12.16	-3.04	344.40	1.39	1.41	0.01	0.01	0.21
12	3.98	1.97	12.19	-2.86	344.91	1.39	1.47	0.08	0.03	0.24

DIAMETER

INITIAL	2.00	2.00	2.00
1	1.98	1.97	1.98
2	1.98	1.97	1.97
3	1.99	1.97	1.97
4	1.99	1.96	1.97
5	1.99	1.97	1.98
6	1.98	1.97	1.98
7	1.98	1.98	1.97
8	1.98	1.96	1.97
9	1.98	1.96	1.98
10	1.97	1.97	1.98
11	1.98	1.97	1.98
12	1.98	1.97	1.98

HEIGHT

4.00	3.99	3.99
3.98	3.98	3.99
3.97	3.99	3.96
3.99	3.99	3.96
3.99	3.96	4.01
3.97	3.97	3.98
3.98	3.97	4.02
3.99	3.97	3.98
3.99	3.96	3.97
3.98	3.98	3.97
4.00	3.99	4.00
3.95	3.96	3.97
3.99	3.96	4.00

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	45.21	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.60	in³
SAMPLE No.:	BN46-15-20151020-63C	INITIAL TOTAL WEIGHT:	355.98	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	245.15	grams
TRACKING CODE:	A555			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	2.00	12.60		355.98					0.00
1	4.01	2.00	12.66	0.46	356.88	1.40	1.40	0.00	0.00	0.00
2	4.00	2.00	12.54	-0.47	357.11	1.39	1.40	0.00	0.00	0.00
3	4.01	2.01	12.68	0.65	357.18	1.39	1.40	0.00	0.00	0.00
4	4.01	2.01	12.69	0.68	356.98	1.39	1.41	0.01	0.00	0.01
5	4.00	2.00	12.58	-0.15	357.02	1.40	1.40	0.01	0.00	0.01
6	4.01	2.01	12.66	0.45	357.04	1.40	1.40	0.00	0.00	0.01
7	4.01	2.00	12.64	0.28	357.01	1.40	1.40	0.00	0.00	0.01
8	4.00	2.01	12.67	0.55	357.08	1.40	1.40	0.00	0.00	0.01
9	4.00	2.01	12.63	0.25	356.96	1.40	1.40	0.01	0.00	0.02
10	4.01	2.00	12.61	0.04	357.03	1.40	1.41	0.01	0.00	0.02
11	4.00	2.01	12.65	0.40	356.73	1.40	1.51	0.11	0.05	0.06
12	4.02	2.00	12.68	0.64	356.68	1.40	1.41	0.01	0.00	0.07

DIAMETER

INITIAL	2.01	2.00	2.00
1	2.01	2.01	2.00
2	2.00	2.00	2.00
3	2.01	2.02	2.00
4	2.01	2.01	2.00
5	2.00	2.00	2.00
6	2.01	2.01	2.00
7	2.00	2.00	2.00
8	2.01	2.01	2.00
9	2.01	2.01	2.00
10	2.00	2.00	2.00
11	2.01	2.01	2.00
12	2.01	2.00	2.00

HEIGHT

4.00	4.00	4.00
4.01	4.01	4.02
4.00	4.00	3.99
4.00	4.00	4.01
4.01	4.00	4.02
4.00	4.00	4.00
4.01	4.00	4.01
4.02	4.02	4.01
4.01	4.00	4.00
4.00	4.00	4.00
4.00	4.03	4.00
4.00	4.00	3.99
4.03	4.01	4.02

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	BN46-15-20151020-63
PROJECT No.:	SH0578	SAMPLE No. (Control):	BN46-15-20151020-63C
START DATE:	11/17/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A555		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	107.4	pcf	107.6	pcf
2. DRY UNIT WEIGHT	74.0	pcf	74.1	pcf
3. MOISTURE CONTENT	45.21	%	45.21	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-3.2	%	-0.7	%
2. TOTAL MASS LOSS	0.24	%	0.07	%
3. RELATIVE MASS LOSS	0.17	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	BG43-5-20151021-64
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	BG43-5-20151021-64C
START DATE:	11/18/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A557		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	111.89	g		g
3. WT WET SOIL + TARE	203.44	g		g
4. WT DRY SOIL + TARE	175.25	g		g
5. WT WATER, Ww	28.19	g		g
6. WT DRY SOIL, Ws	63.36	g		g
7. MOISTURE CONTENT, W	44.49	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	1.99	in.	4.02	in.
No. 2	1.99	in.	4.02	in.
No. 3	2.00	in.	4.01	in.
Average	1.99	in.	4.02	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	361.70	g
Initial Dry Specimen WT, Wd	250.33	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.56	in^3
Initial Bulk Unit Weight,	109.7	pcf
Initial Dry Unit Weight,	75.9	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	111.89	g		g
3. WT WET SOIL + TARE	203.44	g		g
4. WT DRY SOIL + TARE	175.25	g		g
5. WT WATER, Ww	28.19	g		g
6. WT DRY SOIL, Ws	63.36	g		g
7. MOISTURE CONTENT, W	44.49	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.01	in.	4.02	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	361.89	g
Initial Dry Specimen WT, Wd	250.46	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.64	in^3
Initial Bulk Unit Weight,	109.1	pcf
Initial Dry Unit Weight,	75.5	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	44.49	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.56	in³
SAMPLE No.:	BG43-5-20151021-64		INITIAL TOTAL WEIGHT:	361.70	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	250.33	grams
TRACKING CODE:	A557				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.02	1.99	12.56		361.70					0.00
1	3.99	1.99	12.39	-1.37	354.84	1.40	1.40	0.01	0.00	0.00
2	3.99	1.99	12.35	-1.71	353.22	1.40	1.59	0.20	0.08	0.08
3	3.97	1.99	12.37	-1.56	353.29	1.39	1.49	0.10	0.04	0.12
4	3.98	1.98	12.30	-2.06	353.36	1.39	1.47	0.08	0.03	0.15
5	3.98	1.98	12.23	-2.62	353.25	1.39	1.53	0.14	0.06	0.21
6	3.98	1.99	12.39	-1.40	353.23	1.39	1.52	0.13	0.05	0.26
7	3.96	1.99	12.29	-2.16	353.08	1.40	1.56	0.16	0.06	0.32
8	3.94	1.98	12.07	-3.87	352.71	1.40	1.66	0.26	0.10	0.43
9	3.97	1.98	12.29	-2.13	352.42	1.39	1.66	0.26	0.11	0.53
10	3.98	1.99	12.30	-2.06	352.28	1.40	1.50	0.11	0.04	0.57
11	3.95	1.98	12.21	-2.83	352.23	1.40	1.46	0.06	0.02	0.60
12	3.97	1.98	12.29	-2.19	352.42	1.40	1.51	0.11	0.04	0.64

DIAMETER

INITIAL	1.99	1.99	2.00
1	2.00	1.98	1.98
2	2.00	1.98	1.98
3	2.01	1.98	1.98
4	2.00	1.98	1.97
5	1.99	1.97	1.98
6	2.01	1.98	1.98
7	2.01	1.98	1.98
8	1.98	1.97	1.97
9	2.00	1.97	1.98
10	2.01	1.99	1.96
11	2.00	1.97	1.98
12	2.00	1.97	1.98

HEIGHT

4.02	4.02	4.01
3.99	4.01	3.97
3.99	3.97	4.00
3.97	3.97	3.98
3.98	3.97	3.99
3.97	3.99	3.97
4.00	3.98	3.98
3.98	3.92	3.98
4.00	3.83	3.98
3.97	3.96	3.99
3.97	3.98	3.98
3.91	3.96	3.99
3.96	3.96	3.99

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	44.49	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.64	in³
SAMPLE No.:	BG43-5-20151021-64C	INITIAL TOTAL WEIGHT:	361.89	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	250.46	grams
TRACKING CODE:	A557			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.64		361.89					0.00
1	4.01	2.00	12.64	-0.04	363.10	1.39	1.40	0.01	0.00	0.00
2	4.01	2.01	12.67	0.23	363.34	1.39	1.40	0.00	0.00	0.00
3	4.00	2.00	12.58	-0.46	343.49	1.39	1.39	0.00	0.00	0.01
4	4.01	2.00	12.63	-0.08	363.48	1.39	1.39	0.00	0.00	0.01
5	4.01	2.00	12.64	0.03	363.64	1.39	1.39	0.00	0.00	0.01
6	4.01	2.00	12.64	0.00	363.63	1.39	1.39	0.00	0.00	0.01
7	4.01	2.00	12.64	-0.03	363.56	1.40	1.40	0.00	0.00	0.01
8	4.02	2.00	12.65	0.08	363.84	1.40	1.40	0.01	0.00	0.01
9	4.01	2.00	12.66	0.16	363.60	1.40	1.40	0.01	0.00	0.01
10	4.02	2.00	12.66	0.14	363.86	1.40	1.40	0.00	0.00	0.01
11	4.01	2.01	12.70	0.47	363.63	1.40	1.40	0.00	0.00	0.01
12	4.02	2.00	12.66	0.17	363.57	1.40	1.40	0.00	0.00	0.02

DIAMETER

INITIAL	2.01	2.00	2.00
1	2.00	2.00	2.00
2	2.01	2.01	2.00
3	2.00	2.00	2.00
4	2.01	2.00	2.00
5	2.01	2.00	2.00
6	2.00	2.01	2.00
7	2.01	2.00	2.00
8	2.00	2.00	2.00
9	2.01	2.00	2.00
10	2.01	2.00	2.00
11	2.01	2.01	2.00
12	2.01	2.00	2.00

HEIGHT

4.02	4.01	4.01
4.03	4.00	4.01
4.01	4.01	4.02
4.01	4.00	4.00
4.01	4.01	4.01
4.02	4.00	4.01
4.02	4.00	4.01
4.01	4.01	4.02
4.03	4.02	4.01
4.02	4.01	4.01
4.03	4.00	4.02
4.02	4.01	4.01
4.00	4.03	4.02

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	BG43-5-20151021-64
PROJECT No.:	SH0578	SAMPLE No. (Control):	BG43-5-20151021-64C
START DATE:	11/18/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A557		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	109.7	pcf	109.1	pcf
2. DRY UNIT WEIGHT	75.9	pcf	75.5	pcf
3. MOISTURE CONTENT	44.49	%	44.49	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-3.9	%	-0.5	%
2. TOTAL MASS LOSS	0.64	%	0.02	%
3. RELATIVE MASS LOSS	0.63	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	BL40-10-20151022-65
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	BL40-10-20151022-65C
START DATE:	11/19/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A558		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.75	g		g
3. WT WET SOIL + TARE	157.52	g		g
4. WT DRY SOIL + TARE	131.72	g		g
5. WT WATER, Ww	25.80	g		g
6. WT DRY SOIL, Ws	54.97	g		g
7. MOISTURE CONTENT, W	46.93	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	4.01	in.
No. 2	2.01	in.	4.01	in.
No. 3	2.00	in.	4.02	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	341.21	g
Initial Dry Specimen WT, Wd	232.22	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.65	in^3
Initial Bulk Unit Weight,	102.7	pcf
Initial Dry Unit Weight,	69.9	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.75	g		g
3. WT WET SOIL + TARE	157.52	g		g
4. WT DRY SOIL + TARE	131.72	g		g
5. WT WATER, Ww	25.80	g		g
6. WT DRY SOIL, Ws	54.97	g		g
7. MOISTURE CONTENT, W	46.93	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.01	in.	3.98	in.
No. 2	2.01	in.	4.01	in.
No. 3	2.00	in.	4.00	in.
Average	2.00	in.	4.00	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	339.67	g
Initial Dry Specimen WT, Wd	231.17	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.60	in^3
Initial Bulk Unit Weight,	102.7	pcf
Initial Dry Unit Weight,	69.9	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	46.93	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.65	in³
SAMPLE No.:	BL40-10-20151022-65		INITIAL TOTAL WEIGHT:	341.21	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	232.22	grams
TRACKING CODE:	A558				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.65		341.21					0.00
1	4.00	1.98	12.36	-2.32	332.10	1.38	1.40	0.02	0.01	0.01
2	3.99	1.98	12.26	-3.12	331.59	1.39	1.43	0.05	0.02	0.03
3	3.99	2.00	12.58	-0.56	332.26	1.39	1.47	0.08	0.03	0.06
4	3.99	1.98	12.25	-3.18	331.72	1.38	1.44	0.06	0.03	0.09
5	3.99	2.00	12.47	-1.40	333.01	1.39	1.48	0.09	0.04	0.12
6	4.00	1.97	12.13	-4.16	331.29	1.39	1.49	0.10	0.04	0.16
7	4.00	1.97	12.13	-4.16	332.82	1.39	1.49	0.10	0.04	0.21
8	4.00	2.01	12.69	0.29	331.77	1.39	1.50	0.10	0.04	0.25
9	4.00	1.96	12.07	-4.61	331.66	1.40	1.54	0.14	0.06	0.31
10	4.00	2.01	12.68	0.20	331.63	1.40	1.70	0.30	0.13	0.44
11	4.00	2.02	12.79	1.05	331.64	1.40	1.61	0.21	0.09	0.53
12	4.01	2.01	12.75	0.74	331.32	1.40	1.81	0.41	0.18	0.71

DIAMETER

INITIAL	2.01	2.01	2.00
1	1.99	1.99	1.98
2	1.99	1.97	1.97
3	2.00	2.01	1.99
4	1.99	1.97	1.98
5	1.99	2.00	1.99
6	1.98	1.95	1.96
7	1.99	1.94	1.97
8	2.00	2.02	2.01
9	1.98	1.94	1.96
10	2.00	2.02	2.01
11	2.01	2.03	2.00
12	2.01	2.01	2.01

HEIGHT

4.01	4.01	4.02
3.99	3.99	4.01
3.99	3.98	4.00
4.00	3.99	3.99
4.00	3.99	3.99
3.99	3.99	3.98
4.01	4.00	3.99
4.00	4.00	3.99
4.01	4.01	3.99
4.00	3.96	4.02
3.99	4.01	4.00
4.00	4.02	3.99
4.01	4.02	4.01

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	46.93	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.60	in^3
SAMPLE No.:	BL40-10-20151022-65C	INITIAL TOTAL WEIGHT:	339.67	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	231.17	grams
TRACKING CODE:	A558			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in^3)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	2.00	12.60		339.67					0.00
1	4.00	2.00	12.51	-0.71	341.42	1.39	1.39	0.00	0.00	0.00
2	4.01	2.00	12.59	-0.07	341.67	1.39	1.39	0.00	0.00	0.00
3	3.99	2.00	12.50	-0.81	341.80	1.39	1.39	0.00	0.00	0.00
4	4.00	2.01	12.66	0.51	341.79	1.39	1.39	0.00	0.00	0.00
5	3.99	2.00	12.54	-0.49	341.98	1.40	1.40	0.00	0.00	0.00
6	4.00	2.01	12.70	0.80	342.02	1.40	1.40	0.00	0.00	0.00
7	4.00	2.00	12.55	-0.41	342.13	1.40	1.40	0.00	0.00	0.01
8	4.00	2.00	12.62	0.13	342.22	1.40	1.40	0.00	0.00	0.01
9	4.00	2.01	12.69	0.70	342.21	1.40	1.41	0.00	0.00	0.01
10	4.00	2.00	12.54	-0.44	342.06	1.40	1.41	0.00	0.00	0.01
11	4.00	2.00	12.61	0.06	342.01	1.40	1.41	0.00	0.00	0.01
12	4.01	2.00	12.60	0.04	342.03	1.40	1.41	0.00	0.00	0.01

DIAMETER

INITIAL	2.01	2.01	2.00
1	2.00	2.00	2.00
2	2.00	2.00	2.00
3	2.00	2.00	2.00
4	2.02	2.01	2.00
5	2.00	2.00	2.00
6	2.02	2.01	2.00
7	2.00	2.00	2.00
8	2.01	2.01	2.00
9	2.02	2.01	2.00
10	2.00	2.00	2.00
11	2.00	2.01	2.00
12	2.00	2.00	2.00

HEIGHT

3.98	4.01	4.00
3.99	4.01	3.99
4.02	3.99	4.01
3.99	4.00	3.99
4.00	4.00	3.99
3.98	3.99	4.00
3.99	4.02	3.99
3.99	4.00	4.00
4.02	3.99	3.99
4.00	4.01	3.99
4.01	3.99	4.01
4.02	4.01	3.99
4.02	3.98	4.03

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	BL40-10-20151022-65
PROJECT No.:	SH0578	SAMPLE No. (Control):	BL40-10-20151022-65C
START DATE:	11/19/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A558		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	102.7	pcf	102.7	pcf
2. DRY UNIT WEIGHT	69.9	pcf	69.9	pcf
3. MOISTURE CONTENT	46.93	%	46.93	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-4.6	%	-0.8	%
2. TOTAL MASS LOSS	0.71	%	0.01	%
3. RELATIVE MASS LOSS	0.70	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	BM35-15-20151023-66
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	BM35-15-20151023-66C
START DATE:	11/20/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A560		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.70	g		g
3. WT WET SOIL + TARE	165.80	g		g
4. WT DRY SOIL + TARE	134.88	g		g
5. WT WATER, Ww	30.92	g		g
6. WT DRY SOIL, Ws	58.18	g		g
7. MOISTURE CONTENT, W	53.15	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.00	in.	4.02	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.00	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	339.60	g
Initial Dry Specimen WT, Wd	221.75	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.59	in^3
Initial Bulk Unit Weight,	102.7	pcf
Initial Dry Unit Weight,	67.1	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.70	g		g
3. WT WET SOIL + TARE	165.80	g		g
4. WT DRY SOIL + TARE	134.88	g		g
5. WT WATER, Ww	30.92	g		g
6. WT DRY SOIL, Ws	58.18	g		g
7. MOISTURE CONTENT, W	53.15	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.02	in.	4.02	in.
No. 2	2.01	in.	4.01	in.
No. 3	2.00	in.	4.01	in.
Average	2.01	in.	4.01	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	341.70	g
Initial Dry Specimen WT, Wd	223.12	g
Initial Area, Ao	3.17	in^2
Initial Volume, Vo	12.74	in^3
Initial Bulk Unit Weight,	102.2	pcf
Initial Dry Unit Weight,	66.7	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	53.15	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.59	in³
SAMPLE No.:	BM35-15-20151023-66		INITIAL TOTAL WEIGHT:	339.60	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	221.75	grams
TRACKING CODE:	A560				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.59		339.60					0.00
1	3.98	1.99	12.38	-1.69	329.58	1.40	1.43	0.03	0.01	0.01
2	3.98	1.99	12.37	-1.79	329.39	1.40	1.41	0.00	0.00	0.01
3	3.98	1.98	12.28	-2.53	326.47	1.40	1.41	0.00	0.00	0.02
4	3.98	1.98	12.22	-2.99	327.00	1.40	1.42	0.01	0.01	0.02
5	3.98	1.99	12.38	-1.68	326.52	1.40	1.40	0.01	0.00	0.03
6	3.98	2.00	12.52	-0.63	327.05	1.40	1.41	0.01	0.00	0.03
7	3.99	1.99	12.39	-1.66	327.05	1.40	1.41	0.01	0.00	0.03
8	3.97	1.96	12.02	-4.58	327.42	1.39	1.40	0.01	0.00	0.04
9	3.98	1.99	12.41	-1.45	326.76	1.40	1.41	0.01	0.00	0.04
10	3.98	1.98	12.19	-3.21	327.58	1.40	1.41	0.01	0.00	0.05
11	3.98	1.99	12.43	-1.31	328.08	1.40	1.41	0.01	0.00	0.05
12	3.97	1.98	12.22	-2.94	328.00	1.40	1.40	0.00	0.00	0.05

DIAMETER

INITIAL	2.00	2.00	2.00
1	1.99	1.98	2.00
2	1.99	1.98	2.00
3	1.99	1.97	1.99
4	2.00	1.96	1.97
5	1.99	1.98	2.00
6	1.99	2.00	2.01
7	1.99	1.97	2.00
8	1.99	1.94	1.95
9	1.98	1.98	2.01
10	1.99	1.96	1.97
11	1.98	1.99	2.01
12	1.98	1.97	1.99

HEIGHT

4.02	4.01	4.00
3.98	3.98	3.99
3.98	3.97	4.00
3.98	3.97	3.99
3.98	3.98	4.00
3.98	3.99	3.97
3.99	3.98	3.99
3.99	3.97	4.01
3.97	3.99	3.97
3.98	3.98	3.98
3.98	3.98	3.98
3.97	3.99	3.97
3.96	3.98	3.96

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	53.15	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.74	in³
SAMPLE No.:	BM35-15-20151023-66C	INITIAL TOTAL WEIGHT:	341.70	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	223.12	grams
TRACKING CODE:	A560			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.01	12.74		341.70					0.00
1	4.03	2.00	12.61	-1.05	342.81	1.39	1.40	0.01	0.00	0.00
2	4.02	2.01	12.77	0.24	343.12	1.39	1.39	0.00	0.00	0.00
3	4.02	1.99	12.56	-1.43	343.35	1.39	1.39	0.00	0.00	0.00
4	4.02	2.00	12.61	-1.03	343.37	1.39	1.39	0.00	0.00	0.01
5	4.01	2.01	12.74	0.01	343.40	1.39	1.39	0.00	0.00	0.01
6	4.02	2.01	12.73	-0.09	343.48	1.39	1.39	0.00	0.00	0.01
7	4.01	2.01	12.74	0.01	343.39	1.39	1.39	0.00	0.00	0.01
8	4.01	2.01	12.76	0.19	343.49	1.40	1.40	0.00	0.00	0.01
9	4.01	1.99	12.53	-1.67	343.39	1.39	1.40	0.00	0.00	0.01
10	4.01	2.00	12.59	-1.20	343.37	1.40	1.40	0.00	0.00	0.01
11	4.02	2.00	12.59	-1.17	343.40	1.40	1.40	0.00	0.00	0.01
12	4.02	2.01	12.73	-0.10	343.41	1.40	1.41	0.01	0.01	0.02

DIAMETER

INITIAL	2.02	2.01	2.00
1	2.00	1.99	2.00
2	2.02	2.01	2.00
3	1.99	1.99	2.00
4	2.00	1.99	2.00
5	2.02	2.01	2.00
6	2.02	2.00	2.00
7	2.02	2.01	2.00
8	2.03	2.01	2.00
9	1.99	1.99	2.00
10	2.00	2.00	2.00
11	2.00	2.00	2.00
12	2.02	2.01	2.00

HEIGHT

4.02	4.01	4.01
4.02	4.02	4.03
4.03	4.01	4.01
4.01	4.03	4.02
4.04	4.01	4.02
4.01	4.01	4.01
4.03	4.01	4.03
4.01	4.01	4.01
4.01	4.01	4.01
4.01	4.02	4.00
4.01	4.01	4.01
4.01	4.02	4.01
4.01	4.02	4.03

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	BM35-15-20151023-66
PROJECT No.:	SH0578	SAMPLE No. (Control):	BM35-15-20151023-66C
START DATE:	11/20/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A560		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	102.7	pcf	102.2	pcf
2. DRY UNIT WEIGHT	67.1	pcf	66.7	pcf
3. MOISTURE CONTENT	53.15	%	53.15	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-4.6	%	-1.7	%
2. TOTAL MASS LOSS	0.05	%	0.02	%
3. RELATIVE MASS LOSS	0.03	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	BL40-10-20151022-65
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	BL40-10-20151022-65C
START DATE:	11/19/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A558		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.75	g		g
3. WT WET SOIL + TARE	157.52	g		g
4. WT DRY SOIL + TARE	131.72	g		g
5. WT WATER, Ww	25.80	g		g
6. WT DRY SOIL, Ws	54.97	g		g
7. MOISTURE CONTENT, W	46.93	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	4.01	in.
No. 2	2.01	in.	4.01	in.
No. 3	2.00	in.	4.02	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	341.21	g
Initial Dry Specimen WT, Wd	232.22	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.65	in^3
Initial Bulk Unit Weight,	102.7	pcf
Initial Dry Unit Weight,	69.9	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.75	g		g
3. WT WET SOIL + TARE	157.52	g		g
4. WT DRY SOIL + TARE	131.72	g		g
5. WT WATER, Ww	25.80	g		g
6. WT DRY SOIL, Ws	54.97	g		g
7. MOISTURE CONTENT, W	46.93	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.01	in.	3.98	in.
No. 2	2.01	in.	4.01	in.
No. 3	2.00	in.	4.00	in.
Average	2.00	in.	4.00	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	339.67	g
Initial Dry Specimen WT, Wd	231.17	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.60	in^3
Initial Bulk Unit Weight,	102.7	pcf
Initial Dry Unit Weight,	69.9	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	46.93	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.65	in³
SAMPLE No.:	BL40-10-20151022-65		INITIAL TOTAL WEIGHT:	341.21	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	232.22	grams
TRACKING CODE:	A558				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.65		341.21					0.00
1	4.00	1.98	12.36	-2.32	332.10	1.38	1.40	0.02	0.01	0.01
2	3.99	1.98	12.26	-3.12	331.59	1.39	1.43	0.05	0.02	0.03
3	3.99	2.00	12.58	-0.56	332.26	1.39	1.47	0.08	0.03	0.06
4	3.99	1.98	12.25	-3.18	331.72	1.38	1.44	0.06	0.03	0.09
5	3.99	2.00	12.47	-1.40	333.01	1.39	1.48	0.09	0.04	0.12
6	4.00	1.97	12.13	-4.16	331.29	1.39	1.49	0.10	0.04	0.16
7	4.00	1.97	12.13	-4.16	332.82	1.39	1.49	0.10	0.04	0.21
8	4.00	2.01	12.69	0.29	331.77	1.39	1.50	0.10	0.04	0.25
9	4.00	1.96	12.07	-4.61	331.66	1.40	1.54	0.14	0.06	0.31
10	4.00	2.01	12.68	0.20	331.63	1.40	1.70	0.30	0.13	0.44
11	4.00	2.02	12.79	1.05	331.64	1.40	1.61	0.21	0.09	0.53
12	4.01	2.01	12.75	0.74	331.32	1.40	1.81	0.41	0.18	0.71

DIAMETER

INITIAL	2.01	2.01	2.00
1	1.99	1.99	1.98
2	1.99	1.97	1.97
3	2.00	2.01	1.99
4	1.99	1.97	1.98
5	1.99	2.00	1.99
6	1.98	1.95	1.96
7	1.99	1.94	1.97
8	2.00	2.02	2.01
9	1.98	1.94	1.96
10	2.00	2.02	2.01
11	2.01	2.03	2.00
12	2.01	2.01	2.01

HEIGHT

4.01	4.01	4.02
3.99	3.99	4.01
3.99	3.98	4.00
4.00	3.99	3.99
4.00	3.99	3.99
3.99	3.99	3.98
4.01	4.00	3.99
4.00	4.00	3.99
4.01	4.01	3.99
4.00	3.96	4.02
3.99	4.01	4.00
4.00	4.02	3.99
4.01	4.02	4.01

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	46.93	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.60	in^3
SAMPLE No.:	BL40-10-20151022-65C	INITIAL TOTAL WEIGHT:	339.67	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	231.17	grams
TRACKING CODE:	A558			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in^3)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	2.00	12.60		339.67					0.00
1	4.00	2.00	12.51	-0.71	341.42	1.39	1.39	0.00	0.00	0.00
2	4.01	2.00	12.59	-0.07	341.67	1.39	1.39	0.00	0.00	0.00
3	3.99	2.00	12.50	-0.81	341.80	1.39	1.39	0.00	0.00	0.00
4	4.00	2.01	12.66	0.51	341.79	1.39	1.39	0.00	0.00	0.00
5	3.99	2.00	12.54	-0.49	341.98	1.40	1.40	0.00	0.00	0.00
6	4.00	2.01	12.70	0.80	342.02	1.40	1.40	0.00	0.00	0.00
7	4.00	2.00	12.55	-0.41	342.13	1.40	1.40	0.00	0.00	0.01
8	4.00	2.00	12.62	0.13	342.22	1.40	1.40	0.00	0.00	0.01
9	4.00	2.01	12.69	0.70	342.21	1.40	1.41	0.00	0.00	0.01
10	4.00	2.00	12.54	-0.44	342.06	1.40	1.41	0.00	0.00	0.01
11	4.00	2.00	12.61	0.06	342.01	1.40	1.41	0.00	0.00	0.01
12	4.01	2.00	12.60	0.04	342.03	1.40	1.41	0.00	0.00	0.01

DIAMETER

INITIAL	2.01	2.01	2.00
1	2.00	2.00	2.00
2	2.00	2.00	2.00
3	2.00	2.00	2.00
4	2.02	2.01	2.00
5	2.00	2.00	2.00
6	2.02	2.01	2.00
7	2.00	2.00	2.00
8	2.01	2.01	2.00
9	2.02	2.01	2.00
10	2.00	2.00	2.00
11	2.00	2.01	2.00
12	2.00	2.00	2.00

HEIGHT

3.98	4.01	4.00
3.99	4.01	3.99
4.02	3.99	4.01
3.99	4.00	3.99
4.00	4.00	3.99
3.98	3.99	4.00
3.99	4.02	3.99
3.99	4.00	4.00
4.02	3.99	3.99
4.00	4.01	3.99
4.01	3.99	4.01
4.02	4.01	3.99
4.02	3.98	4.03

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	BL40-10-20151022-65
PROJECT No.:	SH0578	SAMPLE No. (Control):	BL40-10-20151022-65C
START DATE:	11/19/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A558		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	102.7	pcf	102.7	pcf
2. DRY UNIT WEIGHT	69.9	pcf	69.9	pcf
3. MOISTURE CONTENT	46.93	%	46.93	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-4.6	%	-0.8	%
2. TOTAL MASS LOSS	0.71	%	0.01	%
3. RELATIVE MASS LOSS	0.70	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	BM35-15-20151023-66
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	BM35-15-20151023-66C
START DATE:	11/20/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A560		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.70	g		g
3. WT WET SOIL + TARE	165.80	g		g
4. WT DRY SOIL + TARE	134.88	g		g
5. WT WATER, Ww	30.92	g		g
6. WT DRY SOIL, Ws	58.18	g		g
7. MOISTURE CONTENT, W	53.15	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.00	in.	4.02	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.00	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	339.60	g
Initial Dry Specimen WT, Wd	221.75	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.59	in^3
Initial Bulk Unit Weight,	102.7	pcf
Initial Dry Unit Weight,	67.1	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.70	g		g
3. WT WET SOIL + TARE	165.80	g		g
4. WT DRY SOIL + TARE	134.88	g		g
5. WT WATER, Ww	30.92	g		g
6. WT DRY SOIL, Ws	58.18	g		g
7. MOISTURE CONTENT, W	53.15	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.02	in.	4.02	in.
No. 2	2.01	in.	4.01	in.
No. 3	2.00	in.	4.01	in.
Average	2.01	in.	4.01	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	341.70	g
Initial Dry Specimen WT, Wd	223.12	g
Initial Area, Ao	3.17	in^2
Initial Volume, Vo	12.74	in^3
Initial Bulk Unit Weight,	102.2	pcf
Initial Dry Unit Weight,	66.7	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	53.15	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.59	in³
SAMPLE No.:	BM35-15-20151023-66		INITIAL TOTAL WEIGHT:	339.60	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	221.75	grams
TRACKING CODE:	A560				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.59		339.60					0.00
1	3.98	1.99	12.38	-1.69	329.58	1.40	1.43	0.03	0.01	0.01
2	3.98	1.99	12.37	-1.79	329.39	1.40	1.41	0.00	0.00	0.01
3	3.98	1.98	12.28	-2.53	326.47	1.40	1.41	0.00	0.00	0.02
4	3.98	1.98	12.22	-2.99	327.00	1.40	1.42	0.01	0.01	0.02
5	3.98	1.99	12.38	-1.68	326.52	1.40	1.40	0.01	0.00	0.03
6	3.98	2.00	12.52	-0.63	327.05	1.40	1.41	0.01	0.00	0.03
7	3.99	1.99	12.39	-1.66	327.05	1.40	1.41	0.01	0.00	0.03
8	3.97	1.96	12.02	-4.58	327.42	1.39	1.40	0.01	0.00	0.04
9	3.98	1.99	12.41	-1.45	326.76	1.40	1.41	0.01	0.00	0.04
10	3.98	1.98	12.19	-3.21	327.58	1.40	1.41	0.01	0.00	0.05
11	3.98	1.99	12.43	-1.31	328.08	1.40	1.41	0.01	0.00	0.05
12	3.97	1.98	12.22	-2.94	328.00	1.40	1.40	0.00	0.00	0.05

DIAMETER

INITIAL	2.00	2.00	2.00
1	1.99	1.98	2.00
2	1.99	1.98	2.00
3	1.99	1.97	1.99
4	2.00	1.96	1.97
5	1.99	1.98	2.00
6	1.99	2.00	2.01
7	1.99	1.97	2.00
8	1.99	1.94	1.95
9	1.98	1.98	2.01
10	1.99	1.96	1.97
11	1.98	1.99	2.01
12	1.98	1.97	1.99

HEIGHT

4.02	4.01	4.00
3.98	3.98	3.99
3.98	3.97	4.00
3.98	3.97	3.99
3.98	3.98	4.00
3.98	3.99	3.97
3.99	3.98	3.99
3.99	3.97	4.01
3.97	3.99	3.97
3.98	3.98	3.98
3.98	3.98	3.98
3.97	3.99	3.97
3.96	3.98	3.96

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	53.15	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.74	in³
SAMPLE No.:	BM35-15-20151023-66C	INITIAL TOTAL WEIGHT:	341.70	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	223.12	grams
TRACKING CODE:	A560			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.01	12.74		341.70					0.00
1	4.03	2.00	12.61	-1.05	342.81	1.39	1.40	0.01	0.00	0.00
2	4.02	2.01	12.77	0.24	343.12	1.39	1.39	0.00	0.00	0.00
3	4.02	1.99	12.56	-1.43	343.35	1.39	1.39	0.00	0.00	0.00
4	4.02	2.00	12.61	-1.03	343.37	1.39	1.39	0.00	0.00	0.01
5	4.01	2.01	12.74	0.01	343.40	1.39	1.39	0.00	0.00	0.01
6	4.02	2.01	12.73	-0.09	343.48	1.39	1.39	0.00	0.00	0.01
7	4.01	2.01	12.74	0.01	343.39	1.39	1.39	0.00	0.00	0.01
8	4.01	2.01	12.76	0.19	343.49	1.40	1.40	0.00	0.00	0.01
9	4.01	1.99	12.53	-1.67	343.39	1.39	1.40	0.00	0.00	0.01
10	4.01	2.00	12.59	-1.20	343.37	1.40	1.40	0.00	0.00	0.01
11	4.02	2.00	12.59	-1.17	343.40	1.40	1.40	0.00	0.00	0.01
12	4.02	2.01	12.73	-0.10	343.41	1.40	1.41	0.01	0.01	0.02

DIAMETER

INITIAL	2.02	2.01	2.00
1	2.00	1.99	2.00
2	2.02	2.01	2.00
3	1.99	1.99	2.00
4	2.00	1.99	2.00
5	2.02	2.01	2.00
6	2.02	2.00	2.00
7	2.02	2.01	2.00
8	2.03	2.01	2.00
9	1.99	1.99	2.00
10	2.00	2.00	2.00
11	2.00	2.00	2.00
12	2.02	2.01	2.00

HEIGHT

4.02	4.01	4.01
4.02	4.02	4.03
4.03	4.01	4.01
4.01	4.03	4.02
4.04	4.01	4.02
4.01	4.01	4.01
4.03	4.01	4.03
4.01	4.01	4.01
4.01	4.01	4.01
4.01	4.02	4.00
4.01	4.01	4.01
4.01	4.02	4.01
4.01	4.02	4.03

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	BM35-15-20151023-66
PROJECT No.:	SH0578	SAMPLE No. (Control):	BM35-15-20151023-66C
START DATE:	11/20/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A560		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	102.7	pcf	102.2	pcf
2. DRY UNIT WEIGHT	67.1	pcf	66.7	pcf
3. MOISTURE CONTENT	53.15	%	53.15	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-4.6	%	-1.7	%
2. TOTAL MASS LOSS	0.05	%	0.02	%
3. RELATIVE MASS LOSS	0.03	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	BH38-5-20151028-67
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	BH38-5-20151028-67C
START DATE:	11/25/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A566		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.80	g		g
3. WT WET SOIL + TARE	182.52	g		g
4. WT DRY SOIL + TARE	148.84	g		g
5. WT WATER, Ww	33.68	g		g
6. WT DRY SOIL, Ws	72.04	g		g
7. MOISTURE CONTENT, W	46.75	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	4.02	in.
No. 2	2.00	in.	4.00	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	346.81	g
Initial Dry Specimen WT, Wd	236.32	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.62	in^3
Initial Bulk Unit Weight,	104.7	pcf
Initial Dry Unit Weight,	71.3	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.80	g		g
3. WT WET SOIL + TARE	182.52	g		g
4. WT DRY SOIL + TARE	148.84	g		g
5. WT WATER, Ww	33.68	g		g
6. WT DRY SOIL, Ws	72.04	g		g
7. MOISTURE CONTENT, W	46.75	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	4.00	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	347.70	g
Initial Dry Specimen WT, Wd	236.93	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.62	in^3
Initial Bulk Unit Weight,	105.0	pcf
Initial Dry Unit Weight,	71.5	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	46.75	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.62	in³
SAMPLE No.:	BH38-5-20151028-67		INITIAL TOTAL WEIGHT:	346.81	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	236.32	grams
TRACKING CODE:	A566				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.62		346.81					0.00
1	3.97	2.00	12.48	-1.10	336.36	1.39	1.41	0.02	0.01	0.01
2	3.97	1.98	12.22	-3.18	335.46	1.39	1.39	0.01	0.00	0.01
3	3.97	1.97	12.06	-4.40	335.44	1.39	1.41	0.02	0.01	0.02
4	3.97	1.99	12.30	-2.50	336.03	1.39	1.40	0.01	0.00	0.02
5	3.97	1.97	12.04	-4.54	336.30	1.39	1.40	0.01	0.00	0.03
6	4.04	1.98	12.40	-1.77	336.28	1.39	1.41	0.01	0.01	0.03
7	3.98	1.98	12.28	-2.70	336.50	1.39	1.41	0.01	0.01	0.04
8	3.97	1.96	11.99	-5.00	336.77	1.39	1.41	0.01	0.01	0.04
9	3.97	2.00	12.46	-1.29	336.85	1.39	1.42	0.02	0.01	0.05
10	3.98	2.00	12.48	-1.10	336.44	1.39	1.44	0.04	0.02	0.07
11	3.98	1.96	11.97	-5.12	336.56	1.39	1.43	0.04	0.02	0.09
12	3.97	1.97	12.05	-4.51	336.18	1.39	1.41	0.02	0.01	0.10

DIAMETER

INITIAL	2.01	2.00	2.00
1	2.00	2.00	2.01
2	1.99	1.97	1.98
3	1.99	1.95	1.96
4	1.98	1.99	1.98
5	1.98	1.96	1.95
6	1.98	1.97	1.97
7	1.98	1.98	1.98
8	1.98	1.96	1.94
9	1.99	2.00	2.01
10	1.99	2.00	2.01
11	1.98	1.96	1.93
12	1.98	1.95	1.97

HEIGHT

4.02	4.00	4.01
3.98	3.96	3.98
3.98	3.96	3.98
3.97	3.96	3.98
3.98	3.97	3.96
3.97	3.98	3.97
3.98	4.00	4.14
3.98	3.99	3.97
3.97	3.98	3.96
3.96	3.96	3.99
3.96	3.97	3.99
3.98	3.98	3.98
3.98	3.97	3.95

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	46.75	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.62	in³
SAMPLE No.:	BH38-5-20151028-67C	INITIAL TOTAL WEIGHT:	347.70	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	236.93	grams
TRACKING CODE:	A566			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.62		347.70					0.00
1	4.01	2.01	12.67	0.42	349.23	1.40	1.40	0.00	0.00	0.00
2	4.01	2.01	12.66	0.29	349.39	1.40	1.41	0.00	0.00	0.00
3	4.01	2.00	12.65	0.20	349.59	1.40	1.40	0.00	0.00	0.00
4	4.01	2.01	12.66	0.33	349.97	1.40	1.40	0.00	0.00	0.00
5	4.01	2.00	12.62	0.00	349.85	1.41	1.41	0.00	0.00	0.00
6	4.03	2.00	12.66	0.35	350.01	1.41	1.41	0.01	0.00	0.01
7	4.01	2.00	12.60	-0.17	349.88	1.41	1.41	0.00	0.00	0.01
8	4.01	2.00	12.63	0.06	349.92	1.41	1.41	0.00	0.00	0.01
9	4.00	2.00	12.59	-0.25	349.89	1.41	1.41	0.00	0.00	0.01
10	4.02	2.01	12.72	0.81	349.86	1.41	1.41	0.00	0.00	0.01
11	4.01	2.01	12.72	0.76	349.80	1.41	1.41	0.00	0.00	0.01
12	4.02	2.00	12.63	0.05	349.99	1.41	1.41	0.00	0.00	0.01

DIAMETER

INITIAL	2.00	2.00	2.00
1	2.01	2.01	2.00
2	2.01	2.01	2.00
3	2.01	2.01	2.00
4	2.01	2.01	2.00
5	2.01	2.00	2.00
6	2.01	2.00	2.00
7	2.01	2.00	2.00
8	2.01	2.00	2.00
9	2.01	2.00	2.00
10	2.01	2.01	2.00
11	2.01	2.01	2.00
12	2.01	2.00	2.00

HEIGHT

4.00	4.01	4.01
4.01	4.01	4.00
4.00	4.01	4.01
4.01	4.01	4.01
4.01	4.01	4.00
4.01	4.00	4.01
4.01	4.03	4.03
4.00	4.01	4.01
4.01	4.01	4.00
4.00	4.01	4.00
4.02	4.02	4.01
4.00	4.01	4.03
4.01	4.03	4.01

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	BH38-5-20151028-67
PROJECT No.:	SH0578	SAMPLE No. (Control):	BH38-5-20151028-67C
START DATE:	11/25/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A566		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	104.7	pcf	105.0	pcf
2. DRY UNIT WEIGHT	71.3	pcf	71.5	pcf
3. MOISTURE CONTENT	46.75	%	46.75	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-5.1	%	-0.8	%
2. TOTAL MASS LOSS	0.10	%	0.01	%
3. RELATIVE MASS LOSS	0.09	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	AT6-15-20151102-69
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	AT6-15-20151102-69C
START DATE:	11/30/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A570		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	118.40	g		g
3. WT WET SOIL + TARE	192.95	g		g
4. WT DRY SOIL + TARE	166.92	g		g
5. WT WATER, Ww	26.03	g		g
6. WT DRY SOIL, Ws	48.52	g		g
7. MOISTURE CONTENT, W	53.65	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.00	in.	4.00	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.00	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	337.89	g
Initial Dry Specimen WT, Wd	219.91	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.56	in^3
Initial Bulk Unit Weight,	102.5	pcf
Initial Dry Unit Weight,	66.7	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	118.40	g		g
3. WT WET SOIL + TARE	192.95	g		g
4. WT DRY SOIL + TARE	166.92	g		g
5. WT WATER, Ww	26.03	g		g
6. WT DRY SOIL, Ws	48.52	g		g
7. MOISTURE CONTENT, W	53.65	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.01	in.	4.01	in.
No. 2	2.01	in.	4.01	in.
No. 3	2.00	in.	4.02	in.
Average	2.01	in.	4.01	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	338.18	g
Initial Dry Specimen WT, Wd	220.10	g
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.67	in^3
Initial Bulk Unit Weight,	101.7	pcf
Initial Dry Unit Weight,	66.2	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	53.65	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.56	in³
SAMPLE No.:	AT6-15-20151102-69		INITIAL TOTAL WEIGHT:	337.89	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	219.91	grams
TRACKING CODE:	A570				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	2.00	12.56		337.89					0.00
1	3.95	1.97	12.10	-3.65	325.23	1.39	1.41	0.02	0.01	0.01
2	3.95	1.96	11.93	-5.03	320.82	1.39	1.39	0.00	0.00	0.01
3	3.94	1.97	11.99	-4.53	321.24	1.39	1.40	0.01	0.00	0.01
4	3.95	1.97	12.07	-3.92	321.24	1.39	1.40	0.01	0.00	0.01
5	3.95	1.96	11.90	-5.26	321.88	1.39	1.40	0.00	0.00	0.02
6	3.98	1.96	12.04	-4.13	321.67	1.39	1.40	0.00	0.00	0.02
7	3.94	1.94	11.70	-6.82	322.06	1.39	1.40	0.00	0.00	0.02
8	3.95	1.95	11.83	-5.81	323.00	1.39	1.40	0.01	0.00	0.02
9	3.95	1.95	11.77	-6.28	323.11	1.40	1.40	0.01	0.00	0.03
10	3.95	1.95	11.81	-5.97	323.19	1.40	1.40	0.00	0.00	0.03
11	3.95	1.96	11.95	-4.86	323.29	1.39	1.40	0.00	0.00	0.03
12	3.95	1.94	11.74	-6.53	323.84	1.39	1.40	0.00	0.00	0.03

DIAMETER

INITIAL	2.00	2.00	2.00
1	1.99	1.97	1.96
2	1.97	1.95	1.96
3	1.98	1.96	1.96
4	1.98	1.97	1.97
5	1.97	1.95	1.95
6	1.97	1.96	1.97
7	1.96	1.93	1.94
8	1.97	1.95	1.95
9	1.96	1.93	1.95
10	1.96	1.94	1.95
11	1.97	1.95	1.96
12	1.96	1.93	1.94

HEIGHT

4.00	4.01	4.01
3.95	3.96	3.94
3.96	3.96	3.95
3.93	3.96	3.94
3.94	3.96	3.94
3.97	3.93	3.96
3.98	3.96	3.99
3.95	3.94	3.94
3.94	3.94	3.96
3.97	3.94	3.93
3.96	3.96	3.93
3.94	3.96	3.94
3.97	3.96	3.93

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	53.65	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.67	in³
SAMPLE No.:	AT6-15-20151102-69C	INITIAL TOTAL WEIGHT:	338.18	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	220.10	grams
TRACKING CODE:	A570			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.01	12.67		338.18					0.00
1	4.01	2.00	12.63	-0.35	339.73	1.39	1.41	0.02	0.01	0.01
2	4.01	2.00	12.62	-0.38	340.19	1.40	1.40	0.00	0.00	0.01
3	4.00	2.00	12.63	-0.32	340.12	1.39	1.40	0.00	0.00	0.01
4	4.01	2.01	12.71	0.26	340.28	1.39	1.40	0.00	0.00	0.01
5	4.00	2.00	12.59	-0.66	340.30	1.40	1.40	0.00	0.00	0.01
6	4.01	2.00	12.61	-0.50	340.54	1.40	1.40	0.00	0.00	0.01
7	4.01	2.01	12.68	0.05	340.21	1.40	1.40	0.00	0.00	0.01
8	4.01	2.01	12.67	0.01	340.30	1.40	1.40	0.00	0.00	0.01
9	4.01	2.00	12.61	-0.51	340.29	1.40	1.40	0.00	0.00	0.01
10	4.01	2.00	12.60	-0.54	340.27	1.40	1.40	0.00	0.00	0.01
11	4.01	2.00	12.67	-0.03	340.21	1.40	1.40	0.00	0.00	0.01
12	4.01	2.00	12.63	-0.34	340.36	1.40	1.40	0.00	0.00	0.01

DIAMETER

INITIAL	2.01	2.01	2.00
1	2.01	2.00	2.00
2	2.00	2.00	2.00
3	2.01	2.00	2.00
4	2.01	2.01	2.00
5	2.00	2.00	2.00
6	2.00	2.00	2.00
7	2.01	2.01	2.00
8	2.01	2.01	2.00
9	2.00	2.00	2.00
10	2.01	2.00	1.99
11	2.01	2.01	2.00
12	2.01	2.00	2.00

HEIGHT

4.01	4.01	4.02
4.01	4.02	4.01
4.01	4.01	4.01
4.00	4.00	4.00
4.02	4.01	4.02
4.01	4.00	4.00
4.02	4.01	4.00
4.01	4.01	4.01
4.01	4.01	4.00
4.01	4.01	4.02
4.02	4.02	4.00
4.01	4.01	4.02
4.00	4.01	4.02

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	AT6-15-20151102-69
PROJECT No.:	SH0578	SAMPLE No. (Control):	AT6-15-20151102-69C
START DATE:	11/30/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A570		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	102.5	pcf	101.7	pcf
2. DRY UNIT WEIGHT	66.7	pcf	66.2	pcf
3. MOISTURE CONTENT	53.65	%	53.65	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-6.8	%	-0.7	%
2. TOTAL MASS LOSS	0.03	%	0.01	%
3. RELATIVE MASS LOSS	0.02	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	AI3-20-20151103-70
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	AI3-20-20151103-70C
START DATE:	12/1/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A571		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.59	g		g
3. WT WET SOIL + TARE	145.30	g		g
4. WT DRY SOIL + TARE	124.17	g		g
5. WT WATER, Ww	21.13	g		g
6. WT DRY SOIL, Ws	47.58	g		g
7. MOISTURE CONTENT, W	44.41	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	3.99	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	349.11	g
Initial Dry Specimen WT, Wd	241.75	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.62	in^3
Initial Bulk Unit Weight,	105.3	pcf
Initial Dry Unit Weight,	73.0	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.59	g		g
3. WT WET SOIL + TARE	145.30	g		g
4. WT DRY SOIL + TARE	124.17	g		g
5. WT WATER, Ww	21.13	g		g
6. WT DRY SOIL, Ws	47.58	g		g
7. MOISTURE CONTENT, W	44.41	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.01	in.	4.02	in.
No. 2	2.01	in.	4.03	in.
No. 3	2.00	in.	4.03	in.
Average	2.01	in.	4.03	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	348.81	g
Initial Dry Specimen WT, Wd	241.54	g
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.73	in^3
Initial Bulk Unit Weight,	104.4	pcf
Initial Dry Unit Weight,	72.3	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	44.41	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.62	in³
SAMPLE No.:	AI3-20-20151103-70	INITIAL TOTAL WEIGHT:	349.11	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	241.75	grams
TRACKING CODE:	A571			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.62		349.11					0.00
1	3.97	1.97	12.11	-4.07	337.63	1.39	1.41	0.02	0.01	0.01
2	3.96	1.97	12.06	-4.50	334.33	1.39	1.40	0.01	0.00	0.01
3	3.96	1.97	12.09	-4.22	334.15	1.39	1.40	0.01	0.00	0.02
4	3.96	1.97	12.00	-4.94	334.09	1.39	1.40	0.01	0.00	0.02
5	3.96	1.98	12.13	-3.91	334.36	1.39	1.40	0.01	0.00	0.02
6	3.95	1.96	11.98	-5.14	334.56	1.39	1.40	0.01	0.00	0.03
7	3.96	1.96	11.99	-5.00	334.55	1.39	1.40	0.01	0.00	0.03
8	3.96	1.97	12.02	-4.76	335.41	1.40	1.41	0.01	0.00	0.04
9	3.96	1.96	11.96	-5.28	335.74	1.39	1.40	0.00	0.00	0.04
10	3.96	1.96	12.00	-4.94	335.80	1.39	1.41	0.02	0.01	0.04
11	3.96	1.96	11.96	-5.27	356.27	1.39	1.40	0.00	0.00	0.05
12	3.96	1.96	11.97	-5.17	336.36	1.39	1.40	0.01	0.00	0.05

DIAMETER

INITIAL	2.01	2.00	2.00
1	1.99	1.97	1.96
2	1.98	1.96	1.96
3	1.99	1.97	1.96
4	1.97	1.95	1.97
5	1.98	1.96	1.99
6	1.97	1.95	1.97
7	1.97	1.96	1.96
8	1.97	1.95	1.97
9	1.97	1.95	1.96
10	1.98	1.95	1.96
11	1.97	1.95	1.97
12	1.97	1.95	1.97

HEIGHT

3.99	4.01	4.01
3.97	3.95	3.97
3.98	3.94	3.97
3.96	3.95	3.99
3.95	3.96	3.95
3.95	3.95	3.97
3.95	3.95	3.96
3.97	3.95	3.95
3.96	3.98	3.95
3.96	3.95	3.96
3.95	3.99	3.94
3.98	3.95	3.95
3.97	3.96	3.95

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	44.41	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.73	in³
SAMPLE No.:	AI3-20-20151103-70C	INITIAL TOTAL WEIGHT:	348.81	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	241.54	grams
TRACKING CODE:	A571			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.03	2.01	12.73		348.81					0.00
1	4.01	2.00	12.64	-0.71	350.77	1.39	1.41	0.02	0.01	0.01
2	4.01	2.00	12.65	-0.66	351.46	1.40	1.41	0.01	0.00	0.01
3	4.00	2.00	12.62	-0.90	351.52	1.40	1.40	0.00	0.00	0.01
4	4.00	2.00	12.59	-1.12	351.57	1.40	1.40	0.01	0.00	0.02
5	4.00	2.00	12.63	-0.83	351.83	1.40	1.40	0.00	0.00	0.02
6	4.02	2.00	12.68	-0.46	351.92	1.40	1.41	0.00	0.00	0.02
7	4.01	2.01	12.69	-0.37	351.67	1.40	1.40	0.00	0.00	0.02
8	4.01	2.00	12.65	-0.64	351.90	1.40	1.41	0.01	0.00	0.02
9	4.01	2.00	12.67	-0.54	351.86	1.40	1.40	0.00	0.00	0.02
10	4.01	2.01	12.69	-0.32	351.92	1.40	1.41	0.00	0.00	0.02
11	4.01	2.00	12.62	-0.87	352.14	1.40	1.41	0.00	0.00	0.03
12	4.01	2.00	12.60	-1.01	352.02	1.40	1.40	0.00	0.00	0.03

DIAMETER

INITIAL	2.01	2.01	2.00
1	2.01	2.00	2.00
2	2.01	2.00	2.00
3	2.01	2.00	2.00
4	2.01	2.00	2.00
5	2.01	2.00	2.00
6	2.01	2.00	2.00
7	2.02	2.01	2.00
8	2.01	2.01	2.00
9	2.01	2.01	2.00
10	2.01	2.01	2.00
11	2.01	2.00	2.00
12	2.00	2.00	2.00

HEIGHT

4.02	4.03	4.03
4.01	4.02	4.01
4.01	4.01	4.02
4.01	4.00	4.00
4.00	4.00	4.00
4.00	4.00	4.01
4.00	4.01	4.03
4.01	4.01	4.01
4.03	4.00	4.01
4.02	4.01	4.01
4.02	4.01	4.00
4.01	4.01	4.02
4.01	4.00	4.01

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	AI3-20-20151103-70
PROJECT No.:	SH0578	SAMPLE No. (Control):	AI3-20-20151103-70C
START DATE:	12/1/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A571		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	105.3	pcf	104.4	pcf
2. DRY UNIT WEIGHT	73.0	pcf	72.3	pcf
3. MOISTURE CONTENT	44.41	%	44.41	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-5.3	%	-1.1	%
2. TOTAL MASS LOSS	0.05	%	0.03	%
3. RELATIVE MASS LOSS	0.03	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	C3-25-20151105-71
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	C3-25-20151105-71C
START DATE:	12/3/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A572		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.39	g		g
3. WT WET SOIL + TARE	171.43	g		g
4. WT DRY SOIL + TARE	136.29	g		g
5. WT WATER, Ww	35.14	g		g
6. WT DRY SOIL, Ws	58.90	g		g
7. MOISTURE CONTENT, W	59.66	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.00	in.	4.00	in.
No. 2	2.00	in.	4.00	in.
No. 3	2.00	in.	3.99	in.
Average	2.00	in.	3.99	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	333.10	g
Initial Dry Specimen WT, Wd	208.63	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.51	in^3
Initial Bulk Unit Weight,	101.5	pcf
Initial Dry Unit Weight,	63.6	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.39	g		g
3. WT WET SOIL + TARE	171.43	g		g
4. WT DRY SOIL + TARE	136.29	g		g
5. WT WATER, Ww	35.14	g		g
6. WT DRY SOIL, Ws	58.90	g		g
7. MOISTURE CONTENT, W	59.66	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.01	in.	4.02	in.
No. 2	2.01	in.	4.03	in.
No. 3	2.00	in.	4.02	in.
Average	2.01	in.	4.02	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	333.20	g
Initial Dry Specimen WT, Wd	208.69	g
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.71	in^3
Initial Bulk Unit Weight,	99.8	pcf
Initial Dry Unit Weight,	62.5	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	59.66	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.51	in³
SAMPLE No.:	C3-25-20151105-71	INITIAL TOTAL WEIGHT:	333.10	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	208.63	grams
TRACKING CODE:	A572			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	3.99	2.00	12.51		333.10					0.00
1	3.95	1.98	12.12	-3.15	318.66	1.39	2.14	0.75	0.36	0.36
2	3.96	1.97	12.03	-3.80	318.80	1.39	1.48	0.09	0.04	0.41
3	3.96	1.98	12.22	-2.29	318.43	1.39	1.43	0.03	0.01	0.42
4	3.95	1.95	11.82	-5.54	318.11	1.40	1.43	0.03	0.01	0.43
5	3.97	1.98	12.23	-2.25	318.82	1.40	1.43	0.03	0.01	0.45
6	3.95	1.96	11.89	-4.94	318.97	1.40	1.41	0.01	0.01	0.45
7	3.95	1.94	11.73	-6.20	319.34	1.40	1.45	0.05	0.02	0.48
8	3.95	1.95	11.81	-5.63	318.88	1.40	1.43	0.03	0.01	0.49
9	3.96	1.95	11.78	-5.81	318.67	1.40	1.53	0.13	0.06	0.55
10	3.95	1.94	11.66	-6.82	319.09	1.40	1.56	0.16	0.08	0.63
11	3.95	1.97	12.04	-3.73	319.29	1.40	1.41	0.01	0.01	0.64
12	3.94	1.98	12.15	-2.87	319.08	1.40	1.51	0.12	0.06	0.69

DIAMETER

INITIAL	2.00	2.00	2.00
1	1.99	1.96	1.98
2	1.99	1.97	1.95
3	1.99	1.98	1.98
4	1.97	1.94	1.94
5	1.99	1.99	1.96
6	1.97	1.92	1.98
7	1.97	1.93	1.94
8	1.96	1.93	1.96
9	1.96	1.93	1.95
10	1.96	1.92	1.93
11	1.98	1.98	1.95
12	1.99	1.99	1.97

HEIGHT

4.00	4.00	3.99
3.96	3.95	3.95
3.96	3.97	3.96
3.97	3.94	3.97
3.97	3.94	3.95
3.95	3.94	4.01
3.95	3.95	3.96
3.95	3.96	3.94
3.95	3.95	3.95
3.96	3.97	3.94
3.95	3.95	3.96
3.94	3.96	3.95
3.94	3.95	3.94

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	59.66	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.71	in^3
SAMPLE No.:	C3-25-20151105-71C	INITIAL TOTAL WEIGHT:	333.20	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	208.69	grams
TRACKING CODE:	A572			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in^3)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.02	2.01	12.71		333.20					0.00
1	4.00	2.00	12.51	-1.58	334.82	1.39	1.40	0.01	0.01	0.01
2	4.00	2.00	12.53	-1.47	334.87	1.39	1.40	0.00	0.00	0.01
3	4.01	2.00	12.56	-1.23	334.86	1.39	1.39	0.00	0.00	0.01
4	4.00	2.00	12.50	-1.71	334.88	1.39	1.40	0.00	0.00	0.01
5	4.00	2.01	12.68	-0.27	335.07	1.40	1.40	0.00	0.00	0.01
6	4.00	2.01	12.65	-0.48	334.91	1.40	1.40	0.00	0.00	0.01
7	4.01	2.01	12.73	0.16	334.92	1.39	1.40	0.00	0.00	0.01
8	4.00	2.00	12.58	-1.05	334.96	1.39	1.40	0.00	0.00	0.01
9	4.02	2.00	12.64	-0.57	335.05	1.40	1.40	0.00	0.00	0.01
10	4.01	2.01	12.71	-0.05	334.80	1.40	1.40	0.00	0.00	0.01
11	4.01	2.00	12.57	-1.11	334.79	1.39	1.39	0.00	0.00	0.01
12	4.01	2.00	12.63	-0.69	334.95	1.40	1.40	0.00	0.00	0.02

DIAMETER

INITIAL	2.01	2.01	2.00
1	1.99	1.99	2.00
2	1.99	2.00	2.00
3	2.00	2.00	2.00
4	1.99	1.99	2.00
5	2.02	2.01	2.00
6	2.01	2.01	2.00
7	2.02	2.01	2.00
8	2.01	2.00	2.00
9	2.01	2.00	2.00
10	2.01	2.01	2.00
11	2.00	2.00	2.00
12	2.01	2.00	2.00

HEIGHT

4.02	4.03	4.02
3.99	4.00	4.02
4.00	4.00	4.00
4.01	4.00	4.00
3.99	4.00	4.01
4.00	4.00	3.99
4.00	4.00	4.01
4.01	4.02	4.01
3.99	4.01	4.00
4.03	4.02	4.01
4.01	4.03	4.01
4.01	4.01	4.00
4.01	4.01	4.01

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	C3-25-20151105-71
PROJECT No.:	SH0578	SAMPLE No. (Control):	C3-25-20151105-71C
START DATE:	12/3/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A572		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	101.5	pcf	99.8	pcf
2. DRY UNIT WEIGHT	63.6	pcf	62.5	pcf
3. MOISTURE CONTENT	59.66	%	59.66	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-6.8	%	-1.7	%
2. TOTAL MASS LOSS	0.69	%	0.02	%
3. RELATIVE MASS LOSS	0.68	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	I5-20-20151106-72
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	I5-20-20151106-72C
START DATE:	12/6/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A573		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.56	g		g
3. WT WET SOIL + TARE	165.62	g		g
4. WT DRY SOIL + TARE	134.80	g		g
5. WT WATER, Ww	30.82	g		g
6. WT DRY SOIL, Ws	57.24	g		g
7. MOISTURE CONTENT, W	53.84	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	1.99	in.	4.00	in.
No. 2	1.99	in.	3.99	in.
No. 3	2.00	in.	4.00	in.
Average	1.99	in.	4.00	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	339.03	g
Initial Dry Specimen WT, Wd	220.37	g
Initial Area, Ao	3.12	in^2
Initial Volume, Vo	12.45	in^3
Initial Bulk Unit Weight,	103.7	pcf
Initial Dry Unit Weight,	67.4	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.56	g		g
3. WT WET SOIL + TARE	165.62	g		g
4. WT DRY SOIL + TARE	134.80	g		g
5. WT WATER, Ww	30.82	g		g
6. WT DRY SOIL, Ws	57.24	g		g
7. MOISTURE CONTENT, W	53.84	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	1.99	in.	3.99	in.
No. 2	1.99	in.	4.00	in.
No. 3	2.00	in.	4.02	in.
Average	1.99	in.	4.00	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	338.59	g
Initial Dry Specimen WT, Wd	220.09	g
Initial Area, Ao	3.12	in^2
Initial Volume, Vo	12.51	in^3
Initial Bulk Unit Weight,	103.1	pcf
Initial Dry Unit Weight,	67.0	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	53.84	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.45	in³
SAMPLE No.:	I5-20-20151106-72		INITIAL TOTAL WEIGHT:	339.03	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	220.37	grams
TRACKING CODE:	A573				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	1.99	12.45		339.03					0.00
1	3.95	1.98	12.10	-2.81	328.60	1.39	1.41	0.01	0.01	0.01
2	3.96	1.98	12.16	-2.36	327.13	1.39	1.41	0.01	0.01	0.01
3	3.96	1.97	12.03	-3.37	325.17	1.39	1.40	0.00	0.00	0.01
4	3.96	1.98	12.15	-2.40	325.75	1.40	1.40	0.00	0.00	0.01
5	3.96	1.97	12.12	-2.62	325.56	1.40	1.40	0.01	0.00	0.02
6	3.96	1.98	12.13	-2.61	326.28	1.40	1.40	0.00	0.00	0.02
7	3.95	1.97	12.06	-3.15	326.49	1.40	1.40	0.00	0.00	0.02
8	3.96	1.97	12.08	-2.94	326.85	1.40	1.40	0.00	0.00	0.02
9	3.95	1.96	11.95	-4.05	326.99	1.40	1.41	0.01	0.00	0.03
10	3.96	1.96	11.99	-3.74	326.98	1.40	1.40	0.01	0.00	0.03
11	3.97	1.96	11.96	-3.97	327.15	1.40	1.41	0.01	0.00	0.03
12	3.96	1.96	11.94	-4.11	327.36	1.40	1.40	0.00	0.00	0.04

DIAMETER

INITIAL	1.99	1.99	2.00
1	1.99	1.97	1.97
2	2.00	1.97	1.96
3	1.98	1.96	1.96
4	1.99	1.98	1.97
5	2.00	1.96	1.96
6	1.99	1.97	1.96
7	1.99	1.96	1.96
8	1.98	1.97	1.97
9	1.98	1.95	1.96
10	1.97	1.96	1.96
11	1.97	1.95	1.96
12	1.98	1.94	1.96

HEIGHT

4.00	3.99	4.00
3.94	3.93	3.98
3.99	3.95	3.94
3.95	3.96	3.98
3.95	3.95	3.97
3.97	3.96	3.95
3.95	3.96	3.96
3.95	3.96	3.95
3.94	3.95	4.00
3.94	3.97	3.95
3.95	3.97	3.96
3.95	3.96	4.00
3.94	3.96	3.98

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	53.84	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.51	in³
SAMPLE No.:	I5-20-20151106-72C	INITIAL TOTAL WEIGHT:	338.59	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	220.09	grams
TRACKING CODE:	A573			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	1.99	12.51		338.59					0.00
1	3.99	2.00	12.56	0.45	340.73	1.38	1.41	0.02	0.01	0.01
2	4.00	2.00	12.53	0.17	341.06	1.39	1.39	0.01	0.00	0.01
3	3.99	2.01	12.65	1.15	341.20	1.38	1.39	0.00	0.00	0.02
4	4.00	2.00	12.53	0.15	341.15	1.39	1.39	0.00	0.00	0.02
5	3.99	1.99	12.45	-0.43	341.36	1.39	1.40	0.01	0.01	0.02
6	3.99	2.00	12.49	-0.17	341.15	1.39	1.39	0.00	0.00	0.02
7	3.99	2.01	12.69	1.46	341.09	1.39	1.39	0.00	0.00	0.02
8	4.00	2.00	12.59	0.66	341.16	1.39	1.39	0.00	0.00	0.02
9	3.99	2.01	12.70	1.50	341.14	1.39	1.39	0.00	0.00	0.03
10	3.99	2.00	12.49	-0.13	341.05	1.39	1.39	0.00	0.00	0.03
11	3.99	2.00	12.51	-0.02	341.15	1.39	1.39	0.00	0.00	0.03
12	4.00	2.00	12.60	0.71	340.92	1.39	1.39	0.00	0.00	0.03

DIAMETER

INITIAL	1.99	1.99	2.00
1	2.01	2.00	2.00
2	2.00	2.00	2.00
3	2.02	2.01	2.00
4	2.00	2.00	2.00
5	1.99	1.99	2.00
6	1.99	2.00	2.00
7	2.02	2.01	2.00
8	2.01	2.00	2.00
9	2.02	2.02	2.00
10	1.99	2.00	2.00
11	2.00	2.00	2.00
12	2.01	2.00	2.00

HEIGHT

3.99	4.00	4.02
4.00	3.99	3.99
4.00	3.98	4.01
4.00	3.98	3.99
3.99	3.99	4.02
3.98	3.99	4.00
3.98	4.01	3.99
4.00	4.00	3.97
3.98	4.00	4.00
4.00	3.99	3.99
3.99	3.99	4.00
3.98	4.00	3.99
4.01	4.01	3.98

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	I5-20-20151106-72
PROJECT No.:	SH0578	SAMPLE No. (Control):	I5-20-20151106-72C
START DATE:	12/6/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A573		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	103.7	pcf	103.1	pcf
2. DRY UNIT WEIGHT	67.4	pcf	67.0	pcf
3. MOISTURE CONTENT	53.84	%	53.84	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-4.1	%	-1.5	%
2. TOTAL MASS LOSS	0.04	%	0.03	%
3. RELATIVE MASS LOSS	0.01	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	R4-5-20151109-73
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	R4-5-20151109-73C
START DATE:	12/7/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A574		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	65.05	g		g
3. WT WET SOIL + TARE	125.51	g		g
4. WT DRY SOIL + TARE	101.68	g		g
5. WT WATER, Ww	23.83	g		g
6. WT DRY SOIL, Ws	36.63	g		g
7. MOISTURE CONTENT, W	65.06	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	3.99	in.
No. 2	2.00	in.	4.04	in.
No. 3	2.00	in.	3.98	in.
Average	2.00	in.	4.00	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	325.93	g
Initial Dry Specimen WT, Wd	197.47	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.59	in^3
Initial Bulk Unit Weight,	98.6	pcf
Initial Dry Unit Weight,	59.7	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	65.05	g		g
3. WT WET SOIL + TARE	125.51	g		g
4. WT DRY SOIL + TARE	101.68	g		g
5. WT WATER, Ww	23.83	g		g
6. WT DRY SOIL, Ws	36.63	g		g
7. MOISTURE CONTENT, W	65.06	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	1.99	in.	3.98	in.
No. 2	2.00	in.	3.98	in.
No. 3	2.00	in.	4.03	in.
Average	1.99	in.	4.00	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	325.24	g
Initial Dry Specimen WT, Wd	197.05	g
Initial Area, Ao	3.12	in^2
Initial Volume, Vo	12.49	in^3
Initial Bulk Unit Weight,	99.2	pcf
Initial Dry Unit Weight,	60.1	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	65.06	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.59	in³
SAMPLE No.:	R4-5-20151109-73		INITIAL TOTAL WEIGHT:	325.93	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	197.47	grams
TRACKING CODE:	A574				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	2.00	12.59		325.93					0.00
1	3.97	1.98	12.24	-2.83	321.29	1.39	1.44	0.05	0.03	0.03
2	3.97	1.98	12.19	-3.18	320.64	1.39	1.42	0.03	0.02	0.04
3	3.96	1.97	12.08	-4.10	318.35	1.40	1.41	0.01	0.01	0.05
4	3.96	1.97	12.14	-3.62	318.51	1.40	1.40	0.01	0.00	0.05
5	3.96	1.98	12.14	-3.59	318.33	1.40	1.41	0.01	0.00	0.05
6	3.94	1.97	12.07	-4.19	318.33	1.40	1.40	0.00	0.00	0.06
7	3.95	1.97	12.05	-4.31	318.49	1.40	1.40	0.00	0.00	0.06
8	3.95	1.97	12.08	-4.05	318.52	1.40	1.40	0.01	0.00	0.06
9	3.87	1.97	11.83	-6.05	318.98	1.40	1.41	0.01	0.00	0.07
10	3.94	1.97	12.08	-4.09	319.20	1.40	1.40	0.01	0.00	0.07
11	3.95	1.97	12.08	-4.06	319.31	1.40	1.40	0.01	0.00	0.07
12	3.95	1.97	12.04	-4.41	319.36	1.40	1.41	0.02	0.01	0.08

DIAMETER

INITIAL	2.01	2.00	2.00
1	1.98	1.98	1.98
2	1.98	1.98	1.98
3	1.97	1.97	1.97
4	1.98	1.97	1.97
5	1.98	1.98	1.97
6	1.98	1.97	1.98
7	1.97	1.96	1.98
8	1.97	1.97	1.97
9	1.98	1.96	1.98
10	1.98	1.96	1.98
11	1.98	1.96	1.98
12	1.97	1.97	1.97

HEIGHT

3.99	4.04	3.98
4.00	3.99	3.94
3.97	3.95	3.98
3.98	3.93	3.95
3.97	3.95	3.97
3.96	3.93	3.98
3.91	3.96	3.96
3.93	3.94	3.97
3.94	3.97	3.95
3.93	3.93	3.74
3.95	3.96	3.92
3.96	3.97	3.93
3.94	3.97	3.93

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	65.06	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.49	in³
SAMPLE No.:	R4-5-20151109-73C	INITIAL TOTAL WEIGHT:	325.24	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	197.05	grams
TRACKING CODE:	A574			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	1.99	12.49		325.24					0.00
1	3.99	2.01	12.61	0.99	327.67	1.39	1.43	0.04	0.02	0.02
2	3.99	2.00	12.54	0.43	327.67	1.39	1.41	0.02	0.01	0.03
3	3.98	2.00	12.44	-0.41	328.01	1.40	1.40	0.01	0.00	0.04
4	3.99	1.99	12.47	-0.12	328.25	1.39	1.40	0.01	0.00	0.04
5	3.99	2.00	12.59	0.80	328.08	1.39	1.40	0.01	0.00	0.04
6	3.98	2.00	12.45	-0.33	328.03	1.40	1.40	0.00	0.00	0.04
7	3.98	2.00	12.52	0.26	328.00	1.39	1.40	0.00	0.00	0.05
8	3.99	2.00	12.51	0.20	328.19	1.39	1.40	0.00	0.00	0.05
9	3.99	2.00	12.48	-0.05	328.11	1.39	1.40	0.00	0.00	0.05
10	3.99	2.00	12.57	0.64	328.07	1.39	1.40	0.00	0.00	0.05
11	3.99	2.01	12.62	1.06	328.44	1.39	1.40	0.00	0.00	0.05
12	4.00	1.99	12.47	-0.12	328.30	1.39	1.40	0.01	0.00	0.06

DIAMETER

INITIAL	1.99	2.00	2.00
1	2.02	2.00	2.00
2	2.00	2.00	2.00
3	1.99	2.00	2.00
4	1.99	2.00	2.00
5	2.01	2.00	2.00
6	1.99	2.00	2.00
7	2.00	2.00	2.00
8	2.00	2.00	2.00
9	1.99	2.00	2.00
10	2.01	2.00	2.00
11	2.02	2.00	2.00
12	1.99	2.00	2.00

HEIGHT

3.98	3.98	4.03
4.01	3.98	3.98
4.00	3.97	3.99
3.97	3.97	3.99
3.98	4.00	4.00
4.02	3.99	3.97
3.98	3.97	3.99
3.98	3.97	4.01
4.00	3.98	3.99
3.97	3.98	4.02
4.00	3.98	3.98
4.00	3.99	3.99
3.97	3.99	4.03

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	R4-5-20151109-73
PROJECT No.:	SH0578	SAMPLE No. (Control):	R4-5-20151109-73C
START DATE:	12/7/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A574		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	98.6	pcf	99.2	pcf
2. DRY UNIT WEIGHT	59.7	pcf	60.1	pcf
3. MOISTURE CONTENT	65.06	%	65.06	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-6.1	%	-1.1	%
2. TOTAL MASS LOSS	0.08	%	0.06	%
3. RELATIVE MASS LOSS	0.03	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	X4-15-20151110-74
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	X4-15-20151110-74C
START DATE:	12/8/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A583		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	111.83	g		g
3. WT WET SOIL + TARE	198.87	g		g
4. WT DRY SOIL + TARE	172.43	g		g
5. WT WATER, Ww	26.44	g		g
6. WT DRY SOIL, Ws	60.60	g		g
7. MOISTURE CONTENT, W	43.63	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	1.99	in.	3.99	in.
No. 2	1.99	in.	4.00	in.
No. 3	1.99	in.	4.00	in.
Average	1.99	in.	4.00	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	350.40	g
Initial Dry Specimen WT, Wd	243.96	g
Initial Area, Ao	3.12	in^2
Initial Volume, Vo	12.48	in^3
Initial Bulk Unit Weight,	106.9	pcf
Initial Dry Unit Weight,	74.4	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	111.83	g		g
3. WT WET SOIL + TARE	198.87	g		g
4. WT DRY SOIL + TARE	172.43	g		g
5. WT WATER, Ww	26.44	g		g
6. WT DRY SOIL, Ws	60.60	g		g
7. MOISTURE CONTENT, W	43.63	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	4.00	in.
No. 2	2.00	in.	4.00	in.
No. 3	1.99	in.	4.02	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	353.70	g
Initial Dry Specimen WT, Wd	246.26	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.53	in^3
Initial Bulk Unit Weight,	107.6	pcf
Initial Dry Unit Weight,	74.9	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	43.63	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.48	in³
SAMPLE No.:	X4-15-20151110-74		INITIAL TOTAL WEIGHT:	350.40	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	243.96	grams
TRACKING CODE:	A583				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	1.99	12.48		350.40					0.00
1	3.95	1.97	12.10	-3.12	341.54	1.39	1.41	0.02	0.01	0.01
2	3.95	1.97	12.04	-3.59	339.96	1.39	1.42	0.03	0.01	0.02
3	3.96	1.97	12.07	-3.31	340.08	1.39	1.41	0.01	0.01	0.03
4	3.95	1.97	12.02	-3.70	339.61	1.39	1.40	0.01	0.00	0.03
5	3.95	1.97	12.00	-3.92	339.96	1.39	1.40	0.01	0.00	0.03
6	3.96	1.97	12.01	-3.81	340.25	1.40	1.41	0.01	0.01	0.04
7	3.96	1.96	12.00	-3.86	340.31	1.40	1.41	0.01	0.01	0.04
8	3.96	1.96	12.01	-3.77	341.33	1.40	1.42	0.02	0.01	0.05
9	3.96	1.97	12.01	-3.82	341.23	1.40	1.41	0.01	0.00	0.06
10	3.96	1.97	12.11	-3.04	341.68	1.39	1.40	0.01	0.00	0.06
11	3.95	1.96	11.98	-4.08	341.57	1.39	1.41	0.02	0.01	0.07
12	3.94	1.97	11.97	-4.12	341.36	1.39	1.41	0.02	0.01	0.08

DIAMETER

INITIAL	1.99	1.99	1.99
1	1.98	1.97	1.97
2	1.98	1.96	1.96
3	1.98	1.97	1.97
4	1.98	1.96	1.97
5	1.97	1.96	1.97
6	1.97	1.96	1.97
7	1.97	1.96	1.96
8	1.97	1.96	1.96
9	1.97	1.96	1.97
10	1.97	1.96	1.99
11	1.97	1.96	1.96
12	1.97	1.96	1.96

HEIGHT

3.99	4.00	4.00
3.97	3.94	3.96
3.96	3.95	3.95
3.96	3.95	3.97
3.97	3.94	3.95
3.94	3.95	3.97
3.95	3.95	3.97
3.95	3.96	3.97
3.95	3.95	3.99
3.95	3.96	3.95
3.96	3.95	3.96
3.94	3.95	3.95
3.95	3.93	3.95

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	43.63	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.53	in^3
SAMPLE No.:	X4-15-20151110-74C	INITIAL TOTAL WEIGHT:	353.70	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	246.26	grams
TRACKING CODE:	A583			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in^3)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.53		353.70					0.00
1	4.01	1.99	12.52	-0.10	355.27	1.40	1.41	0.02	0.01	0.01
2	4.00	2.00	12.55	0.20	355.62	1.40	1.40	0.00	0.00	0.01
3	4.01	2.00	12.62	0.71	355.73	1.40	1.40	0.00	0.00	0.01
4	4.00	2.00	12.60	0.60	355.99	1.40	1.40	0.00	0.00	0.01
5	4.00	2.00	12.55	0.18	355.67	1.40	1.40	0.00	0.00	0.01
6	4.00	2.00	12.61	0.64	355.47	1.40	1.41	0.00	0.00	0.01
7	4.01	2.00	12.66	1.08	355.67	1.40	1.41	0.00	0.00	0.01
8	4.00	1.99	12.51	-0.14	355.38	1.40	1.40	0.00	0.00	0.01
9	4.00	2.00	12.60	0.58	355.35	1.40	1.40	0.00	0.00	0.01
10	4.01	2.00	12.61	0.61	355.70	1.40	1.40	0.00	0.00	0.01
11	4.01	2.00	12.65	0.96	355.77	1.40	1.40	0.00	0.00	0.02
12	4.01	2.00	12.58	0.42	355.44	1.40	1.41	0.01	0.00	0.02

DIAMETER

INITIAL	2.00	2.00	1.99
1	2.00	1.99	2.00
2	2.00	2.00	2.00
3	2.01	2.00	2.00
4	2.01	2.00	2.00
5	2.00	2.00	2.00
6	2.01	2.00	2.00
7	2.01	2.01	2.00
8	2.00	1.99	2.00
9	2.01	2.00	2.00
10	2.01	2.00	2.00
11	2.01	2.01	2.00
12	2.00	2.00	2.00

HEIGHT

4.00	4.00	4.02
4.01	4.01	4.00
4.00	3.99	4.00
4.03	4.00	4.00
4.01	4.01	3.99
4.01	4.00	4.00
4.00	4.00	4.01
4.02	4.01	4.01
3.99	4.00	4.02
4.00	3.99	4.02
4.01	4.00	4.01
4.01	4.03	3.99
4.01	4.01	4.00

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	X4-15-20151110-74
PROJECT No.:	SH0578	SAMPLE No. (Control):	X4-15-20151110-74C
START DATE:	12/8/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A583		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	106.9	pcf	107.6	pcf
2. DRY UNIT WEIGHT	74.4	pcf	74.9	pcf
3. MOISTURE CONTENT	43.63	%	43.63	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-4.1	%	-1.1	%
2. TOTAL MASS LOSS	0.08	%	0.02	%
3. RELATIVE MASS LOSS	0.06	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	AN6-10-20151112-75
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	AN6-10-20151112-75C
START DATE:	12/10/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A592		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.69	g		g
3. WT WET SOIL + TARE	165.18	g		g
4. WT DRY SOIL + TARE	137.71	g		g
5. WT WATER, Ww	27.47	g		g
6. WT DRY SOIL, Ws	61.02	g		g
7. MOISTURE CONTENT, W	45.02	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	4.01	in.
No. 2	2.00	in.	4.02	in.
No. 3	2.00	in.	4.03	in.
Average	2.00	in.	4.02	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	351.21	g
Initial Dry Specimen WT, Wd	242.18	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.64	in^3
Initial Bulk Unit Weight,	105.8	pcf
Initial Dry Unit Weight,	73.0	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.69	g		g
3. WT WET SOIL + TARE	165.18	g		g
4. WT DRY SOIL + TARE	137.71	g		g
5. WT WATER, Ww	27.47	g		g
6. WT DRY SOIL, Ws	61.02	g		g
7. MOISTURE CONTENT, W	45.02	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.01	in.	4.02	in.
No. 2	2.00	in.	4.02	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.02	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	349.38	g
Initial Dry Specimen WT, Wd	240.92	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.62	in^3
Initial Bulk Unit Weight,	105.5	pcf
Initial Dry Unit Weight,	72.7	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	45.02	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.64	in³
SAMPLE No.:	AN6-10-20151112-75		INITIAL TOTAL WEIGHT:	351.21	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	242.18	grams
TRACKING CODE:	A592				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.02	2.00	12.64		351.21					0.00
1	3.98	1.97	12.12	-4.15	338.66	1.39	1.41	0.03	0.01	0.01
2	3.97	1.97	12.04	-4.81	338.55	1.39	1.41	0.01	0.01	0.02
3	3.96	1.97	12.07	-4.54	338.13	1.39	1.40	0.01	0.00	0.02
4	3.97	1.97	12.05	-4.68	338.84	1.39	1.40	0.01	0.00	0.03
5	3.97	1.97	12.07	-4.54	339.02	1.39	1.41	0.02	0.01	0.03
6	3.97	1.97	12.14	-4.00	339.20	1.39	1.42	0.02	0.01	0.04
7	3.97	1.97	12.10	-4.30	339.52	1.39	1.43	0.04	0.02	0.06
8	3.97	1.97	12.11	-4.22	339.56	1.39	1.42	0.03	0.01	0.07
9	3.97	1.97	12.05	-4.74	339.79	1.39	1.44	0.05	0.02	0.09
10	3.99	1.97	12.19	-3.57	339.71	1.39	1.43	0.04	0.02	0.11
11	3.97	1.97	12.07	-4.52	339.87	1.39	1.42	0.03	0.01	0.12
12	3.96	1.97	12.06	-4.60	339.91	1.39	1.43	0.04	0.01	0.13

DIAMETER

INITIAL	2.01	2.00	2.00
1	1.98	1.97	1.96
2	1.98	1.95	1.96
3	1.98	1.96	1.97
4	1.98	1.97	1.96
5	1.98	1.96	1.96
6	1.98	1.98	1.96
7	1.98	1.97	1.96
8	1.98	1.97	1.96
9	1.98	1.96	1.96
10	1.98	1.97	1.96
11	1.98	1.96	1.96
12	1.98	1.96	1.97

HEIGHT

4.01	4.02	4.03
3.97	3.96	4.00
3.97	3.96	3.98
3.96	3.97	3.96
3.96	3.97	3.97
3.97	3.97	3.96
3.98	3.96	3.98
3.97	3.96	3.98
3.98	3.96	3.97
3.96	3.96	3.99
4.01	3.99	3.98
3.97	3.96	3.98
3.96	3.97	3.96

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	45.02	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.62	in³
SAMPLE No.:	AN6-10-20151112-75C	INITIAL TOTAL WEIGHT:	349.38	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	240.92	grams
TRACKING CODE:	A592			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.02	2.00	12.62		349.38					0.00
1	4.01	2.00	12.60	-0.17	351.09	1.38	1.39	0.01	0.00	0.00
2	4.00	2.00	12.61	-0.06	351.97	1.39	1.39	0.00	0.00	0.01
3	4.01	2.00	12.62	0.03	351.50	1.39	1.39	0.00	0.00	0.01
4	4.00	2.00	12.63	0.10	351.20	1.39	1.39	0.00	0.00	0.01
5	4.01	2.00	12.58	-0.29	351.10	1.39	1.39	0.00	0.00	0.01
6	4.01	2.00	12.61	-0.07	351.22	1.39	1.39	0.00	0.00	0.01
7	4.01	2.00	12.61	-0.04	351.15	1.39	1.40	0.01	0.00	0.01
8	4.01	2.00	12.56	-0.43	351.03	1.39	1.40	0.01	0.00	0.01
9	4.01	2.00	12.60	-0.13	351.49	1.39	1.39	0.01	0.00	0.02
10	4.01	2.00	12.57	-0.39	351.37	1.39	1.39	0.00	0.00	0.02
11	4.01	2.00	12.55	-0.54	351.42	1.39	1.39	0.00	0.00	0.02
12	4.01	2.00	12.56	-0.41	351.53	1.39	1.39	0.01	0.00	0.02

DIAMETER

INITIAL	2.01	2.00	2.00
1	2.00	2.00	2.00
2	2.00	2.01	2.00
3	2.00	2.00	2.00
4	2.01	2.01	2.00
5	2.00	2.00	2.00
6	2.00	2.00	2.00
7	2.00	2.00	2.00
8	2.00	2.00	2.00
9	2.00	2.00	2.00
10	2.00	2.00	2.00
11	2.00	2.00	2.00
12	2.00	2.00	2.00

HEIGHT

4.02	4.02	4.01
4.02	4.00	4.02
4.00	4.00	4.01
4.01	4.00	4.04
3.99	4.02	4.00
4.01	4.00	4.01
4.00	4.01	4.01
4.01	4.01	4.02
4.00	4.01	4.02
4.02	4.00	4.02
4.01	4.03	3.99
4.01	3.99	4.02
4.02	3.99	4.02

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	AN6-10-20151112-75
PROJECT No.:	SH0578	SAMPLE No. (Control):	AN6-10-20151112-75C
START DATE:	12/10/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A592		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	105.8	pcf	105.5	pcf
2. DRY UNIT WEIGHT	73.0	pcf	72.7	pcf
3. MOISTURE CONTENT	45.02	%	45.02	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-4.8	%	-0.5	%
2. TOTAL MASS LOSS	0.13	%	0.02	%
3. RELATIVE MASS LOSS	0.11	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	AH6-5-20151113-76
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	AH6-5-20151113-76C
START DATE:	12/11/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A593		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	115.99	g		g
3. WT WET SOIL + TARE	203.59	g		g
4. WT DRY SOIL + TARE	176.30	g		g
5. WT WATER, Ww	27.29	g		g
6. WT DRY SOIL, Ws	60.31	g		g
7. MOISTURE CONTENT, W	45.25	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	4.01	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.02	in.
Average	2.00	in.	4.02	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	344.48	g
Initial Dry Specimen WT, Wd	237.16	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.61	in^3
Initial Bulk Unit Weight,	104.1	pcf
Initial Dry Unit Weight,	71.6	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	115.99	g		g
3. WT WET SOIL + TARE	203.59	g		g
4. WT DRY SOIL + TARE	176.30	g		g
5. WT WATER, Ww	27.29	g		g
6. WT DRY SOIL, Ws	60.31	g		g
7. MOISTURE CONTENT, W	45.25	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	4.03	in.
No. 2	2.00	in.	4.03	in.
No. 3	2.00	in.	4.00	in.
Average	2.00	in.	4.02	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	345.84	g
Initial Dry Specimen WT, Wd	238.10	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.59	in^3
Initial Bulk Unit Weight,	104.7	pcf
Initial Dry Unit Weight,	72.1	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	45.25	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.61	in³
SAMPLE No.:	AH6-5-20151113-76	INITIAL TOTAL WEIGHT:	344.48	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	237.16	grams
TRACKING CODE:	A593			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.02	2.00	12.61		344.48					0.00
1	3.96	1.97	12.09	-4.15	331.69	1.39	1.44	0.05	0.02	0.02
2	3.97	1.97	12.08	-4.21	330.99	1.39	1.43	0.04	0.02	0.04
3	3.96	1.97	12.07	-4.30	330.20	1.39	1.42	0.02	0.01	0.05
4	3.97	1.97	12.06	-4.37	330.25	1.39	1.45	0.05	0.02	0.07
5	3.97	1.97	12.10	-4.08	330.59	1.40	1.43	0.04	0.02	0.08
6	3.96	1.96	11.97	-5.05	330.82	1.40	1.44	0.04	0.02	0.10
7	3.98	1.97	12.08	-4.21	331.24	1.39	1.42	0.02	0.01	0.11
8	3.98	1.97	12.09	-4.16	331.22	1.39	1.44	0.04	0.02	0.13
9	3.98	1.97	12.08	-4.24	331.61	1.39	1.43	0.03	0.01	0.14
10	3.98	1.96	12.01	-4.74	331.70	1.39	1.43	0.03	0.01	0.16
11	3.97	1.96	11.93	-5.39	331.87	1.39	1.44	0.04	0.02	0.18
12	3.96	1.97	12.03	-4.61	332.07	1.39	1.40	0.01	0.00	0.18

DIAMETER

INITIAL	2.01	2.00	2.00
1	1.98	1.97	1.96
2	1.98	1.96	1.96
3	1.98	1.97	1.96
4	1.98	1.96	1.96
5	1.98	1.96	1.96
6	1.97	1.96	1.96
7	1.97	1.96	1.97
8	1.97	1.96	1.97
9	1.98	1.96	1.96
10	1.96	1.96	1.96
11	1.96	1.95	1.96
12	1.97	1.97	1.96

HEIGHT

4.01	4.01	4.02
3.95	3.97	3.96
3.98	3.97	3.96
3.98	3.95	3.96
3.98	3.96	3.97
3.99	3.95	3.96
3.97	3.96	3.95
3.98	4.00	3.97
3.99	3.96	3.99
3.97	3.99	3.97
3.98	3.99	3.95
3.97	3.95	3.99
3.95	3.96	3.95

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	45.25	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.59	in³
SAMPLE No.:	AH6-5-20151113-76C	INITIAL TOTAL WEIGHT:	345.84	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	238.10	grams
TRACKING CODE:	A593			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.02	2.00	12.59		345.84					0.00
1	4.02	2.00	12.66	0.54	347.67	1.39	1.40	0.01	0.00	0.00
2	4.02	2.01	12.74	1.22	348.03	1.39	1.40	0.01	0.00	0.01
3	4.02	2.00	12.56	-0.19	348.40	1.39	1.39	0.00	0.00	0.01
4	4.01	2.01	12.70	0.90	348.03	1.39	1.39	0.00	0.00	0.01
5	4.01	2.00	12.64	0.39	347.96	1.39	1.39	0.00	0.00	0.01
6	4.03	2.01	12.79	1.63	348.07	1.39	1.40	0.00	0.00	0.01
7	4.00	1.99	12.48	-0.83	348.16	1.39	1.39	0.00	0.00	0.01
8	4.01	2.00	12.56	-0.21	348.17	1.39	1.39	0.00	0.00	0.01
9	4.01	2.00	12.63	0.36	318.28	1.39	1.40	0.00	0.00	0.01
10	4.00	2.00	12.52	-0.52	348.29	1.92	1.39	-0.52	-0.22	-0.20
11	4.01	2.00	12.54	-0.37	348.28	1.39	1.39	0.00	0.00	-0.20
12	4.01	2.00	12.57	-0.11	348.48	1.39	1.40	0.01	0.00	-0.20

DIAMETER

INITIAL	2.00	2.00	2.00
1	2.01	2.00	2.00
2	2.02	2.01	2.00
3	2.00	1.99	2.00
4	2.02	2.01	2.00
5	2.01	2.00	2.00
6	2.02	2.01	2.00
7	1.99	1.99	2.00
8	2.00	2.00	2.00
9	2.01	2.00	2.01
10	1.99	2.00	2.00
11	2.00	2.00	1.99
12	2.00	2.00	2.00

HEIGHT

4.03	4.03	4.00
4.02	4.01	4.04
4.03	4.02	4.01
4.04	4.02	4.00
4.04	4.00	4.00
4.04	4.01	3.99
4.03	4.03	4.03
4.01	4.00	4.01
4.00	4.00	4.02
4.01	4.00	4.01
3.99	4.02	4.00
4.02	4.01	4.00
4.03	4.01	4.00

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	AH6-5-20151113-76
PROJECT No.:	SH0578	SAMPLE No. (Control):	AH6-5-20151113-76C
START DATE:	12/11/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A593		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	104.1	pcf	104.7	pcf
2. DRY UNIT WEIGHT	71.6	pcf	72.1	pcf
3. MOISTURE CONTENT	45.25	%	45.25	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-5.4	%	-1.6	%
2. TOTAL MASS LOSS	0.18	%	-0.20	%
3. RELATIVE MASS LOSS	0.38	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	Z4-10-20151114-77
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	Z4-10-20151114-77C
START DATE:	12/15/2015	SAMPLE DESCRIPTION:	31 Day
TRACKING CODE:	A594		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	116.76	g		g
3. WT WET SOIL + TARE	166.44	g		g
4. WT DRY SOIL + TARE	151.98	g		g
5. WT WATER, Ww	14.46	g		g
6. WT DRY SOIL, Ws	35.22	g		g
7. MOISTURE CONTENT, W	41.06	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.00	in.	4.01	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	356.98	g
Initial Dry Specimen WT, Wd	253.08	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.57	in^3
Initial Bulk Unit Weight,	108.2	pcf
Initial Dry Unit Weight,	76.7	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	116.76	g		g
3. WT WET SOIL + TARE	166.44	g		g
4. WT DRY SOIL + TARE	151.98	g		g
5. WT WATER, Ww	14.46	g		g
6. WT DRY SOIL, Ws	35.22	g		g
7. MOISTURE CONTENT, W	41.06	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.01	in.	4.01	in.
No. 2	2.01	in.	4.03	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.02	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	358.87	g
Initial Dry Specimen WT, Wd	254.42	g
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.67	in^3
Initial Bulk Unit Weight,	107.9	pcf
Initial Dry Unit Weight,	76.5	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	41.06	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.57	in³
SAMPLE No.:	Z4-10-20151114-77		INITIAL TOTAL WEIGHT:	356.98	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	253.08	grams
TRACKING CODE:	A594				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.57		356.98					0.00
1	3.98	1.97	12.13	-3.46	345.94	1.40	1.44	0.04	0.02	0.02
2	3.98	1.97	12.15	-3.29	342.61	1.40	1.43	0.04	0.01	0.03
3	3.98	1.97	12.12	-3.56	343.34	1.40	1.45	0.05	0.02	0.05
4	3.98	1.96	12.05	-4.09	343.64	1.40	1.44	0.04	0.02	0.07
5	3.98	1.97	12.12	-3.59	343.84	1.40	1.55	0.15	0.06	0.13
6	3.98	1.97	12.07	-3.96	343.95	1.40	1.45	0.05	0.02	0.15
7	3.97	1.97	12.06	-4.06	344.04	1.40	1.44	0.05	0.02	0.17
8	3.97	1.97	12.11	-3.65	344.26	1.40	1.48	0.08	0.03	0.20
9	3.98	1.97	12.12	-3.58	344.35	1.40	1.48	0.08	0.03	0.23
10	3.97	1.96	12.02	-4.34	344.24	1.39	1.47	0.08	0.03	0.26
11	3.96	1.96	11.99	-4.63	344.17	1.40	1.47	0.07	0.03	0.29
12	3.97	1.97	12.14	-3.39	344.41	1.40	1.44	0.04	0.01	0.31

DIAMETER

INITIAL	2.00	2.00	2.00
1	1.98	1.97	1.96
2	1.99	1.97	1.96
3	1.98	1.97	1.97
4	1.98	1.96	1.95
5	1.97	1.97	1.97
6	1.98	1.96	1.96
7	1.98	1.95	1.97
8	1.98	1.97	1.96
9	1.97	1.97	1.97
10	1.98	1.96	1.95
11	1.98	1.95	1.95
12	1.98	1.97	1.97

HEIGHT

4.01	4.01	4.01
3.99	3.98	3.99
3.97	3.97	3.98
3.97	3.98	3.97
3.98	3.97	3.98
3.98	3.96	4.00
3.98	3.97	3.98
3.97	3.97	3.98
3.97	3.97	3.97
3.97	3.97	3.99
3.97	3.97	3.97
3.97	3.95	3.97
3.96	3.97	3.98

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	41.06	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.67	in³
SAMPLE No.:	Z4-10-20151114-77C	INITIAL TOTAL WEIGHT:	358.87	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	254.42	grams
TRACKING CODE:	A594			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.02	2.00	12.67		358.87					0.00
1	4.01	2.00	12.63	-0.37	360.16	1.39	1.41	0.02	0.01	0.01
2	4.02	2.00	12.64	-0.29	360.43	1.39	1.40	0.00	0.00	0.01
3	4.02	2.00	12.68	0.05	360.16	1.39	1.40	0.00	0.00	0.01
4	4.02	2.00	12.65	-0.15	360.26	1.40	1.40	0.00	0.00	0.01
5	4.02	2.00	12.66	-0.15	360.32	1.40	1.40	0.00	0.00	0.01
6	4.02	2.00	12.67	-0.05	360.24	1.40	1.41	0.01	0.00	0.02
7	4.02	2.00	12.63	-0.32	360.28	1.39	1.40	0.00	0.00	0.02
8	4.01	2.00	12.63	-0.38	360.39	1.40	1.40	0.00	0.00	0.02
9	4.02	2.00	12.64	-0.28	360.44	1.40	1.40	0.01	0.00	0.02
10	4.03	2.00	12.66	-0.08	360.38	1.39	1.40	0.00	0.00	0.02
11	4.02	2.00	12.62	-0.42	360.44	1.40	1.44	0.04	0.02	0.04
12	4.02	2.01	12.69	0.11	360.51	1.40	1.40	0.00	0.00	0.04

DIAMETER

INITIAL	2.01	2.01	2.00
1	2.01	2.00	2.00
2	2.01	2.00	2.00
3	2.01	2.00	2.00
4	2.01	2.00	2.00
5	2.01	2.01	2.00
6	2.01	2.00	2.00
7	2.00	2.00	2.00
8	2.00	2.00	2.00
9	2.00	2.00	2.00
10	2.01	2.00	2.00
11	2.00	2.00	2.00
12	2.01	2.01	2.00

HEIGHT

4.01	4.03	4.01
4.01	4.02	4.01
4.02	4.02	4.01
4.02	4.03	4.02
4.03	4.03	4.01
4.02	4.01	4.02
4.04	4.02	4.01
4.02	4.01	4.02
4.01	4.01	4.01
4.04	4.02	4.00
4.04	4.03	4.01
4.03	4.01	4.02
4.01	4.01	4.03

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	Z4-10-20151114-77
PROJECT No.:	SH0578	SAMPLE No. (Control):	Z4-10-20151114-77C
START DATE:	12/15/2015	SAMPLE DESCRIPTION:	31 Day
TRACKING CODE:	A594		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	108.2	pcf	107.9	pcf
2. DRY UNIT WEIGHT	76.7	pcf	76.5	pcf
3. MOISTURE CONTENT	41.06	%	41.06	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-4.6	%	-0.4	%
2. TOTAL MASS LOSS	0.31	%	0.04	%
3. RELATIVE MASS LOSS	0.26	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	F6-10-20151117-78
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	F6-10-20151117-78C
START DATE:	12/15/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A595		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	114.69	g		g
3. WT WET SOIL + TARE	262.52	g		g
4. WT DRY SOIL + TARE	220.16	g		g
5. WT WATER, Ww	42.36	g		g
6. WT DRY SOIL, Ws	105.47	g		g
7. MOISTURE CONTENT, W	40.16	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	4.01	in.
No. 2	2.00	in.	4.03	in.
No. 3	2.00	in.	4.04	in.
Average	2.00	in.	4.03	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	355.61	g
Initial Dry Specimen WT, Wd	253.71	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.66	in^3
Initial Bulk Unit Weight,	107.0	pcf
Initial Dry Unit Weight,	76.3	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	114.69	g		g
3. WT WET SOIL + TARE	262.52	g		g
4. WT DRY SOIL + TARE	220.16	g		g
5. WT WATER, Ww	42.36	g		g
6. WT DRY SOIL, Ws	105.47	g		g
7. MOISTURE CONTENT, W	40.16	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.01	in.	4.01	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.00	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	355.91	g
Initial Dry Specimen WT, Wd	253.93	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.60	in^3
Initial Bulk Unit Weight,	107.6	pcf
Initial Dry Unit Weight,	76.8	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	40.16	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.66	in³
SAMPLE No.:	F6-10-20151117-78	INITIAL TOTAL WEIGHT:	355.61	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	253.71	grams
TRACKING CODE:	A595			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.03	2.00	12.66		355.61					0.00
1	3.96	1.97	12.05	-4.86	342.98	1.41	1.47	0.05	0.02	0.02
2	3.98	1.97	12.08	-4.59	340.91	1.41	1.43	0.02	0.01	0.03
3	3.97	1.96	12.05	-4.86	341.11	1.41	1.43	0.02	0.01	0.04
4	3.99	1.97	12.18	-3.77	341.12	1.41	1.42	0.01	0.00	0.04
5	3.98	1.97	12.12	-4.28	341.56	1.41	1.42	0.01	0.00	0.04
6	3.96	1.96	11.98	-5.41	341.86	1.41	1.41	0.00	0.00	0.04
7	3.96	1.96	12.02	-5.08	342.01	1.41	1.42	0.01	0.00	0.05
8	3.97	1.96	12.03	-5.02	342.51	1.41	1.41	0.00	0.00	0.05
9	3.96	1.96	11.99	-5.30	342.49	1.41	1.42	0.01	0.00	0.05
10	3.96	1.96	11.95	-5.63	342.62	1.41	1.41	0.00	0.00	0.05
11	3.96	1.96	11.95	-5.64	342.53	1.41	1.43	0.02	0.01	0.06
12	3.97	1.97	12.14	-4.09	342.74	1.41	1.43	0.02	0.01	0.07

DIAMETER

INITIAL	2.01	2.00	2.00
1	1.99	1.96	1.95
2	1.98	1.96	1.96
3	1.99	1.96	1.95
4	1.99	1.96	1.96
5	1.99	1.97	1.96
6	1.98	1.95	1.96
7	1.98	1.96	1.96
8	1.98	1.96	1.96
9	1.98	1.96	1.96
10	1.98	1.95	1.95
11	1.97	1.96	1.95
12	2.00	1.97	1.96

HEIGHT

4.01	4.03	4.04
3.97	3.96	3.96
3.98	3.99	3.97
3.99	3.96	3.98
3.96	4.02	3.99
3.97	3.98	3.99
3.96	3.96	3.96
3.97	3.96	3.96
3.98	3.96	3.97
3.97	3.95	3.96
3.96	3.96	3.97
3.95	3.97	3.97
3.95	3.99	3.98

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	40.16	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.60	in³
SAMPLE No.:	F6-10-20151117-78C	INITIAL TOTAL WEIGHT:	355.91	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	253.93	grams
TRACKING CODE:	A595			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.60		355.91					0.00
1	4.01	2.00	12.60	-0.05	358.20	1.41	1.44	0.03	0.01	0.01
2	4.00	2.00	12.58	-0.20	359.24	1.41	1.41	0.01	0.00	0.01
3	4.01	2.00	12.61	0.09	359.10	1.41	1.41	0.00	0.00	0.02
4	4.00	2.00	12.60	-0.04	359.07	1.41	1.41	0.00	0.00	0.02
5	4.01	2.00	12.66	0.41	359.24	1.41	1.41	0.00	0.00	0.02
6	4.01	2.00	12.65	0.38	359.38	1.41	1.41	0.00	0.00	0.02
7	4.01	2.00	12.63	0.17	359.47	1.41	1.41	0.00	0.00	0.02
8	4.01	2.00	12.59	-0.13	359.70	1.41	1.41	0.00	0.00	0.02
9	4.01	2.00	12.59	-0.10	359.65	1.41	1.41	0.00	0.00	0.02
10	4.02	2.00	12.63	0.17	359.43	1.41	1.41	0.00	0.00	0.02
11	4.00	2.00	12.56	-0.32	359.73	1.41	1.41	0.00	0.00	0.02
12	4.01	2.00	12.65	0.40	359.75	1.41	1.41	0.00	0.00	0.03

DIAMETER

INITIAL	2.01	2.00	2.00
1	2.01	2.00	2.00
2	2.01	2.00	2.00
3	2.00	2.01	2.00
4	2.01	2.00	2.00
5	2.01	2.01	2.00
6	2.00	2.01	2.00
7	2.01	2.00	2.00
8	2.00	2.00	2.00
9	2.00	2.00	2.00
10	2.00	2.00	2.00
11	2.00	2.00	2.00
12	2.01	2.01	2.00

HEIGHT

4.01	4.01	4.00
4.00	4.01	4.00
4.00	4.00	4.00
4.03	4.01	4.00
4.00	4.00	4.01
4.02	4.01	4.01
4.00	4.01	4.02
4.01	4.01	4.01
4.01	4.01	4.01
4.01	4.01	4.00
4.01	4.00	4.04
4.01	4.00	4.01
4.03	4.00	4.01

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	F6-10-20151117-78
PROJECT No.:	SH0578	SAMPLE No. (Control):	F6-10-20151117-78C
START DATE:	12/15/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A595		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	107.0	pcf	107.6	pcf
2. DRY UNIT WEIGHT	76.3	pcf	76.8	pcf
3. MOISTURE CONTENT	40.16	%	40.16	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-5.6	%	-0.4	%
2. TOTAL MASS LOSS	0.07	%	0.03	%
3. RELATIVE MASS LOSS	0.04	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	Remix-1-20151119-79
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	Remix-1-20151119-79C
START DATE:	12/17/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A600		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	114.09	g		g
3. WT WET SOIL + TARE	220.62	g		g
4. WT DRY SOIL + TARE	189.00	g		g
5. WT WATER, Ww	31.62	g		g
6. WT DRY SOIL, Ws	74.91	g		g
7. MOISTURE CONTENT, W	42.21	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.00	in.	4.02	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	353.40	g
Initial Dry Specimen WT, Wd	248.50	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.57	in^3
Initial Bulk Unit Weight,	107.1	pcf
Initial Dry Unit Weight,	75.3	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	114.09	g		g
3. WT WET SOIL + TARE	220.62	g		g
4. WT DRY SOIL + TARE	189.00	g		g
5. WT WATER, Ww	31.62	g		g
6. WT DRY SOIL, Ws	74.91	g		g
7. MOISTURE CONTENT, W	42.21	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	4.03	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.03	in.
Average	2.00	in.	4.02	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	354.61	g
Initial Dry Specimen WT, Wd	249.36	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.63	in^3
Initial Bulk Unit Weight,	107.0	pcf
Initial Dry Unit Weight,	75.2	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	42.21	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.57	in³
SAMPLE No.:	Remix-1-20151119-79	INITIAL TOTAL WEIGHT:	353.40	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	248.50	grams
TRACKING CODE:	A600			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.57		353.40					0.00
1	3.98	1.98	12.21	-2.86	343.71	1.39	1.45	0.05	0.02	0.02
2	3.98	1.97	12.13	-3.51	343.22	1.39	1.42	0.03	0.01	0.03
3	3.97	1.98	12.18	-3.16	342.83	1.39	1.42	0.02	0.01	0.04
4	3.97	1.98	12.25	-2.55	343.07	1.39	1.41	0.01	0.01	0.05
5	3.97	1.98	12.18	-3.14	342.12	1.39	1.40	0.01	0.00	0.05
6	3.97	1.97	12.15	-3.41	343.42	1.39	1.40	0.01	0.00	0.05
7	3.96	1.97	12.07	-3.99	343.57	1.39	1.40	0.01	0.00	0.06
8	3.97	1.97	12.06	-4.06	343.72	1.39	1.40	0.01	0.00	0.06
9	3.98	1.97	12.12	-3.61	343.69	1.39	1.41	0.01	0.01	0.07
10	3.96	1.97	12.06	-4.12	343.76	1.39	1.40	0.01	0.00	0.07
11	3.97	1.97	12.12	-3.57	343.68	1.39	1.41	0.01	0.01	0.08
12	3.95	1.97	12.00	-4.57	344.03	1.39	1.41	0.02	0.01	0.08

DIAMETER

INITIAL	2.00	2.00	2.00
1	1.99	1.97	1.97
2	1.98	1.96	1.97
3	1.98	1.98	1.97
4	2.00	1.97	1.97
5	1.99	1.97	1.97
6	1.97	1.98	1.97
7	1.97	1.97	1.97
8	1.97	1.96	1.97
9	1.97	1.97	1.97
10	1.97	1.96	1.97
11	1.97	1.97	1.97
12	1.97	1.96	1.97

HEIGHT

4.02	4.01	4.01
3.98	3.98	3.97
3.96	3.99	3.98
3.96	3.97	3.98
3.97	3.98	3.96
3.97	3.98	3.96
3.97	3.97	3.98
3.95	3.96	3.97
3.98	3.97	3.97
3.98	3.96	4.00
3.96	3.96	3.96
3.96	3.98	3.96
3.95	3.96	3.95

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	42.21	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.60	in³
SAMPLE No.:	Remix-1-20151119-79C	INITIAL TOTAL WEIGHT:	354.61	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	249.36	grams
TRACKING CODE:	A600			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.60		354.61					0.00
1	4.01	1.99	12.54	-0.52	356.28	1.39	1.40	0.01	0.00	0.00
2	4.03	1.99	12.59	-0.13	356.20	1.39	1.40	0.01	0.00	0.01
3	4.03	2.00	12.61	0.03	355.90	1.39	1.40	0.00	0.00	0.01
4	4.02	2.00	12.64	0.29	356.01	1.39	1.40	0.00	0.00	0.01
5	4.03	2.01	12.76	1.21	356.08	1.39	1.40	0.00	0.00	0.01
6	4.03	2.00	12.62	0.10	355.93	1.39	1.40	0.01	0.00	0.01
7	4.02	2.00	12.58	-0.21	356.24	1.39	1.40	0.01	0.00	0.02
8	4.02	1.99	12.55	-0.41	356.35	1.39	1.40	0.00	0.00	0.02
9	4.02	2.00	12.66	0.43	356.33	1.39	1.40	0.01	0.00	0.02
10	4.01	2.00	12.64	0.30	356.60	1.40	1.40	0.00	0.00	0.02
11	4.02	2.00	12.57	-0.26	356.57	1.39	1.39	0.00	0.00	0.02
12	4.01	1.99	12.50	-0.78	356.68	1.39	1.40	0.01	0.00	0.02

DIAMETER

INITIAL	2.00	2.00	2.00
1	1.99	2.00	2.00
2	1.99	1.99	2.00
3	1.99	2.00	2.00
4	2.00	2.00	2.00
5	2.01	2.01	2.00
6	2.00	2.00	2.00
7	2.00	2.00	2.00
8	1.99	1.99	2.00
9	2.01	2.00	2.00
10	2.01	2.00	2.00
11	1.99	2.00	2.00
12	1.99	1.99	2.00

HEIGHT

4.00	4.01	4.03
4.01	4.01	4.02
4.03	4.04	4.02
4.03	4.04	4.02
4.03	4.01	4.04
4.05	4.01	4.04
4.02	4.04	4.03
4.02	4.01	4.02
4.01	4.03	4.02
4.02	4.01	4.03
4.02	4.01	4.00
4.02	4.01	4.02
4.00	4.01	4.00

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	Remix-1-20151119-79
PROJECT No.:	SH0578	SAMPLE No. (Control):	Remix-1-20151119-79C
START DATE:	12/17/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A600		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	107.1	pcf	107.0	pcf
2. DRY UNIT WEIGHT	75.3	pcf	75.2	pcf
3. MOISTURE CONTENT	42.21	%	42.21	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-4.6	%	-1.2	%
2. TOTAL MASS LOSS	0.08	%	0.02	%
3. RELATIVE MASS LOSS	0.06	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	Remix-2-20151120-80
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	Remix-2-20151120-80C
START DATE:	12/18/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A603		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.39	g		g
3. WT WET SOIL + TARE	177.93	g		g
4. WT DRY SOIL + TARE	147.12	g		g
5. WT WATER, Ww	30.81	g		g
6. WT DRY SOIL, Ws	69.73	g		g
7. MOISTURE CONTENT, W	44.18	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.00	in.	4.01	in.
No. 2	2.00	in.	4.00	in.
No. 3	2.00	in.	4.02	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	353.36	g
Initial Dry Specimen WT, Wd	245.07	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.60	in^3
Initial Bulk Unit Weight,	106.9	pcf
Initial Dry Unit Weight,	74.1	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	77.39	g		g
3. WT WET SOIL + TARE	177.93	g		g
4. WT DRY SOIL + TARE	147.12	g		g
5. WT WATER, Ww	30.81	g		g
6. WT DRY SOIL, Ws	69.73	g		g
7. MOISTURE CONTENT, W	44.18	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	4.01	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.03	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	351.57	g
Initial Dry Specimen WT, Wd	243.83	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.61	in^3
Initial Bulk Unit Weight,	106.2	pcf
Initial Dry Unit Weight,	73.6	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	44.18	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.60	in³
SAMPLE No.:	Remix-2-20151120-80	INITIAL TOTAL WEIGHT:	353.36	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	245.07	grams
TRACKING CODE:	A603			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.60		353.36					0.00
1	3.97	1.98	12.20	-3.17	302.12	1.40	1.41	0.02	0.01	0.01
2	3.98	1.98	12.23	-2.92	341.49	1.39	1.43	0.04	0.01	0.02
3	3.98	1.98	12.22	-3.01	340.94	1.40	1.43	0.03	0.01	0.03
4	3.98	1.98	12.24	-2.85	341.36	1.40	1.43	0.03	0.01	0.05
5	3.97	1.98	12.21	-3.07	341.27	1.40	1.43	0.04	0.02	0.06
6	3.98	1.97	12.19	-3.26	341.58	1.39	1.43	0.03	0.01	0.08
7	3.99	1.97	12.18	-3.28	341.83	1.39	1.41	0.02	0.01	0.08
8	3.98	1.97	12.16	-3.48	342.21	1.39	1.45	0.05	0.02	0.10
9	3.98	1.97	12.14	-3.58	341.90	1.40	1.42	0.02	0.01	0.11
10	3.97	1.97	12.13	-3.72	341.97	1.40	1.43	0.03	0.01	0.13
11	3.98	1.97	12.15	-3.55	342.03	1.40	1.42	0.03	0.01	0.14
12	3.96	1.97	12.06	-4.28	342.80	1.40	1.43	0.03	0.01	0.15

DIAMETER

INITIAL	2.00	2.00	2.00
1	1.99	1.97	1.98
2	1.98	1.98	1.97
3	1.98	1.97	1.98
4	1.99	1.97	1.97
5	1.99	1.97	1.98
6	1.98	1.97	1.98
7	1.98	1.97	1.97
8	1.98	1.96	1.97
9	1.98	1.96	1.97
10	1.98	1.96	1.97
11	1.98	1.97	1.97
12	1.98	1.96	1.97

HEIGHT

4.01	4.00	4.02
3.97	3.98	3.97
3.97	3.98	3.99
3.98	3.98	3.98
4.00	3.98	3.98
3.98	3.97	3.97
3.99	3.98	3.97
4.01	3.97	3.98
3.97	3.99	3.98
3.97	3.96	3.99
3.98	3.96	3.98
3.99	3.98	3.98
3.97	3.96	3.96

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	44.18	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.61	in³
SAMPLE No.:	Remix-2-20151120-80C	INITIAL TOTAL WEIGHT:	351.57	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	243.83	grams
TRACKING CODE:	A603			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.61		351.57					0.00
1	4.01	2.00	12.61	-0.03	352.56	1.39	1.40	0.01	0.00	0.00
2	4.01	2.00	12.59	-0.16	352.73	1.39	1.40	0.01	0.00	0.00
3	4.01	2.00	12.64	0.18	352.79	1.39	1.40	0.01	0.00	0.01
4	4.01	2.00	12.61	-0.02	352.86	1.39	1.40	0.01	0.00	0.01
5	4.01	2.00	12.63	0.14	352.99	1.39	1.40	0.00	0.00	0.01
6	4.01	2.00	12.54	-0.61	353.01	1.39	1.40	0.00	0.00	0.01
7	4.01	2.00	12.65	0.26	353.14	1.39	1.40	0.00	0.00	0.01
8	4.01	2.00	12.63	0.11	353.01	1.39	1.40	0.00	0.00	0.02
9	4.00	2.01	12.64	0.23	353.10	1.39	1.39	0.00	0.00	0.02
10	4.00	2.00	12.52	-0.71	353.19	1.39	1.40	0.01	0.00	0.02
11	4.00	2.00	12.52	-0.76	353.31	1.39	1.40	0.00	0.00	0.02
12	4.00	2.00	12.56	-0.40	353.39	1.39	1.40	0.01	0.00	0.02

DIAMETER

INITIAL	2.00	2.00	2.00
1	2.01	2.00	2.00
2	2.00	2.00	2.00
3	2.01	2.00	2.00
4	2.00	2.00	2.00
5	2.01	2.00	2.00
6	2.00	2.00	2.00
7	2.01	2.01	2.00
8	2.01	2.00	2.00
9	2.01	2.01	2.00
10	2.00	1.99	2.00
11	2.00	1.99	2.00
12	2.00	2.00	2.00

HEIGHT

4.01	4.01	4.03
4.01	4.01	4.01
4.01	4.01	4.01
4.02	4.02	4.01
4.01	4.00	4.02
4.01	4.02	4.00
4.01	4.01	4.01
4.01	4.01	4.00
4.01	4.00	4.01
4.01	4.00	4.00
4.00	4.01	4.00
4.01	4.00	4.00
4.00	4.00	4.00

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	Remix-2-20151120-80
PROJECT No.:	SH0578	SAMPLE No. (Control):	Remix-2-20151120-80C
START DATE:	12/18/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A603		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	106.9	pcf	106.2	pcf
2. DRY UNIT WEIGHT	74.1	pcf	73.6	pcf
3. MOISTURE CONTENT	44.18	%	44.18	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-4.3	%	-0.8	%
2. TOTAL MASS LOSS	0.15	%	0.02	%
3. RELATIVE MASS LOSS	0.13	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	Remix-3-20151121-81
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	Remix-3-20151121-81C
START DATE:	12/21/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A604		

TESTED BY: TNB

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	67.68	g		g
3. WT WET SOIL + TARE	157.84	g		g
4. WT DRY SOIL + TARE	130.89	g		g
5. WT WATER, Ww	26.95	g		g
6. WT DRY SOIL, Ws	63.21	g		g
7. MOISTURE CONTENT, W	42.64	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.00	in.	4.01	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.02	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	356.82	g
Initial Dry Specimen WT, Wd	250.16	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.61	in^3
Initial Bulk Unit Weight,	107.8	pcf
Initial Dry Unit Weight,	75.6	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: TNB

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	67.68	g		g
3. WT WET SOIL + TARE	157.84	g		g
4. WT DRY SOIL + TARE	130.89	g		g
5. WT WATER, Ww	26.95	g		g
6. WT DRY SOIL, Ws	63.21	g		g
7. MOISTURE CONTENT, W	42.64	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.01	in.	4.00	in.
No. 2	2.00	in.	4.02	in.
No. 3	2.00	in.	4.05	in.
Average	2.00	in.	4.02	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	357.36	g
Initial Dry Specimen WT, Wd	250.54	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.65	in^3
Initial Bulk Unit Weight,	107.7	pcf
Initial Dry Unit Weight,	75.5	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	42.64	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.61	in³
SAMPLE No.:	Remix-3-20151121-81		INITIAL TOTAL WEIGHT:	356.82	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	250.16	grams
TRACKING CODE:	A604				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.61		356.82					0.00
1	3.96	1.98	12.22	-3.03	347.30	1.40	1.41	0.01	0.00	0.00
2	3.96	1.97	12.10	-3.98	346.57	1.40	1.41	0.01	0.00	0.01
3	3.97	1.97	12.10	-4.02	346.32	1.40	1.49	0.08	0.03	0.04
4	3.97	1.98	12.17	-3.44	346.38	1.40	1.44	0.04	0.02	0.06
5	3.97	1.98	12.17	-3.46	346.49	1.40	1.45	0.05	0.02	0.08
6	3.97	1.97	12.14	-3.73	346.71	1.40	1.45	0.05	0.02	0.09
7	3.97	1.97	12.08	-4.15	346.78	1.40	1.42	0.02	0.01	0.10
8	3.97	1.98	12.17	-3.44	346.75	1.40	1.41	0.01	0.00	0.11
9	3.98	1.97	12.16	-3.55	346.68	1.40	1.44	0.04	0.02	0.12
10	3.97	1.98	12.18	-3.39	346.86	1.40	1.44	0.04	0.02	0.14
11	3.95	1.97	12.01	-4.74	346.89	1.40	1.43	0.03	0.01	0.15
12	3.94	1.97	12.01	-4.71	346.61	1.40	1.46	0.05	0.02	0.17

DIAMETER

INITIAL	2.00	2.00	2.00
1	1.99	1.98	1.97
2	1.98	1.97	1.97
3	1.98	1.97	1.97
4	1.99	1.97	1.97
5	1.98	1.97	1.98
6	1.97	1.97	1.98
7	1.98	1.96	1.97
8	1.99	1.97	1.97
9	1.98	1.97	1.97
10	1.99	1.98	1.97
11	1.97	1.96	1.97
12	1.97	1.97	1.97

HEIGHT

4.01	4.01	4.02
3.97	3.97	3.96
3.96	3.97	3.96
3.97	3.97	3.97
3.97	3.97	3.96
3.96	3.97	3.98
3.98	3.96	3.98
3.96	3.97	3.97
3.99	3.97	3.96
3.98	3.96	3.99
3.96	3.96	3.98
3.95	3.96	3.96
3.94	3.94	3.95

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	42.64	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.65	in³
SAMPLE No.:	Remix-3-20151121-81C	INITIAL TOTAL WEIGHT:	357.36	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	250.54	grams
TRACKING CODE:	A604			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.02	2.00	12.65		357.36					0.00
1	4.02	2.00	12.70	0.39	358.55	1.40	1.42	0.02	0.01	0.01
2	4.02	2.00	12.67	0.22	358.63	1.40	1.40	0.00	0.00	0.01
3	4.03	2.00	12.65	0.03	358.70	1.40	1.41	0.01	0.00	0.01
4	4.02	2.00	12.65	0.07	358.60	1.40	1.40	0.00	0.00	0.01
5	4.01	2.00	12.65	0.02	358.68	1.40	1.40	0.00	0.00	0.01
6	4.03	2.00	12.70	0.41	358.97	1.40	1.41	0.01	0.00	0.02
7	4.02	2.00	12.61	-0.25	358.99	1.40	1.41	0.01	0.00	0.02
8	4.01	2.00	12.63	-0.13	358.82	1.40	1.45	0.05	0.02	0.04
9	4.02	2.00	12.61	-0.30	358.97	1.40	1.41	0.01	0.00	0.05
10	4.00	2.00	12.59	-0.41	359.17	1.40	1.41	0.01	0.00	0.05
11	3.99	2.00	12.54	-0.87	359.25	1.40	1.40	0.01	0.00	0.05
12	4.00	2.00	12.56	-0.68	358.99	1.40	1.41	0.01	0.00	0.06

DIAMETER

INITIAL	2.01	2.00	2.00
1	2.01	2.00	2.00
2	2.01	2.00	2.00
3	2.00	2.00	2.00
4	2.01	2.00	2.00
5	2.01	2.00	2.00
6	2.01	2.00	2.00
7	2.00	2.00	2.00
8	2.01	2.00	2.00
9	2.00	2.00	2.00
10	2.00	2.00	2.00
11	2.00	2.00	2.00
12	2.00	2.00	2.00

HEIGHT

4.00	4.02	4.05
4.05	4.02	4.00
4.03	4.02	4.02
4.06	4.00	4.03
4.02	4.01	4.02
4.03	4.01	4.01
4.01	4.05	4.04
4.03	4.01	4.03
4.01	4.01	4.03
4.03	4.01	4.03
4.00	4.02	4.00
3.98	4.03	3.97
3.99	4.01	4.01

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	Remix-3-20151121-81
PROJECT No.:	SH0578	SAMPLE No. (Control):	Remix-3-20151121-81C
START DATE:	12/21/2015	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A604		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	107.8	pcf	107.7	pcf
2. DRY UNIT WEIGHT	75.6	pcf	75.5	pcf
3. MOISTURE CONTENT	42.64	%	42.64	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-4.7	%	-0.9	%
2. TOTAL MASS LOSS	0.17	%	0.06	%
3. RELATIVE MASS LOSS	0.11	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	Remix-4-20160217-82
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	Remix-4-20160217-82C
START DATE:	3/16/2016	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A678		

TESTED BY: LC

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	116.07	g		g
3. WT WET SOIL + TARE	188.20	g		g
4. WT DRY SOIL + TARE	168.96	g		g
5. WT WATER, Ww	19.24	g		g
6. WT DRY SOIL, Ws	52.89	g		g
7. MOISTURE CONTENT, W	36.38	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	1.99	in.	4.00	in.
No. 2	1.99	in.	4.03	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	369.38	g
Initial Dry Specimen WT, Wd	270.85	g
Initial Area, Ao	3.13	in^2
Initial Volume, Vo	12.55	in^3
Initial Bulk Unit Weight,	112.1	pcf
Initial Dry Unit Weight,	82.2	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: LC

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	116.07	g		g
3. WT WET SOIL + TARE	188.20	g		g
4. WT DRY SOIL + TARE	168.96	g		g
5. WT WATER, Ww	19.24	g		g
6. WT DRY SOIL, Ws	52.89	g		g
7. MOISTURE CONTENT, W	36.38	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.01	in.	4.03	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.00	in.
Average	2.00	in.	4.01	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	369.99	g
Initial Dry Specimen WT, Wd	271.30	g
Initial Area, Ao	3.15	in^2
Initial Volume, Vo	12.62	in^3
Initial Bulk Unit Weight,	111.7	pcf
Initial Dry Unit Weight,	81.9	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	36.38	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.55	in³
SAMPLE No.:	Remix-4-20160217-82		INITIAL TOTAL WEIGHT:	369.38	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	270.85	grams
TRACKING CODE:	A678				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.55		369.38					0.00
1	3.97	1.98	12.20	-2.79	362.13	1.38	1.50	0.12	0.04	0.04
2	3.96	1.98	12.17	-2.98	360.05	1.40	1.41	0.02	0.01	0.05
3	3.96	1.98	12.16	-3.11	359.86	1.39	1.40	0.01	0.00	0.05
4	3.96	1.97	12.10	-3.54	359.78	1.39	1.40	0.01	0.00	0.05
5	3.96	1.97	12.08	-3.77	359.86	1.39	1.40	0.01	0.00	0.06
6	3.96	1.98	12.15	-3.15	359.88	1.39	1.40	0.01	0.00	0.06
7	3.96	1.98	12.13	-3.34	359.89	1.39	1.41	0.02	0.01	0.07
8	3.96	1.96	11.89	-5.27	360.20	1.39	1.48	0.09	0.03	0.10
9	3.95	1.98	12.13	-3.30	364.59	1.40	1.41	0.01	0.00	0.10
10	3.95	1.98	12.20	-2.80	360.25	1.40	1.41	0.01	0.00	0.11
11	3.96	1.97	12.12	-3.42	359.88	1.40	1.40	0.01	0.00	0.11
12	3.96	1.97	12.07	-3.81	360.12	1.40	1.41	0.02	0.01	0.11

DIAMETER

INITIAL	1.99	1.99	2.00
1	1.99	1.98	1.98
2	1.99	1.97	1.97
3	1.99	1.97	1.97
4	1.98	1.97	1.97
5	1.97	1.97	1.97
6	1.99	1.97	1.97
7	1.98	1.97	1.97
8	1.98	1.97	1.92
9	1.99	1.97	1.97
10	1.98	1.98	1.98
11	1.98	1.97	1.97
12	1.97	1.96	1.97

HEIGHT

4.00	4.03	4.01
3.98	3.95	3.96
3.97	3.95	3.96
3.95	3.97	3.95
3.96	3.97	3.95
3.95	3.96	3.96
3.96	3.98	3.96
3.95	3.96	3.96
3.96	3.94	3.96
3.95	3.96	3.95
3.97	3.96	3.92
3.98	3.96	3.96
3.98	3.97	3.95

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	36.38	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.62	in³
SAMPLE No.:	Remix-4-20160217-82C	INITIAL TOTAL WEIGHT:	369.99	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	271.30	grams
TRACKING CODE:	A678			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.01	2.00	12.62		369.99					0.00
1	4.00	2.00	12.56	-0.53	368.49	1.39	1.48	0.09	0.03	0.03
2	4.01	2.00	12.59	-0.25	369.35	1.39	1.42	0.03	0.01	0.04
3	4.01	2.00	12.65	0.23	369.54	1.39	1.41	0.03	0.01	0.05
4	4.01	2.00	12.56	-0.53	369.76	1.39	1.43	0.04	0.01	0.07
5	4.02	2.00	12.57	-0.40	369.77	1.39	1.39	0.01	0.00	0.07
6	4.02	2.00	12.58	-0.35	370.02	1.39	1.39	0.01	0.00	0.07
7	3.98	1.97	12.19	-3.44	369.91	1.39	1.39	0.01	0.00	0.07
8	3.98	1.98	12.22	-3.22	369.33	1.39	1.40	0.01	0.00	0.08
9	3.99	1.98	12.29	-2.62	369.85	1.39	1.40	0.01	0.00	0.08
10	3.96	1.97	12.13	-3.93	370.08	1.39	1.39	0.00	0.00	0.08
11	3.98	1.98	12.21	-3.25	370.82	1.39	1.39	0.00	0.00	0.08
12	3.98	1.98	12.32	-2.42	370.70	1.39	1.39	0.00	0.00	0.08

DIAMETER

INITIAL	2.01	2.00	2.00
1	2.00	2.00	2.00
2	2.00	2.00	2.00
3	2.00	2.01	2.00
4	2.00	1.99	2.00
5	1.99	2.00	2.00
6	1.99	2.00	2.00
7	1.98	1.97	1.97
8	1.98	1.98	1.97
9	2.00	1.97	1.97
10	1.98	1.97	1.97
11	1.98	1.98	1.98
12	2.00	1.99	1.97

HEIGHT

4.03	4.01	4.00
4.01	4.00	4.01
4.02	4.01	4.00
4.03	4.01	4.01
4.01	4.01	4.01
4.01	4.02	4.03
4.00	4.02	4.03
3.99	3.97	3.99
3.98	3.98	3.98
3.98	3.98	4.00
3.96	3.97	3.96
3.98	3.98	3.97
3.98	3.99	3.98

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	Remix-4-20160217-82
PROJECT No.:	SH0578	SAMPLE No. (Control):	Remix-4-20160217-82C
START DATE:	3/16/2016	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A678		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	112.1	pcf	111.7	pcf
2. DRY UNIT WEIGHT	82.2	pcf	81.9	pcf
3. MOISTURE CONTENT	36.38	%	36.38	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-5.3	%	-3.9	%
2. TOTAL MASS LOSS	0.11	%	0.08	%
3. RELATIVE MASS LOSS	0.03	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

WET / DRY TESTING

REPORT FORMAT
PAGE 1 OF 4

PROJECT:	Macon AGL	SAMPLE No. (Specimen No. 1):	Remix-6-20160218-83
PROJECT No.:	SH0578	SAMPLE No. (Specimen No. 2)	Remix-6-20160218-83C
START DATE:	3/17/2016	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A679		

TESTED BY: LC

SPECIMEN NO. 1
Wet / Dry Specimen

MOISTURE CONTENT (Dry Basis)				
Specimen No. 1	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.66	g		g
3. WT WET SOIL + TARE	137.28	g		g
4. WT DRY SOIL + TARE	121.63	g		g
5. WT WATER, Ww	15.65	g		g
6. WT DRY SOIL, Ws	44.97	g		g
7. MOISTURE CONTENT, W	34.80	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 1	DIAMETER		LENGTH	
No. 1	2.01	in.	4.03	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.01	in.
Average	2.00	in.	4.02	in.

SPECIMEN No. 1 CONDITIONS		
Initial Specimen WT, Wo	375.30	g
Initial Dry Specimen WT, Wd	278.41	g
Initial Area, Ao	3.16	in^2
Initial Volume, Vo	12.68	in^3
Initial Bulk Unit Weight,	112.7	pcf
Initial Dry Unit Weight,	83.6	pcf

SPECIMEN NO. 2
Control Specimen

TESTED BY: LC

MOISTURE CONTENT (Dry Basis)				
Specimen No. 2	INITIAL		FINAL	
1. MOISTURE TIN NO.				
2. WT MOISTURE TIN (tare weight)	76.66	g		g
3. WT WET SOIL + TARE	137.28	g		g
4. WT DRY SOIL + TARE	121.63	g		g
5. WT WATER, Ww	15.65	g		g
6. WT DRY SOIL, Ws	44.97	g		g
7. MOISTURE CONTENT, W	34.80	%	NA	%

SOIL SPECIMEN DIMENSIONS				
Specimen No. 2	DIAMETER		LENGTH	
No. 1	2.00	in.	4.00	in.
No. 2	2.00	in.	4.01	in.
No. 3	2.00	in.	4.00	in.
Average	2.00	in.	4.00	in.

SPECIMEN No. 2 CONDITIONS		
Initial Specimen WT, Wo	372.32	g
Initial Dry Specimen WT, Wd	276.20	g
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.56	in^3
Initial Bulk Unit Weight,	113.0	pcf
Initial Dry Unit Weight,	83.8	pcf

WET / DRY TESTING

REPORT FORMAT

PROJECT:	Macon AGL		INITIAL MOISTURE CONTENT	34.80	%
PROJECT No.:	SH0578		INITIAL VOLUME:	12.68	in³
SAMPLE No.:	Remix-6-20160218-83		INITIAL TOTAL WEIGHT:	375.30	grams
TESTING SEQUENCE:	WET / DRY		INITIAL DRY SOIL WEIGHT:	278.41	grams
TRACKING CODE:	A679				

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.02	2.00	12.68		375.30					0.00
1	3.98	1.99	12.31	-2.91	368.03	1.40	1.41	0.00	0.00	0.00
2	3.98	1.98	12.25	-3.41	367.82	1.40	1.42	0.02	0.01	0.01
3	3.99	1.98	12.30	-3.03	368.02	1.40	1.40	0.00	0.00	0.01
4	3.98	1.98	12.20	-3.83	367.66	1.40	1.40	0.00	0.00	0.01
5	3.98	1.98	12.28	-3.14	367.89	1.40	1.41	0.01	0.00	0.01
6	4.00	2.00	12.59	-0.73	367.87	1.40	1.40	0.00	0.00	0.01
7	3.99	2.00	12.55	-1.06	366.18	1.40	1.40	0.00	0.00	0.01
8	4.00	1.99	12.39	-2.29	360.15	1.39	1.51	0.13	0.04	0.06
9	3.97	1.98	12.22	-3.62	364.18	1.39	1.47	0.08	0.03	0.09
10	3.99	1.99	12.43	-1.96	361.97	1.39	1.43	0.04	0.01	0.10
11	3.98	1.98	12.26	-3.33	361.78	1.39	1.45	0.06	0.02	0.13
12	3.98	1.98	12.29	-3.05	361.57	1.39	1.43	0.04	0.02	0.14

DIAMETER

INITIAL	2.01	2.00	2.00
1	2.00	1.98	1.97
2	1.99	1.97	1.98
3	2.00	1.97	1.97
4	1.98	1.97	1.97
5	2.00	1.98	1.97
6	2.00	2.00	2.00
7	2.00	2.00	1.99
8	1.99	1.98	1.99
9	1.98	1.98	1.98
10	2.00	1.99	1.99
11	1.98	1.98	1.98
12	1.99	1.98	1.98

HEIGHT

4.03	4.01	4.01
3.98	3.97	3.99
3.98	3.99	3.98
3.98	3.99	3.99
3.97	3.99	3.98
3.98	3.98	3.99
4.00	4.01	4.01
4.00	3.99	3.99
3.99	4.00	4.00
3.97	3.97	3.97
3.99	3.99	3.99
3.99	3.98	3.97
3.98	3.98	3.99

CONTROL TESTING

REPORT FORMAT

PROJECT:	Macon AGL	INITIAL MOISTURE CONTENT	34.80	%
PROJECT No.:	SH0578	INITIAL VOLUME:	12.56	in³
SAMPLE No.:	Remix-6-20160218-83C	INITIAL TOTAL WEIGHT:	372.32	grams
TESTING SEQUENCE:	WET / DRY	INITIAL DRY SOIL WEIGHT:	276.20	grams
TRACKING CODE:	A679			

	SPECIMEN CONDITIONS					MASS LOSS				CUMULATIVE
CYCLE	HEIGHT (in)	DIAMETER (in)	VOLUME (in³)	VOLUME CHANGE (%)	SPECIMEN WEIGHT (grams)	TARE WEIGHT (grams)	DRY SOIL + TARE (grams)	MASS LOSS (grams)	MASS LOSS (%)	MASS LOSS (%)
INITIAL	4.00	2.00	12.56		372.32					0.00
1	4.01	2.00	12.60	0.38	373.56	1.39	1.40	0.01	0.00	0.00
2	4.02	1.99	12.54	-0.16	373.94	1.39	1.40	0.02	0.01	0.01
3	4.01	2.00	12.55	-0.09	374.00	1.39	1.39	0.00	0.00	0.01
4	4.01	2.00	12.57	0.08	374.24	1.39	1.39	0.00	0.00	0.01
5	4.02	2.00	12.67	0.89	374.53	1.39	1.39	0.00	0.00	0.01
6	4.02	2.00	12.59	0.23	374.30	1.39	1.39	0.00	0.00	0.01
7	4.00	2.01	12.67	0.89	374.41	1.39	1.39	0.00	0.00	0.01
8	4.01	2.00	12.56	-0.01	374.38	1.39	1.39	0.00	0.00	0.02
9	3.99	2.01	12.62	0.53	374.47	1.39	1.40	0.01	0.00	0.02
10	4.02	2.01	12.71	1.23	374.45	1.39	1.39	0.00	0.00	0.02
11	4.02	2.00	12.57	0.14	374.50	1.39	1.40	0.01	0.00	0.02
12	4.02	2.00	12.66	0.83	374.24	1.39	1.39	0.00	0.00	0.02

DIAMETER

INITIAL	2.00	2.00	2.00
1	2.00	2.00	2.00
2	1.99	1.99	2.00
3	2.00	1.99	2.00
4	2.00	1.99	2.00
5	2.01	2.00	2.00
6	2.00	1.99	2.00
7	2.02	2.00	2.00
8	2.00	1.99	2.00
9	2.02	2.00	2.00
10	2.02	2.01	2.00
11	2.00	2.00	2.00
12	2.01	2.00	2.00

HEIGHT

4.00	4.01	4.00
4.00	4.03	4.01
4.03	4.01	4.01
4.02	4.01	4.00
4.02	4.00	4.02
4.03	4.01	4.01
4.03	4.00	4.01
4.00	4.00	4.01
4.00	4.03	4.01
4.00	3.99	3.99
4.02	4.02	4.00
4.00	4.04	4.01
4.02	4.03	4.01

WET / DRY TESTING

SUMMARY OF TEST RESULTS

PROJECT:	Macon AGL	SAMPLE No. (Test):	Remix-6-20160218-83
PROJECT No.:	SH0578	SAMPLE No. (Control):	Remix-6-20160218-83C
START DATE:	3/17/2016	SAMPLE DESCRIPTION:	28 Day
TRACKING CODE:	A679		

INITIAL SPECIMEN CONDITIONS	TEST		CONTROL	
1. BULK UNIT WEIGHT	112.7	pcf	113.0	pcf
2. DRY UNIT WEIGHT	83.6	pcf	83.8	pcf
3. MOISTURE CONTENT	34.80	%	34.80	%

TEST RESULTS	TEST		CONTROL	
1. MAX VOLUMETRIC CHANGE*	-3.8	%	-1.2	%
2. TOTAL MASS LOSS	0.14	%	0.02	%
3. RELATIVE MASS LOSS	0.12	%		

* A positive value denotes expansion and a negative value denotes shrinkage.

AGLC Wet/Dry Analysis Memo
To Georgia EPD

Appendix A-7

May 21, 2016
Project No. 0176740
Corrective Action Completion Report

Environmental Resources Management
3200 Windy Hill Rd. Suite 1500W
Atlanta, GA 30339
(678) 486-2700

Memorandum

Environmental Resources Management

To: AGLC Team

From: ERM

File number: 0176740

Date: November 23, 2015

Subject: Assessment of Wet/Dry Testing

Macon Site Introduction

Atlanta Gas and Light Company (AGLC) is currently performing an ISS remedy at the Former Macon Manufactured Gas Plant (MGP) site (Site), located northwest of 6th Street and is referred to as the Western Portion MGP, within the City of Macon, Bibb County, Georgia.

On January 14, 2015, AGLC and EPD signed and executed Consent Order EPD-VRP-12, providing for transition of the Site from regulation under HSRA to the Voluntary Remediation Program (VRP) in which EPD acknowledged acceptance to the VRP on May 21, 2015. On October 14, 2014 the VIRP was submitted proposing a remedy to conduct in-situ solidification of the MGP residuals at the Site.

Background

On May 18, 2015, ERM began implementation of the remedy as described in the VIRP. The remedy for this Site includes excavation and ISS. As part of ongoing Quality Assurance (QA) program, ERM has been collecting samples at a frequency of one sample per 1000 cubic yards of mass stabilized. Three performance criteria for assessing the in-situ solidification (ISS) remedy at the site were selected. The performance goals for these tests were defined in the 2015 Corrective Action Plan (CAP), which has been approved by the Georgia EPD, as follows:

- Permeability (ASTM D 5084-00) $<1 \times 10^{-6}$ cm/sec
- Unconfined Compressive Strength (ASTM D 1633-00) >50 psi; and
- Wet/Dry Loss (ASTM D 4843) <10 percent (12 cycles)

All of the permeability and UCS tests have passed the performance criteria to date. Six (6) wet/dry test samples have failed the QC testing program. The failure of six wet/dry samples is unexpected, given that the testing results for permeability and UCS for these samples (and all samples tested to date) have exceeded the performance criteria by a significant margin.

To evaluate the possible causes of the wet/dry failures, the geology, the mix design, operational parameters and lab data were evaluated and compared. The information below summarizes this evaluation.

Geology

Geologic units identified at the Mulberry Street and Western Portion MGP Sites consists of fill material; unconsolidated alluvial deposits; sandy clays of the Tuscaloosa Formation; a clayey to silty saprolite; and granitic gneiss bedrock (Williams, 2000; RETEC, 2006). The fill material is comprised of a heterogeneous mixture of sand, silt, clay, and gravel and is encountered from the ground surface to depths ranging from approximately 0.2 to 15 ft. bgs. The alluvial deposits underlying the fill material generally grade downward from sandy clays and clayey sands, to silty sands, further to sands and gravelly sands (RETEC, 2006). The alluvial deposits overlie the Cretaceous-age Tuscaloosa Formation (where present) and the older, underlying saprolite. The Tuscaloosa Formation is generally found west and north of 6th Street and tapers off in the western/northwestern portion of the Mulberry Street MGP Site. The Tuscaloosa is encountered from 5 to 23 feet bgs and thickness ranges from approximately 3.5 to 11 ft. (ENSR, 2008). The saprolite encountered at the Site is generally clayey silt characterized by relict foliation and structures associated with the parent igneous and metamorphic rock. The thickness of the saprolite at the Site ranges from 6.5 to 30 feet (RETEC, 2006; ENSR, 2008). The saprolite contact, as determined from review of historic boring logs and cross-sections, generally dips downward from southwest to northeast.

Design

As part of the remedy ERM selected two mix designs. These mix designs were vetted via a treatability study to determine its efficacy. Both mix designs were incorporated into the remedy with Mix Design 1 used for the less contaminated perimeter columns and Mix Design 2 used for the more contaminated interior columns. Below is the mix designs used during the different remedies at the Macon site.

Table 1 Mix Design Comparison

Reagent	2002 ISS Mix Design	2009* ISS Mix Design	2015 ISS Mix Design 1	2015 ISS Mix Design 2
Cement	1.5%	2.8%	1.5%	2.5%
Slag	4.5%	4.2%	4.5%	4.5%
Bentonite	0.5%	0.5%	0.5%	0.5%

*This was adjusted from 75/25 to 60/40 at the outset of the project. There was some trouble with the initial set of columns setting up to the anticipated strength.

As shown in Table 1 the mix designs are consistent across all the work performed on the Macon site and does not appear that the mix design is contributing to the failed wet/dry results.

Operational Parameters

ERM has been collecting the operational data supplied by Geo Solutions, Inc. (GSI) the contractor supplying the ISS services. A number of parameters are used to ensure that

each ISS column is being installed consistent with the design (expand with design title and date). The most important parameters are dosage rates as found in Table 1 and number of column passes, for this work 3 passes was required in the design. The operational parameters for the QA samples can be found in Table 2.

Table 2 Operational Parameters for Wet/Dry Failed Samples

Column ID /Sample #	Sample Status	Mix Design	Cement	Slag	Bentonite	Total	Mixing Stroke
BS13-(20)-20150724-15	Failed	1	1.70%	5.00%	0.60%	7.20%	3
S21-(15)-20150819-32	Failed	1	1.50%	4.60%	0.50%	6.60%	3
X020-5-20150820-33	Failed	1	1.50%	4.50%	0.50%	6.50%	3
CC25-10-20150829-39	Failed	2	2.60%	4.60%	0.50%	7.70%	3
BV-26-5-20150901-40	Failed	2	2.50%	4.49%	0.50%	7.49%	3
BK21-10-20150903-42	Failed	2	2.50%	4.50%	0.50%	7.50%	4
AZ18-5-20150909-43	Failed	2	2.50%	4.50%	0.50%	7.50%	3

As shown in Table 2, both the number of passes and the dosage rate for each additive meets either the Mix 1 or Mix 2 design parameters. The operational parameters met the mix design criteria for the columns that failed the wet-dry analysis, therefore the wet-dry failure was not due to an out-of-specification mix.

QA Summary

A total of 55 samples have been submitted to Kemron Environmental Services, Inc. (Kemron) for the testing listed above. To date, all 56 samples have passed the performance criteria for permeability and UCS. For the wet/dry testing, 43 samples have been completed, with the remaining 13 tests in progress. Thirty-six (36) of the 43 samples completed have passed. Seven (7) of the completed wet/dry samples have failed. As mentioned before, the failure of the wet/dry samples is unexpected, given that the results for all permeability and UCS samples exceed the performance criteria by a significant margin.

The samples include both Mix 1 and Mix 2, and range in depth from 5 to 20 feet. As all other samples with these mixes and depths have passed, the mix ratios and/or depths do not appear to be contributing to the wet/dry failures.

The permeability and UCS sample results for the failed columns are within range of the site averages for the same parameters. Thus, the columns with wet-dry failure are not correlated with out of range permeability or UCS results. It should be noted that the averages were determined from the values reported by Kemron, which represent testing results of three to 28-day cure samples. Table 3 below summarizes this evaluation.

Table 3 – QC Test Comparisons

Column Number (Sample No.)	Sample Depth	Sample Date	Mix No.	Reagent Addition (%)	W/C Ratio	UCS (psi)	Perm. K (cm/sec)
BS-13 (15)	20	7/24	1	6.0	2.5:1	290	3.40E-08
S-21 (32)	15	8/19	1	6.5	2.8:1	427	2.10E-09
X-20 (33)	5	8/20	1	6.5	2.8:1	373	3.90E-09
CC-25 (39)	10	8/29	2	7.5	2.5:1	290	6.90E-09
BV-26(40)	5	9/01	2	7.5	2.8:1	287	3.40E-09
BK-21 (42)	10	9/03	2	7.5	2.8:1	221	4.10E-09
AZ-18(43)	5	9/09	2	7.5	2.8:1	225.2	2.40E-09
Average of Failed Wet/Dry Samples						302	1.18E-08
Average All Samples (to date)						215	4.22E-08
Maximum Site Value (to date)						680	5.00E-07
Minimum Site Value (to date)						59	1.40E-10
Criterion						50	1.00E-6

Laboratory and Field Observations

To further evaluate the issues, ERM consulted with Kemron laboratory personnel who are familiar with the work and reported on the observations of the Macon geotechnical samples being sent to the lab for evaluation. Kemron is the geotechnical laboratory used for the work at the Macon project and has worked on the previous Macon projects. A summary of the findings can be found below:

- The cylinders, with one exception, sample CM27-15-20150828-38, have been well-mixed when received at the Kemron lab; this sample subsequently passed all performance criteria.

- There is an obvious color difference between some of the samples, with the tan color significantly more prevalent than the brown color. This color difference is due to soil

differences on site and not changes in the reagent mix designs. According to Kemron, the failures do not correlate with sample color change.

- Kemron observed discernible clumps of gray clay in an untreated sample that was predominately a rust brown color and coarser-grained than other soils collected from the site. This was similar to the observations in the field which had occasional clumps of gray clay in the material that was pressed through a 1/2 –inch screen prior to placement in sample cylinders.

Latest Regulatory Guidance

An effective decrease in the hydraulic conductivity of the solidified mass in relation to the surrounding media is the single most important feature of the solidification process to ensure long-term protection of groundwater by preventing groundwater contact with contaminants. The USEPA provides guidance that solidified soils shall achieve a hydraulic conductivity of less than 10^{-6} cm/s and a compressive strength of 50 psi (USEPA, 1993). Hydraulic conductivity results for the columns installed thus far have met or exceeded the performance standards by 2-3 orders of magnitude. Strength results have been observed in the 75-680 psi range for confirmatory samples at the site. Both metrics are considerably surpassing typical solidification parameters as seen in most applications.

The latest consensus document developed by both industry and regulators is the Interstate Technology and Regulatory Council (ITRC) Guidance Document published in July 2011 lists the Key Performance Parameters for S/S-Treated Materials as unconfined compressive strength, permeability and leaching. No discussion is given to wet-dry cycling ASTM D4843 as a key performance indicator.

The wet/dry test is a difficult metric for ISS evaluation, given it does not represent the confined nature of the columns in the ground. Method D4843 is aggressive for a low strength material such as a soil mix and is typically run as a comparative test. The samples are set in water and the expansive forces of swelling clays are not restrained in any manner, which is contrary to what happens below grade in an ISS mass. Further, the test is designed for concrete that has more cohesion and overall strength (4000 psi versus 50 psi) under the testing conditions than the expansive soils would have.

Obligations in the CAP

The QA obligations in the CAP indicate that adjacent column data (collected or archived) will be used to assess performance and develop corrective actions if warranted. The attached figure shows the location of the failed wet/dry tests, the location of completed wet/dry tests that have passed, and the wet/dry tests that are in progress.

In general, four of the seven failed wet/dry samples are located internal to the ISS mass. That is, there are ISS columns which pass the wet/dry testing on all sides. In each case where an internal ISS column failed the wet/dry test (8/29, 9/1, 9/3, and 9/9), ERM has collected wet/dry samples from surrounding columns and these have resulted in passing QC tests.

There are, however, 3 locations of failed wet/dry tests that are located at the perimeter of the ISS mass (7/24, 8/19, and 8/20). In these instances there are also adjacent test locations which have passed the wet/dry testing procedure, however, due to their location on the perimeter, do not have passing results on one side.

Conclusions

- The columns that failed the wet-dry test met the operational parameters in the specifications and are not specifically related to ISS performance.
- To date all samples (including those that failed the wet/dry) have exceeded the primary QA requirements for ISS (permeability and UCS).
- Four (4) of the seven (7) failed wet/dry test locations are internally located columns that have adjacent samples that pass the wet/dry test on all sides. Three (3) of the samples are around the perimeter which do not have adjacent samples.
- The presence of localized expansive clays on site may be impacting the results of the wet/dry testing.
- Based on literature the wet/dry testing is a performance factor rather than an operational parameter and is less critical than the UCS and permeability for predicting ISS effectiveness.

Corrective Actions

Based on the evaluation of the wet/dry failures and the requisite ISS performance, the following recommendations have been implemented at the site.

1. Increase mix design dosage rate to 8 % (3.75% cement, 3.75 % GGBFS and 0.5% bentonite) for all remaining columns (started 10/23/2015).

2. Remix all perimeter columns that failed initial wet/dry QC testing to the historic low groundwater elevation with the 8% mix.

3. Collect and analyze duplicates for the failed QA samples after 56 day and/or 90 day cure times to evaluate the strengthening of the samples during the curing process.

4. Continue wet/dry testing as part of the site QA program and continue to monitor results.

Terminal Ave

6th St

VS

VN

Holder

L15

Batch Plant

Water Treatment

Abandoned cut and cap location due to potential contamination

0 50 Feet

Basemap: Image Source: April 2013 - Settimio Consulting Services, Inc.

Environmental Resources Management

DESIGN:	M Fleri	DRAWN:	A Freeman	CHKD.:	H Sartain
DATE:	11/16/2015	SCALE:	AS SHOWN	REVISION:	0
FILE:	S:\AGL\AGL_Macon\MXD\10 2015 ISS Progress\AGLMcn_ISS Progress.mxd				

- AGLMcnRem_ISSLimits_20151028
- Problem Areas
- FAIL
- PASS
- Pending
- Excluded
- Refusal
- VN Vibration Monitoring Stations
- Holder
- L15 Line (property line)
- Gas Line Cut Coordinates
- 6' Buffer from Building
- Batch Plant / Water Treatment

FIGURE 1
ISS PROGRESS
11/14/2015

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia

AGLC Leaching Memo
To Georgia EPD

Appendix A-8

May 21, 2016
Project No. 0176740
Corrective Action Completion Report

Environmental Resources Management
3200 Windy Hill Rd. Suite 1500W
Atlanta, GA 30339
(678) 486-2700

Environmental Resources Management

The Towers at Wildwood
3200 Windy Hill Road SE,
Suite 1500W
Atlanta, Georgia 30339
Phone (678) 486-2700
Fax (678) 745-0103

August 20, 2015

Mr. Kevin Collins
Georgia Department of Natural Resources
Environmental Protection Division
2 Martin Luther King Drive
Suite 1456
Atlanta, Georgia 30334

Subject: Quality Control Testing for Former MGP Site, Macon, GA
AGL Resources, HSI Site 10511
EPD Consent Order EPD-VRP012

Dear Mr. Collins:

As we discussed at the project site on August 30, 2015, ERM is proposing to modify the leachability testing for the above referenced site. The VIRP (dated October 14, 2014) and Groundwater CAP (as Addendum C) indicated that one sample/1,000 CY of stabilized material would be collected and analyzed using ANS 16.1 leach methodology. Upon further evaluation, and a review of the historical leaching tests from the adjacent Macon MGP ISS site, it is clear that this frequency of testing is excessive and does not provide a higher degree of reliability for decision making regarding the long term groundwater quality at the site. The following testing program/frequency will meet the data quality objectives (e.g. sufficient quality for input into the groundwater evaluations, including modeling):

- One sample/5000 cy for ANS 16.1
- One sample/5000 cy for LEAF 1315

We will provide an update on the status of the leachability testing in the first semi-annual progress report to be submitted by November 21, 2015. We will begin implementing the proposed leaching program/frequency on August 28, 2015.

In addition, permeability testing conducted on the initial confirmation samples from full-scale activities at the AGL Macon, GA site indicate that the treated materials exhibit extremely low permeability values as much as 3 orders of magnitude less permeable than the 1 x 10-6 cm/sec standard. Because of the low permeability rates exhibited in the samples, testing is not able to proceed in a reasonable timeframe using the standard ASTM 5084 method. This standard requires that a minimum of four (4) valid readings should be obtained. A valid reading is one that A) exhibits a reading of at least 0.5 ml. of water passing through the sample, B) has an influent to effluent ratio of 1.0 plus or minus 0.25, and C) where each reading is within 25% of the average of the four (4) valid readings.

Permeability testing of several treated site specimens is requiring 3 to 4 working days to achieve a single valid result as outlined by ASTM. As such, completing a single complete permeability test is taking up to four weeks. Due to the rate of on-going site treatment activities and scheduled testing of the confirmation samples at multiple cure dates, the potential for delayed testing results has become evident due to the amount of time required to perform permeability testing in strict accordance with the ASTM method. To prevent delays, the following changes are being implemented:

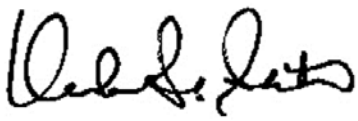
For samples which exhibit extremely low permeability rates (a sample which does not achieve a valid ASTM permeability reading within 24 hours of sample permeability testing);

1) One (1) permeability reading, instead of the 4 readings outlined in the ASTM method, which exhibits permeability value 2 orders of magnitude slower than the site treatment criteria, will be considered sufficient to show a passing sample.
2) A reading of at least 0.2 milliliters of movement, rather than the 0.5 ml outlined in the ASTM, will be considered a valid reading if the influent and effluent ratios fall within the ASTM requirements.

By making these modifications to the ASTM 5084 test method the time required to show a passing numerical permeability value will be greatly reduced and delays in the testing schedule will likely be averted, while still showing that the achieved permeability is < requisite standard.

If you have any questions do not hesitate to contact me at 678-486-2752.

Sincerely,



Hunter S. Sartain, P.E.
Partner

Cc(elec): Greg Corbett/AGL
Carol Geiger/KMCL
Erik Rolle/GP
Hollister Hill/TS
AGL Sharepoint/Macon

Kemron Leachability Test Results

Appendix A-9

May 21, 2016
Project No. 0176740
Corrective Action Completion Report

Environmental Resources Management
3200 Windy Hill Rd. Suite 1500W
Atlanta, GA 30339
(678) 486-2700

KEMRON
ENVIRONMENTAL SERVICES

1359-A Ellsworth Industrial Blvd • Atlanta, GA 30318 • TEL 404-636-0928 • FAX 404-636-7162

May 10, 2016

Environmental Resources Management, Inc.
3200 Windy Hill Road, Suite 1500W
Atlanta, GA 30339

Re: Final Letter Report of Confirmation Testing
ERM Project No. 176740
KEMRON Project No. SH0578

Dear Mr. Rivera:

Enclosed, please find the testing results for samples received between July 16, 2015 and February 23, 2016 for confirmation testing. All analytical testing was performed by Analytical Environmental Services (AES) located in Atlanta, GA.

This letter report includes the summary tables, supporting laboratory data and the sample chain of custodies. The following methods were completed for selected samples:

Unconfined Compressive Strength – ASTM D2166
Hydraulic Conductivity – ASTM D5084
Wet/Dry Durability – ASTM D4843
Leachability – ANSI 16.1
Leachability – EPA LEAF Method 1315

KEMRON Environmental Services, Inc. appreciates this opportunity to provide laboratory services to ERM. If you have any questions, or require additional information, please contact me at (404) 636-0928.

Sincerely,

KEMRON Environmental Services, Inc.

James Moyer
Staff Chemist

Tommy A. Jordan, P.G.
Program Manager

Attachments: Table 1 – Summary of Confirmation Testing Results
Table 2-2i – Summary of ANS 16.1 Leachability Analytical Results
Table 3-3i – Summary of EPA LEAF 1315 Leachability Analytical Results
Appendix A – Unconfined Compressive Strength Data Sheets
Appendix B – Hydraulic Conductivity Data Sheets
Appendix C – Wet/Dry Durability Data Sheets
Appendix D – ANS 16.1 Leachability Data Sheets
Appendix E – EPA LEAF 1315 Leachability Data Sheets

Tables

ERM
MACON AGL CONFIRMATION TESTING
KEMRON PROJECT No. SH0578

Table 2

ANS 16.1 Analytical Results (Sample CQ27)
VOC, SVOC, Metals, Mercury, Total Cyanide

Paramters	Units	CQ27-M-20150711-01 (ANS) (2 hour)			CQ27-M-20150711-01 (ANS) (7 hour)			CQ27-M-20150711-01 (ANS) (24 hour)			CQ27-M-20150711-01 (ANS) (48 hour)			CQ27-M-20150711-01 (ANS) (3 day)			CQ27-M-20150711-01 (ANS) (4 day)			CQ27-M-20150711-01 (ANS) (5 day)			CQ27-M-20150711-01 (ANS) (19 day)			CQ27-M-20150711-01 (ANS) (47 day)			CQ27-M-20150711-01 (ANS) (90 day)		
		Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL
Volatile Organic Compounds 8260B																																
Benzene	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Carbon disulfide	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Ethylbenzene	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Toluene	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Xylenes, Total	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Semi Volatile Organic Compounds 8270D																																
2,4-Dimethylphenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0	10.0	U	10.0
2-Methylphenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0	10.0	U	10.0
3,4-Methylphenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0	10.0	U	10.0
Phenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0	10.0	U	10.0
Semi Volatile Organic Compounds 8270D SIM																																
Acenaphthene	µg/L	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500
Acenaphthylene	µg/L	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000
Anthracene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	**0.340**		0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Benz(a)anthracene	µg/L	0.050	U	0.050	0.050	U	0.050	**0.190**		0.050	0.050	U	0.050	**0.096**		0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Benzo(a)pyrene	µg/L	0.050	U	0.050	0.050	U	0.050	**0.340**		0.050	0.050	U	0.050	**0.086**		0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Benzo(b)fluoranthene	µg/L	0.100	U	0.100	0.100	U	0.100	**0.740**		0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Benzo(g,h,i)perylene	µg/L	0.100	U	0.100	0.100	U	0.100	**0.290**		0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Benzo(k)fluoranthene	µg/L	0.050	U	0.050	0.050	U	0.050	**0.300**		0.050	0.050	U	0.050	**0.110**		0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Chrysene	µg/L	0.050	U	0.050	0.050	U	0.050	**0.510**		0.050	0.050	U	0.050	**0.130**		0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Dibenz(a,h)anthracene	µg/L	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Fluoranthene	µg/L	0.100	U	0.100	0.100	U	0.100	**0.570**		0.100	0.100	U	0.100	**0.390**		0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Fluorene	µg/L	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	**0.500**		0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Indeno(1,2,3-cd)pyrene	µg/L	0.050	U	0.050	0.050	U	0.050	**0.210**		0.050	0.050	U	0.050	**0.068**		0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Naphthalene	µg/L	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500
Phenanthrene	µg/L	0.050	U	0.050	**0.089**		0.050	**0.140**		0.050	**0.130**		0.050	**2.800**		0.050	**0.160**		0.050	**0.170**		0.050	0.050	U	0.050	**0.061**		0.050	0.050	U	0.050	0.050	U	0.050
Pyrene	µg/L	0.050	U	0.050	0.050	U	0.050	**0.490**		0.050	0.050	U	0.050	**0.310**		0.050	0.050	U	0.050	0.050	U	0.050	**0.057**		0.050	0.050	U	0.050	**0.065**		0.050	0.050	U	0.050
Metals 6010C																																
Antimony	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Arsenic	mg/L	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500
Barium	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	**0.0429**		0.0200	0.0200	U	0.0200
Beryllium	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Cadmium	mg/L	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050
Chromium	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Copper	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Lead	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Nickel	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Zinc	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Mercury 7470A																																
Mercury	mg/L	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002
Total Cyanide 9014																																
Cyanide, Total	mg/L	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01
General Chemistry																																
Temperature	°C	15.22			19.06			18.64			18.66			20.03			19.57			23.98			21.26			21.99			22.45				
Conductivity	mS/cm^3	0.073			0.094			0.117			0.128			0.108			0.050			0.111			0.121			0.214			0.164				
pH	S.U.	10.90			10.71			9.60			9.76			10.39			10.14			10.01			9.05			8.70			8.90				

Notes:
RL = Reporting Limit
U = The result is below the Reporting Limit
µg/L = microgram per Liter
mg/L = milligram per Liter
°C = degree Celsius
mS/cm^3 = milliSiemens per cubic centimeter
S.U. = Standard Units

ERM
MACON AGL CONFIRMATION TESTING
KEMRON PROJECT No. SH0578

Table 2a

ANS 16.1 Analytical Results (Sample AY7)
VOC, SVOC, Metals, Mercury, Total Cyanide

Paramters	Units	AY7-15-20150730-20 (ANS) (2 hour)			AY7-15-20150730-20 (ANS) (7 hour)			AY7-15-20150730-20 (ANS) (24 hour)			AY7-15-20150730-20 (ANS)(48hour)			AY7-15-20150730-20 (ANS) (3 day)			AY7-15-20150730-20 (ANS) (4 day)			AY7-15-20150730-20 (ANS) (5 day)			AY7-15-20150730-20 (ANS) (19 day)			AY7-15-20150730-20 (ANS) (47 day)			AY7-15-20150730-20 (ANS) (90 day)		
		Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL
Volatile Organic Compounds 8260B																																
Benzene	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Carbon disulfide	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Ethylbenzene	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Toluene	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Xylenes, Total	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Semi Volatile Organic Compounds 8270D																																
2,4-Dimethylphenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
2-Methylphenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
3,4-Methylphenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
Phenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
Semi Volatile Organic Compounds 8270D SIM																																
Acenaphthene	µg/L							0.500	U	0.500				0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500
Acenaphthylene	µg/L							1.000	U	1.000				1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000
Anthracene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Benz(a)anthracene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Benzo(a)pyrene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Benzo(b)fluoranthene	µg/L							0.100	U	0.100				0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Benzo(g,h,i)perylene	µg/L							0.100	U	0.100				0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Benzo(k)fluoranthene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Chrysene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	**0.053**		0.050
Dibenz(a,h)anthracene	µg/L							0.100	U	0.100				0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Fluoranthene	µg/L							0.100	U	0.100				0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Fluorene	µg/L							0.100	U	0.100				0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Indeno(1,2,3-cd)pyrene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Naphthalene	µg/L							0.500	U	0.500				0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500
Phenanthrene	µg/L							**0.160**		0.050				**0.250**		0.050	**0.250**		0.050	**0.130**		0.050	**0.230**		0.050	**0.420**		0.050	**0.360**		0.050
Pyrene	µg/L							0.050	U	0.050				**0.052**		0.050	**0.062**		0.050	0.050	U	0.050	0.050	U	0.050	**0.180**		0.050	**0.100**		0.050
Metals 6010C																																
Antimony	mg/L							0.0200	U	0.0200				0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Arsenic	mg/L							0.0500	U	0.0500				0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500
Barium	mg/L							**0.0498**		0.0200				**0.0364**		0.0200	**0.0400**		0.0200	**0.0377**		0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Beryllium	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Cadmium	mg/L							0.0050	U	0.0050				0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050
Chromium	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Copper	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Lead	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Nickel	mg/L							0.0200	U	0.0200				0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Zinc	mg/L							0.0200	U	0.0200				0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Mercury 7470A																																
Mercury	mg/L							0.0002	U	0.0002				0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002
Total Cyanide 9014																																
Cyanide, Total	mg/L							0.01	U	0.01				0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01
General Chemistry																																
Temperature	°C	21.32			21.56			22.29			21.65			21.66			22.52			22.08			20.81			23.12			20.85			
Conductivity	mS/cm^3	0.065			0.108			0.196			0.160			0.125			0.114			0.096			0.088			0.084			0.088			
pH	S.U.	10.04			10.58			11.18			10.75			10.56			10.64			10.53			9.18			8.31			7.54			

Notes:
RL = Reporting Limit
U = The result is below the Reporting Limit
µg/L = microgram per Liter
mg/L = milligram per Liter
°C = degree Celsius
mS/cm^3 = milliSiemens per cubic centimeter
S.U. = Standard Units
Shaded area = Anaytical testing not requested

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MACON AGL CONFIRMATION TESTING
KEMRON PROJECT No. SH0578

Table 2b

ANS 16.1 Analytical Results (Sample K21)
VOC, SVOC, Metals, Mercury, Total Cyanide

Paramters	Units	K21-10-20150818-31 (ANS) (2 hour)			K21-10-20150818-31 (ANS) (7 hour)			K21-10-20150818-31 (ANS) (24 hour)			K21-10-20150818-31 (ANS) (48 hour)			K21-10-20150818-31 (ANS) (3 day)			K21-10-20150818-31 (ANS) (4 day)			K21-10-20150818-31 (ANS) (5 day)			K21-10-20150818-31 (ANS) (19 day)			K21-10-20150818-31 (ANS) (47 day)			K21-10-20150818-31 (ANS) (90 day)		
		Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL
Volatile Organic Compounds 8260B																																
Benzene	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Carbon disulfide	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Ethylbenzene	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Toluene	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Xylenes, Total	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Semi Volatile Organic Compounds 8270D																																
2,4-Dimethylphenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
2-Methylphenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
3,4-Methylphenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
Phenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
Semi Volatile Organic Compounds 8270D SIM																																
Acenaphthene	µg/L							0.500	U	0.500				0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500
Acenaphthylene	µg/L							1.000	U	1.000				1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000
Anthracene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Benz(a)anthracene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Benzo(a)pyrene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Benzo(b)fluoranthene	µg/L							0.100	U	0.100				0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Benzo(g,h,i)perylene	µg/L							0.100	U	0.100				0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Benzo(k)fluoranthene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Chrysene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Dibenz(a,h)anthracene	µg/L							0.100	U	0.100				0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Fluoranthene	µg/L							0.100	U	0.100				0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Fluorene	µg/L							0.100	U	0.100				0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Indeno(1,2,3-cd)pyrene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Naphthalene	µg/L							0.500	U	0.500				0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500
Phenanthrene	µg/L							**0.210**		0.050				**0.280**		0.050	**0.280**		0.050	**0.150**		0.050	**0.180**		0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Pyrene	µg/L							**0.052**		0.050				**0.069**		0.050	**0.067**		0.050	0.050	U	0.050	**0.067**		0.050	**0.081**		0.050	**0.054**		0.050			
Metals 6010C																																
Antimony	mg/L							0.0200	U	0.0200				0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Arsenic	mg/L							0.0500	U	0.0500				0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500
Barium	mg/L							**0.0655**		0.0200				**0.0540**		0.0200	**0.0491**		0.0200	**0.0529**		0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Beryllium	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Cadmium	mg/L							0.0050	U	0.0050				0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050
Chromium	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Copper	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Lead	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Nickel	mg/L							0.0200	U	0.0200				0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Zinc	mg/L							0.0200	U	0.0200				0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Mercury 7470A																																
Mercury	mg/L							0.0002	U	0.0002				0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002
Total Cyanide 9014																																
Cyanide, Total	mg/L							0.01	U	0.01				0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01
General Chemistry																																
Temperature	°C	21.20			21.64			22.15			21.57			21.54			21.99			21.71			20.48			23.10			21.88				
Conductivity	mS/cm^3	0.066			0.100			0.210			0.165			0.130			0.126			0.122			0.089			0.081			0.088				
pH	S.U.	10.07			10.69			11.27			10.78			10.65			10.65			10.67			9.13			8.20			7.70				

Notes:
RL = Reporting Limit
U = The result is below the Reporting Limit
µg/L = microgram per Liter
mg/L = milligram per Liter
°C = degree Celsius
mS/cm^3 = milliSiemens per cubic centimeter
S.U. = Standard Units
Shaded area = Anaytical testing not requested

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Table 2c

ANS 16.1 Analytical Results (Sample CC25)
VOC, SVOC, Metals, Mercury, Total Cyanide

Paramters	Units	CC25-10-20150829-39 (ANS) (2 hour)			CC25-10-20150829-39 (ANS) (7 hour)			CC25-10-20150829-39 (ANS) (24 hour)			CC25-10-20150829-39 (ANS) (48 hour)			CC25-10-20150829-39 (ANS) (3 day)			CC25-10-20150829-39 (ANS) (4 day)			CC25-10-20150829-39 (ANS) (5 day)			CC25-10-20150829-39 (ANS) (19 day)			CC25-10-20150829-39 (ANS) (47 day)			CC25-10-20150829-39 (ANS) (90 day)		
		Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL
Volatile Organic Compounds 8260B																															
Benzene	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Carbon disulfide	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Ethylbenzene	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Toluene	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Xylenes, Total	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Semi Volatile Organic Compounds 8270D																															
2,4-Dimethylphenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
2-Methylphenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
3,4-Methylphenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
Phenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
Semi Volatile Organic Compounds 8270D SIM																															
Acenaphthene	µg/L							0.500	U	0.500				0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500
Acenaphthylene	µg/L							1.000	U	1.000				1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000
Anthracene	µg/L							**0.100**		0.050				0.050	U	0.050	**0.130**		0.050	**0.190**		0.050	**0.140**		0.050	0.050	U	0.050	0.050	U	0.050
Benz(a)anthracene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	**0.057**		0.050	**0.051**		0.050	0.050	U	0.050	0.050	U	0.050
Benzo(a)pyrene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Benzo(b)fluoranthene	µg/L							0.100	U	0.100				0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Benzo(g,h,i)perylene	µg/L							0.100	U	0.100				0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Benzo(k)fluoranthene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Chrysene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	**0.056**		0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Dibenz(a,h)anthracene	µg/L							0.100	U	0.100				0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Fluoranthene	µg/L							0.100	U	0.100				**0.340**		0.100	**0.270**		0.100	**0.370**		0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Fluorene	µg/L							0.100	U	0.100				**0.160**		0.100	**0.140**		0.100	**0.210**		0.100	**0.190**		0.100	0.100	U	0.100	0.100	U	0.100
Indeno(1,2,3-cd)pyrene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Naphthalene	µg/L							0.500	U	0.500				**0.650**		0.500	**0.640**		0.500	**0.780**		0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500
Phenanthrene	µg/L							**0.870**		0.050				**2.400**		0.050	**1.800**		0.050	**2.400**		0.050	**0.170**		0.050	0.050	U	0.050	0.050	U	0.050
Pyrene	µg/L							**0.120**		0.050				**0.370**		0.050	**0.300**		0.050	**0.420**		0.050	**0.190**		0.050	**0.067**		0.050	0.050	U	0.050
Metals 6010C																															
Antimony	mg/L							0.0200	U	0.0200				0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Arsenic	mg/L							0.0500	U	0.0500				0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500
Barium	mg/L							0.0200	U	0.0200				0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	**0.0329**		0.0200	**0.0524**		0.0200
Beryllium	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Cadmium	mg/L							0.0050	U	0.0050				0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050
Chromium	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Copper	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Lead	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Nickel	mg/L							0.0200	U	0.0200				**0.0456**		0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Zinc	mg/L							0.0200	U	0.0200				**0.0244**		0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Mercury 7470A																															
Mercury	mg/L							0.0002	U	0.0002				0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002
Total Cyanide 9014																															
Cyanide, Total	mg/L							0.01	U	0.01				0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01
General Chemistry																															
Temperature	°C	21.61			20.31			17.97			19.00			23.33			23.04			22.73			23.11			22.96			22.80		
Conductivity	mS/cm^3	0.033			0.035			0.058			0.051			0.050			0.043			0.034			0.083			0.120			0.165		
pH	S.U.	6.07			6.15			9.26			9.05			8.85			9.03			7.87			8.41			8.62			6.85		

Notes:
RL = Reporting Limit
U = The result is below the Reporting Limit
µg/L = microgram per Liter
mg/L = milligram per Liter
°C = degree Celsius
mS/cm^3 = milliSiemens per cubic centimeter
S.U. = Standard Units
Shaded area = Anaytical testing not requested

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MACON AGL CONFIRMATION TESTING
KEMRON PROJECT No. SH0578

Table 2d

ANS 16.1 Analytical Results (Sample L16)
VOC, SVOC, Metals, Mercury, Total Cyanide

Paramters	Units	L16-10-20150911-45 (ANS) (2 hour)			L16-10-20150911-45 (ANS) (7 hour)			L16-10-20150911-45 (ANS) (24 hour)			L16-10-20150911-45 (ANS) (48 hour)			L16-10-20150911-45 (ANS) (3 day)			L16-10-20150911-45 (ANS) (4 day)			L16-10-20150911-45 (ANS) (5 day)			L16-10-20150911-45 (ANS) (19 day)			L16-10-20150911-45 (ANS) (47 day)			L16-10-20150911-45 (ANS) (90 day)		
		Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL
Volatile Organic Compounds 8260B																															
Benzene	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Carbon disulfide	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Ethylbenzene	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Toluene	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Xylenes, Total	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Semi Volatile Organic Compounds 8270D																															
2,4-Dimethylphenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
2-Methylphenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
3,4-Methylphenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
Phenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
Semi Volatile Organic Compounds 8270D SIM																															
Acenaphthene	µg/L							0.500	U	0.500				0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.510	U	0.510	0.500	U	0.500	0.500	U	0.500
Acenaphthylene	µg/L							1.000	U	1.000				1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000
Anthracene	µg/L							0.050	U	0.050				**0.100**		0.050	**0.150**		0.050	**0.160**		0.050	0.051	U	0.051	0.050	U	0.050	0.050	U	0.050
Benz(a)anthracene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.051	U	0.051	0.050	U	0.050	0.050	U	0.050
Benzo(a)pyrene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.051	U	0.051	0.050	U	0.050	0.050	U	0.050
Benzo(b)fluoranthene	µg/L							0.100	U	0.100				0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Benzo(g,h,i)perylene	µg/L							0.100	U	0.100				0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Benzo(k)fluoranthene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.051	U	0.051	0.050	U	0.050	0.050	U	0.050
Chrysene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.051	U	0.051	0.050	U	0.050	0.050	U	0.050
Dibenz(a,h)anthracene	µg/L							0.100	U	0.100				0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Fluoranthene	µg/L							**0.110**		0.100				**0.250**		0.100	**0.410**		0.100	**0.350**		0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Fluorene	µg/L							0.100	U	0.100				**0.100**		0.100	**0.170**		0.100	**0.140**		0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Indeno(1,2,3-cd)pyrene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.051	U	0.051	0.050	U	0.050	0.050	U	0.050
Naphthalene	µg/L							0.500	U	0.500				0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.510	U	0.510	0.500	U	0.500	0.500	U	0.500
Phenanthrene	µg/L							**0.610**		0.050				**1.400**		0.050	**2.000**		0.050	**1.600**		0.050	0.051	U	0.051	0.050	U	0.050	0.050	U	0.050
Pyrene	µg/L							**0.120**		0.050				**0.270**		0.050	**0.420**		0.050	**0.380**		0.050	**0.160**		0.051	**0.100**		0.050	0.050	U	0.050
Metals 6010C																															
Antimony	mg/L							0.0200	U	0.0200				0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Arsenic	mg/L							0.0500	U	0.0500				0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500
Barium	mg/L							0.0200	U	0.0200				0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	**0.0209**		0.0200
Beryllium	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Cadmium	mg/L							0.0050	U	0.0050				0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050
Chromium	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Copper	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Lead	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Nickel	mg/L							0.0200	U	0.0200				0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Zinc	mg/L							0.0200	U	0.0200				0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Mercury 7470A																															
Mercury	mg/L							0.0002	U	0.0002				0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002
Total Cyanide 9014																															
Cyanide, Total	mg/L							0.01	U	0.01				0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01
General Chemistry																															
Temperature	°C	21.53			20.21			17.92			19.19			23.14			23.14			22.73			23.08			22.84			22.76		
Conductivity	mS/cm^3	0.030			0.031			0.057			0.054			0.045			0.059			0.035			0.081			0.097			0.130		
pH	S.U.	5.94			5.94			9.51			9.55			9.18			9.38			8.33			8.60			8.13			8.08		

Notes:
RL = Reporting Limit
U = The result is below the Reporting Limit
µg/L = microgram per Liter
mg/L = milligram per Liter
°C = degree Celsius
mS/cm^3 = milliSiemens per cubic centimeter
S.U. = Standard Units
Shaded area = Anaytical testing not requested

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KEMRON PROJECT No. SH0578

Table 2e

ANS 16.1 Analytical Results (Sample AK15)
VOC, SVOC, Metals, Mercury, Total Cyanide

Paramters	Units	AK15-5-20150923-52 (ANS) (2 hour)			AK15-5-20150923-52 (ANS) (7 hour)			AK15-5-20150923-52 (ANS) (24 hour)			AK15-5-20150923-52 (ANS) (48hour)			AK15-5-20150923-52 (ANS) (3 day)			AK15-5-20150923-52 (ANS) (4 day)			AK15-5-20150923-52 (ANS) (5 day)			AK15-5-20150923-52 (ANS) (19 day)			AK15-5-20150923-52 (ANS) (47 day)			AK15-5-20150923-52 (ANS) (90 day)		
								Result	Qual.	RL				Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL
Volatile Organic Compounds 8260B																															
Benzene	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Carbon disulfide	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Ethylbenzene	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Toluene	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Xylenes, Total	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Semi Volatile Organic Compounds 8270D																															
2,4-Dimethylphenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
2-Methylphenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
3,4-Methylphenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
Phenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
Semi Volatile Organic Compounds 8270D SIM																															
Acenaphthene	µg/L							**0.740**		0.500				0.500	U	0.500	0.500	U	0.500	**0.640**		0.500	**0.660**		0.500	0.500	U	0.500	0.500	U	0.500
Acenaphthylene	µg/L							**1.400**		1.000				1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	**1.300**		1.000	1.000	U	1.000	1.000	U	1.000
Anthracene	µg/L							**1.100**		0.050				**0.190**		0.050	**0.270**		0.050	**0.400**		0.050	**0.610**		0.050	0.050	U	0.050	0.050	U	0.050
Benz(a)anthracene	µg/L							**0.160**		0.050				0.050	U	0.050	0.050	U	0.050	**0.066**		0.050	**0.110**		0.050	0.050	U	0.050	0.050	U	0.050
Benzo(a)pyrene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Benzo(b)fluoranthene	µg/L							0.100	U	0.100				0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Benzo(g,h,i)perylene	µg/L							0.100	U	0.100				0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Benzo(k)fluoranthene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Chrysene	µg/L							**0.150**		0.050				0.050	U	0.050	0.050	U	0.050	**0.052**		0.050	**0.130**		0.050	0.050	U	0.050	0.050	U	0.050
Dibenz(a,h)anthracene	µg/L							0.100	U	0.100				0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Fluoranthene	µg/L							**1.100**		0.100				**0.170**		0.100	**0.320**		0.100	**0.590**		0.100	**0.680**		0.100	**0.110**		0.100	0.100	U	0.100
Fluorene	µg/L							**1.100**		0.100				**0.390**		0.100	**0.520**		0.100	**0.710**		0.100	**0.880**		0.100	0.100	U	0.100	0.100	U	0.100
Indeno(1,2,3-cd)pyrene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Naphthalene	µg/L							**6.400**		0.500				**4.800**		0.500	**5.700**		0.500	**6.900**		0.500	**6.100**		0.500	0.500	U	0.500	0.500	U	0.500
Phenanthrene	µg/L							**9.100**		0.050				**2.400**		0.050	**3.700**		0.050	**5.500**		0.050	**6.800**		0.050	0.050	U	0.050	0.050	U	0.050
Pyrene	µg/L							**1.100**		0.050				**0.200**		0.050	**0.350**		0.050	**0.660**		0.050	**0.900**		0.050	**0.120**		0.050	**0.071**		0.050
Metals 6010C																															
Antimony	mg/L							0.0200	U	0.0200				0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Arsenic	mg/L							0.0500	U	0.0500				0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500
Barium	mg/L							0.0200	U	0.0200				0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Beryllium	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Cadmium	mg/L							0.0050	U	0.0050				0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050
Chromium	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Copper	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	**0.0360**		0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Lead	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Nickel	mg/L							0.0200	U	0.0200				0.0200	U	0.0200	0.0200	U	0.0200	**0.0492**		0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Zinc	mg/L							0.0200	U	0.0200				0.0200	U	0.0200	0.0200	U	0.0200	**0.0243**		0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Mercury 7470A																															
Mercury	mg/L							0.0002	U	0.0002				0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002
Total Cyanide 9014																															
Cyanide, Total	mg/L							0.01	U	0.01				0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01
General Chemistry																															
Temperature	°C	24.49			25.19			21.78			21.23			19.41			21.77			22.39			23.30			23.23			18.38		
Conductivity	mS/cm^3	0.045			0.052			0.085			0.080			0.049			0.046			0.050			0.081			0.09			0.12		
pH	S.U.	6.65			7.31			9.56			9.44			8.92			8.46			8.51			8.65			7.22			8.86		

Notes:
RL = Reporting Limit
U = The result is below the Reporting Limit
µg/L = microgram per Liter
mg/L = milligram per Liter
°C = degree Celsius
mS/cm^3 = milliSiemens per cubic centimeter
S.U. = Standard Units
Shaded area = Anaytical testing not requested

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KEMRON PROJECT No. SH0578

Table 2f

ANS 16.1 Analytical Results (Sample BO31)
VOC, SVOC, Metals, Mercury, Total Cyanide

Paramters	Units	BO31-5-20151009-58 (ANS) (2 hour)			BO31-5-20151009-58 (ANS) (7 hour)			BO31-5-20151009-58 (ANS) (24 hour)			BO31-5-20151009-58 (ANS) (48hour)			BO31-5-20151009-58 (ANS) (3 day)			BO31-5-20151009-58 (ANS) (4 day)			BO31-5-20151009-58 (ANS) (5 day)			BO31-5-20151009-58 (ANS) (19 day)			BO31-5-20151009-58 (ANS) (47 day)			BO31-5-20151009-58 (ANS) (90 day)		
								Result	Qual.	RL				Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL
Volatile Organic Compounds 8260B																															
Benzene	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Carbon disulfide	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Ethylbenzene	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Toluene	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Xylenes, Total	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Semi Volatile Organic Compounds 8270D																															
2,4-Dimethylphenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
2-Methylphenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
3,4-Methylphenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
Phenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
Semi Volatile Organic Compounds 8270D SIM																															
Acenaphthene	µg/L							0.500	U	0.500				0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500
Acenaphthylene	µg/L							1.000	U	1.000				1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000
Anthracene	µg/L							**0.150**		0.050				**0.190**		0.050	**0.200**		0.050	**0.610**		0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Benz(a)anthracene	µg/L							0.050	U	0.050				0.050	U	0.050	**0.250**		0.050	**0.072**		0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Benzo(a)pyrene	µg/L							0.050	U	0.050				0.050	U	0.050	**0.280**		0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Benzo(b)fluoranthene	µg/L							0.100	U	0.100				0.100	U	0.100	**0.240**		0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Benzo(g,h,i)perylene	µg/L							0.100	U	0.100				0.100	U	0.100	**0.310**		0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Benzo(k)fluoranthene	µg/L							0.050	U	0.050				0.050	U	0.050	**0.360**		0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Chrysene	µg/L							0.050	U	0.050				0.050	U	0.050	**0.320**		0.050	**0.140**		0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Dibenz(a,h)anthracene	µg/L							0.100	U	0.100				0.100	U	0.100	**0.320**		0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Fluoranthene	µg/L							**0.330**		0.100				**0.330**		0.100	**0.390**		0.100	**0.820**		0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Fluorene	µg/L							**0.150**		0.100				**0.150**		0.100	**0.160**		0.100	**0.200**		0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Indeno(1,2,3-cd)pyrene	µg/L							0.050	U	0.050				0.050	U	0.050	**0.310**		0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Naphthalene	µg/L							**1.400**		0.500				**2.000**		0.500	**1.700**		0.500	**1.900**		0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500
Phenanthrene	µg/L							**2.100**		0.050				**2.400**		0.050	**2.200**		0.050	**3.400**		0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Pyrene	µg/L							**0.320**		0.050				**0.350**		0.050	**0.460**		0.050	**0.900**		0.050	**0.090**		0.050	**0.067**		0.050	**0.088**		0.050
Metals 6010C																															
Antimony	mg/L							0.0200	U	0.0200				0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Arsenic	mg/L							0.0500	U	0.0500				0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500
Barium	mg/L							**0.0237**		0.0200				0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	**0.0221**		0.0200	**0.0260**		0.0200	**0.0302**		0.0200
Beryllium	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Cadmium	mg/L							0.0050	U	0.0050				0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050
Chromium	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	**0.0486**		0.0100
Copper	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Lead	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Nickel	mg/L							**0.0290**		0.0200				0.0200	U	0.0200	0.0200	U	0.0200	**0.0518**		0.0200	0.0200	U	0.0200	0.0200	U	0.0200	**0.0568**		0.0200
Zinc	mg/L							0.0200	U	0.0200				0.0200	U	0.0200	0.0200	U	0.0200	**0.0257**		0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Mercury 7470A																															
Mercury	mg/L							0.0002	U	0.0002				0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002
Total Cyanide 9014																															
Cyanide, Total	mg/L							0.01	U	0.01				0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01
General Chemistry																															
Temperature	°C	22.93			22.45			23.12			23.06			23.05			23.37			20.04			24.50			23.67			24.12		
Conductivity	mS/cm^3	0.035			0.037			0.071			0.072			0.057			0.050			0.040			0.075			0.11			0.14		
pH	S.U.	8.91			6.06			9.02			9.51			9.52			9.74			8.54			9.41			7.26			7.54		

Notes:
RL = Reporting Limit
U = The result is below the Reporting Limit
µg/L = microgram per Liter
mg/L = milligram per Liter
°C = degree Celsius
mS/cm^3 = milliSiemens per cubic centimeter
S.U. = Standard Units
Shaded area = Anaytical testing not requested

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KEMRON PROJECT No. SH0578

Table 2g

ANS 16.1 Analytical Results (Sample BG43)
VOC, SVOC, Metals, Mercury, Total Cyanide

Paramters	Units	BG43-5-20151021-64 (ANS) (2 hour)			BG43-5-20151021-64 (ANS) (7 hour)			BG43-5-20151021-64 (ANS) (24 hour)			BG43-5-20151021-64 (ANS) (48hour)			BG43-5-20151021-64 (ANS) (3 day)			BG43-5-20151021-64 (ANS) (4 day)			BG43-5-20151021-64 (ANS) (5 day)			BG43-5-20151021-64 (ANS) (19 day)			BG43-5-20151021-64 (ANS) (47 day)			BG43-5-20151021-64 (ANS) (90 day)		
								Result	Qual.	RL				Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL
Volatile Organic Compounds 8260B																															
Benzene	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Carbon disulfide	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Ethylbenzene	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Toluene	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Xylenes, Total	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Semi Volatile Organic Compounds 8270D																															
2,4-Dimethylphenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	12.0	U	12.0	10.0	U	10.0	10.0	U	10.0
2-Methylphenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	12.0	U	12.0	10.0	U	10.0	10.0	U	10.0
3,4-Methylphenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	12.0	U	12.0	10.0	U	10.0	10.0	U	10.0
Phenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	12.0	U	12.0	10.0	U	10.0	10.0	U	10.0
Semi Volatile Organic Compounds 8270D SIM																															
Acenaphthene	µg/L							0.500	U	0.500				0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	**0.520**		0.500
Acenaphthylene	µg/L							1.000	U	1.000				1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000
Anthracene	µg/L							**0.180**		0.050				0.050	U	0.050	**0.080**		0.050	**0.058**		0.050	0.050	U	0.050	0.050	U	0.050	**0.081**		0.050
Benz(a)anthracene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Benzo(a)pyrene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Benzo(b)fluoranthene	µg/L							0.100	U	0.100				0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Benzo(g,h,i)perylene	µg/L							0.100	U	0.100				0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Benzo(k)fluoranthene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Chrysene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	**0.083**		0.050	**0.052**		0.050
Dibenz(a,h)anthracene	µg/L							0.100	U	0.100				0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Fluoranthene	µg/L							**0.350**		0.100				0.100	U	0.100	**0.210**		0.100	**0.200**		0.100	0.100	U	0.100	0.100	U	0.100	**0.220**		0.100
Fluorene	µg/L							0.100	U	0.100				0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	**0.190**		0.100
Indeno(1,2,3-cd)pyrene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Naphthalene	µg/L							0.500	U	0.500				0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	**4.900**		0.500
Phenanthrene	µg/L							**1.100**		0.050				**0.360**		0.050	**0.990**		0.050	**0.820**		0.050	**0.069**		0.050	0.050	U	0.050	**1.100**		0.050
Pyrene	µg/L							**0.410**		0.050				**0.090**		0.050	**0.210**		0.050	**0.200**		0.050	0.050	U	0.050	**0.079**		0.050	**0.340**		0.050
Metals 6010C																															
Antimony	mg/L							0.0200	U	0.0200				0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Arsenic	mg/L							0.0500	U	0.0500				0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500
Barium	mg/L							0.0200	U	0.0200				0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Beryllium	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Cadmium	mg/L							0.0050	U	0.0050				0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050
Chromium	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Copper	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Lead	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Nickel	mg/L							0.0200	U	0.0200				0.0200	U	0.0200	**0.0325**		0.0200	**0.0259**		0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Zinc	mg/L							0.0200	U	0.0200				0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Mercury 7470A																															
Mercury	mg/L							0.0002	U	0.0002				0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002
Total Cyanide 9014																															
Cyanide, Total	mg/L							0.01	U	0.01				0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01
General Chemistry																															
Temperature	°C	22.93			22.45			23.12			23.06			19.56			22.59			23.05			23.31			19.29			25.06		
Conductivity	mS/cm^3	0.035			0.037			0.071			0.072			0.057			0.055			0.048			0.100			0.12			0.07		
pH	S.U.	8.91			6.06			9.02			9.51			9.09			7.83			8.98			7.26			7.75			7.84		

Notes:
RL = Reporting Limit
U = The result is below the Reporting Limit
µg/L = microgram per Liter
mg/L = milligram per Liter
°C = degree Celsius
mS/cm^3 = milliSiemens per cubic centimeter
S.U. = Standard Units
Shaded area = Anaytical testing not requested

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Table 2h

ANS 16.1 Analytical Results (Sample AI3)
VOC, SVOC, Metals, Mercury, Total Cyanide

Paramters	Units	AI3-20-20151103-70 (ANS) (2 hour)			AI3-20-20151103-70 (ANS) (7 hour)			AI3-20-20151103-70 (ANS) (24 hour)			AI3-20-20151103-70 (ANS) (48hour)			AI3-20-20151103-70 (ANS) (3 day)			AI3-20-20151103-70 (ANS) (4 day)			AI3-20-20151103-70 (ANS) (5 day)			AI3-20-20151103-70 (ANS) (19 day)			AI3-20-20151103-70 (ANS) (47 day)			AI3-20-20151103-70 (ANS) (90 day)		
								Result	Qual.	RL				Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL
Volatile Organic Compounds 8260B																															
Benzene	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Carbon disulfide	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Ethylbenzene	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Toluene	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Xylenes, Total	µg/L							**15.0**		5.0				**23.0**		5.0	**13.0**		5.0	**11.0**		5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Semi Volatile Organic Compounds 8270D																															
2,4-Dimethylphenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
2-Methylphenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
3,4-Methylphenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
Phenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
Semi Volatile Organic Compounds 8270D SIM																															
Acenaphthene	µg/L							**0.530**		0.500				**0.530**		0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500
Acenaphthylene	µg/L							1.000	U	1.000				1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000
Anthracene	µg/L							**0.170**		0.050				**0.250**		0.050	**0.140**		0.050	**0.140**		0.050	**0.087**		0.050	0.050	U	0.050	0.050	U	0.050
Benz(a)anthracene	µg/L							**0.090**		0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Benzo(a)pyrene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Benzo(b)fluoranthene	µg/L							0.100	U	0.100				0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Benzo(g,h,i)perylene	µg/L							0.100	U	0.100				0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Benzo(k)fluoranthene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Chrysene	µg/L							**0.080**		0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Dibenz(a,h)anthracene	µg/L							0.100	U	0.100				0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Fluoranthene	µg/L							**0.300**		0.100				**0.300**		0.100	**0.180**		0.100	**0.220**		0.100	**0.170**		0.100	0.100	U	0.100	0.100	U	0.100
Fluorene	µg/L							**0.390**		0.100				**0.410**		0.100	**0.310**		0.100	**0.280**		0.100	**0.150**		0.100	0.100	U	0.100	0.100	U	0.100
Indeno(1,2,3-cd)pyrene	µg/L							**0.057**		0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Naphthalene	µg/L							**16.00**		5.000				**14.00**		5.000	**9.100**		5.000	**7.900**		0.500	**2.700**		0.500	0.500	U	0.500	0.500	U	0.500
Phenanthrene	µg/L							**2.100**		0.050				**2.100**		0.050	**1.700**		0.050	**1.500**		0.050	**1.100**		0.050	0.050	U	0.050	0.050	U	0.050
Pyrene	µg/L							**0.330**		0.050				**0.310**		0.050	**0.190**		0.050	**0.230**		0.050	**0.190**		0.050	0.050	U	0.050	0.050	U	0.050
Metals 6010C																															
Antimony	mg/L							0.0200	U	0.0200				0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Arsenic	mg/L							0.0500	U	0.0500				0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500
Barium	mg/L							**0.0263**		0.0200				0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Beryllium	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Cadmium	mg/L							0.0050	U	0.0050				0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050
Chromium	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Copper	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Lead	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Nickel	mg/L							0.0200	U	0.0200				0.0200	U	0.0200	0.0200	U	0.0200	**0.0240**		0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Zinc	mg/L							0.0200	U	0.0200				0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Mercury 7470A																															
Mercury	mg/L							0.0002	U	0.0002				0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002
Total Cyanide 9014																															
Cyanide, Total	mg/L							0.01	U	0.01				0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01
General Chemistry																															
Temperature	°C	23.78			23.74			23.73			23.32			24.68			20.96			19.13			15.65			18.31			21.99		
Conductivity	mS/cm^3	0.074			0.097			0.192			0.180			0.181			0.119			0.077			0.105			0.15			0.10		
pH	S.U.	7.38			9.68			10.57			10.63			10.61			10.32			9.26			7.81			7.58			7.41		

Notes:
RL = Reporting Limit
U = The result is below the Reporting Limit
µg/L = microgram per Liter
mg/L = milligram per Liter
°C = degree Celsius
mS/cm^3 = milliSiemens per cubic centimeter
S.U. = Standard Units
Shaded area = Anaytical testing not requested

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KEMRON PROJECT No. SH0578

Table 2i

ANS 16.1 Analytical Results (Sample AH6)
VOC, SVOC, Metals, Mercury, Total Cyanide

Paramters	Units	AH6-5-20151113-76 (ANS) (2 hour)			AH6-5-20151113-76 (ANS) (7 hour)			AH6-5-20151113-76 (ANS) (24 hour)			AH6-5-20151113-76 (ANS) (48hour)			AH6-5-20151113-76 (ANS) (3 day)			AH6-5-20151113-76 (ANS) (4 day)			AH6-5-20151113-76 (ANS) (5 day)			AH6-5-20151113-76 (ANS) (19 day)			AH6-5-20151113-76 (ANS) (47 day)			AH6-5-20151113-76 (ANS) (90 day)		
								Result	Qual.	RL				Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL
Volatile Organic Compounds 8260B																																
Benzene	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Carbon disulfide	µg/L							5.0	U	5.0				5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Ethylbenzene	µg/L							**8.6**		5.0				**14.0**		5.0	**15.0**		5.0	**13.0**		5.0	**8.8**		5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Toluene	µg/L							**17.0**		5.0				**23.0**		5.0	**24.0**		5.0	**22.0**		5.0	**14.0**		5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Xylenes, Total	µg/L							**51.0**		5.0				**77.0**		5.0	**81.0**		5.0	**73.0**		5.0	**49.0**		5.0	10.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Semi Volatile Organic Compounds 8270D																																
2,4-Dimethylphenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
2-Methylphenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
3,4-Methylphenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
Phenol	µg/L							10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
Semi Volatile Organic Compounds 8270D SIM																																
Acenaphthene	µg/L							**0.550**		0.500				**1.100**		0.500	**1.200**		0.500	**1.100**		0.500	**1.500**		0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500
Acenaphthylene	µg/L							**1.400**		1.000				**2.400**		1.000	**2.400**		1.000	**2.200**		1.000	**3.100**		1.000	**1.100**		1.000	1.000	U	1.000	1.000	U	1.000
Anthracene	µg/L							**0.120**		0.050				**0.270**		0.050	**0.360**		0.050	**0.310**		0.050	**0.650**		0.050	**0.250**		0.050	0.050	U	0.050	0.050	U	0.050
Benz(a)anthracene	µg/L							0.050	U	0.050				**0.051**		0.050	0.050	U	0.050	0.050	U	0.050	**0.093**		0.050	**0.065**		0.050	0.050	U	0.050	0.050	U	0.050
Benzo(a)pyrene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Benzo(b)fluoranthene	µg/L							0.100	U	0.100				0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Benzo(g,h,i)perylene	µg/L							0.100	U	0.100				0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Benzo(k)fluoranthene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Chrysene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	**0.099**		0.050	**0.062**		0.050	0.050	U	0.050	0.050	U	0.050
Dibenz(a,h)anthracene	µg/L							0.100	U	0.100				0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Fluoranthene	µg/L							**0.150**		0.100				**0.320**		0.100	**0.430**		0.100	**0.420**		0.100	**0.790**		0.100	**0.370**		0.100	0.100	U	0.100	0.100	U	0.100
Fluorene	µg/L							**0.350**		0.100				**0.800**		0.100	**0.850**		0.100	**0.780**		0.100	**1.400**		0.100	**0.430**		0.100	0.100	U	0.100	0.100	U	0.100
Indeno(1,2,3-cd)pyrene	µg/L							0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Naphthalene	µg/L							**19.00**		5.000				**36.00**		5.000	**35.00**		5.000	**33.00**		5.000	**27.00**		5.000	**9.200**		0.500	0.500	U	0.500	0.500	U	0.500
Phenanthrene	µg/L							**1.400**		0.050				**3.000**		0.050	**3.600**		0.050	**3.600**		0.050	**6.600**		0.050	**2.400**		0.050	0.050	U	0.050	0.050	U	0.050
Pyrene	µg/L							**0.170**		0.050				**0.340**		0.050	**0.490**		0.050	**0.440**		0.050	**0.860**		0.050	**0.380**		0.050	0.050	U	0.050	0.050	U	0.050
Metals 6010C																																
Antimony	mg/L							0.0200	U	0.0200				0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.02	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Arsenic	mg/L							0.0500	U	0.0500				0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500
Barium	mg/L							**0.0269**		0.0200				0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	**0.0252**		0.0200			
Beryllium	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Cadmium	mg/L							0.0050	U	0.0050				0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050
Chromium	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Copper	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Lead	mg/L							0.0100	U	0.0100				0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Nickel	mg/L							0.0200	U	0.0200				0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Zinc	mg/L							0.0200	U	0.0200				0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Mercury 7470A																																
Mercury	mg/L							0.0002	U	0.0002				0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.00020	U	0.00020
Total Cyanide 9014																																
Cyanide, Total	mg/L							0.01	U	0.01				0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.010	U	0.010
General Chemistry																																
Temperature	°C	22.84			23.35			21.26			20.96			23.27			23.84			23.01			23.08			23.01			23.41				
Conductivity	mS/cm^3	0.067			0.081			0.222			0.176			0.176			0.142			0.129			0.137			0.112			0.198				
pH	S.U.	6.72			8.91			10.98			10.28			10.78			10.60			10.33			9.28			8.10			8.50				

Notes:
RL = Reporting Limit
U = The result is below the Reporting Limit
µg/L = microgram per Liter
mg/L = milligram per Liter
°C = degree Celsius
mS/cm^3 = milliSiemens per cubic centimeter
S.U. = Standard Units
Shaded area = Anaytical testing not requested

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Table 3

EPA Method 1315 Analytical Results (Sample CQ27)
VOC, SVOC, Metals, Mercury, Total Cyanide

Paramters	Units	CQ27-M-20150711-01 (1315) (2 hour)			CQ27-M-20150711-01 (1315) (24 hour)			CQ27-M-20150711-01 (1315) (48 hour)			CQ27-M-20150711-01 (1315) (7 day)			CQ27-M-20150711-01 (1315) (14 day)			CQ27-M-20150711-01 (1315) (28 day)			CQ27-M-20150711-01 (1315) (42 day)			CQ27-M-20150711-01 (1315) (49 day)			CQ27-M-20150711-01 (1315) (63 day)		
		Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL
Volatile Organic Compounds 8260B																													
Benzene	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Carbon disulfide	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Ethylbenzene	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Toluene	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Xylenes, Total	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Semi Volatile Organic Compounds 8270D																													
2,4-Dimethylphenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	21.0	U	21.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
2-Methylphenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	21.0	U	21.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
3,4-Methylphenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	21.0	U	21.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
Phenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	21.0	U	21.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
Semi Volatile Organic Compounds 8270D SIM																													
Acenaphthene	µg/L	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.560	U	0.560	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500
Acenaphthylene	µg/L	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.100	U	1.100	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000
Anthracene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	**0.100**		0.056	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Benz(a)anthracene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.056	U	0.056	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Benzo(a)pyrene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.056	U	0.056	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Benzo(b)fluoranthene	µg/L	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.110	U	0.110	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Benzo(g,h,i)perylene	µg/L	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.110	U	0.110	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Benzo(k)fluoranthene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.056	U	0.056	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Chrysene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.056	U	0.056	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Dibenz(a,h)anthracene	µg/L	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.110	U	0.110	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Fluoranthene	µg/L	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.110	U	0.110	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Fluorene	µg/L	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.110	U	0.110	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Indeno(1,2,3-cd)pyrene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.056	U	0.056	0.050	U	0.050	0.050	U	0.050	**0.054**		0.050	0.050	U	0.050
Naphthalene	µg/L	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.560	U	0.560	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500
Phenanthrene	µg/L	0.050	U	0.050	**0.060**		0.050	**0.068**		0.050	**0.100**		0.050	**0.560**		0.056	**0.110**		0.050	**0.530**		0.050	**0.093**		0.050	**0.086**		0.050
Pyrene	µg/L	**0.200**		0.050	0.050	U	0.050	**0.054**		0.050	0.050	U	0.050	**0.067**		0.056	0.050	U	0.050	**0.067**		0.050	0.050	U	0.050	0.050	U	0.050
Metals 6010C																													
Antimony	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Arsenic	mg/L	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500
Barium	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	**0.0399**		0.0200	**0.0546**		0.0200	**0.0407**		0.0200	0.0200	U	0.0200
Beryllium	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Cadmium	mg/L	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050
Chromium	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Copper	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Lead	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Nickel	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Zinc	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Mercury 7470A																													
Mercury	mg/L	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002
Total Cyanide 9014																													
Cyanide, Total	mg/L	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01

Notes:
RL = Reporting Limit
U = The result is below the Reporting Limit
µg/L = microgram per Liter
mg/L = milligram per Liter

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Table 3a

EPA Method 1315 Analytical Results (Sample AY7)
VOC, SVOC, Metals, Mercury, Total Cyanide

Paramters	Units	AY7-15-20150730-20 (1315) (2 hour)			AY7-15-20150730-20 (1315) (24 hour)			AY7-15-20150730-20 (1315) (48 hour)			AY7-15-20150730-20 (1315) (7 day)			AY7-15-20150730-20 (1315) (14 day)			AY7-15-20150730-20 (1315) (28 day)			AY7-15-20150730-20 (1315) (42 day)			AY7-15-20150730-20 (1315) (49 day)			AY7-15-20150730-20 (1315) (63 day)		
		Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL
Volatile Organic Compounds 8260B																													
Benzene	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Carbon disulfide	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Ethylbenzene	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Toluene	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Xylenes, Total	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Semi Volatile Organic Compounds 8270D																													
2,4-Dimethylphenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0
2-Methylphenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0
3,4-Methylphenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0
Phenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0
Semi Volatile Organic Compounds 8270D SIM																													
Acenaphthene	µg/L	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500
Acenaphthylene	µg/L	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000
Anthracene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Benz(a)anthracene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Benzo(a)pyrene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Benzo(b)fluoranthene	µg/L	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Benzo(g,h,i)perylene	µg/L	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	**0.130**		0.100	0.100	U	0.100
Benzo(k)fluoranthene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Chrysene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Dibenz(a,h)anthracene	µg/L	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Fluoranthene	µg/L	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Fluorene	µg/L	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Indeno(1,2,3-cd)pyrene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	**0.059**		0.050	0.050	U	0.050
Naphthalene	µg/L	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500
Phenanthrene	µg/L	0.050	U	0.050	**0.080**		0.050	**0.089**		0.050	**0.130**		0.050	**0.130**		0.050	**0.130**		0.050	**0.470**		0.050	**0.160**		0.050	0.050	U	0.050
Pyrene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	**0.086**		0.050	**0.077**		0.050	**0.140**		0.050
Metals 6010C																													
Antimony	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Arsenic	mg/L	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500
Barium	mg/L	**0.0467**		0.0200	**0.0488**		0.0200	**0.0420**		0.0200	**0.0536**		0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Beryllium	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Cadmium	mg/L	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050
Chromium	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Copper	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Lead	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Nickel	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Zinc	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Mercury 7470A																													
Mercury	mg/L	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002
Total Cyanide 9014																													
Cyanide, Total	mg/L	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01

Notes:
RL = Reporting Limit
U = The result is below the Reporting Limit
µg/L = microgram per Liter
mg/L = milligram per Liter

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Table 3b

EPA Method 1315 Analytical Results (K21)
VOC, SVOC, Metals, Mercury, Total Cyanide

Paramters	Units	K21-10-20150818-31 (1315) (2 hour)			K21-10-20150818-31 (1315) (24 hour)			K21-10-20150818-31 (1315) (48 hour)			K21-10-20150818-31 (1315) (7 day)			K21-10-20150818-31 (1315) (14 day)			K21-10-20150818-31 (1315) (28 day)			K21-10-20150818-31 (1315) (42 day)			K21-10-20150818-31 (1315) (49 day)			K21-10-20150818-31 (1315) (63 day)		
		Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL
Volatile Organic Compounds 8260B																												
Benzene	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Carbon disulfide	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Ethylbenzene	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Toluene	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Xylenes, Total	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Semi Volatile Organic Compounds 8270D																												
2,4-Dimethylphenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0
2-Methylphenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0
3,4-Methylphenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0
Phenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0
Semi Volatile Organic Compounds 8270D SIM																												
Acenaphthene	µg/L	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500
Acenaphthylene	µg/L	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000
Anthracene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	**0.075**		0.050	0.050	U	0.050	0.050	U	0.050
Benz(a)anthracene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	**0.110**		0.050
Benzo(a)pyrene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	**0.160**		0.050
Benzo(b)fluoranthene	µg/L	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	**0.190**		0.100
Benzo(g,h,i)perylene	µg/L	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	**0.190**		0.100
Benzo(k)fluoranthene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	**0.140**		0.050
Chrysene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	**0.110**		0.050
Dibenz(a,h)anthracene	µg/L	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	**0.210**		0.100
Fluoranthene	µg/L	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Fluorene	µg/L	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Indeno(1,2,3-cd)pyrene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	**0.051**		0.050	0.050	U	0.050	**0.200**		0.050
Naphthalene	µg/L	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	**0.520**		0.500	0.500	U	0.500	0.500	U	0.500
Phenanthrene	µg/L	0.050	U	0.050	**0.110**		0.050	0.050	U	0.050	**0.200**		0.050	**0.140**		0.050	**0.140**		0.050	**0.440**		0.050	**0.320**		0.050	**0.210**		0.050
Pyrene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	**0.120**		0.050	**0.089**		0.050	**0.057**		0.050
Metals 6010C																												
Antimony	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Arsenic	mg/L	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500
Barium	mg/L	**0.0476**		0.0200	**0.0823**		0.0200	0.0200	U	0.0200	**0.1040**		0.0200	**0.0496**		0.0200	**0.0488**		0.0200	**0.0283**		0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Beryllium	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Cadmium	mg/L	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050
Chromium	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Copper	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Lead	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Nickel	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Zinc	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Mercury 7470A																												
Mercury	mg/L	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002
Total Cyanide 9014																												
Cyanide, Total	mg/L	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01

Notes:
RL = Reporting Limit
U = The result is below the Reporting Limit
µg/L = microgram per Liter
mg/L = milligram per Liter

ERM
MACON AGL CONFIRMATION TESTING
KEMRON PROJECT No. SH0578

Table 3c

EPA Method 1315 Analytical Results (Sample CC25)
VOC, SVOC, Metals, Mercury, Total Cyanide

Paramters	Units	CC25-10-20150829-39 (1315) (2 hour)			CC25-10-20150829-39 (1315) (24 hour)			CC25-10-20150829-39 (1315) (48 hour)			CC25-10-20150829-39 (1315) (7 day)			CC25-10-20150829-39 (1315) (14 day)			CC25-10-20150829-39 (1315) (28 day)			CC25-10-20150829-39 (1315) (42 day)			CC25-10-20150829-39 (1315) (49 day)			CC25-10-20150829-39 (1315) (63 day)		
		Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL
Volatile Organic Compounds 8260B																													
Benzene	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Carbon disulfide	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Ethylbenzene	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Toluene	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Xylenes, Total	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Semi Volatile Organic Compounds 8270D																													
2,4-Dimethylphenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
2-Methylphenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
3,4-Methylphenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
Phenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
Semi Volatile Organic Compounds 8270D SIM																													
Acenaphthene	µg/L	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500
Acenaphthylene	µg/L	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000
Anthracene	µg/L	**0.220**		0.050	**0.120**		0.050	**0.087**		0.050	**0.120**		0.050	**0.130**		0.050	**0.097**		0.050	**0.096**		0.050	**0.092**		0.050	**0.720**		0.050
Benz(a)anthracene	µg/L	0.050	U	0.050	0.050	U	0.050	**0.063**		0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	**0.180**		0.050	0.050	U	0.050
Benzo(a)pyrene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	**0.210**		0.050	0.050	U	0.050
Benzo(b)fluoranthene	µg/L	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	**0.110**		0.100	0.100	U	0.100
Benzo(g,h,i)perylene	µg/L	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	**0.220**		0.100	0.100	U	0.100
Benzo(k)fluoranthene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	**0.430**		0.050	0.050	U	0.050
Chrysene	µg/L	0.050	U	0.050	0.050	U	0.050	**0.083**		0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	**0.270**		0.050	0.050	U	0.050
Dibenz(a,h)anthracene	µg/L	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	**0.280**		0.100	0.100	U	0.100
Fluoranthene	µg/L	**0.180**		0.100	**0.110**		0.100	0.100	U	0.100	**0.120**		0.100	**0.120**		0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Fluorene	µg/L	0.100	U	0.100	0.100	U	0.100	**0.170**		0.100	**0.170**		0.100	**0.170**		0.100	**0.140**		0.100	**0.180**		0.100	**0.140**		0.100	**0.160**		0.100
Indeno(1,2,3-cd)pyrene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	**0.190**		0.050	0.050	U	0.050
Naphthalene	µg/L	0.500	U	0.500	**0.620**		0.500	**0.720**		0.500	**2.300**		0.500	**2.200**		0.500	**2.200**		0.500	**2.800**		0.500	**2.300**		0.500	**1.200**		0.500
Phenanthrene	µg/L	**1.100**		0.050	**0.890**		0.050	**0.830**		0.050	**1.600**		0.050	**1.400**		0.050	**1.100**		0.050	**1.500**		0.050	**1.200**		0.050	**0.740**		0.050
Pyrene	µg/L	**0.200**		0.050	**0.130**		0.050	**0.110**		0.050	**0.170**		0.050	**0.180**		0.050	**0.110**		0.050	**0.140**		0.050	**0.130**		0.050	**0.057**		0.050
Metals 6010C																													
Antimony	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Arsenic	mg/L	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500
Barium	mg/L	0.0200	U	0.0200	**0.0383**		0.0200	0.0200	U	0.0200	**0.0504**		0.0200	**0.0432**		0.0200	**0.0443**		0.0200	**0.0340**		0.0200	**0.0270**		0.0200	**0.0320**		0.0200
Beryllium	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Cadmium	mg/L	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050
Chromium	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Copper	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Lead	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Nickel	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	**0.0389**		0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Zinc	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Mercury 7470A																													
Mercury	mg/L	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002
Total Cyanide 9014																													
Cyanide, Total	mg/L	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01

Notes:
RL = Reporting Limit
U = The result is below the Reporting Limit
µg/L = microgram per Liter
mg/L = milligram per Liter

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Table 3d

EPA Method 1315 Analytical Results (Sample L16)
VOC, SVOC, Metals, Mercury, Total Cyanide

Paramters	Units	L16-10-20150911-45 (1315) (2 hour)			L16-10-20150911-45 (1315) (24 hour)			L16-10-20150911-45 (1315) (48 hour)			L16-10-20150911-45 (1315) (7 day)			L16-10-20150911-45 (1315) (14 day)			L16-10-20150911-45 (1315) (28 day)			L16-10-20150911-45 (1315) (42 day)			L16-10-20150911-45 (1315) (49 day)			L16-10-20150911-45 (1315) (63 day)		
		Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL
Volatile Organic Compounds 8260B																												
Benzene	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Carbon disulfide	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Ethylbenzene	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Toluene	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Xylenes, Total	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Semi Volatile Organic Compounds 8270D																												
2,4-Dimethylphenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
2-Methylphenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
3,4-Methylphenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
Phenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
Semi Volatile Organic Compounds 8270D SIM																												
Acenaphthene	µg/L	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500
Acenaphthylene	µg/L	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000
Anthracene	µg/L	**0.890**		0.050	**0.120**		0.050	0.050	U	0.050	0.050	U	0.050	**0.071**		0.050	**0.053**		0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Benz(a)anthracene	µg/L	0.050	U	0.050	**0.110**		0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	**0.140**		0.050	0.050	U	0.050	0.050	U	0.050
Benzo(a)pyrene	µg/L	0.050	U	0.050	**0.052**		0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	**0.062**		0.050
Benzo(b)fluoranthene	µg/L	0.100	U	0.100	**0.190**		0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Benzo(g,h,i)perylene	µg/L	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	**0.560**		0.100
Benzo(k)fluoranthene	µg/L	0.050	U	0.050	**0.062**		0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	**0.250**		0.050	0.050	U	0.050	**0.290**		0.050
Chrysene	µg/L	0.050	U	0.050	**0.230**		0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	**0.130**		0.050	0.050	U	0.050	0.050	U	0.050
Dibenz(a,h)anthracene	µg/L	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	**0.700**		0.100
Fluoranthene	µg/L	**0.150**		0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	**0.110**		0.100	0.100	U	0.100	**0.330**		0.100	0.100	U	0.100	0.100	U	0.100
Fluorene	µg/L	0.100	U	0.100	**0.220**		0.100	0.100	U	0.100	0.100	U	0.100	**0.150**		0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Indeno(1,2,3-cd)pyrene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	**0.570**		0.050
Naphthalene	µg/L	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500
Phenanthrene	µg/L	**0.920**		0.050	**0.600**		0.050	**0.470**		0.050	**0.510**		0.050	**0.520**		0.050	**0.340**		0.050	**0.490**		0.050	**0.530**		0.050	**0.420**		0.050
Pyrene	µg/L	**0.170**		0.050	**0.120**		0.050	**0.078**		0.050	**0.094**		0.050	**0.150**		0.050	**0.110**		0.050	**0.320**		0.050	**0.120**		0.050	**0.073**		0.050
Metals 6010C																												
Antimony	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Arsenic	mg/L	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500
Barium	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Beryllium	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Cadmium	mg/L	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	**0.0183**		0.0050
Chromium	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Copper	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Lead	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Nickel	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	**0.0354**		0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Zinc	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Mercury 7470A																												
Mercury	mg/L	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002
Total Cyanide 9014																												
Cyanide, Total	mg/L	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01

Notes:
RL = Reporting Limit
U = The result is below the Reporting Limit
µg/L = microgram per Liter
mg/L = milligram per Liter

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Table 3e

EPA Method 1315 Analytical Results (Sample AK15)
VOC, SVOC, Metals, Mercury, Total Cyanide

Paramters	Units	AK15-5-20150923-52 (1315) (2 hour)			AK15-5-20150923-52 (1315) (24 hour)			AK15-5-20150923-52 (1315) (48 hour)			AK15-5-20150923-52 (1315) (7 day)			AK15-5-20150923-52 (1315) (14 day)			AK15-5-20150923-52 (1315) (28 day)			AK15-5-20150923-52 (1315) (42 day)			AK15-5-20150923-52 (1315) (49 day)			AK15-5-20150923-52 (1315) (63 day)		
		Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL
Volatile Organic Compounds 8260B																													
Benzene	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Carbon disulfide	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Ethylbenzene	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Toluene	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Xylenes, Total	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	**7.3**		5.0	**9.0**		5.0	**10.0**		5.0	**7.7**		5.0	5.0	U	5.0	**5.3**		5.0
Semi Volatile Organic Compounds 8270D																													
2,4-Dimethylphenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	11.0	U	11.0
2-Methylphenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	11.0	U	11.0
3,4-Methylphenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	11.0	U	11.0
Phenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	11.0	U	11.0
Semi Volatile Organic Compounds 8270D SIM																													
Acenaphthene	µg/L	0.500	U	0.500	**0.830**		0.500	**0.720**		0.500	**1.300**		0.500	**1.200**		0.500	0.540	U	0.540	**1.100**		0.500	**0.730**		0.500	**0.850**		0.500
Acenaphthylene	µg/L	1.000	U	1.000	**2.000**		1.000	**1.700**		1.000	**2.900**		1.000	**2.600**		1.000	1.100	U	1.100	**2.400**		1.000	**1.400**		1.000	**1.800**		1.000
Anthracene	µg/L	**0.210**		0.050	**0.350**		0.050	**0.280**		0.050	**0.410**		0.050	**0.330**		0.050	**0.120**		0.054	**0.290**		0.050	**0.190**		0.050	**0.220**		0.050
Benz(a)anthracene	µg/L	**0.120**		0.050	**0.051**		0.050	0.050	U	0.050	0.050	U	0.050	**0.077**		0.050	0.054	U	0.054	0.050	U	0.050	0.050	U	0.050	**0.084**		0.050
Benzo(a)pyrene	µg/L	**0.064**		0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.054	U	0.054	0.050	U	0.050	0.050	U	0.050	**0.057**		0.050
Benzo(b)fluoranthene	µg/L	**0.120**		0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.110	U	0.110	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Benzo(g,h,i)perylene	µg/L	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.110	U	0.110	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Benzo(k)fluoranthene	µg/L	**0.078**		0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.054	U	0.054	0.050	U	0.050	0.050	U	0.050	**0.059**		0.050
Chrysene	µg/L	**0.120**		0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	**0.070**		0.050	0.054	U	0.054	0.050	U	0.050	0.050	U	0.050	**0.081**		0.050
Dibenz(a,h)anthracene	µg/L	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.110	U	0.110	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Fluoranthene	µg/L	**0.430**		0.100	**0.270**		0.100	**0.210**		0.100	**0.220**		0.100	**0.320**		0.100	**0.170**		0.110	**0.250**		0.100	**0.200**		0.100	**0.190**		0.100
Fluorene	µg/L	**0.490**		0.100	**1.000**		0.100	**0.790**		0.100	**1.200**		0.100	**1.000**		0.100	0.110	U	0.110	**0.960**		0.100	**0.630**		0.100	**0.750**		0.100
Indeno(1,2,3-cd)pyrene	µg/L	**0.085**		0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.054	U	0.054	0.050	U	0.050	0.050	U	0.050	**0.062**		0.050
Naphthalene	µg/L	**2.400**		0.500	**8.100**		0.500	**9.300**		0.500	**20.00**		5.000	**18.00**		5.000	0.540	U	0.540	**20.00**		5.000	**9.400**		5.000	**12.00**		5.000
Phenanthrene	µg/L	**3.100**		0.050	**4.300**		0.050	**3.600**		0.050	**4.900**		0.050	**4.500**		0.050	**0.850**		0.054	**4.600**		0.050	**3.200**		0.050	**3.200**		0.050
Pyrene	µg/L	**0.410**		0.050	**0.310**		0.050	**0.250**		0.050	**0.290**		0.050	**0.370**		0.050	**0.180**		0.054	**0.330**		0.050	**0.220**		0.050	**0.230**		0.050
Metals 6010C																													
Antimony	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Arsenic	mg/L	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500
Barium	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Beryllium	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Cadmium	mg/L	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050
Chromium	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Copper	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Lead	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Nickel	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Zinc	mg/L	**0.0453**		0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Mercury 7470A																													
Mercury	mg/L	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002
Total Cyanide 9014																													
Cyanide, Total	mg/L	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01

Notes:
RL = Reporting Limit
U = The result is below the Reporting Limit
µg/L = microgram per Liter
mg/L = milligram per Liter

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Table 3f

EPA Method 1315 Analytical Results (Sample BO31)
VOC, SVOC, Metals, Mercury, Total Cyanide

Paramters	Units	BO31-5-20151009-58 (1315) (2 hour)			BO31-5-20151009-58 (1315) (24 hour)			BO31-5-20151009-58 (1315) (48 hour)			BO31-5-20151009-58 (1315) (7 day)			BO31-5-20151009-58 (1315) (14 day)			BO31-5-20151009-58 (1315) (28 day)			BO31-5-20151009-58 (1315) (42 day)			BO31-5-20151009-58 (1315) (49 day)			BO31-5-20151009-58 (1315) (63 day)		
		Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL
Volatile Organic Compounds 8260B																													
Benzene	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Carbon disulfide	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Ethylbenzene	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Toluene	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Xylenes, Total	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Semi Volatile Organic Compounds 8270D																													
2,4-Dimethylphenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0
2-Methylphenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0
3,4-Methylphenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0
Phenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0
Semi Volatile Organic Compounds 8270D SIM																													
Acenaphthene	µg/L	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500
Acenaphthylene	µg/L	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000
Anthracene	µg/L	**0.087**		0.050	0.050	U	0.050	**0.064**		0.050	**0.100**		0.050	**0.088**		0.050	**0.210**		0.050	**0.100**		0.050	**0.064**		0.050	**0.075**		0.050
Benz(a)anthracene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Benzo(a)pyrene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Benzo(b)fluoranthene	µg/L	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Benzo(g,h,i)perylene	µg/L	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Benzo(k)fluoranthene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Chrysene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Dibenz(a,h)anthracene	µg/L	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Fluoranthene	µg/L	**0.180**		0.100	0.100	U	0.100	**0.150**		0.100	**0.120**		0.100	**0.110**		0.100	**0.340**		0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Fluorene	µg/L	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	**0.140**		0.100	**0.150**		0.100	**0.180**		0.100	**0.160**		0.100	0.100	U	0.100	0.100	U	0.100	**0.150**		0.100
Indeno(1,2,3-cd)pyrene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Naphthalene	µg/L	0.500	U	0.500	**1.700**		0.500	**2.100**		0.500	**4.600**		0.500	**4.700**		0.500	**3.600**		0.500	**4.500**		0.500	**2.800**		0.500	**3.500**		0.500
Phenanthrene	µg/L	**1.100**		0.050	**0.710**		0.050	**0.850**		0.050	**1.100**		0.050	**1.200**		0.050	**1.200**		0.050	**1.500**		0.050	**0.810**		0.050	**1.300**		0.050
Pyrene	µg/L	**0.190**		0.050	**0.100**		0.050	**0.210**		0.050	**0.160**		0.050	**0.140**		0.050	**0.110**		0.050	**0.160**		0.050	**0.072**		0.050	**0.100**		0.050
Metals 6010C																													
Antimony	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Arsenic	mg/L	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500
Barium	mg/L	0.0200	U	0.0200	**0.0449**		0.0200	**0.0267**		0.0200	**0.0588**		0.0200	**0.0492**		0.0200	**0.0469**		0.0200	**0.0348**		0.0200	**0.0243**		0.0200	**0.0334**		0.0200
Beryllium	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Cadmium	mg/L	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050
Chromium	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Copper	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Lead	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Nickel	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	**0.0336**		0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Zinc	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Mercury 7470A																													
Mercury	mg/L	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002
Total Cyanide 9014																													
Cyanide, Total	mg/L	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01

Notes:
RL = Reporting Limit
U = The result is below the Reporting Limit
µg/L = microgram per Liter
mg/L = milligram per Liter

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KEMRON PROJECT No. SH0578

Table 3g

EPA Method 1315 Analytical Results (Sample BG43)
VOC, SVOC, Metals, Mercury, Total Cyanide

Paramters	Units	BG43-5-20151021-64 (1315) (2 hour)			BG43-5-20151021-64 (1315) (24 hour)			BG43-5-20151021-64 (1315) (48 hour)			BG43-5-20151021-64 (1315) (7 day)			BG43-5-20151021-64 (1315) (14 day)			BG43-5-20151021-64 (1315) (28 day)			BG43-5-20151021-64 (1315) (42 day)			BG43-5-20151021-64 (1315) (49 day)			BG43-5-20151021-64 (1315) (63 day)		
		Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL
Volatile Organic Compounds 8260B																													
Benzene	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Carbon disulfide	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Ethylbenzene	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Toluene	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Xylenes, Total	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Semi Volatile Organic Compounds 8270D																													
2,4-Dimethylphenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
2-Methylphenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
3,4-Methylphenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
Phenol	µg/L	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0	10.0	U	10.0
Semi Volatile Organic Compounds 8270D SIM																													
Acenaphthene	µg/L	**1.100**		0.560	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500
Acenaphthylene	µg/L	**2.400**		1.100	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000
Anthracene	µg/L	**0.310**		0.056	**0.054**		0.050	**0.060**		0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Benz(a)anthracene	µg/L	0.056	U	0.056	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Benzo(a)pyrene	µg/L	0.056	U	0.056	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Benzo(b)fluoranthene	µg/L	0.110	U	0.110	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Benzo(g,h,i)perylene	µg/L	0.110	U	0.110	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Benzo(k)fluoranthene	µg/L	0.056	U	0.056	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Chrysene	µg/L	0.056	U	0.056	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Dibenz(a,h)anthracene	µg/L	0.110	U	0.110	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Fluoranthene	µg/L	**0.220**		0.110	**0.130**		0.100	**0.110**		0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Fluorene	µg/L	**0.990**		0.110	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Indeno(1,2,3-cd)pyrene	µg/L	0.056	U	0.056	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Naphthalene	µg/L	**17.00**		5.600	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500	0.500	U	0.500
Phenanthrene	µg/L	**3.900**		0.056	**0.550**		0.050	**0.450**		0.050	**0.250**		0.050	**0.220**		0.050	**0.180**		0.050	**0.180**		0.050	**0.130**		0.050	0.050	U	0.050
Pyrene	µg/L	**0.260**		0.056	**0.140**		0.050	**0.100**		0.050	**0.060**		0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Metals 6010C																													
Antimony	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Arsenic	mg/L	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500
Barium	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	**0.0338**		0.0200	**0.0294**		0.0200	**0.0344**		0.0200	**0.0354**		0.0200	**0.0409**		0.0200	**0.0205**		0.0200
Beryllium	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Cadmium	mg/L	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050
Chromium	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Copper	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	**0.0424**		0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Lead	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Nickel	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Zinc	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	**0.0526**		0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Mercury 7470A																													
Mercury	mg/L	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002
Total Cyanide 9014																													
Cyanide, Total	mg/L	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01

Notes:
RL = Reporting Limit
U = The result is below the Reporting Limit
µg/L = microgram per Liter
mg/L = milligram per Liter

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KEMRON PROJECT No. SH0578

Table 3h

EPA Method 1315 Analytical Results (Sample AI3)
VOC, SVOC, Metals, Mercury, Total Cyanide

Paramters	Units	AI3-20-20151109-70 (1315) (2 hour)			AI3-20-20151109-70 (1315) (24 hour)			AI3-20-20151109-70 (1315) (48 hour)			AI3-20-20151109-70 (1315) (7 day)			AI3-20-20151109-70 (1315) (14 day)			AI3-20-20151109-70 (1315) (28 day)			AI3-20-20151109-70 (1315) (42 day)			AI3-20-20151109-70 (1315) (49 day)			AI3-20-20151109-70 (1315) (63 day)		
		Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL
Volatile Organic Compounds 8260B																													
Benzene	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Carbon disulfide	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Ethylbenzene	µg/L	5.0	U	5.0	**5.1**		5.0	5.0	U	5.0	11.0		5.0	**12.0**		5.0	**6.8**		5.0	**5.7**		5.0	5.0	U	5.0	**5.1**		5.0
Toluene	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Xylenes, Total	µg/L	5.0	U	5.0	**28.0**		5.0	**22.0**		5.0	**67.0**		5.0	**67.0**		5.0	**41.0**		5.0	**38.0**		5.0	**26.0**		5.0	**30.0**		5.0
Semi Volatile Organic Compounds 8270D																													
2,4-Dimethylphenol	µg/L	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0	11.0	U	11.0
2-Methylphenol	µg/L	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0	11.0	U	11.0
3,4-Methylphenol	µg/L	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0	11.0	U	11.0
Phenol	µg/L	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	10.0	U	10.0	11.0	U	11.0
Semi Volatile Organic Compounds 8270D SIM																													
Acenaphthene	µg/L	0.500	U	0.500	**0.560**		0.500	0.500	U	0.500	**1.000**		0.500	**1.500**		0.500	**1.000**		0.500	**0.980**		0.500	**0.700**		0.500	**1.200**		0.500
Acenaphthylene	µg/L	1.000	U	1.000	1.000	U	1.000	1.000	U	1.000	**1.200**		1.000	**1.700**		1.000	**1.200**		1.000	**1.200**		1.000	1.000	U	1.000	**1.300**		1.000
Anthracene	µg/L	**0.110**		0.050	**0.120**		0.050	**0.074**		0.050	**0.130**		0.050	**0.170**		0.050	**0.170**		0.050	**0.140**		0.050	**0.160**		0.050	**0.150**		0.050
Benz(a)anthracene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Benzo(a)pyrene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Benzo(b)fluoranthene	µg/L	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Benzo(g,h,i)perylene	µg/L	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Benzo(k)fluoranthene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Chrysene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Dibenz(a,h)anthracene	µg/L	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Fluoranthene	µg/L	**0.250**		0.100	**0.170**		0.100	0.100	U	0.100	0.100	U	0.100	**0.130**		0.100	**0.120**		0.100	**0.120**		0.100	0.100	U	0.100	**0.130**		0.100
Fluorene	µg/L	**0.100**		0.100	**0.380**		0.100	**0.260**		0.100	**0.600**		0.100	**0.890**		0.100	**0.640**		0.100	**0.620**		0.100	**0.400**		0.100	**0.690**		0.100
Indeno(1,2,3-cd)pyrene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Naphthalene	µg/L	**2.100**		0.500	**18.00**		5.000	**13.00**		5.000	**34.00**		5.000	**42.00**		5.000	**33.00**		5.000	**29.00**		5.000	**20.00**		5.000	**28.00**		5.000
Phenanthrene	µg/L	**1.200**		0.050	**1.600**		0.050	**0.910**		0.050	**1.700**		0.050	**2.500**		0.050	**2.000**		0.050	**1.800**		0.050	**1.300**		0.050	**2.000**		0.050
Pyrene	µg/L	**0.270**		0.050	**0.180**		0.050	**1.000**		0.050	**0.100**		0.050	**0.180**		0.050	**0.130**		0.050	**0.140**		0.050	**0.100**		0.050	**0.140**		0.050
Metals 6010C																													
Antimony	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Arsenic	mg/L	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500
Barium	mg/L	0.0200	U	0.0200	**0.0475**		0.0200	**0.0329**		0.0200	**0.0655**		0.0200	**0.0551**		0.0200	**0.0696**		0.0200	**0.0398**		0.0200	**0.0248**		0.0200	**0.0335**		0.0200
Beryllium	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Cadmium	mg/L	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050
Chromium	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Copper	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Lead	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Nickel	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Zinc	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Mercury 7470A																													
Mercury	mg/L	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002
Total Cyanide 9014																													
Cyanide, Total	mg/L	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01

Notes:
RL = Reporting Limit
U = The result is below the Reporting Limit
µg/L = microgram per Liter
mg/L = milligram per Liter

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Table 3i

EPA Method 1315 Analytical Results (Sample AH6)
VOC, SVOC, Metals, Mercury, Total Cyanide

Paramters	Units	AH6-5-20151113-76 (1315) (2 hour)			AH6-5-20151113-76 (1315) (24 hour)			AH6-5-20151113-76 (1315) (48 hour)			AH6-5-20151113-76 (1315) (7 day)			AH6-5-20151113-76 (1315) (14 day)			AH6-5-20151113-76 (1315) (28 day)			AH6-5-20151113-76 (1315) (42 day)			AH6-5-20151113-76 (1315) (49 day)			AH6-5-20151113-76 (1315) (63 day)		
		Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL	Result	Qual.	RL
Volatile Organic Compounds 8260B																													
Benzene	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Carbon disulfide	µg/L	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0	5.0	U	5.0
Ethylbenzene	µg/L	5.0	U	5.0	**11.0**		5.0	**10.0**		5.0	**41.0**		5.0	**26.0**		5.0	**33.0**		5.0	**25.0**		5.0	**19.0**		5.0	**19.0**		5.0
Toluene	µg/L	5.0	U	5.0	**24.0**		5.0	**22.0**		5.0	**92.0**		5.0	**66.0**		5.0	**62.0**		5.0	**45.0**		5.0	**27.0**		5.0	**26.0**		5.0
Xylenes, Total	µg/L	**11.0**		5.0	**61.0**		5.0	**58.0**		5.0	**230**		5.0	**150**		5.0	**190**		5.0	**160**		5.0	**100**		5.0	**110**		5.0
Semi Volatile Organic Compounds 8270D																													
2,4-Dimethylphenol	µg/L	11.0	U	11.0	11.0	U	11.0	11.0	U	11.0	10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	10	U	10
2-Methylphenol	µg/L	11.0	U	11.0	11.0	U	11.0	11.0	U	11.0	10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	10	U	10
3,4-Methylphenol	µg/L	11.0	U	11.0	11.0	U	11.0	11.0	U	11.0	10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	10	U	10
Phenol	µg/L	11.0	U	11.0	11.0	U	11.0	11.0	U	11.0	10.0	U	10.0				10.0	U	10.0	10.0	U	10.0	11.0	U	11.0	10	U	10
Semi Volatile Organic Compounds 8270D SIM																													
Acenaphthene	µg/L	0.500	U	0.500	**0.560**		0.500	**0.540**		0.500	**1.800**		0.500				**1.800**		0.500	**1.400**		0.500	**1.100**		0.500	**2.000**		0.500
Acenaphthylene	µg/L	1.000	U	1.000	**1.600**		1.000	**1.400**		1.000	**5.000**		1.000				**5.100**		1.000	**3.900**		1.000	**2.900**		1.000	**5.200**		1.000
Anthracene	µg/L	**0.080**		0.050	**0.087**		0.050	**0.077**		0.050	**0.250**		0.050				**0.290**		0.050	0.050	U	0.050	**0.180**		0.050	**0.360**		0.050
Benz(a)anthracene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	**0.080**		0.050	**0.150**		0.050
Benzo(a)pyrene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Benzo(b)fluoranthene	µg/L	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100				0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Benzo(g,h,i)perylene	µg/L	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100				0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Benzo(k)fluoranthene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050				**0.210**		0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Chrysene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	**0.058**		0.050	0.050	U	0.050
Dibenz(a,h)anthracene	µg/L	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100				0.100	U	0.100	0.100	U	0.100	0.100	U	0.100	0.100	U	0.100
Fluoranthene	µg/L	**0.170**		0.100	0.100	U	0.100	0.100	U	0.100	**0.160**		0.100				**0.200**		0.100	**0.180**		0.100	**0.180**		0.100	**0.230**		0.100
Fluorene	µg/L	0.100	U	0.100	**0.340**		0.100	**0.340**		0.100	**1.100**		0.100				**1.100**		0.100	**0.830**		0.100	**0.660**		0.100	**1.200**		0.100
Indeno(1,2,3-cd)pyrene	µg/L	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050				0.050	U	0.050	0.050	U	0.050	0.050	U	0.050	0.050	U	0.050
Naphthalene	µg/L	**3.500**		0.500	**25.00**		5.000	**26.00**		5.000	**75.00**		5.000				**75.00**		5.000	**55.00**		5.000	**59.00**		5.000	**71.00**		0.50
Phenanthrene	µg/L	**0.940**		0.050	**1.000**		0.050	**1.000**		0.050	**2.800**		0.050				**3.000**		0.050	**2.500**		0.050	**1.800**		0.050	**3.400**		0.050
Pyrene	µg/L	**0.200**		0.050	**0.100**		0.050	**0.090**		0.050	**0.190**		0.050				**0.200**		0.050	**0.170**		0.050	**0.180**		0.050	**0.230**		0.050
Metals 6010C																													
Antimony	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Arsenic	mg/L	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500	0.0500	U	0.0500
Barium	mg/L	0.0200	U	0.0200	**0.0554**		0.0200	**0.0285**		0.0200	**0.0686**		0.0200	**0.0560**		0.0200	**0.0582**		0.0200	**0.0355**		0.0200	**0.0328**		0.0200	**0.0348**		0.0200
Beryllium	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Cadmium	mg/L	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050	0.0050	U	0.0050
Chromium	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Copper	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Lead	mg/L	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100	0.0100	U	0.0100
Nickel	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Zinc	mg/L	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200	0.0200	U	0.0200
Mercury 7470A																													
Mercury	mg/L	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002	0.0002	U	0.0002
Total Cyanide 9014																													
Cyanide, Total	mg/L	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01

Notes:
RL = Reporting Limit
U = The result is below the Reporting Limit
µg/L = microgram per Liter
mg/L = milligram per Liter
Shaded Area- Sample container broke at analytical laboratory

APPENDIX D

ANS 16.1 Leachability

ANS 16.1 LEACHABILITY

SAMPLE PREPARATION

PROJECT:	Macon AGL	TESTED BY:	TNB
PROJECT No.:	SH0578	TRACKING CODE:	A293
SAMPLE No.:	CQ27-M-20150711-01		
TEST DATE:	8/10/2015		

MOISTURE CONTENT (Dry Basis)	***RESULTS***	
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	50.19	***g***
3. WT WET SOIL + TARE	106.39	***g***
4. WT DRY SOIL + TARE	90.09	***g***
5. WT WATER, Ww	16.30	g
6. WT DRY SOIL, Ws	39.90	g
7. MOISTURE CONTENT, W	40.85	%

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE ANALYSES	***DIAMETER RESULTS***		***LENGTH RESULTS***	
No. 1	***2.01***	***in.***	***4.05***	***in.***
No. 2	***2.00***	***in.***	***4.06***	***in.***
No. 3	***2.00***	***in.***	***4.05***	***in.***
Average	2.00	in.	4.05	in.

SPECIMEN CONDITIONS	***INITIAL***	
Specimen WT, Wo	***364.70***	***g***
Surface Area, Ao	31.74	in^2
Volume, Vo	12.73	in^3
Bulk Unit Weight	109.2	pcf
Dry Unit Weight	77.5	pcf

ANS 16.1 LEACHABILITY

TESTING DATA

PROJECT:	Macon AGL
PROJECT NO.:	SH0578
SAMPLE NO:	CQ27-M-20150711-01 (ANS)
START DATE:	8/10/2015
TRACKING CODE:	A293

LEACH INTERVAL	TESTED BY	DATE		TIME		VOLUME LEACHATE (ml)	TEMP (°C)	PID (ppm)	Conduct. (mS/cm³)	pH (s.u.)	OBSERVATIONS
		IN	OUT	IN	OUT						
Initial	TNB					2050	24.82		0.026	7.46	initial
1	TNB	08/10/15	08/10/15	10:05	12:05	2050	15.22		0.073	10.90	2 hr; clear
2	TNB	08/10/15	08/10/15	12:05	17:05	2050	19.06		0.094	10.71	7 hr; clear
3	TNB	08/10/15	08/11/15	17:05	10:05	2050	18.64		0.117	9.60	24 hr; clear
4	TNB	08/11/15	08/12/15	10:05	10:05	2050	18.66		0.128	9.76	48 hr; clear
5	TNB	08/12/15	08/13/15	10:05	10:05	2050	20.03		0.108	10.39	3 day; clear
6	TNB	08/13/15	08/14/15	10:05	10:05	2050	19.57		0.050	10.14	4 day; clear
7	TNB	08/14/15	08/15/15	10:05	10:05	2050	23.98		0.111	10.01	5 day; clear
8	TNB	08/15/15	08/29/15	10:05	10:05	2050	21.26		0.121	9.05	19 day; clear
9	TNB	08/29/15	09/26/15	10:05	10:05	2050	21.99		0.214	8.70	47 day; clear
10	TNB	09/26/15	11/08/15	10:05	10:05	2050	22.45		0.164	8.90	90 day; clear

ANS 16.1 LEACHABILITY

SAMPLE PREPARATION

PROJECT:	Macon AGL	TESTED BY:	TNB
PROJECT No.:	SH0578	TRACKING CODE:	A344
SAMPLE No.:	AY7-15-20150730-20		
TEST DATE:	9/22/2015		

MOISTURE CONTENT (Dry Basis)	***RESULTS***	
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.78	***g***
3. WT WET SOIL + TARE	127.71	***g***
4. WT DRY SOIL + TARE	109.05	***g***
5. WT WATER, Ww	18.66	g
6. WT DRY SOIL, Ws	32.27	g
7. MOISTURE CONTENT, W	57.82	%

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE ANALYSES	***DIAMETER RESULTS***		***LENGTH RESULTS***	
No. 1	***2.01***	***in.***	***4.03***	***in.***
No. 2	***2.01***	***in.***	***4.02***	***in.***
No. 3	***2.00***	***in.***	***4.02***	***in.***
Average	2.01	in.	4.02	in.

SPECIMEN CONDITIONS	***INITIAL***	
Specimen WT, Wo	***333.36***	***g***
Surface Area, Ao	31.67	in^2
Volume, Vo	12.71	in^3
Bulk Unit Weight	99.9	pcf
Dry Unit Weight	63.3	pcf

ANS 16.1 LEACHABILITY

TESTING DATA

PROJECT:	Macon AGL
PROJECT NO.:	SH0578
SAMPLE NO:	AY7-15-20150730-20
START DATE:	9/22/2015
TRACKING CODE:	A344

LEACH INTERVAL	TESTED BY	DATE		TIME		VOLUME LEACHATE (ml)	TEMP (°C)	PID (ppm)	Conduct. (mS/cm³)	pH (s.u.)	OBSERVATIONS
		IN	OUT	IN	OUT						
Initial	TNB					2044	21.73		0.010	7.97	initial
1	TNB	09/22/15	09/22/15	8:00	10:00	2044	21.32		0.065	10.04	2 hr; clear
2	TNB	09/22/15	09/22/15	10:00	15:00	2044	21.26		0.108	10.58	7 hr; clear
3	TNB	09/22/15	09/23/15	15:00	8:00	2044	22.29		0.196	11.18	24 hr; clear
4	TNB	09/23/15	09/24/15	8:00	8:00	2044	21.65		0.160	10.75	48 hr; clear
5	TNB	09/24/15	09/25/15	8:00	8:00	2044	21.66		0.125	10.56	3 day; clear
6	TNB	09/25/15	09/26/15	8:00	8:00	2044	22.52		0.114	10.64	4 day; clear
7	TNB	09/26/15	09/27/15	8:00	8:00	2044	22.08		0.096	10.53	5 day; clear
8	TNB	09/27/15	10/11/15	8:00	8:00	2044	20.81		0.088	9.18	19 day; clear
9	TNB	10/11/15	11/08/15	8:00	8:00	2044	23.12		0.084	8.31	47 day; clear
10	TNB	11/08/15	12/21/15	8:00	8:00	2044	20.85		0.088	7.54	90 day; clear

ANS 16.1 LEACHABILITY

SAMPLE PREPARATION

PROJECT:	Macon AGL	TESTED BY:	TNB
PROJECT No.:	SH0578	TRACKING CODE:	A386
SAMPLE No.:	K21-10-20150818-31		
TEST DATE:	9/22/2015		

MOISTURE CONTENT (Dry Basis)	***RESULTS***	
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00	***g***
3. WT WET SOIL + TARE	262.41	***g***
4. WT DRY SOIL + TARE	170.92	***g***
5. WT WATER, Ww	91.49	g
6. WT DRY SOIL, Ws	170.92	g
7. MOISTURE CONTENT, W	53.53	%

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE ANALYSES	***DIAMETER RESULTS***		***LENGTH RESULTS***	
No. 1	***2.01***	***in.***	***4.01***	***in.***
No. 2	***2.01***	***in.***	***4.00***	***in.***
No. 3	***2.00***	***in.***	***4.00***	***in.***
Average	2.00	in.	4.00	in.

SPECIMEN CONDITIONS	***INITIAL***	
Specimen WT, Wo	***339.67***	***g***
Surface Area, Ao	31.51	in^2
Volume, Vo	12.63	in^3
Bulk Unit Weight	102.5	pcf
Dry Unit Weight	66.8	pcf

ANS 16.1 LEACHABILITY

TESTING DATA

PROJECT:	Macon AGL
PROJECT NO.:	SH0578
SAMPLE NO:	K21-10-20150818-31 (ANS)
START DATE:	9/22/2015
TRACKING CODE:	A386

LEACH INTERVAL	TESTED BY	DATE		TIME		VOLUME LEACHATE (ml)	TEMP (°C)	PID (ppm)	Conduct. (mS/cm³)	pH (s.u.)	OBSERVATIONS
		IN	OUT	IN	OUT						
Initial	TNB					2033	21.73		0.010	7.97	initial
1	TNB	09/22/15	09/22/15	8:02	10:02	2033	21.20		0.066	10.07	2 hr
2	TNB	09/22/15	09/22/15	10:02	15:02	2033	21.64		0.100	10.69	7 hr
3	TNB	09/22/15	09/23/15	15:02	8:02	2033	22.15		0.210	11.27	24 hr
4	TNB	09/23/15	09/24/15	8:02	8:02	2033	21.57		0.165	10.78	48 hr
5	TNB	09/24/15	09/25/15	8:02	8:02	2033	21.54		0.130	10.65	3 day
6	TNB	09/25/15	09/26/15	8:02	8:02	2033	21.99		0.126	10.65	4 day
7	TNB	09/26/15	09/27/15	8:02	8:02	2033	21.71		0.122	10.67	5 day
8	TNB	09/27/15	10/11/15	8:02	8:02	2033	20.48		0.089	9.13	19 day
9	TNB	10/11/15	11/08/15	8:02	8:02	2033	23.10		0.081	8.20	47 day
10	TNB	11/08/15	12/21/15	8:02	8:02	2033	21.88		0.088	7.70	90 day

ANS 16.1 LEACHABILITY

SAMPLE PREPARATION

PROJECT:	Macon AGL	TESTED BY:	TNB
PROJECT No.:	SH0578	TRACKING CODE:	A518
SAMPLE No.:	CC25-10-20150829-39		
TEST DATE:	10/30/2015		

MOISTURE CONTENT (Dry Basis)	***RESULTS***	
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	77.53	***g***
3. WT WET SOIL + TARE	124.20	***g***
4. WT DRY SOIL + TARE	105.91	***g***
5. WT WATER, Ww	18.29	g
6. WT DRY SOIL, Ws	28.38	g
7. MOISTURE CONTENT, W	64.45	%

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE ANALYSES	***DIAMETER RESULTS***		***LENGTH RESULTS***	
No. 1	***2.01***	***in.***	***4.00***	***in.***
No. 2	***2.00***	***in.***	***4.01***	***in.***
No. 3	***2.00***	***in.***	***4.02***	***in.***
Average	2.00	in.	4.01	in.

SPECIMEN CONDITIONS	***INITIAL***	
Specimen WT, Wo	***323.68***	***g***
Surface Area, Ao	31.52	in^2
Volume, Vo	12.62	in^3
Bulk Unit Weight	97.7	pcf
Dry Unit Weight	59.4	pcf

ANS 16.1 LEACHABILITY

TESTING DATA

PROJECT:	Macon AGL
PROJECT NO.:	SH0578
SAMPLE NO:	CC25-10-20150829-39
START DATE:	10/30/2015
TRACKING CODE:	A518

LEACH INTERVAL	TESTED BY	DATE		TIME		VOLUME LEACHATE (ml)	TEMP (°C)	PID (ppm)	Conduct. (mS/cm³)	pH (s.u.)	OBSERVATIONS
		IN	OUT	IN	OUT						
Initial	TNB					2033	20.04		0.008	6.54	initial
1	TNB	10/30/15	10/30/15	8:15	10:15	2033	21.61		0.033	3.07	2 hr; clear
2	TNB	10/30/15	10/30/15	10:15	15:15	2033	20.31		0.035	6.15	7 hr; clear
3	TNB	10/30/15	10/31/15	15:15	8:15	2033	17.97		0.058	9.26	24 hr; clear
4	TNB	10/31/15	11/01/15	8:15	8:15	2033	19.00		0.051	9.05	48 hr; clear
5	TNB	11/01/15	11/02/15	8:15	8:15	2033	23.33		0.050	8.85	3 day; clear
6	TNB	11/02/15	11/03/15	8:15	8:15	2033	23.04		0.043	9.03	4 day; clear
7	TNB	11/03/15	11/04/15	8:15	8:15	2033	22.73		0.034	7.87	5 day; clear
8	TNB	11/04/15	11/18/15	8:15	8:15	2033	23.11		0.083	8.41	19 day; clear
9	TNB	11/18/15	12/16/15	8:15	8:15	2033	22.96		0.120	8.62	47 day; clear
10	TNB	12/16/15	01/28/16	8:15	8:15	2033	22.80		0.165	6.85	90 day; clear

ANS 16.1 LEACHABILITY

SAMPLE PREPARATION

PROJECT:	Macon AGL	TESTED BY:	TNB
PROJECT No.:	SH0578	TRACKING CODE:	A519
SAMPLE No.:	L16-10-20150911-45		
TEST DATE:	10/30/2015		

MOISTURE CONTENT (Dry Basis)	***RESULTS***	
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	116.76	***g***
3. WT WET SOIL + TARE	174.61	***g***
4. WT DRY SOIL + TARE	154.24	***g***
5. WT WATER, Ww	20.37	g
6. WT DRY SOIL, Ws	37.48	g
7. MOISTURE CONTENT, W	54.35	%

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE ANALYSES	***DIAMETER RESULTS***		***LENGTH RESULTS***	
No. 1	***2.01***	***in.***	***4.03***	***in.***
No. 2	***2.00***	***in.***	***3.98***	***in.***
No. 3	***2.00***	***in.***	***4.03***	***in.***
Average	2.00	in.	4.01	in.

SPECIMEN CONDITIONS	***INITIAL***	
Specimen WT, Wo	***341.51***	***g***
Surface Area, Ao	31.48	in^2
Volume, Vo	12.60	in^3
Bulk Unit Weight	103.3	pcf
Dry Unit Weight	66.9	pcf

ANS 16.1 LEACHABILITY

TESTING DATA

PROJECT:	Macon AGL
PROJECT NO.:	SH0578
SAMPLE NO:	L16-10-20150911-45
START DATE:	10/30/2015
TRACKING CODE:	A519

LEACH INTERVAL	TESTED BY	DATE		TIME		VOLUME LEACHATE (ml)	TEMP (°C)	PID (ppm)	Conduct. (mS/cm³)	pH (s.u.)	OBSERVATIONS
		IN	OUT	IN	OUT						
Initial	TNB					2032	20.04		0.008	6.54	initial
1	TNB	10/30/15	10/30/15	8:17	10:17	2032	21.53		0.030	5.94	2 hr; clear
2	TNB	10/30/15	10/30/15	10:17	15:17	2032	20.21		0.031	5.94	7 hr; clear
3	TNB	10/30/15	10/31/15	15:17	8:17	2032	17.92		0.057	9.51	24 hr; clear
4	TNB	10/31/15	11/01/15	8:17	8:17	2032	19.19		0.054	9.55	48 hr; clear
5	TNB	11/01/15	11/02/15	8:17	8:17	2032	23.14		0.045	9.18	3 day; clear
6	TNB	11/02/15	11/03/15	8:17	8:17	2032	23.14		0.059	9.38	4 day; clear
7	TNB	11/03/15	11/04/15	8:17	8:17	2032	22.73		0.035	8.33	5 day; clear
8	TNB	11/04/15	11/18/15	8:17	8:17	2032	23.08		0.081	8.60	19 day; clear
9	TNB	11/18/15	12/16/15	8:17	8:17	2032	22.84		0.097	8.13	47 day; clear
10	TNB	12/16/15	01/28/16	8:17	8:17	2032	22.76		0.130	8.08	90 day; clear

ANS 16.1 LEACHABILITY

SAMPLE PREPARATION

PROJECT:	Macon AGL	TESTED BY:	TNB
PROJECT No.:	SH0578	TRACKING CODE:	A467
SAMPLE No.:	AK15-5-20150923-52		
TEST DATE:	10/21/2015		

MOISTURE CONTENT (Dry Basis)	***RESULTS***	
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.73	***g***
3. WT WET SOIL + TARE	134.92	***g***
4. WT DRY SOIL + TARE	115.94	***g***
5. WT WATER, Ww	18.98	g
6. WT DRY SOIL, Ws	39.21	g
7. MOISTURE CONTENT, W	48.41	%

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE ANALYSES	***DIAMETER RESULTS***		***LENGTH RESULTS***	
No. 1	***2.00***	***in.***	***3.99***	***in.***
No. 2	***2.00***	***in.***	***4.01***	***in.***
No. 3	***2.00***	***in.***	***4.00***	***in.***
Average	2.00	in.	4.00	in.

SPECIMEN CONDITIONS	***INITIAL***	
Specimen WT, Wo	***342.86***	***g***
Surface Area, Ao	31.39	in^2
Volume, Vo	12.55	in^3
Bulk Unit Weight	104.1	pcf
Dry Unit Weight	70.2	pcf

ANS 16.1 LEACHABILITY

TESTING DATA

Sheet 2 of 2

PROJECT:	Macon AGL
PROJECT NO.:	SH0578
SAMPLE NO:	AK15-5-20150923-52
START DATE:	10/21/2015
TRACKING CODE:	A467

LEACH INTERVAL	TESTED BY	DATE		TIME		VOLUME LEACHATE (ml)	TEMP (°C)	PID (ppm)	Conduct. (mS/cm³)	pH (s.u.)	OBSERVATIONS
		IN	OUT	IN	OUT						
Initial	TNB					2025	24.09		0.036	6.05	Initital
1	TNB	10/21/15	10/21/15	9:10	11:10	2025	24.49		0.045	6.65	2 hr; clear
2	TNB	10/21/15	10/21/15	11:10	16:10	2025	25.19		0.052	7.31	7 hr; clear
3	TNB	10/21/15	10/22/15	16:10	9:10	2025	21.78		0.085	9.56	24 hr; clear
4	TNB	10/22/15	10/23/15	9:10	9:10	2025	21.23		0.080	9.44	48 hr; clear
5	TNB	10/23/15	10/24/15	9:10	9:10	2025	19.41		0.049	8.92	3 day; clear
6	TNB	10/24/15	10/25/15	9:10	9:10	2025	21.77		0.046	8.46	4 day; clear
7	TNB	10/25/15	10/26/15	9:10	9:10	2025	22.39		0.050	8.51	5 day; clear
8	TNB	10/26/15	11/09/15	9:10	9:10	2025	23.30		0.081	8.65	19 day; clear
9	TNB	11/09/15	12/07/15	9:10	9:10	2025	23.23		0.089	7.22	47 day; clear
10	TNB	12/07/15	01/01/16	9:10	9:10	2025	18.38		0.121	8.86	90 day; clear

ANS 16.1 LEACHABILITY

SAMPLE PREPARATION

PROJECT:	Macon AGL	TESTED BY:	TNB
PROJECT No.:	SH0578	TRACKING CODE:	A525
SAMPLE No.:	BO31-5-20151009-58		
TEST DATE:	11/6/2015		

MOISTURE CONTENT (Dry Basis)	***RESULTS***	
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	77.52	***g***
3. WT WET SOIL + TARE	131.46	***g***
4. WT DRY SOIL + TARE	114.31	***g***
5. WT WATER, Ww	17.15	g
6. WT DRY SOIL, Ws	36.79	g
7. MOISTURE CONTENT, W	46.62	%

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE ANALYSES	***DIAMETER RESULTS***		***LENGTH RESULTS***	
No. 1	***2.01***	***in.***	***4.00***	***in.***
No. 2	***2.00***	***in.***	***4.01***	***in.***
No. 3	***2.00***	***in.***	***3.99***	***in.***
Average	2.00	in.	4.00	in.

SPECIMEN CONDITIONS	***INITIAL***	
Specimen WT, Wo	***350.23***	***g***
Surface Area, Ao	31.49	in^2
Volume, Vo	12.62	in^3
Bulk Unit Weight	105.7	pcf
Dry Unit Weight	72.1	pcf

ANS 16.1 LEACHABILITY

TESTING DATA

PROJECT:	Macon AGL
PROJECT NO.:	SH0578
SAMPLE NO:	BO31-5-20151009-58
START DATE:	11/6/2015
TRACKING CODE:	A525

LEACH INTERVAL	TESTED BY	DATE		TIME		VOLUME LEACHATE (ml)	TEMP (°C)	PID (ppm)	Conduct. (mS/cm³)	pH (s.u.)	OBSERVATIONS
		IN	OUT	IN	OUT						
Initial	TNB					2032	23.69		0.007	4.41	initial
1	TNB	11/06/15	11/06/15	8:25	10:25	2032	23.24		0.037	7.21	2 hr; clear
2	TNB	11/06/15	11/06/15	10:25	15:25	2032	21.36		0.029	5.66	7 hr; clear
3	TNB	11/06/15	11/07/15	15:25	8:25	2032	22.01		0.066	9.99	24 hr; clear
4	TNB	11/07/15	11/08/15	8:25	8:25	2032	22.78		0.079	9.95	48 hr; clear
5	TNB	11/08/15	11/09/15	8:25	8:25	2032	23.05		0.057	9.52	3 day; clear
6	TNB	11/09/15	11/10/15	8:25	8:25	2032	23.37		0.050	9.74	4 day; clear
7	TNB	11/10/15	11/11/15	8:25	8:25	2032	20.04		0.040	8.54	5 day; clear
8	TNB	11/11/15	11/25/15	8:25	8:25	2032	24.54		0.075	9.41	19 day; clear
9	TNB	11/25/15	12/23/15	8:25	8:25	2032	23.67		0.110	7.26	47 day; clear
10	TNB	12/23/15	02/04/16	8:25	8:25	2032	24.12		0.143	7.54	90 day; clear

ANS 16.1 LEACHABILITY

SAMPLE PREPARATION

PROJECT:	Macon AGL	TESTED BY:	TNB
PROJECT No.:	SH0578	TRACKING CODE:	A557
SAMPLE No.:	BG43-5-20151021-64		
TEST DATE:	11/18/2015		

MOISTURE CONTENT (Dry Basis)	***RESULTS***	
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	111.89	***g***
3. WT WET SOIL + TARE	203.44	***g***
4. WT DRY SOIL + TARE	175.25	***g***
5. WT WATER, Ww	28.19	g
6. WT DRY SOIL, Ws	63.36	g
7. MOISTURE CONTENT, W	44.49	%

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE ANALYSES	***DIAMETER RESULTS***		***LENGTH RESULTS***	
No. 1	***2.01***	***in.***	***4.02***	***in.***
No. 2	***2.00***	***in.***	***4.01***	***in.***
No. 3	***2.00***	***in.***	***4.00***	***in.***
Average	2.00	in.	4.01	in.

SPECIMEN CONDITIONS	***INITIAL***	
Specimen WT, Wo	***362.04***	***g***
Surface Area, Ao	31.53	in^2
Volume, Vo	12.63	in^3
Bulk Unit Weight	109.2	pcf
Dry Unit Weight	75.6	pcf

ANS 16.1 LEACHABILITY

TESTING DATA

PROJECT:	Macon AGL
PROJECT NO.:	SH0578
SAMPLE NO:	BG43-5-20151021-64
START DATE:	11/18/2015
TRACKING CODE:	A557

LEACH INTERVAL	TESTED BY	DATE		TIME		VOLUME LEACHATE (ml)	TEMP (°C)	PID (ppm)	Conduct. (mS/cm³)	pH (s.u.)	OBSERVATIONS
		IN	OUT	IN	OUT						
Initial	TNB					2034	23.60		0.010	5.18	initial
1	TNB	11/18/15	11/18/15	8:30	10:30	2034	22.93		0.035	8.91	2 hr
2	TNB	11/18/15	11/18/15	10:30	15:30	2034	22.45		0.037	6.06	7 hr
3	TNB	11/18/15	11/19/15	15:30	8:30	2034	23.12		0.071	9.02	24 hr
4	TNB	11/19/15	11/20/15	8:30	8:30	2034	23.06		0.072	9.51	48 hr
5	TNB	11/20/15	11/21/15	8:30	8:30	2034	19.56		0.057	9.09	3 day
6	TNB	11/21/15	11/22/15	8:30	8:30	2034	22.59		0.055	7.83	4 day
7	TNB	11/22/15	11/23/15	8:30	8:30	2034	23.05		0.048	8.98	5 day
8	TNB	11/23/15	12/07/15	8:30	8:30	2034	23.31		0.100	7.26	19 day
9	TNB	12/07/15	01/14/16	8:30	8:30	2034	19.29		0.120	7.75	47 day
10	TNB	01/14/16	02/16/16	8:30	8:30	2034	25.06		0.072	7.84	90 day

ANS 16.1 LEACHABILITY

SAMPLE PREPARATION

PROJECT:	Macon AGL	TESTED BY:	TNB
PROJECT No.:	SH0578	TRACKING CODE:	A571
SAMPLE No.:	AI3-20-20151103-70		
TEST DATE:	12/1/2015		

MOISTURE CONTENT (Dry Basis)	***RESULTS***	
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.59	***g***
3. WT WET SOIL + TARE	145.30	***g***
4. WT DRY SOIL + TARE	124.17	***g***
5. WT WATER, Ww	21.13	g
6. WT DRY SOIL, Ws	47.58	g
7. MOISTURE CONTENT, W	44.41	%

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE ANALYSES	***DIAMETER RESULTS***		***LENGTH RESULTS***	
No. 1	***2.00***	***in.***	***4.01***	***in.***
No. 2	***2.00***	***in.***	***4.00***	***in.***
No. 3	***2.00***	***in.***	***3.99***	***in.***
Average	2.00	in.	4.00	in.

SPECIMEN CONDITIONS	***INITIAL***	
Specimen WT, Wo	***348.52***	***g***
Surface Area, Ao	31.39	in^2
Volume, Vo	12.55	in^3
Bulk Unit Weight	105.8	pcf
Dry Unit Weight	73.3	pcf

ANS 16.1 LEACHABILITY

TESTING DATA

PROJECT:	Macon AGL
PROJECT NO.:	SH0578
SAMPLE NO:	AI3-20-20151103-70
START DATE:	12/1/2015
TRACKING CODE:	A571

LEACH INTERVAL	TESTED BY	DATE		TIME		VOLUME LEACHATE (ml)	TEMP (°C)	PID (ppm)	Conduct. (mS/cm³)	pH (s.u.)	OBSERVATIONS
		IN	OUT	IN	OUT						
Initial	TNB					2025	23.60		0.010	4.18	initial
1	TNB	12/01/15	12/01/15	8:05	10:05	2025	23.78		0.074	7.38	2 hr; clear
2	TNB	12/01/15	12/01/15	10:05	15:05	2025	23.74		0.097	9.68	7 hr; clear
3	TNB	12/01/15	12/02/15	15:05	8:05	2025	23.73		0.192	10.57	24 hr; clear, slight odor
4	TNB	12/02/15	12/03/15	8:05	8:05	2025	23.32		0.180	10.63	48 hr
5	TNB	12/03/15	12/04/15	8:05	8:05	2025	24.68		0.181	10.61	3 day
6	TNB	12/04/15	12/05/15	8:05	8:05	2025	20.96		0.119	10.32	4 day
7	TNB	12/05/15	12/06/15	8:05	8:05	2025	19.13		0.077	9.26	5 day
8	TNB	12/06/15	12/20/15	8:05	8:05	2025	15.65		0.105	7.81	19 day
9	TNB	12/20/15	01/17/15	8:05	8:05	2025	18.31		0.145	7.58	47 day
10	TNB	01/17/15	02/29/16	8:05	8:05	2025	21.99		0.100	7.41	90 day

ANS 16.1 LEACHABILITY

SAMPLE PREPARATION

PROJECT:	Macon AGL	TESTED BY:	TNB
PROJECT No.:	SH0578	TRACKING CODE:	A593
SAMPLE No.:	AH6-5-20151113-76		
TEST DATE:	12/11/2015		

MOISTURE CONTENT (Dry Basis)	***RESULTS***	
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	115.99	***g***
3. WT WET SOIL + TARE	203.59	***g***
4. WT DRY SOIL + TARE	176.30	***g***
5. WT WATER, Ww	27.29	g
6. WT DRY SOIL, Ws	60.31	g
7. MOISTURE CONTENT, W	45.25	%

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE ANALYSES	***DIAMETER RESULTS***		***LENGTH RESULTS***	
No. 1	***1.99***	***in.***	***4.02***	***in.***
No. 2	***2.00***	***in.***	***4.02***	***in.***
No. 3	***2.00***	***in.***	***4.02***	***in.***
Average	2.00	in.	4.02	in.

SPECIMEN CONDITIONS	***INITIAL***	
Specimen WT, Wo	***346.64***	***g***
Surface Area, Ao	31.45	in^2
Volume, Vo	12.57	in^3
Bulk Unit Weight	105.1	pcf
Dry Unit Weight	72.3	pcf

ANS 16.1 LEACHABILITY

TESTING DATA

PROJECT:	Macon AGL
PROJECT NO.:	SH0578
SAMPLE NO:	AH6-5-20151113-76
START DATE:	12/11/2015
TRACKING CODE:	A593

LEACH INTERVAL	TESTED BY	DATE		TIME		VOLUME LEACHATE (ml)	TEMP (°C)	PID (ppm)	Conduct. (mS/cm³)	pH (s.u.)	OBSERVATIONS
		IN	OUT	IN	OUT						
Initial	TNB					2029	22.72		0.014	4.00	initial
1	TNB	12/11/15	12/11/15	8:10	10:10	2029	22.84		0.067	6.72	2 hr
2	TNB	12/11/15	12/11/15	10:10	15:10	2029	23.35		0.081	8.91	7 hr
3	TNB	12/11/15	12/12/15	15:10	10:10	2029	21.26		0.022	10.98	24 hr
4	TNB	12/12/15	12/13/15	10:10	10:10	2029	20.96		0.176	10.28	48 hr
5	TNB	12/13/15	12/14/15	10:10	10:10	2029	23.27		0.176	10.78	3 day
6	TNB	12/14/15	12/15/15	10:10	10:10	2029	23.84		0.142	10.60	4 day
7	TNB	12/15/15	12/16/15	10:10	10:10	2029	23.01		0.129	10.33	5 day
8	TNB	12/16/15	12/30/15	10:10	10:10	2029	23.08		0.137	9.28	19 day
9	TNB	12/30/15	01/27/16	10:10	10:10	2029	23.01		0.112	8.10	47 day
10	TNB	01/27/16	02/10/16	10:10	10:10	2029	23.41		0.198	8.50	90 day

APPENDIX E

EPA 1315 Leachability

EPA 1315 LEACHABILITY

SAMPLE PREPARATION

Sheet 1 of 2

PROJECT:	Macon AGL	TESTED BY:	TNB
PROJECT No.:	SH0578	TRACKING CODE:	A293
SAMPLE No.:	CQ27-M-20150711-01		
TEST DATE:	8/10/2015		

MOISTURE CONTENT (Dry Basis)	***RESULTS***	
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	50.19	***g***
3. WT WET SOIL + TARE	106.39	***g***
4. WT DRY SOIL + TARE	90.09	***g***
5. WT WATER, Ww	16.30	g
6. WT DRY SOIL, Ws	39.90	g
7. MOISTURE CONTENT, W	40.85	%

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE ANALYSES	***DIAMETER RESULTS***		***LENGTH RESULTS***	
No. 1	***2.00***	***in.***	***4.02***	***in.***
No. 2	***2.00***	***in.***	***4.03***	***in.***
No. 3	***2.00***	***in.***	***4.04***	***in.***
Average	2.00	in.	4.03	in.

SPECIMEN CONDITIONS	***INITIAL***	
Specimen WT, Wo	***356.59***	***g***
Surface Area, Ao	31.66	in^2
Volume, Vo	12.69	in^3
Bulk Unit Weight	107.0	pcf
Dry Unit Weight	76.0	pcf

EPA 1315 LEACHABILITY

TESTING DATA

Sheet 2 of 2

PROJECT:	Macon AGL
PROJECT NO.:	SH0578
SAMPLE NO:	CQ27-M-20150711-01 (1315)
START DATE:	8/10/2015
TRACKING CODE:	A293

LEACH INTERVAL	TESTED BY	DATE		TIME		OF SAMPLE + TARE (g)	VOLUME LEACHATE (ml)	TEMP (°C)	ORP (mV)	Conduct. (mS/cm³)	pH (s.u.)	OBSERVATIONS
		IN	OUT	IN	OUT							
Initial	TNB					359.24	1836	24.82	66.8	0.026	7.46	
1	TNB	08/10/15	08/10/15	9:55	11:55	360.44	1836	13.11	81.7	0.082	9.50	2 hr; clear
2	TNB	08/10/15	08/11/15	11:55	9:55	361.83	1836	12.70	-61.9	0.199	10.14	24 hr; clear
3	TNB	08/11/15	08/12/15	9:55	9:55	361.74	1836	18.97	-118.0	0.392	11.78	48 hr; clear
4	TNB	08/12/15	08/17/15	9:55	9:55	362.22	1836	20.93	-131.8	0.543	11.70	7 days; clear
5	TNB	08/17/15	08/24/15	9:55	9:55	362.14	1836	23.81	-102.8	0.543	11.67	14 days; clear
6	TNB	08/24/15	09/07/15	9:55	9:55	362.61	1836	20.48	-61.3	0.451	11.49	28 days; clear
7	TNB	09/07/15	09/21/15	9:55	9:55	362.13	1836	21.78	-36.9	0.438	11.45	42 days; clear
8	TNB	09/21/15	09/28/15	9:55	9:55	326.20	1836	22.09	-51.9	0.287	11.33	49 days; clear
9	TNB	09/28/15	10/12/15	9:55	9:55	362.00	1836	20.13	-50.7	0.372	11.75	63 days; clear
10												

EPA 1315 LEACHABILITY

SAMPLE PREPARATION

Sheet 1 of 2

PROJECT:	Macon AGL	TESTED BY:	TNB
PROJECT No.:	SH0578	TRACKING CODE:	A344
SAMPLE No.:	AY7-15-20150730-20		
TEST DATE:	9/22/2015		

MOISTURE CONTENT (Dry Basis)	***RESULTS***	
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.78	***g***
3. WT WET SOIL + TARE	127.71	***g***
4. WT DRY SOIL + TARE	109.05	***g***
5. WT WATER, Ww	18.66	g
6. WT DRY SOIL, Ws	32.27	g
7. MOISTURE CONTENT, W	57.82	%

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE ANALYSES	***DIAMETER RESULTS***		***LENGTH RESULTS***	
No. 1	***1.9990***	***in.***	***3.9880***	***in.***
No. 2	***1.9970***	***in.***	***3.9845***	***in.***
No. 3	***1.9980***	***in.***	***3.9915***	***in.***
Average	2.00	in.	3.99	in.

SPECIMEN CONDITIONS	***INITIAL***	
Specimen WT, Wo	***331.35***	***g***
Surface Area, Ao	31.30	in^2
Volume, Vo	12.50	in^3
Bulk Unit Weight	101.0	pcf
Dry Unit Weight	64.0	pcf

EPA 1315 LEACHABILITY

TESTING DATA

Sheet 2 of 2

PROJECT:	Macon AGL
PROJECT NO.:	SH0578
SAMPLE NO:	AY7-15-20150730-20
START DATE:	9/22/2015
TRACKING CODE:	A344

LEACH INTERVAL	TESTED BY	DATE		TIME		OF SAMPLE + TARE (g)	VOLUME LEACHATE (ml)	TEMP (°C)	ORP (mV)	Conduct. (mS/cm³)	pH (s.u.)	OBSERVATIONS
		IN	OUT	IN	OUT							
Initial	TNB					333.25	1818	21.73	88.5	0.010	7.97	initial
1	TNB	09/22/15	09/22/15	8:05	10:05	336.13	1818	21.31	23.2	0.074	10.28	2 hr; clear
2	TNB	09/22/15	09/23/15	10:05	8:05	336.69	1818	22.06	-107.0	0.341	11.58	24 hr; clear
3	TNB	09/23/15	09/24/15	8:05	8:05	336.46	1818	21.30	-46.1	0.120	10.69	48 hr; clear
4	TNB	09/24/15	09/29/15	8:05	8:05	336.82	1818	21.12	-97.4	0.373	11.46	7 day; clear
5	TNB	09/29/15	10/06/15	8:05	8:05	336.71	1818	21.56	-78.9	0.323	11.35	14 day; clear
6	TNB	10/06/15	10/20/15	8:05	8:05	336.57	1818	21.39	-58.5	0.314	11.38	28 day; clear
7	TNB	10/20/15	11/03/15	8:05	8:05	337.12	1818	23.41	24.7	0.136	10.39	42 day; clear
8	TNB	11/03/15	11/10/15	8:05	8:05	337.34	1818	23.46	52.1	0.079	9.66	49 day; clear
9	TNB	11/10/15	11/24/15	8:05	8:05	336.16	1818	24.81	5.2	0.100	10.25	63 day; clear
10												

EPA 1315 LEACHABILITY

SAMPLE PREPARATION

PROJECT:	Macon AGL	TESTED BY:	TNB
PROJECT No.:	SH0578	TRACKING CODE:	A386
SAMPLE No.:	K21-10-20150818-31		
TEST DATE:	9/22/2015		

MOISTURE CONTENT (Dry Basis)	***RESULTS***	
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	0.00	***g***
3. WT WET SOIL + TARE	262.41	***g***
4. WT DRY SOIL + TARE	170.92	***g***
5. WT WATER, Ww	91.49	g
6. WT DRY SOIL, Ws	170.92	g
7. MOISTURE CONTENT, W	53.53	%

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE ANALYSES	***DIAMETER RESULTS***		***LENGTH RESULTS***	
No. 1	***1.995***	***in.***	***4.034***	***in.***
No. 2	***1.996***	***in.***	***4.023***	***in.***
No. 3	***1.999***	***in.***	***4.033***	***in.***
Average	2.00	in.	4.03	in.

SPECIMEN CONDITIONS	***INITIAL***	
Specimen WT, Wo	***344.69***	***g***
Surface Area, Ao	31.53	in^2
Volume, Vo	12.61	in^3
Bulk Unit Weight	104.1	pcf
Dry Unit Weight	67.8	pcf

EPA 1315 LEACHABILITY

TESTING DATA

Sheet 2 of 2

PROJECT:	Macon AGL
PROJECT NO.:	SH0578
SAMPLE NO:	K21-10-20150818-31
START DATE:	9/22/2015
TRACKING CODE:	A386

LEACH INTERVAL	TESTED BY	DATE		TIME		OF SAMPLE + TARE (g)	VOLUME LEACHATE (ml)	TEMP (°C)	ORP (mV)	Conduct. (mS/cm³)	pH (s.u.)	OBSERVATIONS
		IN	OUT	IN	OUT							
Initial	TNB					346.34	1831	21.73	88.5	0.010	7.97	initial
1	TNB	09/22/15	09/22/15	8:06	10:06	349.10	1831	21.43	18.8	0.064	10.27	2 hr
2	TNB	09/22/15	09/23/15	10:06	8:06	349.44	1831	21.73	-99.0	0.297	11.36	24 hr
3	TNB	09/23/15	09/24/15	8:06	8:06	349.24	1831	21.25	-76.7	0.008	10.76	48 hr
4	TNB	09/24/15	09/29/15	8:06	8:06	349.97	1831	21.23	-123.1	0.630	11.74	7 day
5	TNB	09/29/15	10/06/15	8:06	8:06	349.73	1831	21.40	-90.9	0.436	11.62	14 day
6	TNB	10/06/15	10/20/15	8:06	8:06	350.05	1831	22.28	-65.9	0.419	11.70	28 day
7	TNB	10/20/15	11/03/15	8:06	8:06	350.22	1831	23.15	3.3	0.221	10.92	42 day
8	TNB	11/03/15	11/10/15	8:06	8:06	350.30	1831	23.44	37.8	0.103	10.19	49 day
9	TNB	11/10/15	11/24/15	8:06	8:06	349.99	1831	24.82	6.5	0.136	10.50	63 day
10												

EPA 1315 LEACHABILITY

SAMPLE PREPARATION

Sheet 1 of 2

PROJECT:	Macon AGL	TESTED BY:	TNB
PROJECT No.:	SH0578	TRACKING CODE:	A518
SAMPLE No.:	CC25-10-20150829-39		
TEST DATE:	10/30/2015		

MOISTURE CONTENT (Dry Basis)	***RESULTS***	
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	77.53	***g***
3. WT WET SOIL + TARE	124.20	***g***
4. WT DRY SOIL + TARE	105.91	***g***
5. WT WATER, Ww	18.29	g
6. WT DRY SOIL, Ws	28.38	g
7. MOISTURE CONTENT, W	64.45	%

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE ANALYSES	***DIAMETER RESULTS***		***LENGTH RESULTS***	
No. 1	***2.00***	***in.***	***4.00***	***in.***
No. 2	***1.99***	***in.***	***3.99***	***in.***
No. 3	***2.00***	***in.***	***3.99***	***in.***
Average	2.00	in.	3.99	in.

SPECIMEN CONDITIONS	***INITIAL***	
Specimen WT, Wo	***319.83***	***g***
Surface Area, Ao	31.30	in^2
Volume, Vo	12.50	in^3
Bulk Unit Weight	97.5	pcf
Dry Unit Weight	59.3	pcf

EPA 1315 LEACHABILITY

TESTING DATA

Sheet 2 of 2

PROJECT:	Macon AGL
PROJECT NO.:	SH0578
SAMPLE NO:	CC25-10-20150829-39
START DATE:	10/30/2015
TRACKING CODE:	A518

LEACH INTERVAL	TESTED BY	DATE		TIME		OF SAMPLE + TARE (g)	VOLUME LEACHATE (ml)	TEMP (°C)	ORP (mV)	Conduct. (mS/cm³)	pH (s.u.)	OBSERVATIONS
		IN	OUT	IN	OUT							
Initial	TNB					321.74	1821	20.04	251.9	0.008	6.54	initial
1	TNB	10/30/15	10/30/15	8:16	10:16	323.90	1821	22.25	52.2	0.013	5.60	2 hr
2	TNB	10/30/15	10/31/15	10:16	8:16	324.16	1821	17.69	42.9	0.089	10.20	24 hr
3	TNB	10/31/15	11/01/15	8:16	8:16	324.09	1821	18.94	51.9	0.057	9.69	48 hr
4	TNB	11/01/15	11/06/15	8:16	8:16	325.07	1821	23.16	-12.7	0.255	11.16	7 day
5	TNB	11/06/15	11/13/15	8:16	8:16	324.95	1821	23.69	-4.3	0.238	11.09	14 day
6	TNB	11/13/15	11/27/15	8:16	8:16	325.00	1821	24.15	-13.5	0.253	10.92	28 day
7	TNB	11/27/15	12/11/15	8:16	8:16	325.28	1821	23.90	15.0	0.157	10.71	42 day
8	TNB	12/11/15	12/18/15	8:16	8:16	324.75	1821	22.45	34.3	0.110	10.08	49 day
9	TNB	12/18/15	01/01/15	8:16	8:16	325.36	1821	22.27	21.3	0.158	10.42	63 day
10												

EPA 1315 LEACHABILITY

SAMPLE PREPARATION

PROJECT:	Macon AGL	TESTED BY:	TNB
PROJECT No.:	SH0578	TRACKING CODE:	A519
SAMPLE No.:	L16-10-20150911-45		
TEST DATE:	10/30/2015		

MOISTURE CONTENT (Dry Basis)	***RESULTS***	
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	116.76	***g***
3. WT WET SOIL + TARE	174.61	***g***
4. WT DRY SOIL + TARE	154.24	***g***
5. WT WATER, Ww	20.37	g
6. WT DRY SOIL, Ws	37.48	g
7. MOISTURE CONTENT, W	54.35	%

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE ANALYSES	***DIAMETER RESULTS***		***LENGTH RESULTS***	
No. 1	***2.00***	***in.***	***3.99***	***in.***
No. 2	***2.00***	***in.***	***4.02***	***in.***
No. 3	***2.00***	***in.***	***3.99***	***in.***
Average	2.00	in.	4.00	in.

SPECIMEN CONDITIONS	***INITIAL***	
Specimen WT, Wo	***338.54***	***g***
Surface Area, Ao	31.36	in^2
Volume, Vo	12.53	in^3
Bulk Unit Weight	102.9	pcf
Dry Unit Weight	66.7	pcf

EPA 1315 LEACHABILITY

TESTING DATA

Sheet 2 of 2

PROJECT:	Macon AGL
PROJECT NO.:	SH0578
SAMPLE NO:	L16-10-20150911-45
START DATE:	10/30/2015
TRACKING CODE:	A519

LEACH INTERVAL	TESTED BY	DATE		TIME		OF SAMPLE + TARE (g)	VOLUME LEACHATE (ml)	TEMP (°C)	ORP (mV)	Conduct. (mS/cm³)	pH (s.u.)	OBSERVATIONS
		IN	OUT	IN	OUT							
Initial	TNB					340.65	1821	20.04	251.9	0.008	6.54	initial
1	TNB	10/30/15	10/30/15	8:18	10:18	342.40	1821	20.39	198.6	0.020	5.54	2 hr
2	TNB	10/30/15	10/31/15	10:18	8:18	342.81	1821	17.26	44.1	0.062	9.76	24 hr
3	TNB	10/31/15	11/01/15	8:18	8:18	342.90	1821	19.01	53.3	0.051	9.39	48 hr
4	TNB	11/01/15	11/06/15	8:18	8:18	343.97	1821	23.57	-51.5	0.258	11.25	7 day
5	TNB	11/06/15	11/13/15	8:18	8:18	343.77	1821	23.56	-26.7	0.232	11.08	14 day
6	TNB	11/13/15	11/27/15	8:18	8:18	343.82	1821	23.91	-33.3	0.305	11.20	28 day
7	TNB	11/27/15	12/11/15	8:18	8:18	343.35	1821	23.69	0.8	0.204	10.99	42 day
8	TNB	12/11/15	12/18/15	8:18	8:18	344.00	1821	21.70	47.8	0.096	10.03	49 day
9	TNB	12/18/15	01/01/15	8:18	8:18	343.94	1821	21.98	20.5	0.145	10.47	63 day
10												

EPA 1315 LEACHABILITY

SAMPLE PREPARATION

PROJECT:	Macon AGL	TESTED BY:	TNB
PROJECT No.:	SH0578	TRACKING CODE:	A467
SAMPLE No.:	AK15-5-20150923-52		
TEST DATE:	10/21/2015		

MOISTURE CONTENT (Dry Basis)	***RESULTS***	
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.73	***g***
3. WT WET SOIL + TARE	134.92	***g***
4. WT DRY SOIL + TARE	115.94	***g***
5. WT WATER, Ww	18.98	g
6. WT DRY SOIL, Ws	39.21	g
7. MOISTURE CONTENT, W	48.41	%

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE ANALYSES	***DIAMETER RESULTS***		***LENGTH RESULTS***	
No. 1	***1.99***	***in.***	***4.00***	***in.***
No. 2	***1.99***	***in.***	***4.01***	***in.***
No. 3	***2.00***	***in.***	***4.00***	***in.***
Average	1.99	in.	4.00	in.

SPECIMEN CONDITIONS	***INITIAL***	
Specimen WT, Wo	***341.52***	***g***
Surface Area, Ao	31.27	in^2
Volume, Vo	12.46	in^3
Bulk Unit Weight	104.4	pcf
Dry Unit Weight	70.3	pcf

EPA 1315 LEACHABILITY

TESTING DATA

Sheet 2 of 2

PROJECT:	Macon AGL
PROJECT NO.:	SH0578
SAMPLE NO:	AK15-5-20150923-52
START DATE:	10/21/2015
TRACKING CODE:	A467

LEACH INTERVAL	TESTED BY	DATE		TIME		OF SAMPLE + TARE (g)	VOLUME LEACHATE (ml)	TEMP (°C)	ORP (mV)	Conduct. (mS/cm³)	pH (s.u.)	OBSERVATIONS
		IN	OUT	IN	OUT							
Initial	TNB					340.89	1816	24.09	189.9	0.036	6.05	initial
1	TNB	10/21/15	10/21/15	9:11	11:11	344.91	1816	24.80	138.8	0.046	6.71	2 hr
2	TNB	10/21/15	10/22/15	11:11	9:11	345.26	1816	21.66	10.5	0.122	10.30	24 hr
3	TNB	10/22/15	10/23/15	9:11	9:11	345.39	1816	21.71	40.5	0.069	9.39	48 hr
4	TNB	10/23/15	10/28/15	9:11	9:11	345.74	1816	24.33	-69.5	0.374	11.15	7 day
5	TNB	10/28/15	11/04/15	9:11	9:11	346.63	1816	23.02	-29.2	0.238	11.05	14 day
6	TNB	11/04/15	11/18/15	9:11	9:11	346.67	1816	23.20	-44.8	0.302	11.27	28 day
7	TNB	11/1815	12/02/15	9:11	9:11	346.37	1816	23.93	-12.1	0.175	10.85	42 day
8	TNB	12/02/15	12/09/15	9:11	9:11	346.49	1816	23.80	44.7	0.094	9.98	49 day
9	TNB	12/09/15	12/23/15	9:11	9:11	346.45	1816	23.52	34.9	0.108	10.00	63 day
10												

EPA 1315 LEACHABILITY

SAMPLE PREPARATION

PROJECT:	Macon AGL	TESTED BY:	TNB
PROJECT No.:	SH0578	TRACKING CODE:	A525
SAMPLE No.:	BO31-5-20151009-58		
TEST DATE:	11/6/2015		

MOISTURE CONTENT (Dry Basis)	***RESULTS***	
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	77.52	***g***
3. WT WET SOIL + TARE	131.46	***g***
4. WT DRY SOIL + TARE	114.31	***g***
5. WT WATER, Ww	17.15	g
6. WT DRY SOIL, Ws	36.79	g
7. MOISTURE CONTENT, W	46.62	%

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE ANALYSES	***DIAMETER RESULTS***		***LENGTH RESULTS***	
No. 1	***2.0095***	***in.***	***4.0125***	***in.***
No. 2	***2.0000***	***in.***	***4.0110***	***in.***
No. 3	***1.9980***	***in.***	***4.0010***	***in.***
Average	2.00	in.	4.01	in.

SPECIMEN CONDITIONS	***INITIAL***	
Specimen WT, Wo	***351.96***	***g***
Surface Area, Ao	31.51	in^2
Volume, Vo	12.62	in^3
Bulk Unit Weight	106.2	pcf
Dry Unit Weight	72.4	pcf

EPA 1315 LEACHABILITY

TESTING DATA

Sheet 2 of 2

PROJECT:	Macon AGL
PROJECT NO.:	SH0578
SAMPLE NO:	BO31-5-20151009-58
START DATE:	11/6/2015
TRACKING CODE:	A525

LEACH INTERVAL	TESTED BY	DATE		TIME		OF SAMPLE + TARE (g)	VOLUME LEACHATE (ml)	TEMP (°C)	ORP (mV)	Conduct. (mS/cm³)	pH (s.u.)	OBSERVATIONS
		IN	OUT	IN	OUT							
Initial	TNB					354.16	1830	23.69	222.7	0.007	4.41	initial
1	TNB	11/06/15	11/06/15	8:26	10:26	356.49	1830	23.38	179.9	0.018	6.06	2 hr; clear
2	TNB	11/06/15	11/07/15	10:26	8:26	356.61	1830	22.15	32.2	0.104	10.45	24 hr; clear
3	TNB	11/07/15	11/08/15	8:26	8:26	356.64	1830	22.52	-16.8	0.075	10.11	48 hr; clear
4	TNB	11/08/15	11/13/15	8:26	8:26	357.23	1830	23.41	-64.1	0.305	11.30	7 day; clear
5	TNB	11/13/15	11/20/15	8:26	8:26	357.03	1830	23.07	-30.3	0.267	11.12	14 day; clear
6	TNB	11/20/15	12/04/15	8:26	8:26	357.27	1830	25.19	-10.2	0.243	11.18	28 day; clear
7	TNB	12/04/15	12/18/15	8:26	8:26	357.82	1830	21.32	20.5	0.162	10.77	42 day; clear
8	TNB	12/18/15	12/25/15	8:26	8:26	357.86	1830	23.70	9.4	0.128	10.43	49 day; clear
9	TNB	12/25/15	01/08/16	8:26	8:26	357.68	1830	23.59	12.0	0.190	10.55	63 day; clear
10												

EPA 1315 LEACHABILITY

SAMPLE PREPARATION

PROJECT:	Macon AGL	TESTED BY:	TNB
PROJECT No.:	SH0578	TRACKING CODE:	A557
SAMPLE No.:	BG43-5-20151021-64		
TEST DATE:	11/18/2015		

MOISTURE CONTENT (Dry Basis)	***RESULTS***	
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	111.89	***g***
3. WT WET SOIL + TARE	203.44	***g***
4. WT DRY SOIL + TARE	175.25	***g***
5. WT WATER, Ww	28.19	g
6. WT DRY SOIL, Ws	63.36	g
7. MOISTURE CONTENT, W	44.49	%

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE ANALYSES	***DIAMETER RESULTS***		***LENGTH RESULTS***	
No. 1	***2.00***	***in.***	***4.01***	***in.***
No. 2	***2.00***	***in.***	***4.01***	***in.***
No. 3	***2.00***	***in.***	***3.98***	***in.***
Average	2.00	in.	4.00	in.

SPECIMEN CONDITIONS	***INITIAL***	
Specimen WT, Wo	***359.08***	***g***
Surface Area, Ao	31.37	in^2
Volume, Vo	12.54	in^3
Bulk Unit Weight	109.1	pcf
Dry Unit Weight	75.5	pcf

EPA 1315 LEACHABILITY

TESTING DATA

Sheet 2 of 2

PROJECT:	Macon AGL
PROJECT NO.:	SH0578
SAMPLE NO:	BG43-5-20151021-64
START DATE:	11/18/2015
TRACKING CODE:	A557

LEACH INTERVAL	TESTED BY	DATE		TIME		OF SAMPLE + TARE (g)	VOLUME LEACHATE (ml)	TEMP (°C)	ORP (mV)	Conduct. (mS/cm³)	pH (s.u.)	OBSERVATIONS
		IN	OUT	IN	OUT							
Initial	TNB					360.77	1822	23.60	221.1	0.010	5.18	initial
1	TNB	11/18/15	11/18/15	8:31	10:31	363.80	1822	21.73	187.2	0.023	5.34	2 hr; clear
2	TNB	11/18/15	11/19/15	10:31	8:31	364.04	1822	23.50	6.0	0.069	9.51	24 hr; clear
3	TNB	11/19/15	11/20/15	8:31	8:31	363.98	1822	22.95	99.9	0.046	7.90	48 hr; clear
4	TNB	11/20/15	11/25/15	8:31	8:31	363.57	1822	24.40	-106.1	0.301	11.28	7 day; clear
5	TNB	11/25/15	12/02/15	8:31	8:31	363.74	1822	23.79	-100.0	0.366	11.38	14 day; clear
6	TNB	12/02/15	12/16/15	8:31	8:31	364.19	1822	23.20	-74.8	0.404	11.51	28 day; clear
7	TNB	12/16/15	12/30/15	8:31	8:31	364.52	1822	23.41	-63.7	0.340	11.34	42 day; clear
8	TNB	12/30/15	01/06/16	8:31	8:31	364.39	1822	23.85	9.3	0.186	10.71	49 day; clear
9	TNB	01/06/16	01/20/16	8:31	8:31	363.74	1822	22.01	43.7	0.215	10.81	63 day; clear
10												

EPA 1315 LEACHABILITY

SAMPLE PREPARATION

Sheet 1 of 2

PROJECT:	Macon AGL	TESTED BY:	TNB
PROJECT No.:	SH0578	TRACKING CODE:	A571
SAMPLE No.:	AI3-20-20151103-70		
TEST DATE:	12/1/2015		

MOISTURE CONTENT (Dry Basis)	***RESULTS***	
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	76.59	***g***
3. WT WET SOIL + TARE	145.30	***g***
4. WT DRY SOIL + TARE	124.17	***g***
5. WT WATER, Ww	21.13	g
6. WT DRY SOIL, Ws	47.58	g
7. MOISTURE CONTENT, W	44.41	%

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE ANALYSES	***DIAMETER RESULTS***		***LENGTH RESULTS***	
No. 1	***2.00***	***in.***	***4.00***	***in.***
No. 2	***2.00***	***in.***	***4.00***	***in.***
No. 3	***2.00***	***in.***	***4.01***	***in.***
Average	2.00	in.	4.00	in.

SPECIMEN CONDITIONS	***INITIAL***	
Specimen WT, Wo	***349.04***	***g***
Surface Area, Ao	31.43	in^2
Volume, Vo	12.57	in^3
Bulk Unit Weight	105.8	pcf
Dry Unit Weight	73.2	pcf

EPA 1315 LEACHABILITY

TESTING DATA

Sheet 2 of 2

PROJECT:	Macon AGL
PROJECT NO.:	SH0578
SAMPLE NO:	AI3-20-20151103-70
START DATE:	12/1/2015
TRACKING CODE:	A571

LEACH INTERVAL	TESTED BY	DATE		TIME		OF SAMPLE + TARE (g)	VOLUME LEACHATE (ml)	TEMP (°C)	ORP (mV)	Conduct. (mS/cm³)	pH (s.u.)	OBSERVATIONS
		IN	OUT	IN	OUT							
Initial	TNB					351.25	1826	23.60	221.1	0.010	4.18	initial
1	TNB	12/01/15	12/01/15	8:06	10:06	353.26	1826	23.54	154.6	0.052	6.39	2 hr; clear
2	TNB	12/01/15	12/02/15	10:06	8:06	354.09	1826	23.99	-23.9	0.366	11.30	24 hr; clear
3	TNB	12/02/15	12/03/15	8:06	8:06	353.78	1826	24.10	-4.8	0.226	11.08	48 hr; clear
4	TNB	12/03/15	12/08/15	8:06	8:06	354.28	1826	24.59	-43.3	0.691	11.75	7 day; clear
5	TNB	12/08/15	12/15/15	8:06	8:06	355.03	1826	23.60	-53.4	0.657	11.79	14 day; clear
6	TNB	12/15/15	12/29/15	8:06	8:06	355.34	1826	23.39	-50.3	0.854	11.87	28 day; clear
7	TNB	12/29/15	01/12/16	8:06	8:06	355.83	1826	23.36	-27.4	0.619	11.67	42 day; clear
8	TNB	01/12/16	01/19/16	8:06	8:06	362.47	1826	18.17	-25.4	0.361	11.57	49 day; clear
9	TNB	01/19/16	02/02/16	8:06	8:06	355.44	1826	23.33	-23.7	0.472	11.59	63 day; clear
10												

EPA 1315 LEACHABILITY

SAMPLE PREPARATION

Sheet 1 of 2

PROJECT:	Macon AGL	TESTED BY:	TNB
PROJECT No.:	SH0578	TRACKING CODE:	A593
SAMPLE No.:	AH6-5-20151113-76		
TEST DATE:	12/11/2015		

MOISTURE CONTENT (Dry Basis)	***RESULTS***	
1. MOISTURE TIN NO.		
2. WT MOISTURE TIN (tare weight)	115.99	***g***
3. WT WET SOIL + TARE	203.59	***g***
4. WT DRY SOIL + TARE	176.30	***g***
5. WT WATER, Ww	27.29	g
6. WT DRY SOIL, Ws	60.31	g
7. MOISTURE CONTENT, W	45.25	%

SOIL SPECIMEN DIMENSIONS				
TRIPLICATE ANALYSES	***DIAMETER RESULTS***		***LENGTH RESULTS***	
No. 1	***2.00***	***in.***	***4.01***	***in.***
No. 2	***2.00***	***in.***	***4.01***	***in.***
No. 3	***2.00***	***in.***	***4.02***	***in.***
Average	2.00	in.	4.01	in.

SPECIMEN CONDITIONS	***INITIAL***	
Specimen WT, Wo	***345.35***	***g***
Surface Area, Ao	31.45	in^2
Volume, Vo	12.58	in^3
Bulk Unit Weight	104.6	pcf
Dry Unit Weight	72.0	pcf

EPA 1315 LEACHABILITY

TESTING DATA

Sheet 2 of 2

PROJECT:	Macon AGL
PROJECT NO.:	SH0578
SAMPLE NO:	AH6-5-20151113-76
START DATE:	12/11/2015
TRACKING CODE:	A593

LEACH INTERVAL	TESTED BY	DATE		TIME		OF SAMPLE + TARE (g)	VOLUME LEACHATE (ml)	TEMP (°C)	ORP (mV)	Conduct. (mS/cm³)	pH (s.u.)	OBSERVATIONS
		IN	OUT	IN	OUT							
Initial	TNB					347.26	1827	22.72	232.3	0.014	4.00	initial
1	TNB	12/11/15	12/11/15	8:11	10:11	348.22	1827	23.47	162.7	0.028	5.74	2 hr; clear
2	TNB	12/11/15	12/12/15	10:11	8:11	350.30	1827	20.93	13.5	0.018	10.92	24 hr; clear
3	TNB	12/12/15	12/13/15	8:11	8:11	350.28	1827	20.83	30.8	0.140	10.65	48 hr; clear
4	TNB	12/13/15	12/18/15	8:11	8:11	350.50	1827	22.50	-50.7	0.679	11.72	7 day; faint brown tint
5	TNB	12/18/15	12/25/15	8:11	8:11	350.97	1827	23.81	-46.6	0.663	11.68	14 day; faint brown tinit
6	TNB	12/25/15	01/08/16	8:11	8:11	351.42	1827	23.77	-48.3	0.739	11.78	28 day; faint brown tint
7	TNB	01/08/16	01/22/16	8:11	8:11	352.15	1827	24.19	-2.6	0.535	11.54	42 day; faint brown tint/slight odor
8	TNB	01/22/16	01/29/16	8:11	8:11	352.41	1827	20.89	-12.8	0.343	11.49	49 day; clear
9	TNB	01/29/16	02/12/16	8:11	8:11	352.36	1827	24.04	-53.2	0.449	11.61	63 day; clear
10												

APPENDIX F

Chain of Custody

KEMRON ENVIRONMENTAL SERVICES

KEMRON ENVIRONMENTAL SERVICES, INC.
1359-A Ellsworth Industrial Boulevard, Atlanta, GA 30318
TEL.: (404) 636-0928 FAX: (404) 636-7162
www.KEMRON.com

CHAIN OF CUSTODY

Work Order: _____

Date: 7/16/15

Page ___ of ___

COMPANY:	ADDRESS:
ERM	3200 Windy Hill Rd Suite 1500 W
PHONE:	FAX:
SAMPLED BY (PRINT):	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	REQUESTED TESTING: Permeability 7/28 ASTM D5084	UCS 3/7/28 D1633	Wetting Durability 28 D4843	AWSI 16.1 Leachability	LEAF 1313 Leachability	REMARKS
9	CP26-B-20150713-02	7/13		X			—	X	X	X			7Day UCS 3Day UCS/28 day freeze thaw
11	CQ27-M-20150711-01	7/11		X			—	X	X	X	Hold		7day UCS/28 UCS Perm

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	Macon Remediation
PROJECT No.	
PO#	
SEND REPORT TO:	Rob.Rivera@erm.com

SPECIAL INSTRUCTIONS/ COMMENTS:

CQ27-M-20150711-01
Sent previously for 3 day test, these samples are for future tests

* Modified the requested analyses 7/21/15 - Rob Rivera

KEMRON ENVIRONMENTAL SERVICES

KEMRON ENVIRONMENTAL SERVICES, INC.
1359-A Ellsworth Industrial Boulevard, Atlanta, GA 30318
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www.KEMRON.com

CHAIN OF CUSTODY

Work Order: _____

Date: 7.17.15

Page ____ of ____

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT): Kevin Spevacek	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	UCS (ASTM D1633) - 3 Day 1 cylinder 2x4	UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	UCS (ASTM D1633) - 28 Day 1 cylinder 2x4	SPARE 1 cylinder 2x4	PERM (ASTM D5084) - 7 Day 1 cylinder 3x6	PERM (ASTM D5084) - 28 Day 1 cylinder 3x6	W/D Dur (ASTM D4843) - 28 Day 3 cylinders 2x4		ANSI Leachability (16.1) 2 cylinders 2 x 4	LEAF Leachability (1315) 2 cylinders 2 x 4		REMARKS
9	CM2S-10-20150714-03	7/14	1200		X	S	None	X	X	X	X	X	X	X					Sampled by GSI
					X	S	None												Witnessed by ERM

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
Kevin Spevacek	7/17 1025	PERCY HARLESTON	11:00

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	See Comments

SPECIAL INSTRUCTIONS/ COMMENTS:

rob.rivera@erm.com

adrian.velazquez@erm.com

brett.carney@erm.com

KEV 08/01/2013

brett.carney@erm.com

KEMRON ENVIRONMENTAL SERVICES

KEMRON ENVIRONMENTAL SERVICES, INC.
1359-A Ellsworth Industrial Boulevard, Atlanta, GA 30318
TEL.: (404) 636-0928 FAX: (404) 636-7162
www.KEMRON.com

CHAIN OF CUSTODY

Work Order: _____

Date: 7/20/15

Page 1 of 1

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT): GSI	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	UCS (ASTM D1633) - 3 Day 1 cylinder 2x4	UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	UCS (ASTM D1633) - 28 Day 1 cylinder 2x4	SPARE 1 cylinder 2x4	PERM (ASTM D5084) - 7 Day 1 cylinder 3x6	PERM (ASTM D5084) - 28 Day 1 cylinder 3x6	W/D Dur (ASTM D4843) - 28 Day 3 cylinders 2x4		ANSI Leachability (16.1) 2 cylinders 2 x 4	LEAF Leachability (1315) 2 cylinders 2 x 4		REMARKS
9	CM23-5-20150717-04	7/17	0800		X	S	None	X	X	X	X	X	X	X		X			Hold leachability
7	CJ24-5-20150717-05	7/17	1400		X	S	None	X	X	X	X	X	X	X					and run in batches of 5 for analysis by AES

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
Ann Gantt	7/20 1030	[signature]	7/20/15

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	See Comments

SPECIAL INSTRUCTIONS/ COMMENTS:

rob.rivera@erm.com

adrian.velazquez@erm.com

brett.carney@erm.com

KEMRON ENVIRONMENTAL SERVICES

KEMRON ENVIRONMENTAL SERVICES, INC.
1359-A Ellsworth Industrial Boulevard, Atlanta, GA 30318
TEL.: (404) 636-0928 FAX: (404) 636-7162
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CHAIN OF CUSTODY

Work Order: _____

Date: 7/21/15

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT): GSI	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	UCS (ASTM D1633) - 3 Day 1 cylinder 2x4	UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	UCS (ASTM D1633) - 28 Day 1 cylinder 2x4	SPARE 1 cylinder 2x4	PERM (ASTM D5084) - 7 Day 1 cylinder 3x6	PERM (ASTM D5084) - 28 Day 1 cylinder 3x6	W/D Dur (ASTM D4843) - 28 Day 3 cylinders 2x4		ANSI Leachability (16.1) 2 cylinders 2 x 4	LEAF Leachability (1315) 2 cylinders 2 x 4		REMARKS
4	CH22(20)-20150718-06	7/18	1030		X	S	None	X	X	X	X	X	X	X					
1	CF20(10)-20150718-07	7/18	1450		X	S	None	X	X	X	X			X					

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
Tom Smith	7/21 1040	Percy Harleston	7/21/15 10:40

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	See Comments

SPECIAL INSTRUCTIONS/ COMMENTS:

rob.rivera@erm.com

adrian.velazquez@erm.com

brett.carney@erm.com

KEMRON ENVIRONMENTAL SERVICES

KEMRON ENVIRONMENTAL SERVICES, INC.
1359-A Ellsworth Industrial Boulevard, Atlanta, GA 30318
TEL.: (404) 636-0928 FAX: (404) 636-7162
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CHAIN OF CUSTODY

Work Order: _____

Date: 7/23/15

Page ____ of ____

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT): GSJ	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	UCS (ASTM D1633) - 3 Day 1 cylinder 2x4	UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	UCS (ASTM D1633) - 28 Day 1 cylinder 2x4	SPARE 1 cylinder 2x4	PERM (ASTM D5084) - 7 Day 1 cylinder 3x6	PERM (ASTM D5084) - 28 Day 1 cylinder 3x6	W/D Dur (ASTM D4843) - 28 Day 3 cylinders 2x4		ANSI Leachability (16.1) 2 cylinders 2 x 4	LEAF Leachability (1315) 2 cylinders 2 x 4		REMARKS
9	CC21-20-20150720-08	7/20	1115		X	S	None	X	X	X	X			X		X			Hold Leachability Sample to Ship in Sets of 5 to AES
7	CA21-5-20150720-09	7/20	1710		X	S	None	X	X	X	X			X					

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
	7/23	PERCY HARLESTON	7/23/15
	10:45		10:45

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	See Comments

SPECIAL INSTRUCTIONS/ COMMENTS:

rob.rivera@erm.com

adrian.velazquez@erm.com

brett.carney@erm.com

KEMRON ENVIRONMENTAL SERVICES

KEMRON ENVIRONMENTAL SERVICES, INC.
1359-A Ellsworth Industrial Boulevard, Atlanta, GA 30318
TEL.: (404) 636-0928 FAX: (404) 636-7162
www.KEMRON.com

CHAIN OF CUSTODY

Work Order: _____

Date: 7/24/15

Page ___ of ___

COMPANY:	ADDRESS:
ERM	3200 Windy Hill Rd Suite 1500w ATL GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT): GSI	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	REQUESTED TESTING: WCS(ASTM) D1633-3Day 1 2x4 cylinder	WCS ASTM D1633 -7 Day 1 2x4 Cylinder	WCS ASTM D1633 -28 Day 1 2x4 cylinder	SPARE 1 2x4 cylinder	PERM (ASTM D5084) 7 Day 1 3x6 cylinder	PERM (ASTM D5084) 28 Day 1 3x6 cylinder	W/D Durr (ASTM D4843) 28 Day 3 2x4 cylinders		AVS+ Leachability (16.1) 2 2x4 Cylinders	LEAP Leachability (1315) 2 2x4 cylinders		REMARKS
9	BZ18-10-20150721-10	7/21	1200		X	S	None	X	X	X	X	X	X	X					
9	BW19-15-20150721-11	7/21	1700		X	S	None	X	X	X	X	X	X	X					

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
[signature]	7/24 1105	Percy Hazleton	7/24 11:05

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	

SPECIAL INSTRUCTIONS/ COMMENTS:

rob.rivera@erm.com
adrian.velazquez@erm.com
brett.carney@erm.com

REV 08/07/2013

KEMRON ENVIRONMENTAL SERVICES, INC.
1359-A Ellsworth Industrial Boulevard, Atlanta, GA 30318
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ENVIRONMENTAL SERVICES www.KEMRON.com

CHAIN OF CUSTODY

Work Order: _____

Date: 7,27,15

Page ____ of ____

COMPANY:	ADDRESS:
ERM	3200 Windy Hill Rd Suite 1500w ATL GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT): GSI	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	REQUESTED TESTING: UCS D1633 3Day 12x4 Cylinder	UCS D1633 7 Day 12x4 Cylinder	UCS D1633 28 Day 12x4 Cylinder	SPAR 12x4 cylinder	PERM D5084 7 Day 13x6 Cylinder	PERM D5084 - 28Day 13x6 Cylinder	WD Dur D4843 28Day 32x4 Cylinders		ANSI Leachability 16.1 22x4 Cylinders	LEAF Leachability 1315 22x4 cylinders		REMARKS
11	BW9-S-20150722-12	7/22	1030		X	S	None	X	X	X	X	X	X	X		X			
9	BS17-10-20150722-13	7/22	1630		X	S	None	X	X	X	X	X	X	X					
9	BS15-5-20150723-14	7/23	1145		X	S	None	X	X	X	X	X	X	X					
9	BS13-20-20150724-15	7/24	0900		X	S	None	X	X	X	X	X	X	X					

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
[signature]	7/27 1115	FERC 4 HAPLESTON	7/27 1115

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	
PROJECT No.	
PO #	
SEND REPORT TO:	

SPECIAL INSTRUCTIONS/ COMMENTS:

REV 06/01/2013

KEMRON ENVIRONMENTAL SERVICES, INC.
1359-A Ellsworth Industrial Boulevard, Atlanta, GA 30318
TEL.: (404) 636-0928 FAX: (404) 636-7162
www.KEMRON.com

CHAIN OF CUSTODY

Work Order: _____

Date: 7/28/15

Page ____ of ____

COMPANY:	ADDRESS:
ERM	3200 Windy Hill Rd Suite 1500W ATL GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT): GST	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	REQUESTED TESTING: UCS D1633 3 Day 1 2x4 Cylinder	UCS D1633 7 Day 1 2x4 Cylinder (Cancelled per Kevin 7/28)	UCS D1633 28 Day 1 2x4 Cylinder	SPARE 1 2x4 Cylinder	PERM D5084 7 Day 1 3x6 Cylinder	PERM D5084 28 Day 1 3x6 Cylinder	WP Dur D1843 28 Day 3 2x4 Cylinders		ANSI Leachability 16:1 2 2x4 Cylinders	LEAF Leachability 1315 2 2x4 Cylinders		REMARKS
11	B011-15-20150725-16	7/25	1300		X	S	None	X	X	X	X	X	X	X		X			

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
[signature]	7/28	PERCY HARLESTON	7/28

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon Remediation
PROJECT No.	0176740
PO #	
SEND REPORT TO:	rob.kirer@erm.com

SPECIAL INSTRUCTIONS/ COMMENTS:

REV 08/07/2013

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KEMRON ENVIRONMENTAL SERVICES, INC.
1359-A Ellsworth Industrial Boulevard, Atlanta, GA 30318
TEL.: (404) 636-0928 FAX: (404) 636-7162
ENVIRONMENTAL SERVICES www.KEMRON.com

CHAIN OF CUSTODY

Work Order: _____

Date: 7/30/15

Page ___ of ___

COMPANY:	ADDRESS:
ERM	3200 Windy Hill Rd Suite 1500W ATL GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT): GSH	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE
8	BMW-10-20150727-17	7/27	1630		X	S	None

REQUESTED TESTING

UCS D1633 3 Day 1 2x4 Cylinder	UCS D1633 7 Day 1 2x4 Cylinder	UCS D1633 28 Day 1 2x4 Cylinder	SPARE 1 2x4 Cylinder	PERM D5084 3 Day 1 3x6 Cylinder	W/D Dur D4843 3 2x4 Cylinders	PERM D5084 28 Day 1 3x6 Cylinder	ANSI Leachability 16.1 2 2x4 Cylinders	LEAF Leachability 1315 2 2x4 Cylinders			REMARKS
X		X	X	X	X	X					

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
[signature]	7/30	[signature]	7/30/15

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon Remediation
PROJECT No.	0176740
PO #	
SEND REPORT TO:	rob.river@erm.com

SPECIAL INSTRUCTIONS/ COMMENTS:

REV 06/01/2013

h:\ems\coc1.xls

KEMRON ENVIRONMENTAL SERVICES

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1359-A Ellsworth Industrial Boulevard, Atlanta, GA 30318
TEL.: (404) 636-0928 FAX: (404) 636-7162
www.KEMRON.com

CHAIN OF CUSTODY

Work Order: _____

Date: 7 / 31 / 15

Page 1 of 1

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT):	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	UCS (ASTM D1633) - 3 Day 1 cylinder 2x4	UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	UCS (ASTM D1633) - 28 Day 1 cylinder 2x4	SPARE 1 cylinder 2x4	PERM (ASTM D5084) - 7 Day 1 cylinder 3x6	PERM (ASTM D5084) - 28 Day 1 cylinder 3x6	W/D Dur (ASTM D4843) - 28 Day 3 cylinders 2x4		ANSI Leachability (16.1) 2 cylinders 2 x 4	LEAF Leachability (1315) 2 cylinders 2 x 4		REMARKS
8	BJ8-5-20150728-18	7/28	1230		X	S	None	X		X	X	X	X	X					
					X	S	None												

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
	7/31 1115		7/31/15

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	See Comments

SPECIAL INSTRUCTIONS/ COMMENTS:

rob.rivera@erm.com

adrian.velazquez@erm.com

brett.carney@erm.com

KEMRON ENVIRONMENTAL SERVICES

KEMRON ENVIRONMENTAL SERVICES, INC.
1359-A Ellsworth Industrial Boulevard, Atlanta, GA 30318
TEL.: (404) 636-0928 FAX: (404) 636-7162
www.KEMRON.com

CHAIN OF CUSTODY

Work Order: _____

Date: 8/1/15

Page ____ of ____

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT):	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	REQUESTED TESTING: UCS (ASTM D1633) - 3 Day 1 cylinder 2x4	UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	UCS (ASTM D1633) - 28 Day 1 cylinder 2x4	SPARE 1 cylinder 2x4	PERM (ASTM D5084) - 7 Day 1 cylinder 3x6	PERM (ASTM D5084) - 28 Day 1 cylinder 3x6	W/D Dur (ASTM D4843) - 28 Day 3 cylinders 2x4		ANSI Leachability (16.1) 2 cylinders 2 x 4	LEAF Leachability (1315) 2 cylinders 2 x 4		REMARKS
8	BD8-10-20150729-19	7/29	1230		X	S	None	X		X	X	X	X	X					
12	AY8-15-20150730-20	7/30	0930		X	S	None	X		X	X	X	X	X		X	X		

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
	8/1/15	Percy Harleston	8/1/15

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	See Comments

SPECIAL INSTRUCTIONS/ COMMENTS:

rob.rivera@erm.com

adrian.velazquez@erm.com

brett.carney@erm.com

KEMRON ENVIRONMENTAL SERVICES

KEMRON ENVIRONMENTAL SERVICES, INC.
1359-A Ellsworth Industrial Boulevard, Atlanta, GA 30318
TEL.: (404) 636-0928 FAX: (404) 636-7162
www.KEMRON.com

CHAIN OF CUSTODY

Work Order: _____

Date: 8/3/15

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT):	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	UCS (ASTM D1633) - 3 Day 1 cylinder 2x4	UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	UCS (ASTM D1633) - 28 Day 1 cylinder 2x4	SPARE 1 cylinder 2x4	PERM (ASTM D5084) - 7 Day 1 cylinder 3x6	PERM (ASTM D5084) - 28 Day 1 cylinder 3x6	W/D Dur (ASTM D4843) - 28 Day 3 cylinders 2x4		ANSI Leachability (16.1) 2 cylinders 2 x 4	LEAF Leachability (1315) 2 cylinders 2 x 4		REMARKS
4	AR10-GS20150731-21	7/31/15	1300		X	S	None	1	1	1	1	1	1	3					
					X	S	None												

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
1107	8/3/15		8/3/15

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	See Comments

SPECIAL INSTRUCTIONS/ COMMENTS:

rob.rivera@erm.com

adrian.velazquez@erm.com

brett.carney@erm.com

KEMRON ENVIRONMENTAL SERVICES

KEMRON ENVIRONMENTAL SERVICES, INC.
1359-A Ellsworth Industrial Boulevard, Atlanta, GA 30318
TEL.: (404) 636-0928 FAX: (404) 636-7162
www.KEMRON.com

CHAIN OF CUSTODY

Work Order: _____

Date: 8/4/15

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT):	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	UCS (ASTM D1633) - 3 Day 1 cylinder 2x4	UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	UCS (ASTM D1633) - 28 Day 1 cylinder 2x4	SPARE 1 cylinder 2x4	PERM (ASTM D5084) - 7 Day 1 cylinder 3x6	PERM (ASTM D5084) - 28 Day 1 cylinder 3x6	W/D Dur (ASTM D4843) - 28 Day 3 cylinders 2x4		ANSI Leachability (16.1) 2 cylinders 2 x 4	LEAF Leachability (1315) 2 cylinders 2 x 4		REMARKS
8	AP10-(10)-20150801-ZA	8/1/15	1030		X	S	None	1		1	1	1	1	3					
					X	S	None												

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
1642	8/4/15	PERCY HARLESTON	8/4/15

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	See Comments

SPECIAL INSTRUCTIONS/ COMMENTS:

rob.rivera@erm.com

adrian.velazquez@erm.com

brett.carney@erm.com

KEMRON ENVIRONMENTAL SERVICES

KEMRON ENVIRONMENTAL SERVICES, INC.
1359-A Ellsworth Industrial Boulevard, Atlanta, GA 30318
TEL.: (404) 636-0928 FAX: (404) 636-7162
www.KEMRON.com

CHAIN OF CUSTODY

Work Order: _____

Date: 8/6/15

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT):	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	UCS (ASTM D1633) - 3 Day 1 cylinder 2x4	UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	UCS (ASTM D1633) - 28 Day 1 cylinder 2x4	SPARE 1 cylinder 2x4	PERM (ASTM D5084) - 7 Day 1 cylinder 3x6	PERM (ASTM D5084) - 28 Day 1 cylinder 3x6	W/D Dur (ASTM D4843) - 28 Day 3 cylinders 2x4		ANSI Leachability (16.1) 2 cylinders 2 x 4	LEAF Leachability (1315) 2 cylinders 2 x 4		REMARKS
8	AHO-(12)-20150803-23	8/3/15	1625		X	S	None	1	1	1	1	1	1	3					
					X	S	None												

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
[signature] 1050	8/6/15	[signature]	8/6/15

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	See Comments

SPECIAL INSTRUCTIONS/ COMMENTS:

rob.rivera@erm.com

adrian.velazquez@erm.com

brett.carney@erm.com

KEMRON ENVIRONMENTAL SERVICES

KEMRON ENVIRONMENTAL SERVICES, INC.
1359-A Ellsworth Industrial Boulevard, Atlanta, GA 30318
TEL.: (404) 636-0928 FAX: (404) 636-7162
www.KEMRON.com

CHAIN OF CUSTODY

Work Order: _____

Date: _____ / _____ / _____

Page _____ of _____

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT):	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	UCS (ASTM D1633) - 3 Day 1 cylinder 2x4	UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	UCS (ASTM D1633) - 28 Day 1 cylinder 2x4	SPARE 1 cylinder 2x4	PERM (ASTM D5084) - 7 Day 1 cylinder 3x6	PERM (ASTM D5084) - 28 Day 1 cylinder 3x6	W/D Dur (ASTM D4843) - 28 Day 3 cylinders 2x4		ANSI Leachability (16.1) 2 cylinders 2 x 4	LEAF Leachability (1315) 2 cylinders 2 x 4		REMARKS
9	AB10-5-20150810-24	8/10	1245		X	S	None			X	X	X	X	X		X			
					X	S	None												

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
	8/13/15	PERCY HARLESTON	8/13/15
ERM	11:37		

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	See Comments

SPECIAL INSTRUCTIONS/ COMMENTS:

rob.rivera@erm.com

adrian.velazquez@erm.com

brett.carney@erm.com

KEMRON ENVIRONMENTAL SERVICES

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CHAIN OF CUSTODY

Work Order: _____

Date: 8/17/15

Page ____ of ____

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT):	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	UCS (ASTM D1633) - 3 Day 1 cylinder 2x4	UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	UCS (ASTM D1633) - 28 Day 1 cylinder 2x4	SPARE 1 cylinder 2x4	PERM (ASTM D5084) - 7 Day 1 cylinder 3x6	PERM (ASTM D5084) - 28 Day 1 cylinder 3x6	W/D Dur (ASTM D4843) - 28 Day 3 cylinders 2x4		ANSI Leachability (16.1) 2 cylinders 2 x 4	LEAF Leachability (1315) 2 cylinders 2 x 4		REMARKS
7	C11-25-20150811-25	8/11	1515		X	S	None			X	X	X	X	X					
7	H10-5-20150812-26	8/12	1330		X	S	None			X	X	X	X	X					
9	S9-10-20150813-27	8/13	1400		X	S	None			X	X	X	X	X		X			
7	E13-5-20150814-28	8/14	1445		X	S	None			X	X	X	X	X					

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
Tom Smith	8/17	Mercy Hollestou	8/17/15

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	See Comments

SPECIAL INSTRUCTIONS/ COMMENTS:

rob.rivera@erm.com

adrian.velazquez@erm.com

brett.carney@erm.com

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CHAIN OF CUSTODY

Work Order: _____

Date: 8 / 20 / 15

Page ____ of ____

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT):	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	UCS (ASTM D1633) - 3 Day 1 cylinder 2x4	UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	UCS (ASTM D1633) - 28 Day 1 cylinder 2x4	SPARE 1 cylinder 2x4	PERM (ASTM D5084) - 7 Day 1 cylinder 3x6	PERM (ASTM D5084) - 28 Day 1 cylinder 3x6	W/D Dur (ASTM D4843) - 28 Day 3 cylinders 2x4		ANSI Leachability (16.1) 2 cylinders 2 x 4	LEAF Leachability (1315) 2 cylinders 2 x 4		REMARKS
								REQUESTED TESTING											
7	C17-10-20150815-29	8/15	1030		X	S	None			X	X	X	X	X					
7	H18-S-20150817-30	8/17	1600		X	S	None			X	X	X	X	X					

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
[signature] ERM	8/20 1100	[signature]	8/20/15

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	See Comments

SPECIAL INSTRUCTIONS/ COMMENTS:

rob.rivera@erm.com

adrian.velazquez@erm.com

brett.carney@erm.com

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CHAIN OF CUSTODY

Work Order: _____

Date: 8 / 24 / 15

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT):	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	UCS (ASTM D1633) - 3 Day 1 cylinder 2x4	UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	UCS (ASTM D1633) - 28 Day 1 cylinder 2x4	SPARE 1 cylinder 2x4	PERM (ASTM D5084) - 7 Day 1 cylinder 3x6	PERM (ASTM D5084) - 28 Day 1 cylinder 3x6	W/D Dur (ASTM D4843) - 28 Day 3 cylinders 2x4		ANSI Leachability (16.1) 2 cylinders 2 x 4	LEAF Leachability (1315) 2 cylinders 2 x 4		REMARKS
12	K21-10-20150818-31	8/18	1230		X	S	None		X	X	X	X	X	X		X	X		
7	S21-15-20150819-32	8/19	1700		X	S	None			X	X	X	X	X					
7	X20-5-20150820-33	8/20	1100		X	S	None			X	X	X	X	X					

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
	8/24		8/24/15
	K22		1123
ERM			

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	See Comments

SPECIAL INSTRUCTIONS/ COMMENTS:

rob.rivera@erm.com

adrian.velazquez@erm.com

brett.carney@erm.com

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CHAIN OF CUSTODY

Work Order: _____

Date: 8/27/15

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT):	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	UCS (ASTM D1633) - 3 Day 1 cylinder 2x4	UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	UCS (ASTM D1633) - 28 Day 1 cylinder 2x4	SPARE 1 cylinder 2x4	PERM (ASTM D5084) - 7 Day 1 cylinder 3x6	PERM (ASTM D5084) - 28 Day 1 cylinder 3x6	W/D Dur (ASTM D4843) - 28 Day 3 cylinders 2x4		ANSI Leachability (16.1) 2 cylinders 2 x 4	LEAF Leachability (1315) 2 cylinders 2 x 4		REMARKS
9	AG23-10-20150822-34	8/22	1000		X	S	None			X	X	X	X	X		X			
7	AN24-15-20150824-35	8/24	1400		X	S	None			X	X	X	X	X					

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
	8/27/15 1104		8/27/15 1104

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	See Comments

SPECIAL INSTRUCTIONS/ COMMENTS:

rob.rivera@erm.com

adrian.velazquez@erm.com

brett.carney@erm.com

KEMRON ENVIRONMENTAL SERVICES, INC.
1359-A Ellsworth Industrial Boulevard, Atlanta, GA 30318
TEL.: (404) 636-0928 FAX: (404) 636-7162
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CHAIN OF CUSTODY

Work Order: _____
Date: 8, 31, 15
Page ____ of ____

COMPANY: ERM
ADDRESS: 3200 Windy Hill Rd SE ste. 1500W Atlanta, GA 30339
PHONE: 678 486 2700
FAX:
SAMPLED BY (PRINT): KS
SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	REQUESTED TESTING: LCS-25 Day 1 Cylinder 2x4	SPARE 2x4	PERM-7 Day 1 3x6	PERM-28 Day 1 3x6	W/D Dur-25 Day 3 2x4	ANSI Leach 2 2x4	LEAF Leach 2 2x4					REMARKS
9	AVZ4-5-20150825-36	8/25/15			X	S		X	X	X	X	X	X						7(2x4) 2(3x6)
7	B623-10-20150826-37	8/26/15			X	S		X	X	X	X	X							5(2x4) 2(3x6)
9	CM27-15-20150828-38	8/28/15			X	S		X	X	X	X	X	X						7(2x4) 2(3x6)
~~9~~	~~CC25-10-20150828-39~~ WFV	~~8/28/15~~			~~X~~	~~S~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~		~~X~~					~~7(2x4) 2(3x6)~~

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
[signature]	8/31/15 1133	Henry Harleston	8/31/15

Turnaround Time Request (Business Days):

PROJECT INFORMATION:
PROJECT NAME: DQ Macon ISS
PROJECT No. 176740
PO #
SEND REPORT TO:

SPECIAL INSTRUCTIONS/ COMMENTS:
Rob.Rivera@ERM.com
adrian.velazquez@ERM.com
brett.carney@ERM.com

REV 06/01/2015

KEMRON ENVIRONMENTAL SERVICES

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CHAIN OF CUSTODY

Work Order: _____

Date: 9 / 4 / 15

COMPANY: ERM

ADDRESS: 3200 Windy Hill Rd SE Ste 1500w Atlanta, GA 30339

PHONE: 678 486 2700

FAX:

SAMPLED BY (PRINT):

SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	UCS-28 Day 2x4	Permeability-7 Day 3x6	Permeability-28 Day 3x6	W/D 28 Day (3) 2x4	LEAF-Leachability (2) 2x4	ANS-Leachability (2) 2x4	SPARE 2x4				REMARKS
9	CC25-10-20150829-39	8/29/15			X	S		1	1	1	3	2		1				(7 (2x4)
9	BV26-5-20150901-40	9/1/15			X	S		1	1	1	3		2	1				(2 (3x6)

REQUESTED TESTING

REMARKS

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
[signature] 9/4/15	1040	[signature] 9/4/15	1040

Turnaround Time Request (Business Days):

PROJECT INFORMATION:

PROJECT NAME:	AGL Macon ISS
PROJECT No.	0176740
PO #	N/A
SEND REPORT TO:	See Comments

SPECIAL INSTRUCTIONS/ COMMENTS:

Rob.Rivera@ERM.com
Adrian.Velazquez@ERM.com
Brett.Carney@ERM.com

KEMRON ENVIRONMENTAL SERVICES

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CHAIN OF CUSTODY

Work Order: _____

Date: 9/9/15

Page ____ of ____

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT):	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	UCS (ASTM D1633) - 3 Day 1 cylinder 2x4	UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	UCS (ASTM D1633) - 28 Day 1 cylinder 2x4	SPARE 1 cylinder 2x4	PERM (ASTM D5084) - 7 Day 1 cylinder 3x6	PERM (ASTM D5084) - 28 Day 1 cylinder 3x6	W/D Dur (ASTM D4843) - 28 Day 3 cylinders 2x4		ANSI Leachability (16.1) 2 cylinders 2 x 4	LEAF Leachability (1315) 2 cylinders 2 x 4		REMARKS
~~9~~	~~BV26-5-20150901-40~~	~~9/1~~	~~0830~~		~~X~~	S	None		X	X		X	X	X		X			~~28 Day UCS~~
8	BU21-15-20150902-41	9/2	1015		X	S	None		X	X	X	X	X	X					Tests to be run
9	BK21-10-20150903-42	9/3	1400		X	S	None		X	X		X	X	X		X			only if 7Day test < 50 psi

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
ERM	9/9/15 1205		9/9/15 1205

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	See Comments

SPECIAL INSTRUCTIONS/ COMMENTS:

rob.rivera@erm.com

adrian.velazquez@erm.com

brett.carney@erm.com

KEMRON ENVIRONMENTAL SERVICES, INC.
1359-A Ellsworth Industrial Boulevard, Atlanta, GA 30318
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CHAIN OF CUSTODY

Work Order: _____

Date: 9 / 14 / 15

Page ____ of ____

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT):	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	UCS (ASTM D1633) - 3 Day 1 cylinder 2x4	UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	UCS (ASTM D1633) - 28 Day 1 cylinder 2x4	SPARE 1 cylinder 2x4	PERM (ASTM D5084) - 7 Day 1 cylinder 3x6	PERM (ASTM D5084) - 28 Day 1 cylinder 3x6	W/D Dur (ASTM D4843) - 28 Day 3 cylinders 2x4		ANSI Leachability (16.1) 2 cylinders 2 x 4	LEAF Leachability (1315) 2 cylinders 2 x 4		REMARKS
REQUESTED TESTING																			
7	AZ18-S-20150909-43	9/9	1400		X	S	None		X	X		X	X	X					28 Day UCS
10	AR18-15-20150910-44	9/10	1615		X	S	None		X	X	X	X	X	X		X			Test to be run
10	L16-10-20150911-459	9/11	1730		X	S	None		X	X	X	X	X	X			X		only if 7 Day Test < 50 psi

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
	9/14/15		9/14/15
	1130		

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	See Comments

SPECIAL INSTRUCTIONS/ COMMENTS:

rob.rivera@erm.com

adrian.velazquez@erm.com

brett.carney@erm.com

KEMRON ENVIRONMENTAL SERVICES

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CHAIN OF CUSTODY

Work Order: _____

Date: 9/17/15

Page ____ of ____

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT):	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	UCS (ASTM D1633) - 3 Day 1 cylinder 2x4	UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	UCS (ASTM D1633) - 28 Day 1 cylinder 2x4	SPARE 1 cylinder 2x4	PERM (ASTM D5084) - 7 Day 1 cylinder 3x6	PERM (ASTM D5084) - 28 Day 1 cylinder 3x6	W/D Dur (ASTM D4843) - 28 Day 3 cylinders 2x4		ANSI Leachability (16.1) 2 cylinders 2 x 4	LEAF Leachability (1315) 2 cylinders 2 x 4		REMARKS
REQUESTED TESTING																			
10	WI7-10-20150914-46	9/14	1000		X	S	None		X	X	X	X	X	X		X			
8	AF18-5-20150915-47	9/14	1230		X	S	None		X	X	X	X	X	X					

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
	9/17/15		9/17/15
	1030		

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	See Comments

SPECIAL INSTRUCTIONS/ COMMENTS:

rob.rivera@erm.com

adrian.velazquez@erm.com

brett.carney@erm.com

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CHAIN OF CUSTODY

Work Order: _____

Date: 9 / 21 / 15

Page _____ of _____

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT):	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	UCS (ASTM D1633) - 3 Day 1 cylinder 2x4	UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	UCS (ASTM D1633) - 28 Day 1 cylinder 2x4	SPARE 1 cylinder 2x4	PERM (ASTM D5084) - 7 Day 1 cylinder 3x6	PERM (ASTM D5084) - 28 Day 1 cylinder 3x6	W/D Dur (ASTM D4843) - 28 Day 3 cylinders 2x4		ANSI Leachability (16.1) 2 cylinders 2 x 4	LEAF Leachability (1315) 2 cylinders 2 x 4		REMARKS
9	AL18-10-20150916-48	9/16	1600		X	S	None		X	X		X	X	X		X			28 Day UCS
7	BC11-1S-20150917-49	9/17	1740		X	S	None		X	X		X	X	X					~~to be run~~ only if 7 Day UCS result is < 50psi

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
	9/21		
	1130		9/21/15

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	See Comments

SPECIAL INSTRUCTIONS/ COMMENTS:
rob.rivera@erm.com
adrian.velazquez@erm.com
brett.carney@erm.com

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CHAIN OF CUSTODY

Work Order: _____

Date: 9/24/15

Page ____ of ____

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT):	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	UCS (ASTM D1633) - 3 Day 1 cylinder 2x4	UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	UCS (ASTM D1633) - 28 Day 1 cylinder 2x4	SPARE 1 cylinder 2x4	PERM (ASTM D5084) - 7 Day 1 cylinder 3x6	PERM (ASTM D5084) - 28 Day 1 cylinder 3x6	W/D Dur (ASTM D4843) - 28 Day 3 cylinders 2x4		ANSI Leachability (16.1) 2 cylinders 2 x 4	LEAF Leachability (1315) 2 cylinders 2 x 4		REMARKS
REQUESTED TESTING																			
9	K13-S-20150919-S0	9/19	1315		X	S	None		X	X		X	X	X		X			28 Day UCS
7	214-10-20150922-S1	9/22	0830		X	S	None		X	X		X	X	X					test to be run
																			only if 7
																			Day UCS
																			result < 50 psi

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
[signature]	9/24/15	[signature]	9/24/15
[signature]	1015		

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	See Comments

SPECIAL INSTRUCTIONS/ COMMENTS:

rob.rivera@erm.com

adrian.velazquez@erm.com

brett.carney@erm.com

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CHAIN OF CUSTODY

Work Order: _____

Date: 9 / 28 / 15

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT):	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	REQUESTED TESTING: UCS (ASTM D1633) - 3 Day 1 cylinder 2x4	UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	UCS (ASTM D1633) - 28 Day 1 cylinder 2x4	SPARE 1 cylinder 2x4	PERM (ASTM D5084) - 7 Day 1 cylinder 3x6	PERM (ASTM D5084) - 28 Day 1 cylinder 3x6	W/D Dur (ASTM D4843) - 28 Day 3 cylinders 2x4		ANSI Leachability (16.1) 2 cylinders 2 x 4	LEAF Leachability (1315) 2 cylinders 2 x 4		REMARKS
	~~AK-15-5-20~~				~~X~~	~~S~~	~~None~~												
11	AK15-5-20150923-52	9/23/15			X	S	None		1	1		1	1	3		2	2		
7	BF13-16-20150924-53	9/24/15			X	S	None		1	1		1	1	3					
9	BB14-15-20150925-54	9/25/15			X	S	None		1	1		1	1	3		2			Hold ANS

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
	9/28/15 1100		9/28/15

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	See Comments

SPECIAL INSTRUCTIONS/ COMMENTS:

rob.rivera@erm.com

adrian.velazquez@erm.com

brett.carney@erm.com

KEMRON ENVIRONMENTAL SERVICES

KEMRON ENVIRONMENTAL SERVICES, INC.
1359-A Ellsworth Industrial Boulevard, Atlanta, GA 30318
TEL.: (404) 636-0928 FAX: (404) 636-7162
www.KEMRON.com

CHAIN OF CUSTODY

Work Order: _____

Date: 10/1/15

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE: 678-486-2700	FAX:
SAMPLED BY (PRINT): W. Virgo	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	UCS (ASTM D1633) - 3 Day 1 cylinder 2x4	UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	UCS (ASTM D1633) - 28 Day 1 cylinder 2x4	SPARE 1 cylinder 2x4	PERM (ASTM D5084) - 7 Day 1 cylinder 3x6	PERM (ASTM D5084) - 28 Day 1 cylinder 3x6	W/D Dur (ASTM D4843) - 28 Day 3 cylinders 2x4		ANSI Leachability (16.1) 2 cylinders 2 x 4	LEAF Leachability (1315) 2 cylinders 2 x 4		REMARKS
REQUESTED TESTING																			
7	AG15-5-20150928-SA	9/28/15	1645		X	S	None		1	1		1	1	3					

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
	10/1/15 1102		10/1/15

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	See Comments

SPECIAL INSTRUCTIONS/ COMMENTS:

rob.rivera@erm.com

adrian.velazquez@erm.com

brett.carney@erm.com

KEMRON ENVIRONMENTAL SERVICES

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CHAIN OF CUSTODY

Work Order: ____

Date: 10/6/15

Page ____ of ____

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT):	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	REQUESTED TESTING: UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	REQUESTED TESTING: 28 Day 1 cylinder 2x4	REQUESTED TESTING: 3 cylinders 2x4	REQUESTED TESTING: ANSI Leachability (16.1)	REMARKS
9	AR30-S-20151006-56	10/6	1030		X	S	None	X	X	X	X	-Hold ANS leach Sample -only run 28 Day UCS if 7 Day result < 50 psi
		/			X	S	None					

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
	10/8/15		10/8/15

Turnaround Time Request (Business Days):

PROJECT INFORMATION

PROJECT NAME: [illegible]

PROJECT #: [illegible]

PO #: N/A

SEND REPORT TO: [illegible]

See Comments

SPECIAL INSTRUCTIONS/COMMENTS:

[illegible]@erm.com

[illegible]@erm.com

[illegible]@erm.com

REV 08/07/2013

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CHAIN OF CUSTODY

Work Order: _____

Date: 10 / 15 / 15

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE: 678-486-2700	FAX:
SAMPLED BY (PRINT): Kevin Spevacek (57, 58) Brett Carney (59)	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	UCS (ASTM D1633) - 3 Day 1 cylinder 2x4	UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	UCS (ASTM D1633) - 28 Day 1 cylinder 2x4	SPARE 1 cylinder 2x4	PERM (ASTM D5084) - 7 Day 1 cylinder 3x6	PERM (ASTM D5084) - 28 Day 1 cylinder 3x6	W/D Dur (ASTM D4843) - 28 Day 3 cylinders 2x4		ANS Leachability (16.1) 2 cylinders 2 x 4	LEAF Leachability (1315) 2 cylinders 2 x 4		REMARKS
7	BE31-10-20151007-57	10/7/2015			X	S	None		X	X		X	X	X					
11	BO31-5-20151009-58	10/9/2015			X	S	None		X	X		X	X	X		X	X		Run ANS & LEAF Extractions
7	CF30-15-20151013-59	10/13/2015			X	S	None		X	X		X	X	X					
1	CF20-10-20150718-7	7/18/15			X	S	None						X						Only 2x4 cylinder
1	CC21-20-20150720-8	7/20/15			X	S	None						X						" "
1	CA21-5-20150720-9	7/20/15			X	S	None						X						" "

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	See Comments ==>

SPECIAL INSTRUCTIONS/ COMMENTS:

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CHAIN OF CUSTODY

Work Order: _____

Date: 10/19/15

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT):	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	UCS (ASTM D1633) - 3 Day 1 cylinder 2x4	UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	UCS (ASTM D1633) - 28 Day 1 cylinder 2x4	SPARE 1 cylinder 2x4	PERM (ASTM D5084) - 7 Day 1 cylinder 3x6	PERM (ASTM D5084) - 28 Day 1 cylinder 3x6	W/D Dur (ASTM D4843) - 28 Day 3 cylinders 2x4		ANSI Leachability (16.1) 2 cylinders 2 x 4	LEAF Leachability (1315) 2 cylinders 2 x 4		REMARKS
		REQUESTED TESTING																	
7	BV30-10-20151015-60	10/15	1000		X	S	None		X	X		X	X	X					-28 Day UCS
9	BI27-S-20151016-61	10/16	1230		X	S	None		X	X		X	X	~~X~~		X			test only if 7Day
																			<50psi
																			-Hold ANSI
																			leach sample

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
	10/19/15		
	1115		10/19/15

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	See Comments

SPECIAL INSTRUCTIONS/ COMMENTS:

rob.rivera@erm.com

adrian.velazquez@erm.com

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CHAIN OF CUSTODY

Work Order: _____

Date: 10/22/15

Page ____ of ____

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT):	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	UCS (ASTM D1633) - 3 Day 1 cylinder 2x4	UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	UCS (ASTM D1633) - 28 Day 1 cylinder 2x4	SPARE 1 cylinder 2x4	PERM (ASTM D5084) - 7 Day 1 cylinder 3x6	PERM (ASTM D5084) - 28 Day 1 cylinder 3x6	W/D Dur (ASTM D4843) - 28 Day 3 cylinders 2x4		ANSI Leachability (16.1) 2 cylinders 2 x 4	LEAF Leachability (1315) 2 cylinders 2 x 4		REMARKS
	-10-																		
7	BD-26-20151019-62	10/19	1150		X	S	None		X	X		X	X	X					- NO 28 Day UCS
9	BN46-15-20151020-63	10/20	1430		X	S	None		X	X		X	X	X		X			if 7 Day UCS
																			> 50 psi
																			- Hold ANS
																			Leach Sample

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
	10/22/15		10/22/15

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	See Comments

SPECIAL INSTRUCTIONS/ COMMENTS:

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adrian.velazquez@erm.com

brett.carney@erm.com

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CHAIN OF CUSTODY

Work Order: _____

Date: 10/26/15

Page ____ of ____

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT):	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	REQUESTED TESTING: UCS (ASTM D1633) - 3 Day 1 cylinder 2x4	UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	UCS (ASTM D1633) - 28 Day 1 cylinder 2x4	SPARE 1 cylinder 2x4	PERM (ASTM D5084) - 7 Day 1 cylinder 3x6	PERM (ASTM D5084) - 28 Day 1 cylinder 3x6	W/D Dur (ASTM D4843) - 28 Day 3 cylinders 2x4		ANSI Leachability (16.1) 2 cylinders 2 x 4	LEAF Leachability (1315) 2 cylinders 2 x 4		REMARKS
11	B643-S-20151021-64	10/21	1630		X	S	None		X	X		X	X	X		X	X		- No 28 Day UCS
7	BL40-10-20151022-65	10/22	1700		X	S	None		X	X		X	X	X					if 7 Day UCS
9	BM35-15-20151023-66	10/23	1645		X	S	None		X	X		X	X	X		X			~~<50 psi~~ >50 psi
2	BS13-20-20150724-15	7/24	1230		X	S	None							X					- Run Leach tests
2	S21-15-20150819-32	8/19	1700		X	S	None							X					for sample 64
2	CC29-10-20150829-39	8/29	1600		X	S	None							X					- Hold Leach test
																			for sample 66
																			- Run Wet/Dry Samples

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
	10/26		10/26/15
	1100		

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	See Comments

SPECIAL INSTRUCTIONS/ COMMENTS:

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adrian.velazquez@erm.com

brett.carney@erm.com

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CHAIN OF CUSTODY

Work Order: _____

Date: 10 / 29 / 15

Page ____ of ____

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT):	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	UCS (ASTM D1633) - 3 Day 1 cylinder 2x4	UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	UCS (ASTM D1633) - 28 Day 1 cylinder 2x4	SPARE 1 cylinder 2x4	PERM (ASTM D5084) - 7 Day 1 cylinder 3x6	PERM (ASTM D5084) - 28 Day 1 cylinder 3x6	W/D Dur (ASTM D4843) - 28 Day 3 cylinders 2x4		ANSI Leachability (16.1) 2 cylinders 2 x 4	LEAF Leachability (1315) 2 cylinders 2 x 4		REMARKS
2	BK21-10-20150903-42	9/3	1400		X	S	None							X					
2	X20-S-20150820-33	8/20	1100		X	S	None							X					
2	L16-10-20150911-45	9/11	1730		X	S	None									X			

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
	10/29/15		
	1115		10/29/15

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	See Comments

SPECIAL INSTRUCTIONS/ COMMENTS:

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adrian.velazquez@erm.com

brett.carney@erm.com

KEMRON ENVIRONMENTAL SERVICES

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TEL.: (404) 636-0928 FAX: (404) 636-7162
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CHAIN OF CUSTODY

Work Order: _____

Date: 11/2/2015

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT):	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	REQUESTED TESTING: UCS (ASTM D1633) - 3 Day 1 cylinder 2x4	UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	UCS (ASTM D1633) - 28 Day 1 cylinder 2x4	SPARE 1 cylinder 2x4	PERM (ASTM D5084) - 7 Day 1 cylinder 3x6	PERM (ASTM D5084) - 28 Day 1 cylinder 3x6	W/D Dur (ASTM D4843) - 28 Day 3 cylinders 2x4		ANSI Leachability (16.1) 2 cylinders 2 x 4	LEAF Leachability (1315) 2 cylinders 2 x 4		REMARKS
7	BH38-5-201151028-67	10/28/2015			X	S	None		1	1		1	1	3					
6	BF34-10-201511029-68	10/29/2015			X	S	None		1	1		1	1			2			

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
[signature]	11/2/15 1090	[signature]	11/2/15

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	See Comments

SPECIAL INSTRUCTIONS/ COMMENTS:
rob.rivera@erm.com
adrian.velazquez@erm.com
brett.carney@erm.com

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CHAIN OF CUSTODY

Work Order: _____

Date: 11 / 7 / 15

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT):	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	UCS (ASTM D1633) - 3 Day 1 cylinder 2x4	UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	UCS (ASTM D1633) - 28 Day 1 cylinder 2x4	SPARE 1 cylinder 2x4	PERM (ASTM D5084) - 7 Day 1 cylinder 3x6	PERM (ASTM D5084) - 28 Day 1 cylinder 3x6	W/D Dur (ASTM D4843) - 28 Day 3 cylinders 2x4		ANSI Leachability (16.1) 2 cylinders 2 x 4	LEAF Leachability (1315) 2 cylinders 2 x 4		REMARKS
7	AT6-15-20151102-69	11/2/15			X	S	None		1	1		1	1	3					
11	AI3-20-20151103-70	11/3/15			X	S	None		1	1		1	1	3		2	2		
2	BV26-5-20150901-409	1/15			X	S	None							2					BV26 - Wet/Dry Re-Run Samples

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
1120	11/5/15		11/5/15

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	See Comments

SPECIAL INSTRUCTIONS/ COMMENTS:

rob.rivera@erm.com

adrian.velazquez@erm.com

brett.carney@erm.com

KEMRON ENVIRONMENTAL SERVICES

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CHAIN OF CUSTODY

Work Order: _____

Date: 11 / 9 / 15

Page ____ of ____

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT):	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	UCS (ASTM D1633) - 3 Day 1 cylinder 2x4	UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	UCS (ASTM D1633) - 28 Day 1 cylinder 2x4	SPARE 1 cylinder 2x4	PERM (ASTM D5084) - 7 Day 1 cylinder 3x6	PERM (ASTM D5084) - 28 Day 1 cylinder 3x6	W/D Dur (ASTM D4843) - 28 Day 3 cylinders 2x4		ANSI Leachability (16.1) 2 cylinders 2 x 4	LEAF Leachability (1315) 2 cylinders 2 x 4		REMARKS
7	C3-25-20151105-71	11/5	0845		X	S	None		X	X		X	X	X					UCS - 28 Day Test
9	I5-20-20151106-72	11/6	1400		X	S	None		X	X		X	X	X		X			only if 7 Day UCS <50
2	AZ18-5-20150909-43	9/9	1400		X	S	None							X					
																			- Hold ANS testing

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
Ken	11/9/15		
			11/9/15

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	See Comments

SPECIAL INSTRUCTIONS/ COMMENTS:

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KEMRON ENVIRONMENTAL SERVICES

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CHAIN OF CUSTODY

Work Order: _____

Date: 11/12/15

Page ____ of ____

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT):	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	UCS (ASTM D1633) - 3 Day 1 cylinder 2x4	UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	UCS (ASTM D1633) - 28 Day 1 cylinder 2x4	SPARE 1 cylinder 2x4	PERM (ASTM D5084) - 7 Day 1 cylinder 3x6	PERM (ASTM D5084) - 28 Day 1 cylinder 3x6	W/D Dur (ASTM D4843) - 28 Day 3 cylinders 2x4		ANSI Leachability (16.1) 2 cylinders 2 x 4	LEAF Leachability (1315) 2 cylinders 2 x 4		REMARKS
REQUESTED TESTING																			
7	R4-S-20151109-73	11/9	1030		X	S	None		X	X		X	X	X					Run 28 day UCS only if 7 Day < 50 psi
					X	S	None												

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
	11/12/15		11/12/15
	1100		

Turnaround Time Request (Business Days):

PROJECT INFORMATION:

PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	See Comments

SPECIAL INSTRUCTIONS/ COMMENTS:

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brett.carney@erm.com

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KEMRON ENVIRONMENTAL SERVICES

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CHAIN OF CUSTODY

Work Order: _____

Date: 11 / 16 / 15

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT):	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	UCS (ASTM D1633) - 3 Day 1 cylinder 2x4	UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	UCS (ASTM D1633) - 28 Day 1 cylinder 2x4	SPARE 1 cylinder 2x4	PERM (ASTM D5084) - 7 Day 1 cylinder 3x6	PERM (ASTM D5084) - 28 Day 1 cylinder 3x6	W/D Dur (ASTM D4843) - 28 Day 3 cylinders 2x4		ANSI Leachability (16.1) 2 cylinders 2 x 4	LEAF Leachability (1315) 2 cylinders 2 x 4		REMARKS
9	X4-15-20151110-74	11/10	1700		X	S	None		X	X		X	X	X		X			- 28 Day UCS only if 7Day UCS <50 PSI - Hold X4 ANS sample - Run AH6 ANS and LEAF
7	AN6-10-20151112-75	11/12	0830		X	S	None		X	X		X	X	X					
11	AH6-5-20151113-76	11/13	1100		X	S	None		X	X		X	X	X		X	X		

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
	11/16/15		
	1145		11/16/15

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	See Comments

SPECIAL INSTRUCTIONS/ COMMENTS:

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CHAIN OF CUSTODY

Work Order: _____

Date: 11/20/15

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT):	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	UCS (ASTM D1633) - 3 Day 1 cylinder 2x4	UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	UCS (ASTM D1633) - 28 Day 1 cylinder 2x4	SPARE 1 cylinder 2x4	PERM (ASTM D5084) - 7 Day 1 cylinder 3x6	PERM (ASTM D5084) - 28 Day 1 cylinder 3x6	W/D Dur (ASTM D4843) - 28 Day 3 cylinders 2x4		ANSI Leachability (16.1) 2 cylinders 2 x 4	LEAF Leachability (1315) 2 cylinders 2 x 4		REMARKS
7	Z4-10-20151114-77	11/14	1400		X	S	None		X	X		X	X	X				-	~~28~~ Day
9	F6-10-20151117-78	11/17	1230		X	S	None		X	X		X	X	X		X			UCS only
																			if 7 Day UCS
																			< 50psi
																			- Hold ANS
																			Leach Sample
																			7S

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
	11/20 1117		11/20 1117

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	See Comments

SPECIAL INSTRUCTIONS/ COMMENTS:

rob.rivera@erm.com

adrian.velazquez@erm.com

brett.carney@erm.com

KEMRON ENVIRONMENTAL SERVICES

KEMRON ENVIRONMENTAL SERVICES, INC.
1359-A Ellsworth Industrial Boulevard, Atlanta, GA 30318
TEL.: (404) 636-0928 FAX: (404) 636-7162
www.KEMRON.com

CHAIN OF CUSTODY

Work Order: _____

Date: 11/24/15

Page ____ of ____

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT):	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	UCS (ASTM D1633) - 3 Day 1 cylinder 2x4	UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	UCS (ASTM D1633) - 28 Day 1 cylinder 2x4	SPARE 1 cylinder 2x4	PERM (ASTM D5084) - 7 Day 1 cylinder 3x6	PERM (ASTM D5084) - 28 Day 1 cylinder 3x6	W/D Dur (ASTM D4843) - 28 Day 3 cylinders 2x4		ANSI Leachability (16.1) 2 cylinders 2 x 4	LEAF Leachability (1315) 2 cylinders 2 x 4		REMARKS
4	Remt-1-20151119-79	11/19	1200		X	S	None							X					
4	Remt-2-20151120-80	11/20	1200		X	S	None							X					
4	Remt-3-20151121-81	11/21	1200		X	S	None							X					

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
	11/24/15 1042	[illegible] 11/24/15	11:41

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	See Comments

SPECIAL INSTRUCTIONS/ COMMENTS:

rob.rivera@erm.com

adrian.velazquez@erm.com

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KEMRON ENVIRONMENTAL SERVICES

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1359-A Ellsworth Industrial Boulevard, Atlanta, GA 30318
TEL.: (404) 636-0928 FAX: (404) 636-7162
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CHAIN OF CUSTODY

Work Order: _____

Date: 2 / 23 / 16

Page ____ of ____

COMPANY:	ADDRESS:
Environmental Resources Management	3200 Windy Hill Road, Suite 1500W Atlanta, GA 30339
PHONE:	FAX:
SAMPLED BY (PRINT):	SAMPLED BY (SIGNATURE):

No. of Containers	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	GRAB	COMPOSITE	MATRIX	PRESERVATIVE	REQUESTED TESTING: UCS (ASTM D1633) - 3 Day 1 cylinder 2x4	UCS (ASTM D1633) - 7 Day 1 cylinder 2x4	UCS (ASTM D1633) - 28 Day 1 cylinder 2x4	SPARE 1 cylinder 2x4	PERM (ASTM D5084) - 7 Day 1 cylinder 3x6	PERM (ASTM D5084) - 28 Day 1 cylinder 3x6	W/D Dur (ASTM D4843) - 28 Day 3 cylinders 2x4		ANSI Leachability (16.1) 2 cylinders 2 x 4	LEAF Leachability (1315) 2 cylinders 2 x 4		REMARKS
3	Remix-4-20160217-82	2/17	1600		X	S	None							X					
3	Remix-6-20160218-83	2/18	1200		X	S	None							X					

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
	2/23/16 1130		2/23/16 1130

Turnaround Time Request (Business Days):

PROJECT INFORMATION:	
PROJECT NAME:	AGL Macon ISS
PROJECT No.	176740
PO #	N/A
SEND REPORT TO:	See Comments

SPECIAL INSTRUCTIONS/ COMMENTS:

rob.rivera@erm.com

adrian.velazquez@erm.com

brett.carney@erm.com

T&D Log and Disposal Information

Appendix A-10

May 21, 2016
Project No. 0176740
Corrective Action Completion Report

Environmental Resources Management
3200 Windy Hill Rd. Suite 1500W
Atlanta, GA 30339
(678) 486-2700

Appendix A-10

Transporation and Disposal Log

Corrective Action Completion Report

Atlanta Gas Light Company

Western Portion Former MGP Site

Macon, GA

Material Description	Shipping Date	Gross Wt	Tare Wt	Net Wt	Running Total	Excavation Area	90 Day Forecast (RCRA haz only)	Manifest #	Transporter & Vehicle ID #	Treatment or Disposal Facility	DateWeigh Ticket Received
1	6/12/2015	53,040	25,020	14.01	14.01	6	na	20150612-01	JLD5	Wolf Creek	6/15/2015
2	6/12/2015	43,440	24,220	9.61	23.62	6	na	20150612-02	JLD6	Wolf Creek	6/15/2015
3	6/12/2015	46,460	25,960	10.25	33.87	6	na	20150612-03	JLD2	Wolf Creek	6/15/2015
4	6/12/2015	48,520	24,380	12.07	45.94	6	na	20150612-04	MW-10	Wolf Creek	6/15/2015
5	6/12/2015	40,860	24,360	8.25	54.19	6	na	20150612-05	MW-7	Wolf Creek	6/15/2015
6	6/12/2015	45,460	23,840	10.81	65.00	6	na	20150612-06	MW-3	Wolf Creek	6/15/2015
7	6/12/2015	48,520	24,200	12.16	77.16	6	na	20150612-07	JLD6	Wolf Creek	6/15/2015
8	6/12/2015	46,660	25,900	10.38	87.54	6	na	20150612-08	JLD2	Wolf Creek	6/15/2015
9	6/12/2015	54,000	24,980	14.51	102.05	6	na	20150612-09	JLD5	Wolf Creek	6/15/2015
10	6/12/2015	52,000	24,340	13.83	115.88	6	na	20150612-10	MW-10	Wolf Creek	6/15/2015
11	6/12/2015	49,820	24,320	12.75	128.63	6	na	20150612-11	MW-7	Wolf Creek	6/15/2015
12	6/12/2015	49,120	23,580	12.77	141.40	6	na	20150612-12	MW-3	Wolf Creek	6/15/2015
13	6/12/2015	49,640	24,140	12.75	154.15	6	na	20150612-13	JLD6	Wolf Creek	6/15/2015
14	6/12/2015	51,260	25,840	12.71	166.86	6	na	20150612-14	JLD2	Wolf Creek	6/15/2015
15	6/12/2015	55,940	24,920	15.51	182.37	6	na	20150612-15	JLD5	Wolf Creek	6/15/2015
16	6/12/2015	52,620	24,320	14.15	196.52	6	na	20150612-16	MW-10	Wolf Creek	6/15/2015
17	6/12/2015	53,480	23,760	14.86	211.38	6	na	20150612-17	MW-3	Wolf Creek	6/15/2015
18	6/12/2015	51,540	24,320	13.61	224.99	6	na	20150612-18	MW-7	Wolf Creek	6/15/2015
19	6/12/2015	49,760	24,140	12.81	237.80	6	na	20150612-19	JLD6	Wolf Creek	6/15/2015
20	6/12/2015	50,860	25,820	12.52	250.32	6	na	20150612-20	JLD2	Wolf Creek	6/15/2015
21	6/12/2015	53,600	24,700	14.45	264.77	6	na	20150612-21	JLD5	Wolf Creek	6/15/2015
22	6/12/2015	50,580	24,300	13.14	277.91	6	na	20150612-22	MW-10	Wolf Creek	6/15/2015
23	6/12/2015	45,300	23,760	10.77	288.68	6	na	20150612-23	MW-3	Wolf Creek	6/15/2015
24	6/12/2015	51,720	24,040	13.84	302.52	6	na	20150612-24	MW-7	Wolf Creek	6/15/2015
25	6/12/2015	55,080	25,780	14.65	317.17	6	na	20150612-25	JLD2	Wolf Creek	6/15/2015
26	6/12/2015	50,140	23,860	13.14	330.31	6	na	20150612-26	JLD6	Wolf Creek	6/15/2015
27	6/12/2015	61,320	25,140	18.09	348.40	6	na	20150612-27	JLD5	Wolf Creek	6/15/2015
28	6/12/2015	52,780	24,240	14.27	362.67	6	na	20150612-28	MW-10	Wolf Creek	6/15/2015
29	6/12/2015	47,580	24,300	11.64	374.31	6	na	20150612-29	MW-7	Wolf Creek	6/15/2015
30	6/12/2015	51,540	23,700	13.92	388.23	6	na	20150612-30	MW-3	Wolf Creek	6/15/2015
31	6/12/2015	50,780	25,740	12.52	400.75	6	na	20150612-31	JLD2	Wolf Creek	6/15/2015
32	6/12/2015	53,440	23,820	14.81	415.56	6	na	20150612-32	JLD6	Wolf Creek	6/15/2015
33	6/12/2015	59,200	24,800	17.20	432.76	6	na	20150612-33	JLD5	Wolf Creek	6/15/2015
34	6/12/2015	54,140	24,260	14.94	447.70	6	na	20150612-34	MW-10	Wolf Creek	6/15/2015
35	6/12/2015	55,120	24,240	15.44	463.14	6	na	20150612-35	MW-7	Wolf Creek	6/15/2015
36	6/12/2015	52,740	23,660	14.54	477.68	6	na	20150612-36	MW-3	Wolf Creek	6/15/2015
37	6/12/2015	58,060	25,760	16.15	493.83	6	na	20150612-37	JLD2	Wolf Creek	6/15/2015
38	6/12/2015	56,360	24,000	16.18	510.01	6	na	20150612-38	JLD6	Wolf Creek	6/15/2015
39	6/12/2015	65,140	24,740	20.20	530.21	6	na	20150612-39	JLD5	Wolf Creek	6/15/2015
40	6/15/2015	46,200	33,480	6.36	536.57	6	na	no profile	MCN409	Wolf Creek	6/15/2015
41	6/15/2015	53,820	24,380	14.72	544.93	6	na	20150615-40	MW-10	Wolf Creek	6/16/2015
42	6/15/2015	51,900	23,820	14.04	558.97	6	na	20150615-41	MW-3	Wolf Creek	6/16/2015
43	6/15/2015	51,860	24,360	13.75	572.72	6	na	20150615-42	MW-7	Wolf Creek	6/16/2015
44	6/15/2015	62,040	24,980	18.53	591.25	6	na	20150615-43	JLD5	Wolf Creek	6/16/2015
45	6/15/2015	51,160	24,000	13.58	604.83	6	na	20150615-44	JLD6	Wolf Creek	6/16/2015
46	6/15/2015	57,880	25,760	16.06	620.89	6	na	20150615-45	JLD2	Wolf Creek	6/16/2015
47	6/15/2015	54,900	24,340	15.28	636.17	6	na	20150615-46	MW-10	Wolf Creek	6/16/2015
48	6/15/2015	52,200	23,760	14.22	650.39	6	na	20150615-47	MW-3	Wolf Creek	6/16/2015
49	6/15/2015	52,800	24,060	14.37	664.76	6	na	20150615-48	MW-7	Wolf Creek	6/16/2015
50	6/15/2015	53,840	24,140	14.85	679.61	6	na	20150615-49	JLD6	Wolf Creek	6/16/2015
51	6/15/2015	55,300	25,720	14.79	694.40	6	na	20150615-50	JLD2	Wolf Creek	6/16/2015
52	6/15/2015	57,260	24,320	16.47	710.87	6	na	20150615-51	MW-10	Wolf Creek	6/16/2015
53	6/15/2015	53,520	24,100	14.71	725.58	6	na	20150615-52	JLD6	Wolf Creek	6/16/2015
54	6/15/2015	53,160	23,760	14.70	740.28	6	na	20150615-53	MW-3	Wolf Creek	6/16/2015
55	6/15/2015	51,280	24,280	13.50	753.78	6	na	20150615-54	MW-7	Wolf Creek	6/16/2015
56	6/15/2015	55,400	25,920	14.74	768.52	6	na	20150615-55	JLD2	Wolf Creek	6/16/2015
57	6/15/2015	58,160	24,260	16.95	785.47	6	na	20150615-56	MW-10	Wolf Creek	6/16/2015
58	6/15/2015	53,620	24,080	14.77	800.24	6	na	20150615-57	JLD6	Wolf Creek	6/16/2015
59	6/15/2015	51,680	23,800	13.94	814.18	6	na	20150615-58	MW-3	Wolf Creek	6/16/2015
60	6/15/2015	55,440	25,960	14.74	828.92	6	na	20150615-59	JLD2	Wolf Creek	6/16/2015
61	6/15/2015	57,800	24,220	16.79	845.71	6	na	20150615-60	MW-10	Wolf Creek	6/16/2015
62	6/15/2015	55,400	23,660	15.87	861.58	6	na	20150615-61	MW-3	Wolf Creek	6/16/2015
63	6/15/2015	56,260	25,820	15.22	876.80	6	na	20150615-62	JLD2	Wolf Creek	6/16/2015
64	6/15/2015	55,080	24,020	15.53	892.33	6	na	20150615-63	JLD6	Wolf Creek	6/16/2015
65	6/15/2015	60,020	24,900	17.56	909.89	6	na	20150615-64	JLD5	Wolf Creek	6/16/2015
66	6/15/2015	57,180	24,320	16.43	926.32	6	na	20150615-65	MW-10	Wolf Creek	6/16/2015
67	6/15/2015	51,820	23,400	14.21	940.53	6	na	20150615-66	MW-3	Wolf Creek	6/16/2015
68	6/15/2015	56,640	25,540	15.55	956.08	6	na	20150615-67	JLD2	Wolf Creek	6/16/2015
69	6/15/2015	59,800	24,000	17.90	973.98	6	na	20150615-68	JLD6	Wolf Creek	6/16/2015
70	6/16/2015	53,080	24,240	14.42	988.40	6	na	20150616-69	MW-7	Wolf Creek	6/17/2015
71	6/16/2015	56,340	23,820	16.26	1,004.66	6	na	20150616-70	MW-3	Wolf Creek	6/17/2015
72	6/16/2015	57,360	22,880	17.24	1,021.90	6	na	20150616-71	MW-13	Wolf Creek	6/17/2015
73	6/16/2015	53,100	24,180	14.46	1,036.36	6	na	20150616-72	MW-7	Wolf Creek	6/17/2015
74	6/16/2015	54,220	23,780	15.22	1,051.58	6	na	20150616-73	MW-32	Wolf Creek	6/17/2015
75	6/16/2015	59,320	22,860	18.23	1,069.81	6	na	20150616-74	MW-13	Wolf Creek	6/17/2015
76	6/16/2015	52,640	23,960	14.34	1,084.15	6	na	20150616-75	JLD6	Wolf Creek	6/17/2015
77	6/16/2015	63,720	24,920	19.40	1,103.55	Prodigy	na	20150616-76	JLD5	Wolf Creek	6/17/2015
78	6/16/2015	52,520	24,140	14.19	1,117.74	Prodigy	na	20150616-77	MW-7	Wolf Creek	6/17/2015
79	6/16/2015	53,520	23,740	14.89	1,132.63	Prodigy	na	20150616-78	MW-3	Wolf Creek	6/17/2015
80	6/16/2015	54,500	22,860	15.82	1,148.45	Prodigy	na	20150616-79	MW-13	Wolf Creek	6/17/2015
81	6/16/2015	56,800	23,960	16.42	1,164.87	Prodigy	na	20150616-80	JLD6	Wolf Creek	6/17/2015

Appendix A-10
Transporation and Disposal Log
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Material Description	Shipping Date	Gross Wt	Tare Wt	Net Wt	Running Total	Excavation Area	90 Day Forecast (RCRA haz only)	Manifest #	Transporter & Vehicle ID #	Treatment or Disposal Facility	DateWeigh Ticket Received
82	6/16/2015	71,300	24,880	23.21	1,188.08	Prodigy	na	20150616-81	JLD5	Wolf Creek	6/17/2015
83	6/16/2015	59,640	26,060	16.79	1,204.87	Prodigy	na	20150616-82	JLD2	Wolf Creek	6/17/2015
84	6/16/2015	56,960	23,480	16.74	1,221.61	Prodigy	na	20150616-83	MW-3	Wolf Creek	6/17/2015
85	6/16/2015	59,380	24,120	17.63	1,239.24	Prodigy	na	20150616-84	MW-7	Wolf Creek	6/17/2015
86	6/16/2015	67,880	22,780	22.55	1,261.79	Prodigy	na	20150616-85	MW-13	Wolf Creek	6/17/2015
87	6/16/2015	60,020	23,720	18.15	1,279.94	Prodigy	na	20150616-86	JLD6	Wolf Creek	6/17/2015
88	6/16/2015	75,420	24,580	25.42	1,305.36	Prodigy	na	20150616-87	JLD5	Wolf Creek	6/17/2015
89	6/16/2015	65,060	23,680	20.69	1,326.05	Prodigy	na	20150616-88	MW-3	Wolf Creek	6/17/2015
90	6/16/2015	60,880	25,820	17.53	1,343.58	Prodigy	na	20150616-89	JLD2	Wolf Creek	6/17/2015
91	6/16/2015	57,360	22,880	20.55	1,364.13	Prodigy	na	20150616-90	MW-13	Wolf Creek	6/17/2015
92	6/16/2015	69,900	23,660	23.12	1,387.25	Prodigy	na	20150616-91	JLD6	Wolf Creek	6/17/2015
93	6/16/2015	73,920	24,740	24.59	1,411.84	Prodigy	na	20150616-92	*JLD5*	Wolf Creek	6/17/2015
94	6/16/2015	65,740	23,660	21.04	1,432.88	Prodigy	na	20150616-93	*MW-3*	Wolf Creek	6/17/2015
95	6/16/2015	63,660	25,740	18.96	1,451.84	Prodigy	na	20150616-94	*JLD2*	Wolf Creek	6/17/2015
96	6/16/2015	67,400	23,960	21.59	1,473.43	Prodigy	na	20150616-95	*JLD6*	Wolf Creek	6/17/2015
97	6/16/2015	74,300	24,500	24.90	1,498.33	Prodigy	na	20150616-96	*JLD5*	Wolf Creek	6/17/2015
98	6/16/2015	71,460	22,680	24.39	1,522.72	Prodigy	na	20150616-97	MW-13	Wolf Creek	6/17/2015
99	6/16/2015	58,600	23,600	17.48	1,540.20	Prodigy	na	20150616-98	MW-3	Wolf Creek	6/17/2015
100	6/17/2015	53,040	23,820	14.61	1,554.81	Prodigy	na	20150617-99	MW-3	Wolf Creek	6/18/2015
101	6/17/2015	64,680	25,660	19.51	1,574.32	Prodigy	na	20150617-100	MW-15	Wolf Creek	6/18/2015
102	6/17/2015	64,860	24,400	20.23	1,594.55	Prodigy	na	20150617-101	MW-10	Wolf Creek	6/18/2015
103	6/17/2015	67,680	24,940	21.37	1,615.92	Prodigy	na	20150617-102	JLD5	Wolf Creek	6/18/2015
104	6/17/2015	60,960	24,160	18.40	1,634.32	Prodigy	na	20150617-103	JLD6	Wolf Creek	6/18/2015
105	6/17/2015	60,900	25,660	17.62	1,651.94	Prodigy	na	20150617-104	JLD2	Wolf Creek	6/18/2015
106	6/17/2015	56,960	23,780	16.59	1,668.53	Prodigy	na	20150617-105	MW-3	Wolf Creek	6/18/2015
107	6/17/2015	64,620	25,600	19.51	1,688.04	Prodigy	na	20150617-106	MW-15	Wolf Creek	6/18/2015
108	6/17/2015	65,800	24,340	20.73	1,708.77	Prodigy	na	20150617-107	MW-10	Wolf Creek	6/18/2015
109	6/17/2015	70,060	24,880	22.59	1,731.36	Prodigy	na	20150617-108	JLD5	Wolf Creek	6/18/2015
110	6/17/2015	61,320	24,140	18.59	1,749.95	Prodigy	na	20150617-109	JLD6	Wolf Creek	6/18/2015
111	6/17/2015	62,200	25,640	18.28	1,768.23	Prodigy	na	20150617-110	JLD2	Wolf Creek	6/18/2015
112	6/17/2015	61,320	23,720	18.14	1,786.37	Prodigy	na	20150617-111	MW-3	Wolf Creek	6/18/2015
113	6/17/2015	68,240	24,300	21.97	1,808.34	Prodigy	na	20150617-112	MW-10	Wolf Creek	6/18/2015
114	6/17/2015	65,840	23,880	20.98	1,829.32	Prodigy	na	20150617-113	JLD6	Wolf Creek	6/18/2015
115	6/17/2015	66,400	25,380	20.51	1,849.83	Prodigy	na	20150617-114	JLD2	Wolf Creek	6/18/2015
116	6/17/2015	63,640	23,780	19.93	1,869.76	Prodigy	na	20150617-115	MW-3	Wolf Creek	6/18/2015
117	6/17/2015	69,400	24,280	22.56	1,892.32	Prodigy	na	20150617-116	MW-10	Wolf Creek	6/18/2015
118	6/17/2015	76,540	24,620	25.96	1,918.28	Prodigy	na	20150617-117	JDL5	Wolf Creek	6/18/2015
119	6/17/2015	72,160	25,600	23.28	1,941.56	Prodigy	na	20150617-118	MW-15	Wolf Creek	6/18/2015
120	6/17/2015	64,720	24,060	20.33	1,961.89	Prodigy	na	20150617-119	JLD6	Wolf Creek	6/18/2015
121	6/17/2015	64,780	25,520	19.63	1,981.52	Prodigy	na	20150617-120	JLD2	Wolf Creek	6/18/2015
122	6/17/2015	68,900	24,220	22.34	2,003.86	Prodigy	na	20150617-121	MW-10	Wolf Creek	6/18/2015
123	6/17/2015	66,040	24,780	20.63	2,024.49	Prodigy	na	20150617-122	JLD6	Wolf Creek	6/18/2015
124	6/17/2015	65,160	25,480	19.84	2,044.33	Prodigy	na	20150617-123	MW-15	Wolf Creek	6/18/2015
125	6/17/2015	68,320	24,740	21.79	2,066.12	Prodigy	na	20150617-124	JLD5	Wolf Creek	6/18/2015
126	6/17/2015	60,600	24,180	18.21	2,084.33	Prodigy	na	20150617-125	MW-10	Wolf Creek	6/18/2015
127	6/17/2015	60,120	23,980	18.07	2,102.40	Prodigy	na	20150617-126	JLD6	Wolf Creek	6/18/2015
128	6/17/2015	65,800	25,600	20.10	2,122.50	Prodigy	na	20150617-127	MW-15	Wolf Creek	6/18/2015
129	6/17/2015	59,320	25,420	16.95	2,139.45	Prodigy	na	20150617-128	JLD2	Wolf Creek	6/18/2015
130	6/17/2015	66,020	24,680	20.67	2,160.12	Prodigy	na	20150617-129	JLD5	Wolf Creek	6/18/2015
131	6/17/2015	61,320	24,140	18.59	2,178.71	Prodigy	na	20150617-130	MW-10	Wolf Creek	6/18/2015
132	6/17/2015	58,720	23,960	17.38	2,196.09	Prodigy	na	20150617-131	JLD6	Wolf Creek	6/18/2015
133	6/17/2015	61,940	25,480	18.23	2,214.32	Prodigy	na	20150617-132	MW-15	Wolf Creek	6/18/2015
134	6/18/2015	55,660	23,880	15.89	2,230.21	Prodigy	na	20150618-133	MW-3	Wolf Creek	6/19/2015
135	6/18/2015	58,000	24,360	16.82	2,247.03	Prodigy	na	20150618-134	MW-10	Wolf Creek	6/19/2015
136	6/18/2015	51,320	23,660	13.83	2,260.86	Prodigy	na	20150618-135	MW-12	Wolf Creek	6/19/2015
137	6/18/2015	55,180	22,800	16.19	2,277.05	Prodigy	na	20150618-136	MW-13	Wolf Creek	6/19/2015
138	6/18/2015	64,120	31,800	16.16	2,293.21	Prodigy	na	20150618-137	463	Wolf Creek	6/19/2015
139	6/18/2015	53,500	23,420	15.04	2,308.25	Prodigy	na	20150618-138	MW-17	Wolf Creek	6/19/2015
140	6/18/2015	52,720	23,060	14.83	2,323.08	Prodigy	na	20150618-139	MW-11	Wolf Creek	6/19/2015
141	6/18/2015	55,740	23,820	15.96	2,339.04	Prodigy	na	20150618-140	MW-3	Wolf Creek	6/19/2015
142	6/18/2015	54,460	23,640	15.41	2,354.45	Prodigy	na	20150618-141	MW-12	Wolf Creek	6/19/2015
143	6/18/2015	59,560	24,320	17.67	2,372.12	Prodigy	na	20150618-142	MW-10	Wolf Creek	6/19/2015
144	6/18/2015	59,660	22,760	18.45	2,390.57	Prodigy	na	20150618-143	MW-13	Wolf Creek	6/19/2015
145	6/18/2015	65,540	31,060	17.24	2,407.81	Prodigy	na	20150618-144	463	Wolf Creek	6/19/2015
146	6/18/2015	55,980	23,160	16.41	2,424.22	Prodigy	na	20150618-145	MW-17	Wolf Creek	6/19/2015
147	6/18/2015	50,860	23,040	13.91	2,438.13	Prodigy	na	20150618-146	MW-11	Wolf Creek	6/19/2015
148	6/18/2015	69,180	24,840	22.17	2,460.30	Prodigy	na	20150618-147	JLD5	Wolf Creek	6/19/2015
149	6/18/2015	56,440	23,740	16.35	2,476.65	Prodigy	na	20150618-148	MW-3	Wolf Creek	6/19/2015
150	6/18/2015	53,180	23,660	14.76	2,491.41	Prodigy	na	20150618-149	MW-12	Wolf Creek	6/19/2015
151	6/18/2015	61,880	24,260	18.81	2,510.22	Prodigy	na	20150618-150	MW-10	Wolf Creek	6/19/2015
152	6/18/2015	64,360	22,680	20.84	2,531.06	Prodigy	na	20150618-151	MW-13	Wolf Creek	6/19/2015
153	6/18/2015	62,180	23,340	19.42	2,550.48	Prodigy	na	20150618-152	MW-17	Wolf Creek	6/19/2015
154	6/18/2015	59,320	24,040	17.64	2,568.12	Prodigy	na	20150618-153	JLD6	Wolf Creek	6/19/2015
155	6/18/2015	56,320	23,000	16.66	2,584.78	Prodigy	na	20150618-154	MW-11	Wolf Creek	6/19/2015
156	6/18/2015	67,620	24,620	21.50	2,606.28	Prodigy	na	20150618-155	JLD5	Wolf Creek	6/19/2015
157	6/18/2015	57,740	23,680	17.03	2,623.31	Prodigy	na	20150618-156	MW-3	Wolf Creek	6/19/2015
158	6/18/2015	41,960	34,700	3.63	2,626.94	Prodigy	na	20150618-157	??	Wolf Creek	6/19/2015
159	6/18/2015	54,840	23,560	15.64	2,642.58	Prodigy	na	20150618-158	MW-12	Wolf Creek	6/19/2015
160	6/18/2015	60,740	24,320	18.21	2,660.79	Prodigy	na	20150618-159	MW-10	Wolf Creek	6/19/2015
161	6/18/2015	57,380	22,640	17.37	2,678.16	Prodigy	na	20150618-160	MW-13	Wolf Creek	6/19/2015
162	6/18/2015	59,580	23,980	17.80	2,695.96	Prodigy	na	20150618-161	JLD6	Wolf Creek	6/19/2015

Appendix A-10
Transporation and Disposal Log
Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Material Description	Shipping Date	Gross Wt	Tare Wt	Net Wt	Running Total	Excavation Area	90 Day Forecast (RCRA haz only)	Manifest #	Transporter & Vehicle ID #	Treatment or Disposal Facility	DateWeigh Ticket Received
163	6/18/2015	60,140	23,320	18.41	2,714.37	Prodigy	na	20150618-162	MW-17	Wolf Creek	6/19/2015
164	6/18/2015	55,740	22,980	16.38	2,730.75	Prodigy	na	20150618-163	MW-11	Wolf Creek	6/19/2015
165	6/18/2015	53,880	24,820	14.53	2,745.28	Prodigy	na	20150618-164	JLD5	Wolf Creek	6/19/2015
166	6/18/2015	50,900	23,680	13.61	2,758.89	Prodigy	na	20150618-165	MW-3	Wolf Creek	6/19/2015
167	6/18/2015	51,540	23,620	13.96	2,772.85	2	na	20150618-166	MW-12	Wolf Creek	6/19/2015
168	6/18/2015	57,220	24,220	16.50	2,789.35	2	na	20150618-167	MW-10	Wolf Creek	6/19/2015
169	6/18/2015	56,780	23,980	16.40	2,805.75	2	na	20150618-168	JLD6	Wolf Creek	6/19/2015
170	6/18/2015	58,240	22,620	17.81	2,823.56	2	na	20150618-169	MW-13	Wolf Creek	6/19/2015
171	6/18/2015	58,460	23,280	17.59	2,841.15	2	na	20150618-170	MW-17	Wolf Creek	6/19/2015
172	6/18/2015	49,760	22,960	13.40	2,854.55	2	na	20150618-171	MW-11	Wolf Creek	6/19/2015
173	6/18/2015	64,680	24,880	19.90	2,874.45	2	na	20150618-172	JLD5	Wolf Creek	6/19/2015
174	6/18/2015	54,340	23,680	15.33	2,889.78	2	na	20150618-173	MW-3	Wolf Creek	6/19/2015
175	6/18/2015	52,500	23,520	14.49	2,904.27	2	na	20150618-174	MW-12	Wolf Creek	6/19/2015
176	6/18/2015	63,000	24,160	19.42	2,923.69	2	na	20150618-175	MW-10	Wolf Creek	6/19/2015
177	6/18/2015	61,340	22,600	19.37	2,943.06	2	na	20150618-176	MW-13	Wolf Creek	6/19/2015
178	6/18/2015	58,220	23,220	17.50	2,960.56	2	na	20150618-177	MW-17	Wolf Creek	6/19/2015
179	6/18/2015	53,040	22,900	15.07	2,975.63	2	na	20150618-178	MW-11	Wolf Creek	6/19/2015
180	6/19/2015	56,160	23,820	16.17	2,991.80	2	na	20150619-180	MW3	Wolf Creek	6/30/2015
181	6/19/2015	53,620	23,860	14.88	3,006.68	2	na	20150619-181	MW12	Wolf Creek	6/30/2015
182	6/19/2015	59,480	24,420	17.53	3,024.21	2	na	20150619-182	MW10	Wolf Creek	6/30/2015
183	6/19/2015	74,040	33,680	20.18	3,044.39	2	na	20150619-183	MCN463	Wolf Creek	6/30/2015
184	6/19/2015	66,840	31,380	17.73	3,062.12	2	na	20150619-184	MCN414	Wolf Creek	6/30/2015
185	6/19/2015	59,380	24,180	17.60	3,079.72	2	na	20150619-185	JLD6	Wolf Creek	6/30/2015
186	6/19/2015	55,420	25,740	14.84	3,094.56	2	na	20150619-186	JLD2	Wolf Creek	6/30/2015
187	6/19/2015	63,760	24,960	19.40	3,113.96	2	na	20150619-187	JLD5	Wolf Creek	6/30/2015
188	6/19/2015	57,480	23,800	16.84	3,130.80	2	na	20150619-188	MW3	Wolf Creek	6/30/2015
189	6/19/2015	53,940	23,680	15.13	3,145.93	2	na	20150619-189	MW12	Wolf Creek	6/30/2015
190	6/19/2015	61,140	24,360	18.39	3,164.32	2	na	20150619-190	MW10	Wolf Creek	6/30/2015
191	6/19/2015	70,780	32,140	19.32	3,183.64	2	na	20150619-191	MCN463	Wolf Creek	6/30/2015
192	6/19/2015	59,240	25,720	16.76	3,200.40	2	na	20150619-192	JLD2	Wolf Creek	6/30/2015
193	6/19/2015	64,560	24,920	19.82	3,220.22	2	na	20150619-193	JLD5	Wolf Creek	6/30/2015
194	6/19/2015	67,520	31,320	18.10	3,238.32	2	na	20150619-194	MCN414	Wolf Creek	6/30/2015
195	6/19/2015	57,920	24,100	16.91	3,255.23	2	na	20150619-195	JLD6	Wolf Creek	6/30/2015
196	6/19/2015	56,040	23,740	16.15	3,271.38	2	na	20150619-196	MW3	Wolf Creek	6/30/2015
197	6/19/2015	53,000	23,600	14.70	3,286.08	2	na	20150619-197	MW12	Wolf Creek	6/30/2015
198	6/19/2015	57,520	24,320	16.60	3,302.68	2	na	20150619-198	MW10	Wolf Creek	6/30/2015
199	6/19/2015	67,220	32,000	17.61	3,320.29	2	na	20150619-199	MCN463	Wolf Creek	6/30/2015
200	6/19/2015	55,000	25,660	14.67	3,334.96	2	na	20150619-200	JLD2	Wolf Creek	6/30/2015
201	6/19/2015	64,080	24,880	19.60	3,354.56	2	na	20150619-201	JLD5	Wolf Creek	6/30/2015
202	6/19/2015	56,800	24,040	16.38	3,370.94	2	na	20150619-202	JLD6	Wolf Creek	6/30/2015
203	6/19/2015	65,480	31,220	17.13	3,388.07	2	na	20150619-203	MCN414	Wolf Creek	6/30/2015
204	6/19/2015	55,120	23,700	15.71	3,403.78	2	na	20150619-204	MW3	Wolf Creek	6/30/2015
205	6/19/2015	53,740	23,560	15.09	3,418.87	2	na	20150619-205	MW12	Wolf Creek	6/30/2015
206	6/19/2015	55,440	24,220	15.61	3,434.48	2	na	20150619-206	MW10	Wolf Creek	6/30/2015
207	6/19/2015	67,020	32,060	17.48	3,451.96	2	na	20150619-207	MCN463	Wolf Creek	6/30/2015
208	6/19/2015	55,860	25,600	15.13	3,467.09	2	na	20150619-208	JLD2	Wolf Creek	6/30/2015
209	6/19/2015	48,540	24,020	12.26	3,479.35	2	na	20150619-209	JLD6	Wolf Creek	6/30/2015
210	6/19/2015	56,160	24,840	15.66	3,495.01	2	na	20150619-210	JLD5	Wolf Creek	6/30/2015
211	6/19/2015	61,400	31,160	15.12	3,510.13	2	na	20150619-211	MCN414	Wolf Creek	6/30/2015
212	6/19/2015	53,660	23,620	15.02	3,525.15	2	na	20150619-212	MW3	Wolf Creek	6/30/2015
213	6/19/2015	49,260	23,800	12.73	3,537.88	2	na	20150619-213	MW12	Wolf Creek	6/30/2015
214	6/19/2015	57,980	24,280	16.85	3,554.73	2	na	20150619-214	MW10	Wolf Creek	6/30/2015
215	6/19/2015	72,060	31,840	20.11	3,574.84	2	na	20150619-215	MCN463	Wolf Creek	6/30/2015
216	6/19/2015	54,940	25,720	14.61	3,589.45	2	na	20150619-216	JLD2	Wolf Creek	6/30/2015
217	6/19/2015	62,160	24,760	18.70	3,608.15	2	na	20150619-217	JLD5	Wolf Creek	6/30/2015
218	6/19/2015	57,160	24,000	16.58	3,624.73	2	na	20150619-218	JLD6	Wolf Creek	6/30/2015
219	6/19/2015	61,620	31,240	15.19	3,639.92	2	na	20150619-219	MCN414	Wolf Creek	6/30/2015
220	6/19/2015	53,200	23,600	14.80	3,654.72	2	na	20150619-220	MW-3	Wolf Creek	6/30/2015
221	6/19/2015	53,520	23,500	15.01	3,669.73	2	na	20150619-221	MW-12	Wolf Creek	6/30/2015
222	6/19/2015	58,520	24,260	17.13	3,686.86	2	na	20150619-222	MW-10	Wolf Creek	6/30/2015
223	6/19/2015	55,820	25,520	15.15	3,702.01	2	na	20150619-223	JLD2	Wolf Creek	6/30/2015
224	6/19/2015	70,180	32,300	18.94	3,720.95	2	na	20150619-224	MCN463	Wolf Creek	6/30/2015
225	6/19/2015	63,380	24,720	19.33	3,740.28	2	na	20150619-225	JLD5	Wolf Creek	6/30/2015
226	6/19/2015	58,320	24,020	17.15	3,757.43	2	na	20150619-226	JLD6	Wolf Creek	6/30/2015
227	6/19/2015	67,420	31,360	18.03	3,775.46	2	na	20150619-227	MCN414	Wolf Creek	6/30/2015
228	6/19/2015	49,200	23,460	12.87	3,788.33	2	na	20150619-228	MW-12	Wolf Creek	6/30/2015
229	6/19/2015	53,060	23,600	14.73	3,803.06	2	na	20150619-229	MW-3	Wolf Creek	6/30/2015
230	6/19/2015	57,560	24,120	16.72	3,819.78	2	na	20150619-230	MW-10	Wolf Creek	6/30/2015
231	6/22/2015	53,540	23,800	14.87	3,834.65	2	na	20150622-231	MW-3	Wolf Creek	6/24/2015
232	6/22/2015	51,200	23,640	13.78	3,848.43	2	na	20150622-232	MW-12	Wolf Creek	6/24/2015
233	6/22/2015	56,060	24,280	15.89	3,864.32	2	na	20150622-233	MW-10	Wolf Creek	6/24/2015
234	6/22/2015	48,660	23,760	12.45	3,876.77	2	na	20150622-234	45	Wolf Creek	6/24/2015
235	6/22/2015	62,600	24,800	18.90	3,895.67	2	na	20150622-235	JLD5	Wolf Creek	6/24/2015
236	6/22/2015	55,740	23,840	15.95	3,911.62	2	na	20150622-236	JLD6	Wolf Creek	6/24/2015
237	6/22/2015	56,080	32,260	11.91	3,923.53	2	na	20150622-237	JLD2	Wolf Creek	6/24/2015
238	6/22/2015	52,660	23,740	14.46	3,937.99	2	na	20150622-238	MW-3	Wolf Creek	6/24/2015
239	6/22/2015	50,580	23,640	13.47	3,951.46	2	na	20150622-239	MW-12	Wolf Creek	6/24/2015
240	6/22/2015	55,700	24,340	15.68	3,967.14	2	na	20150622-240	MW-10	Wolf Creek	6/24/2015
241	6/22/2015	62,860	24,940	18.96	3,986.10	2	na	20150622-241	JLD5	Wolf Creek	6/24/2015
242	6/22/2015	54,180	23,780	15.20	4,001.30	2	na	20150622-242	JLD6	Wolf Creek	6/24/2015
243	6/22/2015	48,180	23,700	12.24	4,013.54	2	na	20150622-243	MW-3	Wolf Creek	6/24/2015
244	6/22/2015	47,920	23,580	12.17	4,025.71	2	na	20150622-244	MW-12	Wolf Creek	6/24/2015
245	6/22/2015	53,240	24,280	14.48	4,040.19	2	na	20150622-245	MW-10	Wolf Creek	6/24/2015
246	6/22/2015	60,080	24,840	17.62	4,057.81	2	na	20150622-246	JLD5	Wolf Creek	6/24/2015
247	6/22/2015	50,740	23,780	13.48	4,071.29	2	na	20150622-247	JLD6	Wolf Creek	6/24/2015
248	6/22/2015	54,320	23,440	15.44	4,086.73	2	na	20150622-248	MW-3	Wolf Creek	6/24/2015

Appendix A-10
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Corrective Action Completion Report
Atlanta Gas Light Company
Western Portion Former MGP Site
Macon, GA

Material Description	Shipping Date	Gross Wt	Tare Wt	Net Wt	Running Total	Excavation Area	90 Day Forecast (RCRA haz only)	Manifest #	Transporter & Vehicle ID #	Treatment or Disposal Facility	DateWeigh Ticket Received
249	6/22/2015	51,740	23,580	14.08	4,100.81	2	na	20150622-249	MW-12	Wolf Creek	6/24/2015
250	6/22/2015	56,200	24,280	15.96	4,116.77	2	na	20150622-250	MW-10	Wolf Creek	6/24/2015
251	6/22/2015	56,280	25,600	15.34	4,132.11	2	na	20150622-251	JLD2	Wolf Creek	6/24/2015
252	6/22/2015	61,340	24,840	18.25	4,150.36	2	na	20150622-252	JLD5	Wolf Creek	6/24/2015
253	6/22/2015	57,640	23,700	16.97	4,167.33	2	na	20150622-253	JLD6	Wolf Creek	6/24/2015
254	6/22/2015	55,740	23,640	16.05	4,183.38	2	na	20150622-254	MW-3	Wolf Creek	6/24/2015
255	6/22/2015	53,760	23,520	15.12	4,198.50	2	na	20150622-255	MW-12	Wolf Creek	6/24/2015
256	6/22/2015	57,040	25,640	15.70	4,214.20	2	na	20150622-256	JLD2	Wolf Creek	6/24/2015
257	6/22/2015	57,840	24,220	16.81	4,231.01	2	na	20150622-257	MW-10	Wolf Creek	6/24/2015
258	6/22/2015	65,620	24,640	20.49	4,251.50	2	na	20150622-258	JLD5	Wolf Creek	6/24/2015
259	6/22/2015	61,800	23,680	19.06	4,270.56	2	na	20150622-259	JLD6	Wolf Creek	6/24/2015
260	6/22/2015	59,040	23,580	17.73	4,288.29	2	na	20150622-260	MW-3	Wolf Creek	6/24/2015
261	6/22/2015	59,720	25,560	17.08	4,305.37	2	na	20150622-261	JLD2	Wolf Creek	6/24/2015
262	6/22/2015	56,320	23,520	16.40	4,321.77	2	na	20150622-262	MW-2	Wolf Creek	6/24/2015
263	6/22/2015	61,680	24,180	18.75	4,340.52	2	na	20150622-263	MW-10	Wolf Creek	6/24/2015
264	6/22/2015	66,640	24,740	20.95	4,361.47	2	na	20150622-264	JLD5	Wolf Creek	6/24/2015
265	6/22/2015	56,940	23,720	16.61	4,378.08	2	na	20150622-265	JLD6	Wolf Creek	6/24/2015
266	6/22/2015	59,340	23,540	17.90	4,395.98	2	na	20150622-266	MW-3	Wolf Creek	6/24/2015
267	6/22/2015	60,540	25,560	17.49	4,413.47	2	na	20150622-267	JLD2	Wolf Creek	6/24/2015
268	6/22/2015	55,480	23,440	16.02	4,429.49	2	na	20150622-268	MW-12	Wolf Creek	6/24/2015
269	6/22/2015	62,102	24,180	18.97	4,448.46	2	na	20150622-269	MW-10	Wolf Creek	6/24/2015
270	6/22/2015	62,040	24,600	18.72	4,467.18	2	na	20150622-270	JLD5	Wolf Creek	6/24/2015
271	6/22/2015	59,100	23,780	17.66	4,484.84	2	na	20150622-271	JLD6	Wolf Creek	6/24/2015
272	6/23/2015	63,360	25,100	19.13	4,503.97	2	na	20150623-272	JLD5	Wolf Creek	6/24/2015
273	6/23/2015	55,500	24,220	15.64	4,519.61	2	na	20150623-273	JLD6	Wolf Creek	6/24/2015
274	6/23/2015	70,760	32,220	19.27	4,538.88	2	na	20150623-274	463	Wolf Creek	6/24/2015
275	6/23/2015	54,700	25,720	14.49	4,553.37	2	na	20150623-275	JLD2	Wolf Creek	6/24/2015
276	6/23/2015	51,480	23,780	13.85	4,567.22	2	na	20150623-276	MW-12	Wolf Creek	6/24/2015
277	6/23/2015	55,140	23,900	15.62	4,582.84	2	na	20150623-277	MW-4	Wolf Creek	6/24/2015
278	6/23/2015	58,320	24,280	17.02	4,599.86	2	na	20150623-278	MW-10	Wolf Creek	6/24/2015
279	6/23/2015	56,840	23,600	16.62	4,616.48	2	na	20150623-279	W-17	Wolf Creek	6/24/2015
280	6/23/2015	61,980	25,040	18.47	4,634.95	2	na	20150623-280	JLD5	Wolf Creek	6/24/2015
281	6/23/2015	57,520	24,240	16.64	4,651.59	2	na	20150623-281	JLD6	Wolf Creek	6/24/2015
282	6/23/2015	68,440	32,000	18.22	4,669.81	2	na	20150623-282	MCN463	Wolf Creek	6/24/2015
283	6/23/2015	60,740	25,620	17.56	4,687.37	2	na	20150623-283	JLD2	Wolf Creek	6/24/2015
284	6/23/2015	58,700	23,620	17.54	4,704.91	2	na	20150623-284	MW12	Wolf Creek	6/24/2015
285	6/23/2015	62,860	23,740	19.56	4,724.47	2	na	20150623-285	MW4	Wolf Creek	6/24/2015
286	6/23/2015	62,640	24,340	19.15	4,743.62	2	na	20150623-286	MW10	Wolf Creek	6/24/2015
287	6/23/2015	60,940	23,440	18.75	4,762.37	2	na	20150623-287	MW17	Wolf Creek	6/24/2015
288	6/23/2015	69,020	24,900	22.06	4,784.43	2	na	20150623-288	JLD5	Wolf Creek	6/24/2015
289	6/23/2015	58,980	24,140	17.42	4,801.85	2	na	20150623-289	JLD6	Wolf Creek	6/24/2015
290	6/23/2015	73,900	32,020	20.94	4,822.79	2	na	20150623-290	MCN463	Wolf Creek	6/24/2015
291	6/23/2015	59,920	25,560	17.18	4,839.97	2	na	20150623-291	JLD2	Wolf Creek	6/24/2015
292	6/23/2015	55,200	23,600	15.80	4,855.77	2	na	20150623-292	MW-12	Wolf Creek	6/24/2015
293	6/23/2015	60,260	23,740	18.26	4,874.03	2	na	20150623-293	MW-4	Wolf Creek	6/24/2015
294	6/23/2015	62,800	24,300	19.25	4,893.28	2	na	20150623-294	MW-10	Wolf Creek	6/24/2015
295	6/23/2015	69,280	24,960	22.16	4,915.44	2	na	20150623-295	JLD5	Wolf Creek	6/24/2015
296	6/23/2015	60,580	23,160	18.71	4,934.15	2	na	20150623-296	W-17	Wolf Creek	6/24/2015
297	6/23/2015	64,620	24,100	20.26	4,954.41	2	na	20150623-297	JLD6	Wolf Creek	6/24/2015
298	6/23/2015	63,880	25,420	19.23	4,973.64	2	na	20150623-298	JLD2	Wolf Creek	6/24/2015
299	6/23/2015	58,320	23,560	17.38	4,991.02	2	na	20150623-299	MW-12	Wolf Creek	6/24/2015
300	6/23/2015	73,220	24,920	24.15	5,015.17	2	na	20150623-300	JLD5	Wolf Creek	6/24/2015
301	6/23/2015	63,600	23,760	19.92	5,035.09	2	na	20150623-301	MW-4	Wolf Creek	6/24/2015
302	6/23/2015	65,500	24,260	20.62	5,055.71	2	na	20150623-302	MW-10	Wolf Creek	6/24/2015
303	6/23/2015	76,940	31,960	22.49	5,078.20	2	na	20150623-303	MCN463	Wolf Creek	6/24/2015
304	6/23/2015	61,600	24,080	18.76	5,096.96	2	na	20150623-304	JLD6	Wolf Creek	6/24/2015
305	6/23/2015	62,800	23,380	19.71	5,116.67	2	na	20150623-305	W-17	Wolf Creek	6/24/2015
306	6/23/2015	62,520	25,580	18.47	5,135.14	2	na	20150623-306	JLD2	Wolf Creek	6/24/2015
307	6/23/2015	58,000	23,520	17.24	5,152.38	2	na	20150623-307	MW-12	Wolf Creek	6/24/2015
308	6/23/2015	64,780	24,880	19.95	5,172.33	2	na	20150623-308	JLD5	Wolf Creek	6/24/2015
309	6/23/2015	60,580	23,620	18.48	5,190.81	2	na	20150623-309	MW-4	Wolf Creek	6/24/2015
310	6/23/2015	59,920	24,020	17.95	5,208.76	2	na	20150623-310	JLD6	Wolf Creek	6/24/2015
311	6/23/2015	62,320	24,260	19.03	5,227.79	2	na	20150623-311	MW-10	Wolf Creek	6/24/2015
312	6/23/2015	76,480	32,580	21.95	5,249.74	2	na	20150623-312	MSN463	Wolf Creek	6/24/2015
313	6/23/2015	61,240	23,340	18.95	5,268.69	2	na	20150623-313	W-17	Wolf Creek	6/24/2015
314	6/23/2015	68,720	24,800	21.96	5,290.65	2	na	20150623-314	JLD5	Wolf Creek	6/24/2015
315	6/23/2015	56,420	23,540	16.44	5,307.09	2	na	20150623-315	MW-12	Wolf Creek	6/24/2015
316	6/23/2015	59,440	25,500	16.97	5,324.06	2	na	20150623-316	JLD2	Wolf Creek	6/24/2015
317	6/23/2015	59,900	23,820	18.04	5,342.10	2	na	20150623-317	JLD6	Wolf Creek	6/24/2015
318	6/23/2015	64,180	23,620	20.28	5,362.38	2	na	20150623-318	MW-4	Wolf Creek	6/24/2015
319	6/23/2015	78,320	31,780	23.27	5,385.65	2	na	20150623-319	MCN463	Wolf Creek	6/24/2015
320	6/23/2015	64,340	24,180	20.08	5,405.73	2	na	20150623-320	MW-10	Wolf Creek	6/24/2015
321	6/23/2015	62,560	23,280	19.64	5,425.37	2	na	20150623-321	W-17	Wolf Creek	6/24/2015
322	6/23/2015	71,820	24,460	23.68	5,449.05	2	na	20150623-322	JLD5	Wolf Creek	6/24/2015
323	6/23/2015	63,220	23,560	19.83	5,468.88	2	na	20150623-323	MW-4	Wolf Creek	6/24/2015
324	6/23/2015	63,860	24,140	19.86	5,488.74	2	na	20150623-324	MW-10	Wolf Creek	6/24/2015
325	6/23/2015	61,880	23,380	19.25	5,507.99	2	na	20150623-325	W-17	Wolf Creek	6/24/2015
326	6/24/2015	59,380	23,780	17.80	5,525.79	2	na	20150624-327	MW-3	Wolf Creek	6/25/2015
327	6/24/2015	63,600	24,360	19.62	5,545.41	2	na	20150624-328	MW-10	Wolf Creek	6/25/2015
328	6/24/2015	56,040	23,140	16.45	5,561.86	2	na	20150624-329	MW-11	Wolf Creek	6/25/2015
329	6/24/2015	66,900	33,560	16.67	5,578.53	2	na	20150624-330		Wolf Creek	6/25/2015
330	6/24/2015	52,320	22,740	14.79	5,593.32	2	na	20150624-331	CB-53	Wolf Creek	6/25/2015
331	6/24/2015	54,560	24,180	15.19	5,608.51	2	na	20150624-332	JLD6	Wolf Creek	6/25/2015
332	6/24/2015	63,940	24,340	19.80	5,628.31	2	na	20150624-333	JLD5	Wolf Creek	6/25/2015
333	6/24/2015	56,100	25,760	15.17	5,643.48	2	na	20150624-334	JLD2	Wolf Creek	6/25/2015
334	6/24/2015	62,760	34,520	14.12	5,657.60	2	na	20150624-335	MCN419	Wolf Creek	6/25/2015

Soil Stockpile Analytical Reports

Appendix A-11

May 21, 2016
Project No. 0176740
Corrective Action Completion Report

Environmental Resources Management
3200 Windy Hill Rd. Suite 1500W
Atlanta, GA 30339
(678) 486-2700

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

July 13, 2015

Nic Vrey
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: Macon Remediation

Dear Nic Vrey: Order No: 1507058

Analytical Environmental Services, Inc. received 7 samples on 7/1/2015 10:45:00 AM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/15.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC

3080 Presidential Drive, Atlanta GA 30340-3704
TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

AES

CHAIN OF CUSTODY

Work Order: 1507058

Date: 6/30/15 Page 1 of 1

COMPANY: ERM

ADDRESS: 3200 Windy Hill Rd SE Suite 1500W Atlanta, Ga 30339

PHONE: 678-466-2700

FAX:

SAMPLED BY: Reece K Carpenter

SIGNATURE: Reece K Carpenter

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	VOCs 8260B	SVOCs 8270C	Metals 6010B	Cyanide 9012A	Mercury 7470A	No # of Containers	REMARKS
	PRESERVATION (See codes)						H+I	NA	NA	NA	NA		
1	SSS-01-20150630-01	6/30/15	1400		X	SO	4	1	1	1	1	5	For SCS-44
2	SSS-02-20150630-01	6/30/15	1410		X	SO	4	1	1	1	1	5	VOCs ONLY
3	SSS-03-20150630-01	6/30/15	1500		X	SO	4	1	1	1	1	5	Benzene and
4	EB-04-20150630-01	6/30/15		X		W	2	1	1			3	Chloromethane
5	SGS-44-TW-(0-2)-20150630-01	6/30/15	1420	X		SO	4					4	
6	SSS-04-20150630-01	6/30/15	1510		X	SO	4	1	1	1	1	5	
7	TB-02-20150630-01 Trip Blank	6/30/15	—			W	2						
8													
9													
10													
11													
12													
13													
14													

ANALYSIS REQUESTED

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: Reece K Carpenter	6/30/15 @1600	1: [illegible]	7/1/15 10:45
2:		2:	
3:		3:	

PROJECT INFORMATION

PROJECT NAME: Macon Remediation

PROJECT #: 0176740

SITE ADDRESS:

SEND REPORT TO: Nic.Vrey@erm.com

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: PO#:

RECEIPT

Total # of Containers: 27

Turnaround Time Request

- ○ Standard 5 Business Days
- ○ 2 Business Day Rush
- ○ Next Business Day Rush
- ○ Same Day Rush (auth req.)
- ⊗ Other 3 day TAT

STATE PROGRAM (if any):

E-mail? Y / N; Fax? Y / N

DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD

OUT / / VIA:

IN / / VIA:

CLIENT FedEx UPS MAIL COURIER

GREYHOUND OTHER

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Client: ERM-Southeast
Project: Macon Remediation
Lab ID: 1507058

Case Narrative

Volatile Organic Compounds Analysis by Method 8260B:

Percent recovery for the internal standard compound Pentafluorobenzene on sample 1507058-005 A was outside control limits biased low due to suspected matrix interference. All other internal standard recoveries were within control limits.

Percent recoveries for the internal standard compound 1,4-Dichlorobenzene-d4 on samples 1507058-001A, -003A, and -006 A were outside control limits biased low due to suspected matrix interference. All other internal standard recoveries were within control limits.

PAH Analysis by Method 8270D SIM:

Due to sample matrix, samples 1507058-001C, -002C, -003C and -006C required dilution during analysis resulting in elevated reporting limits.

Analytical Environmental Services, Inc **Date:** 13-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-01-20150630-01
Project Name:	Macon Remediation	**Collection Date:**	6/30/2015 2:00:00 PM
Lab ID:	1507058-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	7.6		ug/Kg-dry	209686	1	07/04/2015 18:10	CG
Benzene	BRL	3.8		ug/Kg-dry	209686	1	07/04/2015 18:10	CG
Toluene	BRL	3.8		ug/Kg-dry	209686	1	07/04/2015 18:10	CG
Ethylbenzene	BRL	3.8		ug/Kg-dry	209686	1	07/04/2015 18:10	CG
Xylenes, Total	BRL	3.8		ug/Kg-dry	209686	1	07/04/2015 18:10	CG
Surr: 4-Bromofluorobenzene	74.6	70-128		%REC	209686	1	07/04/2015 18:10	CG
Surr: Dibromofluoromethane	111	78.2-128		%REC	209686	1	07/04/2015 18:10	CG
Surr: Toluene-d8	89	76.5-116		%REC	209686	1	07/04/2015 18:10	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	0.128	0.102		mg/Kg-dry	209689	1	07/06/2015 14:20	JW
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	900		ug/Kg-dry	209643	50	07/07/2015 15:01	YH
Acenaphthylene	BRL	1800		ug/Kg-dry	209643	50	07/07/2015 15:01	YH
Anthracene	900	90		ug/Kg-dry	209643	50	07/07/2015 15:01	YH
Benz(a)anthracene	2900	90		ug/Kg-dry	209643	50	07/07/2015 15:01	YH
Benzo(a)pyrene	2700	90		ug/Kg-dry	209643	50	07/07/2015 15:01	YH
Benzo(b)fluoranthene	3800	180		ug/Kg-dry	209643	50	07/07/2015 15:01	YH
Benzo(g,h,i)perylene	1700	180		ug/Kg-dry	209643	50	07/07/2015 15:01	YH
Benzo(k)fluoranthene	1300	90		ug/Kg-dry	209643	50	07/07/2015 15:01	YH
Chrysene	3200	90		ug/Kg-dry	209643	50	07/07/2015 15:01	YH
Dibenz(a,h)anthracene	610	180		ug/Kg-dry	209643	50	07/07/2015 15:01	YH
Fluoranthene	5200	180		ug/Kg-dry	209643	50	07/07/2015 15:01	YH
Fluorene	350	180		ug/Kg-dry	209643	50	07/07/2015 15:01	YH
Indeno(1,2,3-cd)pyrene	1500	90		ug/Kg-dry	209643	50	07/07/2015 15:01	YH
Naphthalene	BRL	900		ug/Kg-dry	209643	50	07/07/2015 15:01	YH
Phenanthrene	3800	90		ug/Kg-dry	209643	50	07/07/2015 15:01	YH
Pyrene	4800	90		ug/Kg-dry	209643	50	07/07/2015 15:01	YH
Surr: 4-Terphenyl-d14	373	42-124	S	%REC	209643	50	07/07/2015 15:01	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	350		ug/Kg-dry	209671	1	07/06/2015 22:33	YH
2-Methylphenol	BRL	350		ug/Kg-dry	209671	1	07/06/2015 22:33	YH
3,4-Methylphenol	BRL	350		ug/Kg-dry	209671	1	07/06/2015 22:33	YH
Phenol	BRL	350		ug/Kg-dry	209671	1	07/06/2015 22:33	YH
Surr: 2,4,6-Tribromophenol	87.1	41-128		%REC	209671	1	07/06/2015 22:33	YH
Surr: 2-Fluorobiphenyl	86.5	47-120		%REC	209671	1	07/06/2015 22:33	YH
Surr: 2-Fluorophenol	78.1	38.3-120		%REC	209671	1	07/06/2015 22:33	YH
Surr: 4-Terphenyl-d14	84.8	51.4-125		%REC	209671	1	07/06/2015 22:33	YH
Surr: Nitrobenzene-d5	96.5	40.1-120		%REC	209671	1	07/06/2015 22:33	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 13-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-01-20150630-01
Project Name:	Macon Remediation	**Collection Date:**	6/30/2015 2:00:00 PM
Lab ID:	1507058-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	93.5	40.3-120		%REC	209671	1	07/06/2015 22:33	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.06		mg/Kg-dry	209831	1	07/07/2015 16:30	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	4.94		mg/Kg-dry	209626	1	07/06/2015 13:10	IO
Arsenic	BRL	4.94		mg/Kg-dry	209626	1	07/06/2015 13:10	IO
Barium	68.9	4.94		mg/Kg-dry	209626	1	07/06/2015 13:10	IO
Beryllium	BRL	2.47		mg/Kg-dry	209626	1	07/06/2015 13:10	IO
Cadmium	BRL	2.47		mg/Kg-dry	209626	1	07/06/2015 13:10	IO
Chromium	17.9	2.47		mg/Kg-dry	209626	1	07/06/2015 13:10	IO
Copper	10.3	2.47		mg/Kg-dry	209626	1	07/06/2015 13:10	IO
Lead	43.3	4.94		mg/Kg-dry	209626	1	07/06/2015 13:10	IO
Nickel	BRL	4.94		mg/Kg-dry	209626	1	07/06/2015 13:10	IO
Zinc	122	4.94		mg/Kg-dry	209626	1	07/06/2015 13:10	IO
PERCENT MOISTURE D2216								
Percent Moisture	5.82	0		wt%	R295445	1	07/07/2015 11:00	PF

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 13-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-02-20150630-01
Project Name:	Macon Remediation	**Collection Date:**	6/30/2015 2:10:00 PM
Lab ID:	1507058-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	7.3		ug/Kg-dry	209686	1	07/04/2015 18:33	CG
Benzene	BRL	3.6		ug/Kg-dry	209686	1	07/04/2015 18:33	CG
Toluene	BRL	3.6		ug/Kg-dry	209686	1	07/04/2015 18:33	CG
Ethylbenzene	BRL	3.6		ug/Kg-dry	209686	1	07/04/2015 18:33	CG
Xylenes, Total	BRL	3.6		ug/Kg-dry	209686	1	07/04/2015 18:33	CG
Surr: 4-Bromofluorobenzene	91.5	70-128		%REC	209686	1	07/04/2015 18:33	CG
Surr: Dibromofluoromethane	121	78.2-128		%REC	209686	1	07/04/2015 18:33	CG
Surr: Toluene-d8	94	76.5-116		%REC	209686	1	07/04/2015 18:33	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	0.135	0.108		mg/Kg-dry	209689	1	07/06/2015 14:29	JW
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	960		ug/Kg-dry	209643	50	07/07/2015 15:33	YH
Acenaphthylene	BRL	1900		ug/Kg-dry	209643	50	07/07/2015 15:33	YH
Anthracene	720	96		ug/Kg-dry	209643	50	07/07/2015 15:33	YH
Benz(a)anthracene	2000	96		ug/Kg-dry	209643	50	07/07/2015 15:33	YH
Benzo(a)pyrene	1200	96		ug/Kg-dry	209643	50	07/07/2015 15:33	YH
Benzo(b)fluoranthene	1300	190		ug/Kg-dry	209643	50	07/07/2015 15:33	YH
Benzo(g,h,i)perylene	590	190		ug/Kg-dry	209643	50	07/07/2015 15:33	YH
Benzo(k)fluoranthene	640	96		ug/Kg-dry	209643	50	07/07/2015 15:33	YH
Chrysene	2100	96		ug/Kg-dry	209643	50	07/07/2015 15:33	YH
Dibenz(a,h)anthracene	340	190		ug/Kg-dry	209643	50	07/07/2015 15:33	YH
Fluoranthene	2200	190		ug/Kg-dry	209643	50	07/07/2015 15:33	YH
Fluorene	360	190		ug/Kg-dry	209643	50	07/07/2015 15:33	YH
Indeno(1,2,3-cd)pyrene	570	96		ug/Kg-dry	209643	50	07/07/2015 15:33	YH
Naphthalene	BRL	960		ug/Kg-dry	209643	50	07/07/2015 15:33	YH
Phenanthrene	1800	96		ug/Kg-dry	209643	50	07/07/2015 15:33	YH
Pyrene	3800	96		ug/Kg-dry	209643	50	07/07/2015 15:33	YH
Surr: 4-Terphenyl-d14	401	42-124	S	%REC	209643	50	07/07/2015 15:33	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	370		ug/Kg-dry	209671	1	07/06/2015 22:59	YH
2-Methylphenol	BRL	370		ug/Kg-dry	209671	1	07/06/2015 22:59	YH
3,4-Methylphenol	BRL	370		ug/Kg-dry	209671	1	07/06/2015 22:59	YH
Phenol	BRL	370		ug/Kg-dry	209671	1	07/06/2015 22:59	YH
Surr: 2,4,6-Tribromophenol	92.7	41-128		%REC	209671	1	07/06/2015 22:59	YH
Surr: 2-Fluorobiphenyl	91.8	47-120		%REC	209671	1	07/06/2015 22:59	YH
Surr: 2-Fluorophenol	80.4	38.3-120		%REC	209671	1	07/06/2015 22:59	YH
Surr: 4-Terphenyl-d14	84.2	51.4-125		%REC	209671	1	07/06/2015 22:59	YH
Surr: Nitrobenzene-d5	101	40.1-120		%REC	209671	1	07/06/2015 22:59	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 13-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-02-20150630-01
Project Name:	Macon Remediation	**Collection Date:**	6/30/2015 2:10:00 PM
Lab ID:	1507058-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	94.6	40.3-120		%REC	209671	1	07/06/2015 22:59	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.12		mg/Kg-dry	209831	1	07/07/2015 16:30	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.27		mg/Kg-dry	209626	1	07/06/2015 13:14	IO
Arsenic	BRL	5.27		mg/Kg-dry	209626	1	07/06/2015 13:14	IO
Barium	45.3	5.27		mg/Kg-dry	209626	1	07/06/2015 13:14	IO
Beryllium	BRL	2.64		mg/Kg-dry	209626	1	07/06/2015 13:14	IO
Cadmium	BRL	2.64		mg/Kg-dry	209626	1	07/06/2015 13:14	IO
Chromium	13.5	2.64		mg/Kg-dry	209626	1	07/06/2015 13:14	IO
Copper	6.79	2.64		mg/Kg-dry	209626	1	07/06/2015 13:14	IO
Lead	14.2	5.27		mg/Kg-dry	209626	1	07/06/2015 13:14	IO
Nickel	BRL	5.27		mg/Kg-dry	209626	1	07/06/2015 13:14	IO
Zinc	17.0	5.27		mg/Kg-dry	209626	1	07/06/2015 13:14	IO
PERCENT MOISTURE D2216								
Percent Moisture	11.0	0		wt%	R295445	1	07/07/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 13-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-03-20150630-01
Project Name:	Macon Remediation	**Collection Date:**	6/30/2015 3:00:00 PM
Lab ID:	1507058-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	6.7		ug/Kg-dry	209686	1	07/07/2015 13:08	MD
Benzene	BRL	3.3		ug/Kg-dry	209686	1	07/07/2015 13:08	MD
Toluene	BRL	3.3		ug/Kg-dry	209686	1	07/07/2015 13:08	MD
Ethylbenzene	BRL	3.3		ug/Kg-dry	209686	1	07/07/2015 13:08	MD
Xylenes, Total	BRL	3.3		ug/Kg-dry	209686	1	07/07/2015 13:08	MD
Surr: 4-Bromofluorobenzene	66.4	70-128	S	%REC	209686	1	07/07/2015 13:08	MD
Surr: Dibromofluoromethane	124	78.2-128		%REC	209686	1	07/07/2015 13:08	MD
Surr: Toluene-d8	96.3	76.5-116		%REC	209686	1	07/07/2015 13:08	MD
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	0.157	0.111		mg/Kg-dry	209689	1	07/06/2015 14:31	JW
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	960		ug/Kg-dry	209643	50	07/07/2015 15:58	YH
Acenaphthylene	BRL	1900		ug/Kg-dry	209643	50	07/07/2015 15:58	YH
Anthracene	990	96		ug/Kg-dry	209643	50	07/07/2015 15:58	YH
Benz(a)anthracene	4300	96		ug/Kg-dry	209643	50	07/07/2015 15:58	YH
Benzo(a)pyrene	3100	96		ug/Kg-dry	209643	50	07/07/2015 15:58	YH
Benzo(b)fluoranthene	4300	190		ug/Kg-dry	209643	50	07/07/2015 15:58	YH
Benzo(g,h,i)perylene	1700	190		ug/Kg-dry	209643	50	07/07/2015 15:58	YH
Benzo(k)fluoranthene	1500	96		ug/Kg-dry	209643	50	07/07/2015 15:58	YH
Chrysene	5000	96		ug/Kg-dry	209643	50	07/07/2015 15:58	YH
Dibenz(a,h)anthracene	720	190		ug/Kg-dry	209643	50	07/07/2015 15:58	YH
Fluoranthene	5900	190		ug/Kg-dry	209643	50	07/07/2015 15:58	YH
Fluorene	340	190		ug/Kg-dry	209643	50	07/07/2015 15:58	YH
Indeno(1,2,3-cd)pyrene	1600	96		ug/Kg-dry	209643	50	07/07/2015 15:58	YH
Naphthalene	BRL	960		ug/Kg-dry	209643	50	07/07/2015 15:58	YH
Phenanthrene	3700	96		ug/Kg-dry	209643	50	07/07/2015 15:58	YH
Pyrene	7100	96		ug/Kg-dry	209643	50	07/07/2015 15:58	YH
Surr: 4-Terphenyl-d14	369	42-124	S	%REC	209643	50	07/07/2015 15:58	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	370		ug/Kg-dry	209671	1	07/06/2015 23:24	YH
2-Methylphenol	BRL	370		ug/Kg-dry	209671	1	07/06/2015 23:24	YH
3,4-Methylphenol	BRL	370		ug/Kg-dry	209671	1	07/06/2015 23:24	YH
Phenol	BRL	370		ug/Kg-dry	209671	1	07/06/2015 23:24	YH
Surr: 2,4,6-Tribromophenol	96.3	41-128		%REC	209671	1	07/06/2015 23:24	YH
Surr: 2-Fluorobiphenyl	92.3	47-120		%REC	209671	1	07/06/2015 23:24	YH
Surr: 2-Fluorophenol	82.8	38.3-120		%REC	209671	1	07/06/2015 23:24	YH
Surr: 4-Terphenyl-d14	89.9	51.4-125		%REC	209671	1	07/06/2015 23:24	YH
Surr: Nitrobenzene-d5	105	40.1-120		%REC	209671	1	07/06/2015 23:24	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 13-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-03-20150630-01
Project Name:	Macon Remediation	**Collection Date:**	6/30/2015 3:00:00 PM
Lab ID:	1507058-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	96.2	40.3-120		%REC	209671	1	07/06/2015 23:24	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.13		mg/Kg-dry	209831	1	07/07/2015 16:30	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.38		mg/Kg-dry	209626	1	07/06/2015 13:18	IO
Arsenic	6.19	5.38		mg/Kg-dry	209626	1	07/06/2015 13:18	IO
Barium	89.8	5.38		mg/Kg-dry	209626	1	07/06/2015 13:18	IO
Beryllium	BRL	2.69		mg/Kg-dry	209626	1	07/06/2015 13:18	IO
Cadmium	BRL	2.69		mg/Kg-dry	209626	1	07/06/2015 13:18	IO
Chromium	12.3	2.69		mg/Kg-dry	209626	1	07/06/2015 13:18	IO
Copper	20.3	2.69		mg/Kg-dry	209626	1	07/06/2015 13:18	IO
Lead	160	5.38		mg/Kg-dry	209626	1	07/06/2015 13:18	IO
Nickel	BRL	5.38		mg/Kg-dry	209626	1	07/06/2015 13:18	IO
Zinc	40.9	5.38		mg/Kg-dry	209626	1	07/06/2015 13:18	IO
PERCENT MOISTURE D2216								
Percent Moisture	11.2	0		wt%	R295445	1	07/07/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 13-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	EB-04-20150630-01
Project Name:	Macon Remediation	**Collection Date:**	6/30/2015
Lab ID:	1507058-004	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	209654	1	07/06/2015 10:12	TH
Carbon disulfide	BRL	5.0		ug/L	209654	1	07/06/2015 10:12	TH
Ethylbenzene	BRL	5.0		ug/L	209654	1	07/06/2015 10:12	TH
Toluene	BRL	5.0		ug/L	209654	1	07/06/2015 10:12	TH
Xylenes, Total	BRL	5.0		ug/L	209654	1	07/06/2015 10:12	TH
Surr: 4-Bromofluorobenzene	98.6	70.6-123		%REC	209654	1	07/06/2015 10:12	TH
Surr: Dibromofluoromethane	106	78.7-124		%REC	209654	1	07/06/2015 10:12	TH
Surr: Toluene-d8	105	81.3-120		%REC	209654	1	07/06/2015 10:12	TH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	209596	1	07/07/2015 21:58	YH
Acenaphthylene	BRL	1.0		ug/L	209596	1	07/07/2015 21:58	YH
Acenaphthene	BRL	0.50		ug/L	209596	1	07/07/2015 21:58	YH
Fluorene	BRL	0.10		ug/L	209596	1	07/07/2015 21:58	YH
Phenanthrene	BRL	0.050		ug/L	209596	1	07/07/2015 21:58	YH
Anthracene	BRL	0.050		ug/L	209596	1	07/07/2015 21:58	YH
Fluoranthene	BRL	0.10		ug/L	209596	1	07/07/2015 21:58	YH
Pyrene	BRL	0.050		ug/L	209596	1	07/07/2015 21:58	YH
Benz(a)anthracene	BRL	0.050		ug/L	209596	1	07/07/2015 21:58	YH
Chrysene	BRL	0.050		ug/L	209596	1	07/07/2015 21:58	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	209596	1	07/07/2015 21:58	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	209596	1	07/07/2015 21:58	YH
Benzo(a)pyrene	BRL	0.050		ug/L	209596	1	07/07/2015 21:58	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	209596	1	07/07/2015 21:58	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	209596	1	07/07/2015 21:58	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	209596	1	07/07/2015 21:58	YH
Surr: 4-Terphenyl-d14	67.5	55.4-136		%REC	209596	1	07/07/2015 21:58	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	209596	1	07/06/2015 14:39	EI
2-Methylphenol	BRL	10		ug/L	209596	1	07/06/2015 14:39	EI
3,4-Methylphenol	BRL	10		ug/L	209596	1	07/06/2015 14:39	EI
Phenol	BRL	10		ug/L	209596	1	07/06/2015 14:39	EI
Surr: 2,4,6-Tribromophenol	104	52-133		%REC	209596	1	07/06/2015 14:39	EI
Surr: 2-Fluorobiphenyl	80.5	50-121		%REC	209596	1	07/06/2015 14:39	EI
Surr: 2-Fluorophenol	65.8	27.5-120		%REC	209596	1	07/06/2015 14:39	EI
Surr: 4-Terphenyl-d14	96	46.3-137		%REC	209596	1	07/06/2015 14:39	EI
Surr: Nitrobenzene-d5	78.7	41.2-121		%REC	209596	1	07/06/2015 14:39	EI
Surr: Phenol-d5	55.6	14.3-120		%REC	209596	1	07/06/2015 14:39	EI
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 13-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	EB-04-20150630-01
Project Name:	Macon Remediation	**Collection Date:**	6/30/2015
Lab ID:	1507058-004	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	209633	1	07/02/2015 13:05	TA
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	209640	1	07/02/2015 17:42	IO
Arsenic	BRL	0.0500		mg/L	209640	1	07/02/2015 17:42	IO
Barium	BRL	0.0200		mg/L	209640	1	07/02/2015 17:42	IO
Beryllium	BRL	0.0100		mg/L	209640	1	07/02/2015 17:42	IO
Cadmium	BRL	0.0050		mg/L	209640	1	07/02/2015 17:42	IO
Chromium	BRL	0.0100		mg/L	209640	1	07/02/2015 17:42	IO
Copper	0.0158	0.0100		mg/L	209640	1	07/02/2015 17:42	IO
Lead	BRL	0.0100		mg/L	209640	1	07/02/2015 17:42	IO
Nickel	BRL	0.0200		mg/L	209640	1	07/02/2015 17:42	IO
Zinc	BRL	0.0200		mg/L	209640	1	07/02/2015 17:42	IO

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 13-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-44-7W-(0-2)-20150630-01
Project Name:	Macon Remediation	**Collection Date:**	6/30/2015 2:20:00 PM
Lab ID:	1507058-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5035)								
Chloromethane	BRL	8.4		ug/Kg-dry	209686	1	07/06/2015 11:29	MD
Benzene	BRL	4.2		ug/Kg-dry	209686	1	07/06/2015 11:29	MD
Surr: 4-Bromofluorobenzene	73.3	70-128		%REC	209686	1	07/06/2015 11:29	MD
Surr: Dibromofluoromethane	118	78.2-128		%REC	209686	1	07/06/2015 11:29	MD
Surr: Toluene-d8	95.4	76.5-116		%REC	209686	1	07/06/2015 11:29	MD
PERCENT MOISTURE D2216								
Percent Moisture	27.7	0		wt%	R295445	1	07/07/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 13-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-04-20150630-01
Project Name:	Macon Remediation	**Collection Date:**	6/30/2015 3:10:00 PM
Lab ID:	1507058-006	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	7.6		ug/Kg-dry	209686	1	07/04/2015 19:20	CG
Benzene	BRL	3.8		ug/Kg-dry	209686	1	07/04/2015 19:20	CG
Toluene	BRL	3.8		ug/Kg-dry	209686	1	07/04/2015 19:20	CG
Ethylbenzene	BRL	3.8		ug/Kg-dry	209686	1	07/04/2015 19:20	CG
Xylenes, Total	BRL	3.8		ug/Kg-dry	209686	1	07/04/2015 19:20	CG
Surr: 4-Bromofluorobenzene	82.9	70-128		%REC	209686	1	07/04/2015 19:20	CG
Surr: Dibromofluoromethane	108	78.2-128		%REC	209686	1	07/04/2015 19:20	CG
Surr: Toluene-d8	92.2	76.5-116		%REC	209686	1	07/04/2015 19:20	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.102		mg/Kg-dry	209689	1	07/06/2015 14:37	JW
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	190		ug/Kg-dry	209643	10	07/07/2015 16:23	YH
Acenaphthylene	BRL	370		ug/Kg-dry	209643	10	07/07/2015 16:23	YH
Anthracene	150	19		ug/Kg-dry	209643	10	07/07/2015 16:23	YH
Benz(a)anthracene	410	19		ug/Kg-dry	209643	10	07/07/2015 16:23	YH
Benzo(a)pyrene	420	19		ug/Kg-dry	209643	10	07/07/2015 16:23	YH
Benzo(b)fluoranthene	640	37		ug/Kg-dry	209643	10	07/07/2015 16:23	YH
Benzo(g,h,i)perylene	290	37		ug/Kg-dry	209643	10	07/07/2015 16:23	YH
Benzo(k)fluoranthene	280	19		ug/Kg-dry	209643	10	07/07/2015 16:23	YH
Chrysene	510	19		ug/Kg-dry	209643	10	07/07/2015 16:23	YH
Dibenz(a,h)anthracene	99	37		ug/Kg-dry	209643	10	07/07/2015 16:23	YH
Fluoranthene	780	37		ug/Kg-dry	209643	10	07/07/2015 16:23	YH
Fluorene	70	37		ug/Kg-dry	209643	10	07/07/2015 16:23	YH
Indeno(1,2,3-cd)pyrene	260	19		ug/Kg-dry	209643	10	07/07/2015 16:23	YH
Naphthalene	BRL	190		ug/Kg-dry	209643	10	07/07/2015 16:23	YH
Phenanthrene	520	19		ug/Kg-dry	209643	10	07/07/2015 16:23	YH
Pyrene	680	19		ug/Kg-dry	209643	10	07/07/2015 16:23	YH
Surr: 4-Terphenyl-d14	151	42-124	S	%REC	209643	10	07/07/2015 16:23	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	370		ug/Kg-dry	209671	1	07/06/2015 23:49	YH
2-Methylphenol	BRL	370		ug/Kg-dry	209671	1	07/06/2015 23:49	YH
3,4-Methylphenol	BRL	370		ug/Kg-dry	209671	1	07/06/2015 23:49	YH
Phenol	BRL	370		ug/Kg-dry	209671	1	07/06/2015 23:49	YH
Surr: 2,4,6-Tribromophenol	87.1	41-128		%REC	209671	1	07/06/2015 23:49	YH
Surr: 2-Fluorobiphenyl	75.7	47-120		%REC	209671	1	07/06/2015 23:49	YH
Surr: 2-Fluorophenol	66.2	38.3-120		%REC	209671	1	07/06/2015 23:49	YH
Surr: 4-Terphenyl-d14	81.2	51.4-125		%REC	209671	1	07/06/2015 23:49	YH
Surr: Nitrobenzene-d5	79.3	40.1-120		%REC	209671	1	07/06/2015 23:49	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 13-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-04-20150630-01
Project Name:	Macon Remediation	**Collection Date:**	6/30/2015 3:10:00 PM
Lab ID:	1507058-006	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	80.4	40.3-120		%REC	209671	1	07/06/2015 23:49	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.11		mg/Kg-dry	209831	1	07/07/2015 16:30	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.36		mg/Kg-dry	209626	1	07/06/2015 13:22	IO
Arsenic	BRL	5.36		mg/Kg-dry	209626	1	07/06/2015 13:22	IO
Barium	39.4	5.36		mg/Kg-dry	209626	1	07/06/2015 13:22	IO
Beryllium	BRL	2.68		mg/Kg-dry	209626	1	07/06/2015 13:22	IO
Cadmium	BRL	2.68		mg/Kg-dry	209626	1	07/06/2015 13:22	IO
Chromium	16.7	2.68		mg/Kg-dry	209626	1	07/06/2015 13:22	IO
Copper	8.10	2.68		mg/Kg-dry	209626	1	07/06/2015 13:22	IO
Lead	13.1	5.36		mg/Kg-dry	209626	1	07/06/2015 13:22	IO
Nickel	BRL	5.36		mg/Kg-dry	209626	1	07/06/2015 13:22	IO
Zinc	14.4	5.36		mg/Kg-dry	209626	1	07/06/2015 13:22	IO
PERCENT MOISTURE D2216								
Percent Moisture	9.84	0		wt%	R295445	1	07/07/2015 11:00	PF

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 13-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	TB-02-20150630-01
Project Name:	Macon Remediation	**Collection Date:**	6/30/2015
Lab ID:	1507058-007	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	209654	1	07/06/2015 10:36	TH
Carbon disulfide	BRL	5.0		ug/L	209654	1	07/06/2015 10:36	TH
Ethylbenzene	BRL	5.0		ug/L	209654	1	07/06/2015 10:36	TH
Toluene	BRL	5.0		ug/L	209654	1	07/06/2015 10:36	TH
Xylenes, Total	BRL	5.0		ug/L	209654	1	07/06/2015 10:36	TH
Surr: 4-Bromofluorobenzene	97.9	70.6-123		%REC	209654	1	07/06/2015 10:36	TH
Surr: Dibromofluoromethane	111	78.7-124		%REC	209654	1	07/06/2015 10:36	TH
Surr: Toluene-d8	104	81.3-120		%REC	209654	1	07/06/2015 10:36	TH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM Work Order Number 1507058

Checklist completed by JamB 7/1/15
Signature Date

Carrier name: FedEx ✓ UPS __ Courier __ Client __ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 3.2 Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by JB

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209596

Sample ID: **MB-209596**	Client ID:		Units: **ug/L**	Prep Date: **07/02/2015**	Run No: **295286**
SampleType: **MBLK**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **209596**	Analysis Date: **07/02/2015**	Seq No: **6295639**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	10									
2-Methylphenol	BRL	10									
3,4-Methylphenol	BRL	10									
Phenol	BRL	10									
Surr: 2,4,6-Tribromophenol	89.54	0	100.0		89.5	52	133				
Surr: 2-Fluorobiphenyl	45.03	0	50.00		90.1	50	121				
Surr: 2-Fluorophenol	55.00	0	100.0		55.0	27.5	120				
Surr: 4-Terphenyl-d14	50.16	0	50.00		100	46.3	137				
Surr: Nitrobenzene-d5	42.08	0	50.00		84.2	41.2	121				
Surr: Phenol-d5	36.39	0	100.0		36.4	14.3	120				

Sample ID: **MB-209596**	Client ID:		Units: **ug/L**	Prep Date: **07/02/2015**	Run No: **295451**
SampleType: **MBLK**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**		BatchID: **209596**	Analysis Date: **07/07/2015**	Seq No: **6299974**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	0.50									
Acenaphthylene	BRL	1.0									
Anthracene	BRL	0.050									
Benz(a)anthracene	BRL	0.050									
Benzo(a)pyrene	BRL	0.050									
Benzo(b)fluoranthene	BRL	0.10									
Benzo(g,h,i)perylene	BRL	0.10									
Benzo(k)fluoranthene	BRL	0.050									
Chrysene	BRL	0.050									
Dibenz(a,h)anthracene	BRL	0.10									
Fluoranthene	BRL	0.10									
Fluorene	BRL	0.10									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209596

Sample ID: **MB-209596**	Client ID:		Units: **ug/L**	Prep Date: **07/02/2015**	Run No: **295451**
SampleType: **MBLK**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**		BatchID: **209596**	Analysis Date: **07/07/2015**	Seq No: **6299974**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Indeno(1,2,3-cd)pyrene	BRL	0.050									
Naphthalene	BRL	0.50									
Phenanthrene	BRL	0.050									
Pyrene	BRL	0.050									
Surr: 4-Terphenyl-d14	35.28	0	50.00		70.6	55.4	136				

Sample ID: **LCS-209596**	Client ID:		Units: **ug/L**	Prep Date: **07/02/2015**	Run No: **295286**
SampleType: **LCS**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **209596**	Analysis Date: **07/02/2015**	Seq No: **6295641**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	40.05	10	100.0		40.0	25.6	120				
Surr: 2,4,6-Tribromophenol	103.4	0	100.0		103	52	133				
Surr: 2-Fluorobiphenyl	48.98	0	50.00		98.0	50	121				
Surr: 2-Fluorophenol	58.94	0	100.0		58.9	27.5	120				
Surr: 4-Terphenyl-d14	52.25	0	50.00		104	46.3	137				
Surr: Nitrobenzene-d5	45.46	0	50.00		90.9	41.2	121				
Surr: Phenol-d5	36.79	0	100.0		36.8	14.3	120				

Sample ID: **1506U71-009CMS**	Client ID:		Units: **ug/L**	Prep Date: **07/02/2015**	Run No: **295323**
SampleType: **MS**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **209596**	Analysis Date: **07/06/2015**	Seq No: **6297976**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	55.72	10	100.0		55.7	31	120	70.05			
Surr: 2,4,6-Tribromophenol	119.4	0	100.0		119	52	133	156.7			
Surr: 2-Fluorobiphenyl	48.24	0	50.00		96.5	50	121	64.35			
Surr: 2-Fluorophenol	70.42	0	100.0		70.4	27.5	120	85.61			
Surr: 4-Terphenyl-d14	45.86	0	50.00		91.7	46.3	137	64.64			
Surr: Nitrobenzene-d5	46.16	0	50.00		92.3	41.2	121	58.44			

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209596

Sample ID: **1506U71-009CMS**	Client ID:		Units: **ug/L**	Prep Date: **07/02/2015**	Run No: **295323**
SampleType: **MS**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **209596**	Analysis Date: **07/06/2015**	Seq No: **6297976**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: Phenol-d5	59.37	0	100.0		59.4	14.3	120	73.62			

Sample ID: **1506U71-009CMSD**	Client ID:		Units: **ug/L**	Prep Date: **07/02/2015**	Run No: **295323**
SampleType: **MSD**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **209596**	Analysis Date: **07/06/2015**	Seq No: **6297975**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	70.05	10	100.0		70.0	31	120	55.72	22.8	31.9	
Surr: 2,4,6-Tribromophenol	156.7	0	100.0		157	52	133	119.4	0	0	S
Surr: 2-Fluorobiphenyl	64.35	0	50.00		129	50	121	48.24	0	0	S
Surr: 2-Fluorophenol	85.61	0	100.0		85.6	27.5	120	70.42	0	0	
Surr: 4-Terphenyl-d14	64.64	0	50.00		129	46.3	137	45.86	0	0	
Surr: Nitrobenzene-d5	58.44	0	50.00		117	41.2	121	46.16	0	0	
Surr: Phenol-d5	73.62	0	100.0		73.6	14.3	120	59.37	0	0	

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209626

Sample ID: **MB-209626** Client ID: Units: **mg/Kg** Prep Date: **07/02/2015** Run No: **295321**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **209626** Analysis Date: **07/06/2015** Seq No: **6296165**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	5.00									
Arsenic	BRL	5.00									
Barium	BRL	5.00									
Beryllium	BRL	2.50									
Cadmium	BRL	2.50									
Chromium	BRL	2.50									
Copper	BRL	2.50									
Lead	BRL	5.00									
Nickel	BRL	5.00									
Zinc	BRL	5.00									

Sample ID: **LCS-209626** Client ID: Units: **mg/Kg** Prep Date: **07/02/2015** Run No: **295321**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **209626** Analysis Date: **07/06/2015** Seq No: **6296166**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	48.79	5.00	50.00		97.6	80	120				
Arsenic	48.43	5.00	50.00		96.9	80	120				
Barium	49.33	5.00	50.00		98.7	80	120				
Beryllium	48.96	2.50	50.00		97.9	80	120				
Cadmium	48.16	2.50	50.00		96.3	80	120				
Chromium	49.52	2.50	50.00	0.08029	98.9	80	120				
Copper	49.76	2.50	50.00		99.5	80	120				
Lead	48.85	5.00	50.00		97.7	80	120				
Nickel	48.55	5.00	50.00		97.1	80	120				
Zinc	47.19	5.00	50.00		94.4	80	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209626

Sample ID: **1506T73-001BMS** Client ID:
SampleType: **MS** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/Kg-dry** Prep Date: **07/02/2015** Run No: **295321**
BatchID: **209626** Analysis Date: **07/06/2015** Seq No: **6296168**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	30.76	5.68	56.83		54.1	75	125				S
Arsenic	49.05	5.68	56.83		86.3	75	125				
Barium	128.9	5.68	56.83	85.05	77.2	75	125				
Beryllium	55.06	2.84	56.83	0.6011	95.8	75	125				
Cadmium	53.59	2.84	56.83		94.3	75	125				
Chromium	55.34	2.84	56.83	1.599	94.6	75	125				
Copper	56.86	2.84	56.83	0.6025	99.0	75	125				
Lead	54.70	5.68	56.83	5.591	86.4	75	125				
Nickel	51.63	5.68	56.83	0.1943	90.5	75	125				
Zinc	80.08	5.68	56.83	28.61	90.6	75	125				

Sample ID: **1506T73-001BMSD** Client ID:
SampleType: **MSD** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/Kg-dry** Prep Date: **07/02/2015** Run No: **295321**
BatchID: **209626** Analysis Date: **07/06/2015** Seq No: **6296169**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	29.10	5.68	56.81		51.2	75	125	30.76	5.56	20	S
Arsenic	48.61	5.68	56.81		85.6	75	125	49.05	0.912	20	
Barium	129.2	5.68	56.81	85.05	77.8	75	125	128.9	0.242	20	
Beryllium	54.64	2.84	56.81	0.6011	95.1	75	125	55.06	0.752	20	
Cadmium	52.92	2.84	56.81		93.2	75	125	53.59	1.27	20	
Chromium	55.21	2.84	56.81	1.599	94.4	75	125	55.34	0.231	20	
Copper	56.48	2.84	56.81	0.6025	98.4	75	125	56.86	0.664	20	
Lead	55.12	5.68	56.81	5.591	87.2	75	125	54.70	0.771	20	
Nickel	51.03	5.68	56.81	0.1943	89.5	75	125	51.63	1.17	20	
Zinc	78.95	5.68	56.81	28.61	88.6	75	125	80.08	1.43	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209633

Sample ID: **MB-209633**	Client ID:				Units: **mg/L**		Prep Date: **07/02/2015**		Run No: **295243**
SampleType: **MBLK**	TestCode: **Mercury, Total SW7470A**				BatchID: **209633**		Analysis Date: **07/02/2015**		Seq No: **6294254**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.00020									

Sample ID: **LCS-209633**	Client ID:				Units: **mg/L**		Prep Date: **07/02/2015**		Run No: **295243**
SampleType: **LCS**	TestCode: **Mercury, Total SW7470A**				BatchID: **209633**		Analysis Date: **07/02/2015**		Seq No: **6294255**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005151	0.00020	0.0050		103	80	120				

Sample ID: **1506U71-006BMS**	Client ID:				Units: **mg/L**		Prep Date: **07/02/2015**		Run No: **295243**
SampleType: **MS**	TestCode: **Mercury, Total SW7470A**				BatchID: **209633**		Analysis Date: **07/02/2015**		Seq No: **6294257**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005310	0.00020	0.0050	0.00004126	105	70	130				

Sample ID: **1506U71-006BMSD**	Client ID:				Units: **mg/L**		Prep Date: **07/02/2015**		Run No: **295243**
SampleType: **MSD**	TestCode: **Mercury, Total SW7470A**				BatchID: **209633**		Analysis Date: **07/02/2015**		Seq No: **6294258**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005266	0.00020	0.0050	0.00004126	104	70	130	0.005310	0.844	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209640

Sample ID: **MB-209640** Client ID: Units: **mg/L** Prep Date: **07/02/2015** Run No: **295278**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **209640** Analysis Date: **07/02/2015** Seq No: **6295341**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	0.0200									
Arsenic	BRL	0.0500									
Barium	BRL	0.0200									
Beryllium	BRL	0.0100									
Cadmium	BRL	0.0050									
Chromium	BRL	0.0100									
Copper	BRL	0.0100									
Lead	BRL	0.0100									
Nickel	BRL	0.0200									
Zinc	BRL	0.0200									

Sample ID: **LCS-209640** Client ID: Units: **mg/L** Prep Date: **07/02/2015** Run No: **295278**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **209640** Analysis Date: **07/02/2015** Seq No: **6295342**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.007	0.0200	1.000		101	80	120				
Arsenic	1.007	0.0500	1.000		101	80	120				
Barium	1.018	0.0200	1.000		102	80	120				
Beryllium	1.018	0.0100	1.000		102	80	120				
Cadmium	1.017	0.0050	1.000		102	80	120				
Chromium	0.9573	0.0100	1.000		95.7	80	120				
Copper	1.015	0.0100	1.000		102	80	120				
Lead	1.005	0.0100	1.000		100	80	120				
Nickel	1.008	0.0200	1.000		101	80	120				
Zinc	1.004	0.0200	1.000		100	80	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209640

Sample ID: **1507058-004BMS** Client ID: **EB-04-20150630-01** Units: **mg/L** Prep Date: **07/02/2015** Run No: **295278**
SampleType: **MS** TestCode: **METALS, TOTAL SW6010C** BatchID: **209640** Analysis Date: **07/02/2015** Seq No: **6295344**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.007	0.0200	1.000		101	75	125				
Arsenic	1.012	0.0500	1.000		101	75	125				
Barium	1.022	0.0200	1.000		102	75	125				
Beryllium	1.023	0.0100	1.000		102	75	125				
Cadmium	1.019	0.0050	1.000		102	75	125				
Chromium	1.008	0.0100	1.000	0.001287	101	75	125				
Copper	1.035	0.0100	1.000	0.01583	102	75	125				
Lead	1.011	0.0100	1.000		101	75	125				
Nickel	1.012	0.0200	1.000	0.0006006	101	75	125				
Zinc	1.016	0.0200	1.000	0.01047	101	75	125				

Sample ID: **1507058-004BMSD** Client ID: **EB-04-20150630-01** Units: **mg/L** Prep Date: **07/02/2015** Run No: **295278**
SampleType: **MSD** TestCode: **METALS, TOTAL SW6010C** BatchID: **209640** Analysis Date: **07/02/2015** Seq No: **6295346**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.013	0.0200	1.000		101	75	125	1.007	0.550	20	
Arsenic	1.018	0.0500	1.000		102	75	125	1.012	0.555	20	
Barium	1.018	0.0200	1.000		102	75	125	1.022	0.387	20	
Beryllium	1.022	0.0100	1.000		102	75	125	1.023	0.111	20	
Cadmium	1.017	0.0050	1.000		102	75	125	1.019	0.191	20	
Chromium	0.9572	0.0100	1.000	0.001287	95.6	75	125	1.008	5.17	20	
Copper	1.032	0.0100	1.000	0.01583	102	75	125	1.035	0.338	20	
Lead	1.008	0.0100	1.000		101	75	125	1.011	0.277	20	
Nickel	1.011	0.0200	1.000	0.0006006	101	75	125	1.012	0.133	20	
Zinc	1.019	0.0200	1.000	0.01047	101	75	125	1.016	0.343	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209643

Sample ID: **MB-209643**	Client ID:		Units: **ug/Kg**	Prep Date: **07/02/2015**	Run No: **295430**
SampleType: **MBLK**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**		BatchID: **209643**	Analysis Date: **07/07/2015**	Seq No: **6298880**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	17									
Acenaphthylene	BRL	33									
Anthracene	BRL	1.7									
Benz(a)anthracene	BRL	1.7									
Benzo(a)pyrene	BRL	1.7									
Benzo(b)fluoranthene	BRL	3.3									
Benzo(g,h,i)perylene	BRL	3.3									
Benzo(k)fluoranthene	BRL	1.7									
Chrysene	BRL	1.7									
Dibenz(a,h)anthracene	BRL	3.3									
Fluoranthene	BRL	3.3									
Fluorene	BRL	3.3									
Indeno(1,2,3-cd)pyrene	BRL	1.7									
Naphthalene	BRL	17									
Phenanthrene	BRL	1.7									
Pyrene	BRL	1.7									
Surr: 4-Terphenyl-d14	68.59	0	66.67		103	42	124				

Sample ID: **LCS-209643**	Client ID:		Units: **ug/Kg**	Prep Date: **07/02/2015**	Run No: **295430**
SampleType: **LCS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**		BatchID: **209643**	Analysis Date: **07/07/2015**	Seq No: **6298881**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	56.02	17	66.70		84.0	61.2	120				
Acenaphthylene	50.92	33	66.70		76.3	60.1	120				
Anthracene	54.28	1.7	66.70		81.4	58.4	120				
Benz(a)anthracene	56.17	1.7	66.70		84.2	56.7	124				
Benzo(a)pyrene	62.99	1.7	66.70		94.4	57.5	120				
Benzo(b)fluoranthene	61.01	3.3	66.70		91.5	60.9	118				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209643

Sample ID: **LCS-209643** Client ID: Units: **ug/Kg** Prep Date: **07/02/2015** Run No: **295430**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **209643** Analysis Date: **07/07/2015** Seq No: **6298881**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(g,h,i)perylene	61.82	3.3	66.70		92.7	50.7	125				
Benzo(k)fluoranthene	64.16	1.7	66.70		96.2	53	125				
Chrysene	64.59	1.7	66.70		96.8	61.2	120				
Dibenz(a,h)anthracene	63.18	3.3	66.70		94.7	48	125				
Fluoranthene	59.65	3.3	66.70		89.4	64.9	121				
Fluorene	55.28	3.3	66.70		82.9	62.1	120				
Indeno(1,2,3-cd)pyrene	63.86	1.7	66.70		95.7	56	121				
Naphthalene	57.14	17	66.70		85.7	57.4	120				
Phenanthrene	53.25	1.7	66.70		79.8	63.3	120				
Pyrene	58.42	1.7	66.70		87.6	61.2	120				
Surr: 4-Terphenyl-d14	62.12	0	66.70		93.1	42	124				

Sample ID: **1507058-006CMS** Client ID: **SSS-04-20150630-01** Units: **ug/Kg-dry** Prep Date: **07/02/2015** Run No: **295430**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **209643** Analysis Date: **07/07/2015** Seq No: **6300084**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	190	73.98	75.98	95.5	45.8	120				
Acenaphthylene	BRL	370	73.98	81.78	98.6	50.6	120				
Anthracene	216.9	19	73.98	148.4	92.6	42.4	125				
Benz(a)anthracene	493.3	19	73.98	414.6	106	44.9	136				
Benzo(a)pyrene	503.0	19	73.98	421.8	110	40.3	123				
Benzo(b)fluoranthene	716.0	37	73.98	642.6	99.3	37	128				
Benzo(g,h,i)perylene	374.0	37	73.98	292.3	111	41.1	137				
Benzo(k)fluoranthene	334.0	19	73.98	283.2	68.7	37.7	126				
Chrysene	553.8	19	73.98	507.5	62.6	43	120				
Dibenz(a,h)anthracene	172.7	37	73.98	98.58	100	42.6	130				
Fluoranthene	934.3	37	73.98	776.6	213	44.4	133				S
Fluorene	139.7	37	73.98	69.63	94.7	42.5	119				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209643

Sample ID: **1507058-006CMS** Client ID: **SSS-04-20150630-01** Units: **ug/Kg-dry** Prep Date: **07/02/2015** Run No: **295430**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **209643** Analysis Date: **07/07/2015** Seq No: **6300084**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Indeno(1,2,3-cd)pyrene	338.5	19	73.98	260.6	105	41.7	135				
Naphthalene	BRL	190	73.98	109.2	51.6	42.5	120				
Phenanthrene	559.3	19	73.98	517.6	56.4	44.1	120				
Pyrene	798.2	19	73.98	683.2	156	41.5	120				S
Surr: 4-Terphenyl-d14	110.4	0	73.98		149	42	124				S

Sample ID: **1507058-006CMSD** Client ID: **SSS-04-20150630-01** Units: **ug/Kg-dry** Prep Date: **07/02/2015** Run No: **295430**
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **209643** Analysis Date: **07/07/2015** Seq No: **6300085**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	190	73.98	75.98	64.9	45.8	120	146.6	0	38.4	
Acenaphthylene	BRL	370	73.98	81.78	111	50.6	120	154.7	0	37.8	
Anthracene	163.0	19	73.98	148.4	19.8	42.4	125	216.9	28.4	49.7	S
Benz(a)anthracene	371.0	19	73.98	414.6	-58.9	44.9	136	493.3	28.3	33.8	S
Benzo(a)pyrene	382.8	19	73.98	421.8	-52.7	40.3	123	503.0	27.2	40.2	S
Benzo(b)fluoranthene	528.4	37	73.98	642.6	-154	37	128	716.0	30.2	36.5	S
Benzo(g,h,i)perylene	303.9	37	73.98	292.3	15.7	41.1	137	374.0	20.7	39.3	S
Benzo(k)fluoranthene	302.2	19	73.98	283.2	25.7	37.7	126	334.0	9.98	35	S
Chrysene	456.1	19	73.98	507.5	-69.5	43	120	553.8	19.4	28.6	S
Dibenz(a,h)anthracene	164.6	37	73.98	98.58	89.2	42.6	130	172.7	4.80	44.6	
Fluoranthene	573.2	37	73.98	776.6	-275	44.4	133	934.3	47.9	33.2	SR
Fluorene	109.1	37	73.98	69.63	53.3	42.5	119	139.7	24.6	35.4	
Indeno(1,2,3-cd)pyrene	282.0	19	73.98	260.6	28.9	41.7	135	338.5	18.2	37.3	S
Naphthalene	BRL	190	73.98	109.2	15.2	42.5	120	147.4	0	39.4	S
Phenanthrene	344.1	19	73.98	517.6	-234	44.1	120	559.3	47.6	37	SR
Pyrene	562.4	19	73.98	683.2	-163	41.5	120	798.2	34.7	33.1	SR
Surr: 4-Terphenyl-d14	120.6	0	73.98		163	42	124	110.4	0	20	S

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209654

Sample ID: **MB-209654** Client ID: Units: **ug/L** Prep Date: **07/02/2015** Run No: **295283**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **209654** Analysis Date: **07/06/2015** Seq No: **6297713**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	5.0									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	49.40	0	50.00		98.8	70.6	123				
Surr: Dibromofluoromethane	56.15	0	50.00		112	78.7	124				
Surr: Toluene-d8	51.63	0	50.00		103	81.3	120				

Sample ID: **LCS-209654** Client ID: Units: **ug/L** Prep Date: **07/02/2015** Run No: **295283**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **209654** Analysis Date: **07/06/2015** Seq No: **6297712**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	51.81	5.0	50.00		104	72.8	128				
Toluene	52.45	5.0	50.00		105	74.9	127				
Surr: 4-Bromofluorobenzene	49.18	0	50.00		98.4	70.6	123				
Surr: Dibromofluoromethane	56.04	0	50.00		112	78.7	124				
Surr: Toluene-d8	50.43	0	50.00		101	81.3	120				

Sample ID: **1506U52-001AMS** Client ID: Units: **ug/L** Prep Date: **07/02/2015** Run No: **295283**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **209654** Analysis Date: **07/06/2015** Seq No: **6297714**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	55.95	5.0	50.00		112	70	135				
Toluene	55.21	5.0	50.00		110	70.5	137				
Surr: 4-Bromofluorobenzene	50.68	0	50.00		101	70.6	123				
Surr: Dibromofluoromethane	55.05	0	50.00		110	78.7	124				
Surr: Toluene-d8	50.42	0	50.00		101	81.3	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209654

Sample ID: **1506U52-001AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/L** Prep Date: **07/02/2015** Run No: **295283**
BatchID: **209654** Analysis Date: **07/06/2015** Seq No: **6297715**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	54.97	5.0	50.00		110	70	135	55.95	1.77	20	
Toluene	53.64	5.0	50.00		107	70.5	137	55.21	2.88	20	
Surr: 4-Bromofluorobenzene	51.45	0	50.00		103	70.6	123	50.68	0	0	
Surr: Dibromofluoromethane	54.77	0	50.00		110	78.7	124	55.05	0	0	
Surr: Toluene-d8	50.90	0	50.00		102	81.3	120	50.42	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209671

Sample ID: **MB-209671** Client ID: Units: **ug/Kg** Prep Date: **07/06/2015** Run No: **295403**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **209671** Analysis Date: **07/06/2015** Seq No: **6298363**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	330									
2-Methylphenol	BRL	330									
3,4-Methylphenol	BRL	330									
Phenol	BRL	330									
Surr: 2,4,6-Tribromophenol	2725	0	3333		81.8	41	128				
Surr: 2-Fluorobiphenyl	1235	0	1667		74.1	47	120				
Surr: 2-Fluorophenol	2316	0	3333		69.5	38.3	120				
Surr: 4-Terphenyl-d14	1408	0	1667		84.5	51.4	125				
Surr: Nitrobenzene-d5	1307	0	1667		78.4	40.1	120				
Surr: Phenol-d5	2699	0	3333		81.0	40.3	120				

Sample ID: **LCS-209671** Client ID: Units: **ug/Kg** Prep Date: **07/06/2015** Run No: **295403**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **209671** Analysis Date: **07/06/2015** Seq No: **6298364**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2429	330	3333		72.9	50.1	120				
Surr: 2,4,6-Tribromophenol	2979	0	3333		89.4	41	128				
Surr: 2-Fluorobiphenyl	1335	0	1667		80.1	47	120				
Surr: 2-Fluorophenol	2426	0	3333		72.8	38.3	120				
Surr: 4-Terphenyl-d14	1396	0	1667		83.8	51.4	125				
Surr: Nitrobenzene-d5	1429	0	1667		85.7	40.1	120				
Surr: Phenol-d5	2729	0	3333		81.9	40.3	120				

Sample ID: **1506U83-004CMS** Client ID: Units: **ug/Kg-dry** Prep Date: **07/06/2015** Run No: **295403**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **209671** Analysis Date: **07/06/2015** Seq No: **6298371**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2859	390	3892		73.5	41.5	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209671

Sample ID: **1506U83-004CMS** Client ID: Units: **ug/Kg-dry** Prep Date: **07/06/2015** Run No: **295403**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **209671** Analysis Date: **07/06/2015** Seq No: **6298371**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 2,4,6-Tribromophenol	3631	0	3892		93.3	41	128				
Surr: 2-Fluorobiphenyl	1696	0	1946		87.1	47	120				
Surr: 2-Fluorophenol	2913	0	3892		74.8	38.3	120				
Surr: 4-Terphenyl-d14	1711	0	1946		87.9	51.4	125				
Surr: Nitrobenzene-d5	1751	0	1946		90.0	40.1	120				
Surr: Phenol-d5	3322	0	3892		85.4	40.3	120				

Sample ID: **1506U83-004CMSD** Client ID: Units: **ug/Kg-dry** Prep Date: **07/06/2015** Run No: **295403**
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **209671** Analysis Date: **07/06/2015** Seq No: **6298372**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2910	390	3892		74.8	41.5	120	2859	1.75	37.4	
Surr: 2,4,6-Tribromophenol	3177	0	3892		81.6	41	128	3631	0	0	
Surr: 2-Fluorobiphenyl	1528	0	1946		78.5	47	120	1696	0	0	
Surr: 2-Fluorophenol	2793	0	3892		71.8	38.3	120	2913	0	0	
Surr: 4-Terphenyl-d14	1545	0	1946		79.4	51.4	125	1711	0	0	
Surr: Nitrobenzene-d5	1741	0	1946		89.4	40.1	120	1751	0	0	
Surr: Phenol-d5	3224	0	3892		82.8	40.3	120	3322	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209686

Sample ID: **MB-209686** Client ID: Units: **ug/Kg** Prep Date: **07/04/2015** Run No: **295288**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **209686** Analysis Date: **07/04/2015** Seq No: **6295862**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	10									
Chloromethane	BRL	10									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	46.88	0	50.00		93.8	70	128				
Surr: Dibromofluoromethane	53.96	0	50.00		108	78.2	128				
Surr: Toluene-d8	46.15	0	50.00		92.3	76.5	116				

Sample ID: **LCS-209686** Client ID: Units: **ug/Kg** Prep Date: **07/04/2015** Run No: **295288**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **209686** Analysis Date: **07/04/2015** Seq No: **6295863**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	57.21	5.0	50.00		114	72.3	130				
Toluene	58.22	5.0	50.00		116	71.1	130				
Surr: 4-Bromofluorobenzene	46.53	0	50.00		93.1	70	128				
Surr: Dibromofluoromethane	52.43	0	50.00		105	78.2	128				
Surr: Toluene-d8	48.00	0	50.00		96.0	76.5	116				

Sample ID: **1506S86-001AMS** Client ID: Units: **ug/Kg-dry** Prep Date: **07/04/2015** Run No: **295288**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **209686** Analysis Date: **07/04/2015** Seq No: **6295864**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	73.81	6.7	66.67		111	70.4	130				
Toluene	75.01	6.7	66.67		113	70.4	130				
Surr: 4-Bromofluorobenzene	62.59	0	66.67		93.9	70	128				
Surr: Dibromofluoromethane	68.91	0	66.67		103	78.2	128				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209686

Sample ID: **1506S86-001AMS**	Client ID:			Units: **ug/Kg-dry**	Prep Date: **07/04/2015**	Run No: **295288**
SampleType: **MS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**			BatchID: **209686**	Analysis Date: **07/04/2015**	Seq No: **6295864**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: Toluene-d8	62.71	0	66.67		94.1	76.5	116				

Sample ID: **1506S86-001AMSD**	Client ID:			Units: **ug/Kg-dry**	Prep Date: **07/04/2015**	Run No: **295288**
SampleType: **MSD**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**			BatchID: **209686**	Analysis Date: **07/04/2015**	Seq No: **6295865**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	71.84	6.7	66.67		108	70.4	130	73.81	2.71	16.9	
Toluene	75.69	6.7	66.67		114	70.4	130	75.01	0.902	16.6	
Surr: 4-Bromofluorobenzene	59.76	0	66.67		89.6	70	128	62.59	0	0	
Surr: Dibromofluoromethane	66.97	0	66.67		100	78.2	128	68.91	0	0	
Surr: Toluene-d8	63.49	0	66.67		95.2	76.5	116	62.71	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209689

Sample ID: **MB-209689**	Client ID:			Units: **mg/Kg**	Prep Date: **07/06/2015**	Run No: **295339**
SampleType: **MBLK**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **209689**	Analysis Date: **07/06/2015**	Seq No: **6296694**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.100									

Sample ID: **LCS-209689**	Client ID:			Units: **mg/Kg**	Prep Date: **07/06/2015**	Run No: **295339**
SampleType: **LCS**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **209689**	Analysis Date: **07/06/2015**	Seq No: **6299548**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.3635	0.100	0.4000	0.008355	88.8	80	120				

Sample ID: **1507058-001CMS**	Client ID: **SSS-01-20150630-01**			Units: **mg/Kg-dry**	Prep Date: **07/06/2015**	Run No: **295339**
SampleType: **MS**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **209689**	Analysis Date: **07/06/2015**	Seq No: **6296696**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.4427	0.102	0.4060	0.1283	77.4	70	130				

Sample ID: **1507058-001CMSD**	Client ID: **SSS-01-20150630-01**			Units: **mg/Kg-dry**	Prep Date: **07/06/2015**	Run No: **295339**
SampleType: **MSD**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **209689**	Analysis Date: **07/06/2015**	Seq No: **6296697**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.4517	0.102	0.4084	0.1283	79.2	70	130	0.4427	2.01	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507058

ANALYTICAL QC SUMMARY REPORT

BatchID: 209831

Sample ID: **MB-209831**	Client ID:					Units: **mg/Kg**		Prep Date: **07/07/2015**		Run No: **295447**	
SampleType: **MBLK**	TestCode: **Cyanide, Total SW9014**					BatchID: **209831**		Analysis Date: **07/07/2015**		Seq No: **6299315**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	1.00									

Sample ID: **LCS-209831**	Client ID:					Units: **mg/Kg**		Prep Date: **07/07/2015**		Run No: **295447**	
SampleType: **LCS**	TestCode: **Cyanide, Total SW9014**					BatchID: **209831**		Analysis Date: **07/07/2015**		Seq No: **6299316**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	11.86	1.00	12.50		94.9	85	115				

Sample ID: **1507006-005BMS**	Client ID:					Units: **mg/Kg**		Prep Date: **07/07/2015**		Run No: **295447**	
SampleType: **MS**	TestCode: **Cyanide, Total SW9014**					BatchID: **209831**		Analysis Date: **07/07/2015**		Seq No: **6299340**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	8.340	1.00	12.50		66.7	70	130				S

Sample ID: **1507006-005BMSD**	Client ID:					Units: **mg/Kg**		Prep Date: **07/07/2015**		Run No: **295447**	
SampleType: **MSD**	TestCode: **Cyanide, Total SW9014**					BatchID: **209831**		Analysis Date: **07/07/2015**		Seq No: **6299341**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	8.535	1.00	12.50		68.3	70	130	8.340	2.31	30	S

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

July 22, 2015

Nic Vrey
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: Macon Remediation

Dear Nic Vrey: Order No: 1507905

Analytical Environmental Services, Inc. received 8 samples on 7/10/2015 10:30:00 AM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/15.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1507905

Date: 7/8/15 Page 1 of 1

COMPANY: ERM	ADDRESS: 3200 Windy Hill Rd SE Suite 1500w Atlanta, GA 30339
PHONE: 678 486 2700	FAX:
SAMPLED BY: Will Virgo	SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	VOCs 8260B	SVOCs 8270C	Metals 6010B	Cyanide 9012A	Mercury 7470A	No # of Containers	REMARKS
	PRESERVATION (See codes)							N	N	N	N		
1	SCS-45-2W-(0-2)-20150708-01	7/8/15	1702	X		SO		1	1			2	For SCS-45, 46, 47
2	SCS-46-2W-(0-2)-20150709-01		1710	X		SO		1	1			2	8270C: Analyze only
3	SCS-47-2W-(0-2)-20150708-01		1720	X		SO		1	1			2	Benzo(a)anthracene
4	SSS-05-20150708-01		1735		X	SO	4	1	1	1	1	6	+ Benzo(a)pyrene
5	SSS-06-20150708-01		1755		X	SO	4	1	1	1	1	6	6010B: Analyze only
6	SSS-07-20150708-01		1805		X	SO	4	1	1	1	1	6	Arsenic
7	ER-05-20150708-01		—			W	2	1	1			4	
8	~~ER~~ TB-01-20150708-01		—			W	2					2	For SSS-05, 06 +
9													07: Analyze
10													full COI List
11													
12													
13													
14													

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: Will Virgo	7/9/15 1700	1: James	7/10/15 10:30
2:		2:	
3:		3:	

PROJECT INFORMATION
PROJECT NAME: Macon Remediation
PROJECT #: 0176740
SITE ADDRESS: Macon, GA
SEND REPORT TO: Nic.Vrey@ERM.com
INVOICE TO: (IF DIFFERENT FROM ABOVE)
QUOTE #: PO#:

RECEIPT
Total # of Containers: 30

Turnaround Time Request
- ○ Standard 5 Business Days
- ○ 2 Business Day Rush
- ○ Next Business Day Rush
- ○ Same Day Rush (auth req.)
- ⊗ Other 3 Day TAT

STATE PROGRAM (if any):
E-mail? Y / N: Fax? Y / N
DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
CLIENT FedEx UPS MAIL COURIER
GREYHOUND OTHER

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.
SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water
PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Client: ERM-Southeast
Project: Macon Remediation
Lab ID: 1507905

Case Narrative

PAH Analysis by Method 8270D SIM:

Due to sample matrix, sample 1507905-001A, -003A required dilution during preparation and/or analysis resulting in elevated reporting limits.

Volatile Organic Compounds Analysis by Method 8260B:

Percent recovery for the internal standard compound 1,4-Dichlorobenzene-d4 on samples 1506905-004A, & -005A was outside control limits biased low due to suspected matrix interference. All other internal standard recoveries were within control limits.

Analytical Environmental Services, Inc **Date:** 22-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-45-2W-(0-2)-20150708-01
Project Name:	Macon Remediation	**Collection Date:**	7/8/2015 5:02:00 PM
Lab ID:	1507905-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	7900	360		ug/Kg-dry	210027	100	07/14/2015 14:15	YH
Benzo(a)pyrene	6500	360		ug/Kg-dry	210027	100	07/14/2015 14:15	YH
Surr: 4-Terphenyl-d14	50.5	42-124		%REC	210027	1	07/13/2015 23:27	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	60.2	5.09		mg/Kg-dry	210011	1	07/13/2015 14:21	IO
PERCENT MOISTURE D2216								
Percent Moisture	4.78	0		wt%	R295978	1	07/15/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 22-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-46-2W-(0-2)-20150708-01
Project Name:	Macon Remediation	**Collection Date:**	7/8/2015 5:10:00 PM
Lab ID:	1507905-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	300	2.2		ug/Kg-dry	210027	1	07/13/2015 23:55	YH
Benzo(a)pyrene	200	2.2		ug/Kg-dry	210027	1	07/13/2015 23:55	YH
Surr: 4-Terphenyl-d14	91	42-124		%REC	210027	1	07/13/2015 23:55	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	BRL	6.45		mg/Kg-dry	210011	1	07/13/2015 14:25	IO
PERCENT MOISTURE D2216								
Percent Moisture	22.8	0		wt%	R295978	1	07/15/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 22-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-47-2W-(0-2)-20150708-01
Project Name:	Macon Remediation	**Collection Date:**	7/8/2015 5:20:00 PM
Lab ID:	1507905-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	8100	380		ug/Kg-dry	210027	100	07/14/2015 14:42	YH
Benzo(a)pyrene	5300	380		ug/Kg-dry	210027	100	07/14/2015 14:42	YH
Surr: 4-Terphenyl-d14	50.5	42-124		%REC	210027	1	07/14/2015 00:23	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	BRL	5.53		mg/Kg-dry	210011	1	07/13/2015 14:29	IO
PERCENT MOISTURE D2216								
Percent Moisture	10.3	0		wt%	R295978	1	07/15/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 22-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-05-20150708-01
Project Name:	Macon Remediation	**Collection Date:**	7/8/2015 5:35:00 PM
Lab ID:	1507905-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	8.4		ug/Kg-dry	210174	1	07/14/2015 13:48	CG
Benzene	BRL	4.2		ug/Kg-dry	210174	1	07/14/2015 13:48	CG
Toluene	BRL	4.2		ug/Kg-dry	210174	1	07/14/2015 13:48	CG
Ethylbenzene	BRL	4.2		ug/Kg-dry	210174	1	07/14/2015 13:48	CG
Xylenes, Total	BRL	4.2		ug/Kg-dry	210174	1	07/14/2015 13:48	CG
Surr: 4-Bromofluorobenzene	79.3	70-128		%REC	210174	1	07/14/2015 13:48	CG
Surr: Dibromofluoromethane	106	78.2-128		%REC	210174	1	07/14/2015 13:48	CG
Surr: Toluene-d8	94.9	76.5-116		%REC	210174	1	07/14/2015 13:48	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.103		mg/Kg-dry	210136	1	07/15/2015 14:45	TA
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	18		ug/Kg-dry	210027	1	07/14/2015 00:50	YH
Acenaphthylene	61	35		ug/Kg-dry	210027	1	07/14/2015 00:50	YH
Anthracene	25	1.8		ug/Kg-dry	210027	1	07/14/2015 00:50	YH
Benz(a)anthracene	84	1.8		ug/Kg-dry	210027	1	07/14/2015 00:50	YH
Benzo(a)pyrene	64	1.8		ug/Kg-dry	210027	1	07/14/2015 00:50	YH
Benzo(b)fluoranthene	140	3.5		ug/Kg-dry	210027	1	07/14/2015 00:50	YH
Benzo(g,h,i)perylene	41	3.5		ug/Kg-dry	210027	1	07/14/2015 00:50	YH
Benzo(k)fluoranthene	35	1.8		ug/Kg-dry	210027	1	07/14/2015 00:50	YH
Chrysene	68	1.8		ug/Kg-dry	210027	1	07/14/2015 00:50	YH
Dibenz(a,h)anthracene	12	3.5		ug/Kg-dry	210027	1	07/14/2015 00:50	YH
Fluoranthene	94	3.5		ug/Kg-dry	210027	1	07/14/2015 00:50	YH
Fluorene	8.0	3.5		ug/Kg-dry	210027	1	07/14/2015 00:50	YH
Indeno(1,2,3-cd)pyrene	39	1.8		ug/Kg-dry	210027	1	07/14/2015 00:50	YH
Naphthalene	BRL	18		ug/Kg-dry	210027	1	07/14/2015 00:50	YH
Phenanthrene	28	1.8		ug/Kg-dry	210027	1	07/14/2015 00:50	YH
Pyrene	120	1.8		ug/Kg-dry	210027	1	07/14/2015 00:50	YH
Surr: 4-Terphenyl-d14	91.7	42-124		%REC	210027	1	07/14/2015 00:50	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	350		ug/Kg-dry	210167	1	07/15/2015 11:59	YH
2-Methylphenol	BRL	350		ug/Kg-dry	210167	1	07/15/2015 11:59	YH
3,4-Methylphenol	BRL	350		ug/Kg-dry	210167	1	07/15/2015 11:59	YH
Phenol	BRL	350		ug/Kg-dry	210167	1	07/15/2015 11:59	YH
Surr: 2,4,6-Tribromophenol	88.1	41-128		%REC	210167	1	07/15/2015 11:59	YH
Surr: 2-Fluorobiphenyl	84.1	47-120		%REC	210167	1	07/15/2015 11:59	YH
Surr: 2-Fluorophenol	67.1	38.3-120		%REC	210167	1	07/15/2015 11:59	YH
Surr: 4-Terphenyl-d14	87.6	51.4-125		%REC	210167	1	07/15/2015 11:59	YH
Surr: Nitrobenzene-d5	75.7	40.1-120		%REC	210167	1	07/15/2015 11:59	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 22-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-05-20150708-01
Project Name:	Macon Remediation	**Collection Date:**	7/8/2015 5:35:00 PM
Lab ID:	1507905-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	76.6	40.3-120		%REC	210167	1	07/15/2015 11:59	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.06		mg/Kg-dry	210098	1	07/14/2015 16:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	4.93		mg/Kg-dry	210011	1	07/13/2015 14:33	IO
Arsenic	BRL	4.93		mg/Kg-dry	210011	1	07/13/2015 14:33	IO
Barium	31.6	4.93		mg/Kg-dry	210011	1	07/13/2015 14:33	IO
Beryllium	BRL	2.46		mg/Kg-dry	210011	1	07/13/2015 14:33	IO
Cadmium	BRL	2.46		mg/Kg-dry	210011	1	07/13/2015 14:33	IO
Chromium	10.3	2.46		mg/Kg-dry	210011	1	07/13/2015 14:33	IO
Copper	14.3	2.46		mg/Kg-dry	210011	1	07/13/2015 14:33	IO
Lead	27.5	4.93		mg/Kg-dry	210011	1	07/13/2015 14:33	IO
Nickel	BRL	4.93		mg/Kg-dry	210011	1	07/13/2015 14:33	IO
Zinc	15.7	4.93		mg/Kg-dry	210011	1	07/13/2015 14:33	IO
PERCENT MOISTURE D2216								
Percent Moisture	5.60	0		wt%	R295978	1	07/15/2015 10:00	PF

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 22-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-06-20150708-01
Project Name:	Macon Remediation	**Collection Date:**	7/8/2015 5:55:00 PM
Lab ID:	1507905-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	8.6		ug/Kg-dry	210174	1	07/14/2015 14:14	CG
Benzene	BRL	4.3		ug/Kg-dry	210174	1	07/14/2015 14:14	CG
Toluene	BRL	4.3		ug/Kg-dry	210174	1	07/14/2015 14:14	CG
Ethylbenzene	BRL	4.3		ug/Kg-dry	210174	1	07/14/2015 14:14	CG
Xylenes, Total	BRL	4.3		ug/Kg-dry	210174	1	07/14/2015 14:14	CG
Surr: 4-Bromofluorobenzene	77.2	70-128		%REC	210174	1	07/14/2015 14:14	CG
Surr: Dibromofluoromethane	105	78.2-128		%REC	210174	1	07/14/2015 14:14	CG
Surr: Toluene-d8	94.8	76.5-116		%REC	210174	1	07/14/2015 14:14	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.118		mg/Kg-dry	210136	1	07/15/2015 14:48	TA
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	23		ug/Kg-dry	210027	1	07/14/2015 01:18	YH
Acenaphthylene	62	44		ug/Kg-dry	210027	1	07/14/2015 01:18	YH
Anthracene	38	2.3		ug/Kg-dry	210027	1	07/14/2015 01:18	YH
Benz(a)anthracene	180	2.3		ug/Kg-dry	210027	1	07/14/2015 01:18	YH
Benzo(a)pyrene	130	2.3		ug/Kg-dry	210027	1	07/14/2015 01:18	YH
Benzo(b)fluoranthene	310	4.4		ug/Kg-dry	210027	1	07/14/2015 01:18	YH
Benzo(g,h,i)perylene	130	4.4		ug/Kg-dry	210027	1	07/14/2015 01:18	YH
Benzo(k)fluoranthene	82	2.3		ug/Kg-dry	210027	1	07/14/2015 01:18	YH
Chrysene	150	2.3		ug/Kg-dry	210027	1	07/14/2015 01:18	YH
Dibenz(a,h)anthracene	36	4.4		ug/Kg-dry	210027	1	07/14/2015 01:18	YH
Fluoranthene	190	4.4		ug/Kg-dry	210027	1	07/14/2015 01:18	YH
Fluorene	7.4	4.4		ug/Kg-dry	210027	1	07/14/2015 01:18	YH
Indeno(1,2,3-cd)pyrene	120	2.3		ug/Kg-dry	210027	1	07/14/2015 01:18	YH
Naphthalene	BRL	23		ug/Kg-dry	210027	1	07/14/2015 01:18	YH
Phenanthrene	63	2.3		ug/Kg-dry	210027	1	07/14/2015 01:18	YH
Pyrene	230	2.3		ug/Kg-dry	210027	1	07/14/2015 01:18	YH
Surr: 4-Terphenyl-d14	84.6	42-124		%REC	210027	1	07/14/2015 01:18	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	440		ug/Kg-dry	210167	1	07/15/2015 12:25	YH
2-Methylphenol	BRL	440		ug/Kg-dry	210167	1	07/15/2015 12:25	YH
3,4-Methylphenol	BRL	440		ug/Kg-dry	210167	1	07/15/2015 12:25	YH
Phenol	BRL	440		ug/Kg-dry	210167	1	07/15/2015 12:25	YH
Surr: 2,4,6-Tribromophenol	77.5	41-128		%REC	210167	1	07/15/2015 12:25	YH
Surr: 2-Fluorobiphenyl	74.6	47-120		%REC	210167	1	07/15/2015 12:25	YH
Surr: 2-Fluorophenol	57.8	38.3-120		%REC	210167	1	07/15/2015 12:25	YH
Surr: 4-Terphenyl-d14	75.8	51.4-125		%REC	210167	1	07/15/2015 12:25	YH
Surr: Nitrobenzene-d5	65.6	40.1-120		%REC	210167	1	07/15/2015 12:25	YH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 22-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-06-20150708-01
Project Name:	Macon Remediation	**Collection Date:**	7/8/2015 5:55:00 PM
Lab ID:	1507905-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	68.2	40.3-120		%REC	210167	1	07/15/2015 12:25	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.34		mg/Kg-dry	210098	1	07/14/2015 16:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	6.40		mg/Kg-dry	210011	1	07/13/2015 14:36	IO
Arsenic	BRL	6.40		mg/Kg-dry	210011	1	07/13/2015 14:36	IO
Barium	26.3	6.40		mg/Kg-dry	210011	1	07/13/2015 14:36	IO
Beryllium	BRL	3.20		mg/Kg-dry	210011	1	07/13/2015 14:36	IO
Cadmium	BRL	3.20		mg/Kg-dry	210011	1	07/13/2015 14:36	IO
Chromium	16.1	3.20		mg/Kg-dry	210011	1	07/13/2015 14:36	IO
Copper	9.97	3.20		mg/Kg-dry	210011	1	07/13/2015 14:36	IO
Lead	12.0	6.40		mg/Kg-dry	210011	1	07/13/2015 14:36	IO
Nickel	BRL	6.40		mg/Kg-dry	210011	1	07/13/2015 14:36	IO
Zinc	11.3	6.40		mg/Kg-dry	210011	1	07/13/2015 14:36	IO
PERCENT MOISTURE D2216								
Percent Moisture	25.6	0		wt%	R295978	1	07/15/2015 10:00	PF

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 22-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-07-20150708-01
Project Name:	Macon Remediation	**Collection Date:**	7/8/2015 6:05:00 PM
Lab ID:	1507905-006	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	7.8		ug/Kg-dry	210174	1	07/14/2015 14:39	CG
Benzene	BRL	3.9		ug/Kg-dry	210174	1	07/14/2015 14:39	CG
Toluene	BRL	3.9		ug/Kg-dry	210174	1	07/14/2015 14:39	CG
Ethylbenzene	BRL	3.9		ug/Kg-dry	210174	1	07/14/2015 14:39	CG
Xylenes, Total	BRL	3.9		ug/Kg-dry	210174	1	07/14/2015 14:39	CG
Surr: 4-Bromofluorobenzene	83.3	70-128		%REC	210174	1	07/14/2015 14:39	CG
Surr: Dibromofluoromethane	104	78.2-128		%REC	210174	1	07/14/2015 14:39	CG
Surr: Toluene-d8	90.8	76.5-116		%REC	210174	1	07/14/2015 14:39	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.102		mg/Kg-dry	210136	1	07/15/2015 14:54	TA
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	19		ug/Kg-dry	210027	1	07/14/2015 01:45	YH
Acenaphthylene	BRL	36		ug/Kg-dry	210027	1	07/14/2015 01:45	YH
Anthracene	11	1.9		ug/Kg-dry	210027	1	07/14/2015 01:45	YH
Benz(a)anthracene	50	1.9		ug/Kg-dry	210027	1	07/14/2015 01:45	YH
Benzo(a)pyrene	41	1.9		ug/Kg-dry	210027	1	07/14/2015 01:45	YH
Benzo(b)fluoranthene	89	3.6		ug/Kg-dry	210027	1	07/14/2015 01:45	YH
Benzo(g,h,i)perylene	31	3.6		ug/Kg-dry	210027	1	07/14/2015 01:45	YH
Benzo(k)fluoranthene	22	1.9		ug/Kg-dry	210027	1	07/14/2015 01:45	YH
Chrysene	42	1.9		ug/Kg-dry	210027	1	07/14/2015 01:45	YH
Dibenz(a,h)anthracene	8.3	3.6		ug/Kg-dry	210027	1	07/14/2015 01:45	YH
Fluoranthene	62	3.6		ug/Kg-dry	210027	1	07/14/2015 01:45	YH
Fluorene	BRL	3.6		ug/Kg-dry	210027	1	07/14/2015 01:45	YH
Indeno(1,2,3-cd)pyrene	28	1.9		ug/Kg-dry	210027	1	07/14/2015 01:45	YH
Naphthalene	BRL	19		ug/Kg-dry	210027	1	07/14/2015 01:45	YH
Phenanthrene	18	1.9		ug/Kg-dry	210027	1	07/14/2015 01:45	YH
Pyrene	69	1.9		ug/Kg-dry	210027	1	07/14/2015 01:45	YH
Surr: 4-Terphenyl-d14	86.4	42-124		%REC	210027	1	07/14/2015 01:45	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	360		ug/Kg-dry	210167	1	07/15/2015 12:49	YH
2-Methylphenol	BRL	360		ug/Kg-dry	210167	1	07/15/2015 12:49	YH
3,4-Methylphenol	BRL	360		ug/Kg-dry	210167	1	07/15/2015 12:49	YH
Phenol	BRL	360		ug/Kg-dry	210167	1	07/15/2015 12:49	YH
Surr: 2,4,6-Tribromophenol	80.4	41-128		%REC	210167	1	07/15/2015 12:49	YH
Surr: 2-Fluorobiphenyl	70.5	47-120		%REC	210167	1	07/15/2015 12:49	YH
Surr: 2-Fluorophenol	53.9	38.3-120		%REC	210167	1	07/15/2015 12:49	YH
Surr: 4-Terphenyl-d14	77.6	51.4-125		%REC	210167	1	07/15/2015 12:49	YH
Surr: Nitrobenzene-d5	59.4	40.1-120		%REC	210167	1	07/15/2015 12:49	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 22-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-07-20150708-01
Project Name:	Macon Remediation	**Collection Date:**	7/8/2015 6:05:00 PM
Lab ID:	1507905-006	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	64.5	40.3-120		%REC	210167	1	07/15/2015 12:49	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.10		mg/Kg-dry	210098	1	07/14/2015 16:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.25		mg/Kg-dry	210011	1	07/13/2015 14:40	IO
Arsenic	BRL	5.25		mg/Kg-dry	210011	1	07/13/2015 14:40	IO
Barium	16.4	5.25		mg/Kg-dry	210011	1	07/13/2015 14:40	IO
Beryllium	BRL	2.63		mg/Kg-dry	210011	1	07/13/2015 14:40	IO
Cadmium	BRL	2.63		mg/Kg-dry	210011	1	07/13/2015 14:40	IO
Chromium	9.99	2.63		mg/Kg-dry	210011	1	07/13/2015 14:40	IO
Copper	5.74	2.63		mg/Kg-dry	210011	1	07/13/2015 14:40	IO
Lead	7.36	5.25		mg/Kg-dry	210011	1	07/13/2015 14:40	IO
Nickel	BRL	5.25		mg/Kg-dry	210011	1	07/13/2015 14:40	IO
Zinc	7.57	5.25		mg/Kg-dry	210011	1	07/13/2015 14:40	IO
PERCENT MOISTURE D2216								
Percent Moisture	8.73	0		wt%	R295978	1	07/15/2015 10:00	PF

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 22-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	EB-05-20150708-01
Project Name:	Macon Remediation	**Collection Date:**	7/8/2015
Lab ID:	1507905-007	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	210089	1	07/13/2015 15:29	NP
Carbon disulfide	BRL	5.0		ug/L	210089	1	07/13/2015 15:29	NP
Ethylbenzene	BRL	5.0		ug/L	210089	1	07/13/2015 15:29	NP
Toluene	BRL	5.0		ug/L	210089	1	07/13/2015 15:29	NP
Xylenes, Total	BRL	5.0		ug/L	210089	1	07/13/2015 15:29	NP
Surr: 4-Bromofluorobenzene	77.4	70.6-123		%REC	210089	1	07/13/2015 15:29	NP
Surr: Dibromofluoromethane	113	78.7-124		%REC	210089	1	07/13/2015 15:29	NP
Surr: Toluene-d8	94.3	81.3-120		%REC	210089	1	07/13/2015 15:29	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	210108	1	07/15/2015 12:13	YH
Acenaphthylene	BRL	1.0		ug/L	210108	1	07/15/2015 12:13	YH
Acenaphthene	BRL	0.50		ug/L	210108	1	07/15/2015 12:13	YH
Fluorene	BRL	0.10		ug/L	210108	1	07/15/2015 12:13	YH
Phenanthrene	BRL	0.050		ug/L	210108	1	07/15/2015 12:13	YH
Anthracene	BRL	0.050		ug/L	210108	1	07/15/2015 12:13	YH
Fluoranthene	BRL	0.10		ug/L	210108	1	07/15/2015 12:13	YH
Pyrene	BRL	0.050		ug/L	210108	1	07/15/2015 12:13	YH
Benz(a)anthracene	BRL	0.050		ug/L	210108	1	07/15/2015 12:13	YH
Chrysene	BRL	0.050		ug/L	210108	1	07/15/2015 12:13	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	210108	1	07/15/2015 12:13	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	210108	1	07/15/2015 12:13	YH
Benzo(a)pyrene	BRL	0.050		ug/L	210108	1	07/15/2015 12:13	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	210108	1	07/15/2015 12:13	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	210108	1	07/15/2015 12:13	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	210108	1	07/15/2015 12:13	YH
Surr: 4-Terphenyl-d14	94.8	55.4-136		%REC	210108	1	07/15/2015 12:13	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	11		ug/L	210141	1	07/15/2015 15:19	YH
2-Methylphenol	BRL	11		ug/L	210141	1	07/15/2015 15:19	YH
3,4-Methylphenol	BRL	11		ug/L	210141	1	07/15/2015 15:19	YH
Phenol	BRL	11		ug/L	210141	1	07/15/2015 15:19	YH
Surr: 2,4,6-Tribromophenol	71.8	52-133		%REC	210141	1	07/15/2015 15:19	YH
Surr: 2-Fluorobiphenyl	73.3	50-121		%REC	210141	1	07/15/2015 15:19	YH
Surr: 2-Fluorophenol	64.1	27.5-120		%REC	210141	1	07/15/2015 15:19	YH
Surr: 4-Terphenyl-d14	101	46.3-137		%REC	210141	1	07/15/2015 15:19	YH
Surr: Nitrobenzene-d5	73.6	41.2-121		%REC	210141	1	07/15/2015 15:19	YH
Surr: Phenol-d5	52.5	14.3-120		%REC	210141	1	07/15/2015 15:19	YH
METALS, TOTAL SW6010C				**(SW3010A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 22-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	EB-05-20150708-01
Project Name:	Macon Remediation	**Collection Date:**	7/8/2015
Lab ID:	1507905-007	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, TOTAL SW6010C				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	209977	1	07/13/2015 13:05	IO
Arsenic	BRL	0.0500		mg/L	209977	1	07/13/2015 13:05	IO
Barium	BRL	0.0200		mg/L	209977	1	07/13/2015 13:05	IO
Beryllium	BRL	0.0100		mg/L	209977	1	07/13/2015 13:05	IO
Cadmium	BRL	0.0050		mg/L	209977	1	07/13/2015 13:05	IO
Chromium	BRL	0.0100		mg/L	209977	1	07/13/2015 13:05	IO
Copper	BRL	0.0100		mg/L	209977	1	07/13/2015 13:05	IO
Lead	BRL	0.0100		mg/L	209977	1	07/13/2015 13:05	IO
Nickel	BRL	0.0200		mg/L	209977	1	07/13/2015 13:05	IO
Zinc	BRL	0.0200		mg/L	209977	1	07/13/2015 13:05	IO

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 22-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	TB-01-20150708-01
Project Name:	Macon Remediation	**Collection Date:**	7/8/2015
Lab ID:	1507905-008	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	210089	1	07/13/2015 15:02	NP
Carbon disulfide	BRL	5.0		ug/L	210089	1	07/13/2015 15:02	NP
Ethylbenzene	BRL	5.0		ug/L	210089	1	07/13/2015 15:02	NP
Toluene	BRL	5.0		ug/L	210089	1	07/13/2015 15:02	NP
Xylenes, Total	BRL	5.0		ug/L	210089	1	07/13/2015 15:02	NP
Surr: 4-Bromofluorobenzene	79	70.6-123		%REC	210089	1	07/13/2015 15:02	NP
Surr: Dibromofluoromethane	109	78.7-124		%REC	210089	1	07/13/2015 15:02	NP
Surr: Toluene-d8	92	81.3-120		%REC	210089	1	07/13/2015 15:02	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM Work Order Number 1507905

Checklist completed by Jan B 7/10/15
Signature Date

Carrier name: FedEx ✓ UPS __ Courier __ Client __ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 3.4° Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by JB

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 209977

Sample ID: **MB-209977** Client ID: Units: **mg/L** Prep Date: **07/09/2015** Run No: **295688**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **209977** Analysis Date: **07/10/2015** Seq No: **6305051**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	0.0200									
Arsenic	BRL	0.0500									
Barium	BRL	0.0200									
Beryllium	BRL	0.0100									
Cadmium	BRL	0.0050									
Chromium	BRL	0.0100									
Copper	BRL	0.0100									
Lead	BRL	0.0100									
Nickel	BRL	0.0200									
Zinc	BRL	0.0200									

Sample ID: **LCS-209977** Client ID: Units: **mg/L** Prep Date: **07/09/2015** Run No: **295688**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **209977** Analysis Date: **07/10/2015** Seq No: **6305052**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.045	0.0200	1.000		104	80	120				
Arsenic	1.065	0.0500	1.000		106	80	120				
Barium	1.050	0.0200	1.000		105	80	120				
Beryllium	1.055	0.0100	1.000		105	80	120				
Cadmium	1.056	0.0050	1.000		106	80	120				
Chromium	1.054	0.0100	1.000		105	80	120				
Copper	1.042	0.0100	1.000		104	80	120				
Lead	1.057	0.0100	1.000		106	80	120				
Nickel	1.062	0.0200	1.000		106	80	120				
Zinc	1.073	0.0200	1.000		107	80	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 209977

Sample ID: **1507538-001CMS** Client ID:
SampleType: **MS** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/L** Prep Date: **07/09/2015** Run No: **295688**
BatchID: **209977** Analysis Date: **07/10/2015** Seq No: **6305054**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.052	0.0200	1.000		105	75	125				
Arsenic	1.075	0.0500	1.000		108	75	125				
Barium	1.103	0.0200	1.000	0.06114	104	75	125				
Beryllium	1.052	0.0100	1.000		105	75	125				
Cadmium	1.052	0.0050	1.000		105	75	125				
Chromium	1.070	0.0100	1.000	0.01790	105	75	125				
Copper	1.039	0.0100	1.000		104	75	125				
Lead	1.048	0.0100	1.000		105	75	125				
Nickel	1.031	0.0200	1.000		103	75	125				
Zinc	1.077	0.0200	1.000	0.006062	107	75	125				

Sample ID: **1507538-001CMSD** Client ID:
SampleType: **MSD** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/L** Prep Date: **07/09/2015** Run No: **295688**
BatchID: **209977** Analysis Date: **07/10/2015** Seq No: **6305055**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.034	0.0200	1.000		103	75	125	1.052	1.69	20	
Arsenic	1.070	0.0500	1.000		107	75	125	1.075	0.432	20	
Barium	1.097	0.0200	1.000	0.06114	104	75	125	1.103	0.510	20	
Beryllium	1.045	0.0100	1.000		104	75	125	1.052	0.671	20	
Cadmium	1.047	0.0050	1.000		105	75	125	1.052	0.512	20	
Chromium	1.065	0.0100	1.000	0.01790	105	75	125	1.070	0.440	20	
Copper	1.034	0.0100	1.000		103	75	125	1.039	0.468	20	
Lead	1.043	0.0100	1.000		104	75	125	1.048	0.524	20	
Nickel	1.028	0.0200	1.000		103	75	125	1.031	0.296	20	
Zinc	1.070	0.0200	1.000	0.006062	106	75	125	1.077	0.612	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210011

Sample ID: **MB-210011** Client ID: Units: **mg/Kg** Prep Date: **07/10/2015** Run No: **295774**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **210011** Analysis Date: **07/13/2015** Seq No: **6308506**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	5.00									
Arsenic	BRL	5.00									
Barium	BRL	5.00									
Beryllium	BRL	2.50									
Cadmium	BRL	2.50									
Chromium	BRL	2.50									
Copper	BRL	2.50									
Lead	BRL	5.00									
Nickel	BRL	5.00									
Zinc	BRL	5.00									

Sample ID: **LCS-210011** Client ID: Units: **mg/Kg** Prep Date: **07/10/2015** Run No: **295774**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **210011** Analysis Date: **07/13/2015** Seq No: **6308507**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	48.94	5.00	50.00		97.9	80	120				
Arsenic	48.42	5.00	50.00		96.8	80	120				
Barium	49.23	5.00	50.00		98.5	80	120				
Beryllium	48.82	2.50	50.00		97.6	80	120				
Cadmium	48.31	2.50	50.00		96.6	80	120				
Chromium	49.48	2.50	50.00	0.07570	98.8	80	120				
Copper	49.36	2.50	50.00		98.7	80	120				
Lead	47.74	5.00	50.00	0.08983	95.3	80	120				
Nickel	48.43	5.00	50.00		96.9	80	120				
Zinc	47.44	5.00	50.00	0.2085	94.5	80	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210011

Sample ID: **1507791-001AMS** Client ID:
SampleType: **MS** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/Kg-dry** Prep Date: **07/10/2015** Run No: **295774**
BatchID: **210011** Analysis Date: **07/13/2015** Seq No: **6308509**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	140.3	18.0	180.5	6.180	74.3	75	125				S
Arsenic	173.7	18.0	180.5	2.790	94.7	75	125				
Barium	644.6	18.0	180.5	487.7	87.0	75	125				
Beryllium	170.3	9.02	180.5	0.3056	94.2	75	125				
Cadmium	170.4	9.02	180.5	1.233	93.7	75	125				
Chromium	282.4	9.02	180.5	114.0	93.3	75	125				
Copper	754.0	9.02	180.5	603.5	83.4	75	125				
Lead	205.3	18.0	180.5	46.13	88.2	75	125				
Nickel	183.0	18.0	180.5	21.10	89.7	75	125				
Zinc	1512	18.0	180.5	1384	71.2	75	125				S

Sample ID: **1507791-001AMSD** Client ID:
SampleType: **MSD** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/Kg-dry** Prep Date: **07/10/2015** Run No: **295774**
BatchID: **210011** Analysis Date: **07/13/2015** Seq No: **6308510**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	135.5	18.0	180.4	6.180	71.7	75	125	140.3	3.42	20	S
Arsenic	170.3	18.0	180.4	2.790	92.9	75	125	173.7	1.95	20	
Barium	646.9	18.0	180.4	487.7	88.3	75	125	644.6	0.364	20	
Beryllium	166.7	9.02	180.4	0.3056	92.2	75	125	170.3	2.17	20	
Cadmium	166.9	9.02	180.4	1.233	91.8	75	125	170.4	2.07	20	
Chromium	278.0	9.02	180.4	114.0	90.9	75	125	282.4	1.54	20	
Copper	774.9	9.02	180.4	603.5	95.0	75	125	754.0	2.74	20	
Lead	201.1	18.0	180.4	46.13	85.9	75	125	205.3	2.10	20	
Nickel	179.1	18.0	180.4	21.10	87.6	75	125	183.0	2.19	20	
Zinc	1520	18.0	180.4	1384	75.5	75	125	1512	0.509	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210027

Sample ID: **MB-210027** Client ID: Units: **ug/Kg** Prep Date: **07/13/2015** Run No: **295806**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210027** Analysis Date: **07/13/2015** Seq No: **6307955**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	17									
Acenaphthylene	BRL	33									
Anthracene	BRL	1.7									
Benz(a)anthracene	BRL	1.7									
Benzo(a)pyrene	BRL	1.7									
Benzo(b)fluoranthene	BRL	3.3									
Benzo(g,h,i)perylene	BRL	3.3									
Benzo(k)fluoranthene	BRL	1.7									
Chrysene	BRL	1.7									
Dibenz(a,h)anthracene	BRL	3.3									
Fluoranthene	BRL	3.3									
Fluorene	BRL	3.3									
Indeno(1,2,3-cd)pyrene	BRL	1.7									
Naphthalene	BRL	17									
Phenanthrene	BRL	1.7									
Pyrene	BRL	1.7									
Surr: 4-Terphenyl-d14	55.51	0	66.67		83.3	42	124				

Sample ID: **LCS-210027** Client ID: Units: **ug/Kg** Prep Date: **07/13/2015** Run No: **295806**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210027** Analysis Date: **07/13/2015** Seq No: **6308051**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	53.15	17	66.70		79.7	61.2	120				
Acenaphthylene	52.95	33	66.70		79.4	60.1	120				
Anthracene	54.67	1.7	66.70		82.0	58.4	120				
Benz(a)anthracene	59.43	1.7	66.70		89.1	56.7	124				
Benzo(a)pyrene	55.31	1.7	66.70		82.9	57.5	120				
Benzo(b)fluoranthene	55.02	3.3	66.70		82.5	60.9	118				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210027

Sample ID: **LCS-210027**	Client ID:		Units: **ug/Kg**	Prep Date: **07/13/2015**	Run No: **295806**
SampleType: **LCS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**		BatchID: **210027**	Analysis Date: **07/13/2015**	Seq No: **6308051**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(g,h,i)perylene	55.52	3.3	66.70		83.2	50.7	125				
Benzo(k)fluoranthene	60.38	1.7	66.70		90.5	53	125				
Chrysene	67.28	1.7	66.70		101	61.2	120				
Dibenz(a,h)anthracene	53.63	3.3	66.70		80.4	48	125				
Fluoranthene	59.59	3.3	66.70		89.3	64.9	121				
Fluorene	54.85	3.3	66.70		82.2	62.1	120				
Indeno(1,2,3-cd)pyrene	57.38	1.7	66.70		86.0	56	121				
Naphthalene	51.80	17	66.70		77.7	57.4	120				
Phenanthrene	56.86	1.7	66.70		85.3	63.3	120				
Pyrene	64.04	1.7	66.70		96.0	61.2	120				
Surr: 4-Terphenyl-d14	67.81	0	66.70		102	42	124				

Sample ID: **1507635-011BMS**	Client ID:		Units: **ug/Kg-dry**	Prep Date: **07/13/2015**	Run No: **295806**
SampleType: **MS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**		BatchID: **210027**	Analysis Date: **07/13/2015**	Seq No: **6308595**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	55.75	19	73.02		76.3	45.8	120				
Acenaphthylene	56.57	36	73.02		77.5	50.6	120				
Anthracene	50.86	1.9	73.02		69.7	42.4	125				
Benz(a)anthracene	66.65	1.9	73.02		91.3	44.9	136				
Benzo(a)pyrene	55.05	1.9	73.02		75.4	40.3	123				
Benzo(b)fluoranthene	54.11	3.6	73.02		74.1	37	128				
Benzo(g,h,i)perylene	53.46	3.6	73.02		73.2	41.1	137				
Benzo(k)fluoranthene	51.46	1.9	73.02		70.5	37.7	126				
Chrysene	65.96	1.9	73.02		90.3	43	120				
Dibenz(a,h)anthracene	54.94	3.6	73.02		75.2	42.6	130				
Fluoranthene	59.51	3.6	73.02	0.6510	80.6	44.4	133				
Fluorene	58.92	3.6	73.02	1.741	78.3	42.5	119				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210027

Sample ID: **1507635-011BMS**	Client ID:		Units: **ug/Kg-dry**	Prep Date: **07/13/2015**	Run No: **295806**
SampleType: **MS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **210027**	Analysis Date: **07/13/2015**	Seq No: **6308595**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Indeno(1,2,3-cd)pyrene	55.01	1.9	73.02		75.3	41.7	135				
Naphthalene	98.90	19	73.02	82.39	22.6	42.5	120				S
Phenanthrene	61.07	1.9	73.02	4.271	77.8	44.1	120				
Pyrene	64.90	1.9	73.02		88.9	41.5	120				
Surr: 4-Terphenyl-d14	66.36	0	73.02		90.9	42	124				

Sample ID: **1507635-011BMSD**	Client ID:		Units: **ug/Kg-dry**	Prep Date: **07/13/2015**	Run No: **295806**
SampleType: **MSD**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **210027**	Analysis Date: **07/13/2015**	Seq No: **6308599**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	56.82	19	73.02		77.8	45.8	120	55.75	1.90	38.4	
Acenaphthylene	56.62	36	73.02		77.5	50.6	120	56.57	0.104	37.8	
Anthracene	51.74	1.9	73.02		70.9	42.4	125	50.86	1.73	49.7	
Benz(a)anthracene	67.79	1.9	73.02		92.8	44.9	136	66.65	1.69	33.8	
Benzo(a)pyrene	55.52	1.9	73.02		76.0	40.3	123	55.05	0.850	40.2	
Benzo(b)fluoranthene	55.48	3.6	73.02		76.0	37	128	54.11	2.51	36.5	
Benzo(g,h,i)perylene	54.72	3.6	73.02		74.9	41.1	137	53.46	2.33	39.3	
Benzo(k)fluoranthene	55.30	1.9	73.02		75.7	37.7	126	51.46	7.19	35	
Chrysene	61.44	1.9	73.02		84.1	43	120	65.96	7.11	28.6	
Dibenz(a,h)anthracene	54.92	3.6	73.02		75.2	42.6	130	54.94	0.036	44.6	
Fluoranthene	59.40	3.6	73.02	0.6510	80.5	44.4	133	59.51	0.185	33.2	
Fluorene	59.20	3.6	73.02	1.741	78.7	42.5	119	58.92	0.463	35.4	
Indeno(1,2,3-cd)pyrene	55.70	1.9	73.02		76.3	41.7	135	55.01	1.25	37.3	
Naphthalene	112.8	19	73.02	82.39	41.7	42.5	120	98.90	13.1	39.4	S
Phenanthrene	60.36	1.9	73.02	4.271	76.8	44.1	120	61.07	1.17	37	
Pyrene	64.88	1.9	73.02		88.9	41.5	120	64.90	0.028	33.1	
Surr: 4-Terphenyl-d14	65.26	0	73.02		89.4	42	124	66.36	0	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210089

Sample ID: **MB-210089**	Client ID:		Units: **ug/L**	Prep Date: **07/13/2015**	Run No: **295754**
SampleType: **MBLK**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **210089**	Analysis Date: **07/13/2015**	Seq No: **6308279**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	5.0									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	40.46	0	50.00		80.9	70.6	123				
Surr: Dibromofluoromethane	48.65	0	50.00		97.3	78.7	124				
Surr: Toluene-d8	44.26	0	50.00		88.5	81.3	120				

Sample ID: **LCS-210089**	Client ID:		Units: **ug/L**	Prep Date: **07/13/2015**	Run No: **295754**
SampleType: **LCS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **210089**	Analysis Date: **07/13/2015**	Seq No: **6308286**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	45.00	5.0	50.00		90.0	72.8	128				
Toluene	46.78	5.0	50.00		93.6	74.9	127				
Surr: 4-Bromofluorobenzene	39.09	0	50.00		78.2	70.6	123				
Surr: Dibromofluoromethane	51.19	0	50.00		102	78.7	124				
Surr: Toluene-d8	44.87	0	50.00		89.7	81.3	120				

Sample ID: **1507926-001AMS**	Client ID:		Units: **ug/L**	Prep Date: **07/13/2015**	Run No: **295946**
SampleType: **MS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **210089**	Analysis Date: **07/15/2015**	Seq No: **6311558**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	46.76	5.0	50.00		93.5	70	135				
Toluene	47.34	5.0	50.00		94.7	70.5	137				
Surr: 4-Bromofluorobenzene	48.98	0	50.00		98.0	70.6	123				
Surr: Dibromofluoromethane	50.73	0	50.00		101	78.7	124				
Surr: Toluene-d8	44.91	0	50.00		89.8	81.3	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210089

Sample ID: **1507926-001AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/L** Prep Date: **07/13/2015** Run No: **295946**
BatchID: **210089** Analysis Date: **07/15/2015** Seq No: **6311737**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	45.50	5.0	50.00		91.0	70	135	46.76	2.73	20	
Toluene	46.04	5.0	50.00		92.1	70.5	137	47.34	2.78	20	
Surr: 4-Bromofluorobenzene	48.43	0	50.00		96.9	70.6	123	48.98	0	0	
Surr: Dibromofluoromethane	49.04	0	50.00		98.1	78.7	124	50.73	0	0	
Surr: Toluene-d8	43.96	0	50.00		87.9	81.3	120	44.91	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210098

Sample ID: **MB-210098**	Client ID:				Units: **mg/Kg**		Prep Date: **07/13/2015**		Run No: **295812**	
SampleType: **MBLK**	TestCode: **Cyanide, Total SW9014**				BatchID: **210098**		Analysis Date: **07/13/2015**		Seq No: **6308071**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	1.00									

Sample ID: **LCS-210098**	Client ID:				Units: **mg/Kg**		Prep Date: **07/13/2015**		Run No: **295812**	
SampleType: **LCS**	TestCode: **Cyanide, Total SW9014**				BatchID: **210098**		Analysis Date: **07/13/2015**		Seq No: **6308072**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	11.40	1.00	12.50		91.2	85	115				

Sample ID: **1507476-002BMS**	Client ID:				Units: **mg/Kg**		Prep Date: **07/13/2015**		Run No: **295812**	
SampleType: **MS**	TestCode: **Cyanide, Total SW9014**				BatchID: **210098**		Analysis Date: **07/13/2015**		Seq No: **6308077**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	1.750	1.00	12.50		14.0	70	130				S

Sample ID: **1507476-002BMSD**	Client ID:				Units: **mg/Kg**		Prep Date: **07/13/2015**		Run No: **295812**	
SampleType: **MSD**	TestCode: **Cyanide, Total SW9014**				BatchID: **210098**		Analysis Date: **07/13/2015**		Seq No: **6308078**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	1.720	1.00	12.50		13.8	70	130	1.750	1.73	30	S

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210108

Sample ID: **MB-210108**	Client ID:		Units: **ug/L**	Prep Date: **07/14/2015**	Run No: **295916**
SampleType: **MBLK**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **210108**	Analysis Date: **07/15/2015**	Seq No: **6311204**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	0.50									
Acenaphthylene	BRL	1.0									
Anthracene	BRL	0.050									
Benz(a)anthracene	BRL	0.050									
Benzo(a)pyrene	BRL	0.050									
Benzo(b)fluoranthene	BRL	0.10									
Benzo(g,h,i)perylene	BRL	0.10									
Benzo(k)fluoranthene	BRL	0.050									
Chrysene	BRL	0.050									
Dibenz(a,h)anthracene	BRL	0.10									
Fluoranthene	BRL	0.10									
Fluorene	BRL	0.10									
Indeno(1,2,3-cd)pyrene	BRL	0.050									
Naphthalene	BRL	0.50									
Phenanthrene	BRL	0.050									
Pyrene	BRL	0.050									
Surr: 4-Terphenyl-d14	1.869	0	2.000		93.5	55.4	136				

Sample ID: **MB-210108**	Client ID:		Units: **ug/L**	Prep Date: **07/14/2015**	Run No: **296126**
SampleType: **MBLK**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **210108**	Analysis Date: **07/16/2015**	Seq No: **6315299**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	0.50									
Acenaphthylene	BRL	1.0									
Anthracene	BRL	0.050									
Benz(a)anthracene	BRL	0.050									
Benzo(a)pyrene	BRL	0.050									
Benzo(b)fluoranthene	BRL	0.10									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210108

Sample ID: **MB-210108** Client ID: Units: **ug/L** Prep Date: **07/14/2015** Run No: **296126**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210108** Analysis Date: **07/16/2015** Seq No: **6315299**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(g,h,i)perylene	BRL	0.10									
Benzo(k)fluoranthene	BRL	0.050									
Chrysene	BRL	0.050									
Dibenz(a,h)anthracene	BRL	0.10									
Fluoranthene	BRL	0.10									
Fluorene	BRL	0.10									
Indeno(1,2,3-cd)pyrene	BRL	0.050									
Naphthalene	BRL	0.50									
Phenanthrene	BRL	0.050									
Pyrene	BRL	0.050									
Surr: 4-Terphenyl-d14	1.966	0	2.000		98.3	55.4	136				

Sample ID: **LCS-210108** Client ID: Units: **ug/L** Prep Date: **07/14/2015** Run No: **295916**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210108** Analysis Date: **07/15/2015** Seq No: **6311205**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.492	0.50	2.000		74.6	66.3	118				
Acenaphthylene	1.450	1.0	2.000		72.5	64	120				
Anthracene	1.629	0.050	2.000	0.01470	80.7	64.6	127				
Benz(a)anthracene	1.925	0.050	2.000		96.3	60.6	137				
Benzo(a)pyrene	1.640	0.050	2.000		82.0	64	124				
Benzo(b)fluoranthene	1.622	0.10	2.000		81.1	56.4	133				
Benzo(g,h,i)perylene	1.582	0.10	2.000		79.1	49.9	137				
Benzo(k)fluoranthene	1.559	0.050	2.000		77.9	61.7	137				
Chrysene	1.789	0.050	2.000		89.5	65.5	127				
Dibenz(a,h)anthracene	1.681	0.10	2.000		84.1	52.4	130				
Fluoranthene	1.755	0.10	2.000		87.8	67	131				
Fluorene	1.579	0.10	2.000		78.9	68.3	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210108

Sample ID: **LCS-210108**	Client ID:		Units: **ug/L**	Prep Date: **07/14/2015**	Run No: **295916**
SampleType: **LCS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **210108**	Analysis Date: **07/15/2015**	Seq No: **6311205**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Indeno(1,2,3-cd)pyrene	1.665	0.050	2.000		83.3	50.4	139				
Naphthalene	1.376	0.50	2.000		68.8	61.1	120				
Phenanthrene	1.659	0.050	2.000	0.01526	82.2	68	119				
Pyrene	1.804	0.050	2.000		90.2	62	127				
Surr: 4-Terphenyl-d14	1.846	0	2.000		92.3	55.4	136				

Sample ID: **LCSD-210108**	Client ID:		Units: **ug/L**	Prep Date: **07/14/2015**	Run No: **295916**
SampleType: **LCSD**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **210108**	Analysis Date: **07/15/2015**	Seq No: **6311206**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.704	0.50	2.000		85.2	66.3	118	1.492	13.3	21.8	
Acenaphthylene	1.651	1.0	2.000		82.6	64	120	1.450	13.0	22.9	
Anthracene	1.734	0.050	2.000	0.01470	85.9	64.6	127	1.629	6.20	18.6	
Benz(a)anthracene	1.996	0.050	2.000		99.8	60.6	137	1.925	3.64	22.9	
Benzo(a)pyrene	1.764	0.050	2.000		88.2	64	124	1.640	7.32	22.7	
Benzo(b)fluoranthene	1.703	0.10	2.000		85.1	56.4	133	1.622	4.86	20.3	
Benzo(g,h,i)perylene	1.664	0.10	2.000		83.2	49.9	137	1.582	5.07	20.6	
Benzo(k)fluoranthene	1.756	0.050	2.000		87.8	61.7	137	1.559	11.9	26.5	
Chrysene	1.936	0.050	2.000		96.8	65.5	127	1.789	7.87	21.6	
Dibenz(a,h)anthracene	1.681	0.10	2.000		84.1	52.4	130	1.681	0.003	21.7	
Fluoranthene	1.802	0.10	2.000		90.1	67	131	1.755	2.61	20.7	
Fluorene	1.708	0.10	2.000		85.4	68.3	120	1.579	7.89	20.5	
Indeno(1,2,3-cd)pyrene	1.696	0.050	2.000		84.8	50.4	139	1.665	1.80	19.2	
Naphthalene	1.522	0.50	2.000		76.1	61.1	120	1.376	10.0	25.1	
Phenanthrene	1.755	0.050	2.000	0.01526	87.0	68	119	1.659	5.58	19.7	
Pyrene	1.908	0.050	2.000		95.4	62	127	1.804	5.60	20.5	
Surr: 4-Terphenyl-d14	1.869	0	2.000		93.4	55.4	136	1.846	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210108

Sample ID: **1507B73-017BMS** Client ID: Units: **ug/L** Prep Date: **07/15/2015** Run No: **296126**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210108** Analysis Date: **07/16/2015** Seq No: **6315302**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.536	0.50	2.000		76.8	45.6	120				
Acenaphthylene	1.493	1.0	2.000		74.6	48.3	124				
Anthracene	1.523	0.050	2.000		76.1	57.7	124				
Benz(a)anthracene	1.914	0.050	2.000		95.7	50.3	143				
Benzo(a)pyrene	1.507	0.050	2.000		75.3	44.2	127				
Benzo(b)fluoranthene	1.532	0.10	2.000		76.6	48.4	125				
Benzo(g,h,i)perylene	1.255	0.10	2.000		62.8	40.2	122				
Benzo(k)fluoranthene	1.475	0.050	2.000		73.8	45.5	122				
Chrysene	1.683	0.050	2.000		84.2	46	124				
Dibenz(a,h)anthracene	1.232	0.10	2.000		61.6	40.1	128				
Fluoranthene	1.678	0.10	2.000	0.01707	83.1	58	127				
Fluorene	1.605	0.10	2.000		80.3	52.6	124				
Indeno(1,2,3-cd)pyrene	1.352	0.050	2.000		67.6	40.3	129				
Naphthalene	1.384	0.50	2.000	0.02248	68.1	46.6	120				
Phenanthrene	1.610	0.050	2.000	0.02315	79.3	50.6	122				
Pyrene	1.757	0.050	2.000	0.02165	86.8	50.1	128				
Surr: 4-Terphenyl-d14	1.788	0	2.000		89.4	55.4	136				

Sample ID: **1507B73-017BMSD** Client ID: Units: **ug/L** Prep Date: **07/15/2015** Run No: **296126**
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210108** Analysis Date: **07/16/2015** Seq No: **6315303**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.552	0.50	2.000		77.6	45.6	120	1.536	1.02	29.4	
Acenaphthylene	1.507	1.0	2.000		75.3	48.3	124	1.493	0.933	32.5	
Anthracene	1.552	0.050	2.000		77.6	57.7	124	1.523	1.89	21.9	
Benz(a)anthracene	1.845	0.050	2.000		92.3	50.3	143	1.914	3.66	26.8	
Benzo(a)pyrene	1.415	0.050	2.000		70.8	44.2	127	1.507	6.27	40.9	
Benzo(b)fluoranthene	1.522	0.10	2.000		76.1	48.4	125	1.532	0.648	24.2	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210108

Sample ID: **1507B73-017BMSD** Client ID:
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**
Units: **ug/L** Prep Date: **07/15/2015** Run No: **296126**
BatchID: **210108** Analysis Date: **07/16/2015** Seq No: **6315303**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(g,h,i)perylene	1.238	0.10	2.000		61.9	40.2	122	1.255	1.40	26.2	
Benzo(k)fluoranthene	1.492	0.050	2.000		74.6	45.5	122	1.475	1.13	23.3	
Chrysene	1.629	0.050	2.000		81.4	46	124	1.683	3.28	25	
Dibenz(a,h)anthracene	1.169	0.10	2.000		58.4	40.1	128	1.232	5.26	23.6	
Fluoranthene	1.680	0.10	2.000	0.01707	83.1	58	127	1.678	0.070	23.5	
Fluorene	1.612	0.10	2.000		80.6	52.6	124	1.605	0.412	31.5	
Indeno(1,2,3-cd)pyrene	1.306	0.050	2.000		65.3	40.3	129	1.352	3.47	28.8	
Naphthalene	1.455	0.50	2.000	0.02248	71.6	46.6	120	1.384	5.02	22.9	
Phenanthrene	1.627	0.050	2.000	0.02315	80.2	50.6	122	1.610	1.04	20.2	
Pyrene	1.735	0.050	2.000	0.02165	85.7	50.1	128	1.757	1.26	24.7	
Surr: 4-Terphenyl-d14	1.871	0	2.000		93.6	55.4	136	1.788	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210136

Sample ID: **MB-210136**	Client ID:				Units: **mg/Kg**		Prep Date: **07/15/2015**		Run No: **295972**	
SampleType: **MBLK**	TestCode: **TOTAL MERCURY SW7471B**				BatchID: **210136**		Analysis Date: **07/15/2015**		Seq No: **6312075**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.100									

Sample ID: **LCS-210136**	Client ID:				Units: **mg/Kg**		Prep Date: **07/15/2015**		Run No: **295972**	
SampleType: **LCS**	TestCode: **TOTAL MERCURY SW7471B**				BatchID: **210136**		Analysis Date: **07/15/2015**		Seq No: **6312076**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.3803	0.100	0.4000		95.1	80	120				

Sample ID: **1507803-001BMS**	Client ID:				Units: **mg/Kg-dry**		Prep Date: **07/15/2015**		Run No: **295972**	
SampleType: **MS**	TestCode: **TOTAL MERCURY SW7471B**				BatchID: **210136**		Analysis Date: **07/15/2015**		Seq No: **6312080**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.4825	0.125	0.5000	0.01838	92.8	70	130				

Sample ID: **1507803-001BMSD**	Client ID:				Units: **mg/Kg-dry**		Prep Date: **07/15/2015**		Run No: **295972**	
SampleType: **MSD**	TestCode: **TOTAL MERCURY SW7471B**				BatchID: **210136**		Analysis Date: **07/15/2015**		Seq No: **6312081**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.5105	0.125	0.5000	0.01838	98.4	70	130	0.4825	5.63	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210141

Sample ID: **MB-210141** Client ID: Units: **ug/L** Prep Date: **07/15/2015** Run No: **295917**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210141** Analysis Date: **07/15/2015** Seq No: **6312794**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	10									
2-Methylphenol	BRL	10									
3,4-Methylphenol	BRL	10									
Phenol	BRL	10									
Surr: 2,4,6-Tribromophenol	77.82	0	100.0		77.8	52	133				
Surr: 2-Fluorobiphenyl	36.45	0	50.00		72.9	50	121				
Surr: 2-Fluorophenol	47.69	0	100.0		47.7	27.5	120				
Surr: 4-Terphenyl-d14	50.60	0	50.00		101	46.3	137				
Surr: Nitrobenzene-d5	35.96	0	50.00		71.9	41.2	121				
Surr: Phenol-d5	33.31	0	100.0		33.3	14.3	120				

Sample ID: **LCS-210141** Client ID: Units: **ug/L** Prep Date: **07/15/2015** Run No: **295917**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210141** Analysis Date: **07/15/2015** Seq No: **6312803**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	44.43	10	100.0		44.4	25.6	120				
Surr: 2,4,6-Tribromophenol	82.71	0	100.0		82.7	52	133				
Surr: 2-Fluorobiphenyl	42.93	0	50.00		85.9	50	121				
Surr: 2-Fluorophenol	58.86	0	100.0		58.9	27.5	120				
Surr: 4-Terphenyl-d14	51.43	0	50.00		103	46.3	137				
Surr: Nitrobenzene-d5	42.31	0	50.00		84.6	41.2	121				
Surr: Phenol-d5	44.61	0	100.0		44.6	14.3	120				

Sample ID: **1507A57-002BMS** Client ID: Units: **ug/L** Prep Date: **07/15/2015** Run No: **295917**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210141** Analysis Date: **07/15/2015** Seq No: **6312826**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	54.91	10	100.0		54.9	31	120				

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210141

Sample ID: **1507A57-002BMS** Client ID: Units: **ug/L** Prep Date: **07/15/2015** Run No: **295917**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210141** Analysis Date: **07/15/2015** Seq No: **6312826**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 2,4,6-Tribromophenol	80.77	0	100.0		80.8	52	133				
Surr: 2-Fluorobiphenyl	39.45	0	50.00		78.9	50	121				
Surr: 2-Fluorophenol	61.97	0	100.0		62.0	27.5	120				
Surr: 4-Terphenyl-d14	49.36	0	50.00		98.7	46.3	137				
Surr: Nitrobenzene-d5	39.46	0	50.00		78.9	41.2	121				
Surr: Phenol-d5	55.14	0	100.0		55.1	14.3	120				

Sample ID: **1507A57-002BMSD** Client ID: Units: **ug/L** Prep Date: **07/15/2015** Run No: **295917**
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210141** Analysis Date: **07/15/2015** Seq No: **6312827**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	61.81	10	100.0		61.8	31	120	54.91	11.8	31.9	
Surr: 2,4,6-Tribromophenol	85.34	0	100.0		85.3	52	133	80.77	0	0	
Surr: 2-Fluorobiphenyl	41.38	0	50.00		82.8	50	121	39.45	0	0	
Surr: 2-Fluorophenol	67.37	0	100.0		67.4	27.5	120	61.97	0	0	
Surr: 4-Terphenyl-d14	49.46	0	50.00		98.9	46.3	137	49.36	0	0	
Surr: Nitrobenzene-d5	38.87	0	50.00		77.7	41.2	121	39.46	0	0	
Surr: Phenol-d5	59.20	0	100.0		59.2	14.3	120	55.14	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210167

Sample ID: **MB-210167** Client ID: Units: **ug/Kg** Prep Date: **07/15/2015** Run No: **295947**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210167** Analysis Date: **07/15/2015** Seq No: **6311459**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	330									
2-Methylphenol	BRL	330									
3,4-Methylphenol	BRL	330									
Phenol	BRL	330									
Surr: 2,4,6-Tribromophenol	2571	0	3333		77.1	41	128				
Surr: 2-Fluorobiphenyl	1237	0	1667		74.2	47	120				
Surr: 2-Fluorophenol	2121	0	3333		63.6	38.3	120				
Surr: 4-Terphenyl-d14	1334	0	1667		80.0	51.4	125				
Surr: Nitrobenzene-d5	1127	0	1667		67.6	40.1	120				
Surr: Phenol-d5	2326	0	3333		69.8	40.3	120				

Sample ID: **LCS-210167** Client ID: Units: **ug/Kg** Prep Date: **07/15/2015** Run No: **295947**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210167** Analysis Date: **07/15/2015** Seq No: **6311467**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2468	330	3333		74.0	50.1	120				
Surr: 2,4,6-Tribromophenol	3280	0	3333		98.4	41	128				
Surr: 2-Fluorobiphenyl	1477	0	1667		88.6	47	120				
Surr: 2-Fluorophenol	2388	0	3333		71.6	38.3	120				
Surr: 4-Terphenyl-d14	1653	0	1667		99.2	51.4	125				
Surr: Nitrobenzene-d5	1385	0	1667		83.1	40.1	120				
Surr: Phenol-d5	2548	0	3333		76.4	40.3	120				

Sample ID: **1507905-006CMS** Client ID: **SSS-07-20150708-01** Units: **ug/Kg-dry** Prep Date: **07/15/2015** Run No: **295947**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210167** Analysis Date: **07/15/2015** Seq No: **6311886**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2194	360	3652		60.1	41.5	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210167

Sample ID: **1507905-006CMS** Client ID: **SSS-07-20150708-01** Units: **ug/Kg-dry** Prep Date: **07/15/2015** Run No: **295947**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210167** Analysis Date: **07/15/2015** Seq No: **6311886**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 2,4,6-Tribromophenol	3084	0	3652		84.5	41	128				
Surr: 2-Fluorobiphenyl	1271	0	1826		69.6	47	120				
Surr: 2-Fluorophenol	1956	0	3652		53.6	38.3	120				
Surr: 4-Terphenyl-d14	1412	0	1826		77.3	51.4	125				
Surr: Nitrobenzene-d5	1093	0	1826		59.9	40.1	120				
Surr: Phenol-d5	2270	0	3652		62.2	40.3	120				

Sample ID: **1507905-006CMSD** Client ID: **SSS-07-20150708-01** Units: **ug/Kg-dry** Prep Date: **07/15/2015** Run No: **295947**
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210167** Analysis Date: **07/15/2015** Seq No: **6311992**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2358	360	3652		64.6	41.5	120	2194	7.20	37.4	
Surr: 2,4,6-Tribromophenol	3399	0	3652		93.1	41	128	3084	0	0	
Surr: 2-Fluorobiphenyl	1516	0	1826		83.0	47	120	1271	0	0	
Surr: 2-Fluorophenol	2285	0	3652		62.6	38.3	120	1956	0	0	
Surr: 4-Terphenyl-d14	1559	0	1826		85.4	51.4	125	1412	0	0	
Surr: Nitrobenzene-d5	1374	0	1826		75.2	40.1	120	1093	0	0	
Surr: Phenol-d5	2541	0	3652		69.6	40.3	120	2270	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210174

Sample ID: **MB-210174** Client ID: Units: **ug/Kg** Prep Date: **07/14/2015** Run No: **295871**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **210174** Analysis Date: **07/14/2015** Seq No: **6310853**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	10									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	44.30	0	50.00		88.6	70	128				
Surr: Dibromofluoromethane	53.43	0	50.00		107	78.2	128				
Surr: Toluene-d8	48.36	0	50.00		96.7	76.5	116				

Sample ID: **LCS-210174** Client ID: Units: **ug/Kg** Prep Date: **07/14/2015** Run No: **295871**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **210174** Analysis Date: **07/14/2015** Seq No: **6310856**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	50.13	5.0	50.00		100	72.3	130				
Toluene	48.47	5.0	50.00		96.9	71.1	130				
Surr: 4-Bromofluorobenzene	44.71	0	50.00		89.4	70	128				
Surr: Dibromofluoromethane	50.06	0	50.00		100	78.2	128				
Surr: Toluene-d8	48.50	0	50.00		97.0	76.5	116				

Sample ID: **1507905-006AMS** Client ID: **SSS-07-20150708-01** Units: **ug/Kg-dry** Prep Date: **07/14/2015** Run No: **295871**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **210174** Analysis Date: **07/14/2015** Seq No: **6310857**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	50.04	5.5	54.78		91.3	70.4	130				
Toluene	50.70	5.5	54.78		92.6	70.4	130				
Surr: 4-Bromofluorobenzene	48.83	0	54.78		89.1	70	128				
Surr: Dibromofluoromethane	55.37	0	54.78		101	78.2	128				
Surr: Toluene-d8	51.58	0	54.78		94.2	76.5	116				

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507905

ANALYTICAL QC SUMMARY REPORT

BatchID: 210174

Sample ID: **1507905-006AMSD** Client ID: **SSS-07-20150708-01** Units: **ug/Kg-dry** Prep Date: **07/14/2015** Run No: **295871**
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **210174** Analysis Date: **07/14/2015** Seq No: **6310858**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	54.59	5.5	54.78		99.7	70.4	130	50.04	8.71	16.9	
Toluene	54.05	5.5	54.78		98.7	70.4	130	50.70	6.38	16.6	
Surr: 4-Bromofluorobenzene	48.66	0	54.78		88.8	70	128	48.83	0	0	
Surr: Dibromofluoromethane	53.90	0	54.78		98.4	78.2	128	55.37	0	0	
Surr: Toluene-d8	51.87	0	54.78		94.7	76.5	116	51.58	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

July 23, 2015

Nic Vrey
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: Macon Remediation

Dear Nic Vrey: Order No: 1507B75

Analytical Environmental Services, Inc. received 11 samples on 7/15/2015 8:10:00 AM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/15.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC

3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1507B75

Date: 7/14/15 Page 1 of ____

COMPANY: ERM

ADDRESS: 3200 Windy Hill Road SE Ste 1500W Atlanta, GA 30339

PHONE: 678-486-2700

FAX:

SAMPLED BY: W. Virgo / K. Spevacek

SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	VOCs 8260B	SVOCs 8270C	Metals 6010B	Cyanide 9012A	Mercury 7470A	REMARKS	No # of Containers
							PRESERVATION (See codes)						
1	SCS-48-2W-(0-2)-20150714-01	7/14/15		X		SO		1	1			For SCS-48-51	2
2	SCS-49-2W-(0-2)-20150714-01			X		SO		1	1			8270C: Analyze	2
3	SCS-50-2W-(0-2)-20150714-01			X		SO		1	1			only for	2
4	SCS-51-2W-(0-2)-20150714-01			X		SO		1	1			-Benzo(a)anthracene	2
5	SSS-08-20150714-01				X	SO	4	1	1	1	1	-Benzo(a)Pyrene	6
6	SSS-09-20150714-01				X	SO	4	1	1	1	1	6010B: Analyze	6
7	SSS-10-20150714-01				X	SO	4	1	1	1	1	only for Arsenic	6
8	SSS-11-20150714-01				X	SO	4	1	1	1	1		6
9	DUP-05-20150714-01			X		SO		1	1			For SSS-08, 09,	2
10	EB-06-20150714-01						2	2	1			10, + 11: Analyze	5
11	TB-04-20150714-01						2					Full COI List	2
12													
13													
14													

ANALYSIS REQUESTED

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: Will Virgo	7/15/15 8:10	1: Cataya Reeves	7/15/15 8:10
2:		2:	
3:		3:	

PROJECT INFORMATION

PROJECT NAME: Macon Remediation

PROJECT #: 0176740

SITE ADDRESS: Macon, GA

SEND REPORT TO: Vic.Virgo@ERM.com

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: PO#:

RECEIPT

Total # of Containers: 41

Turnaround Time Request

- ○ Standard 5 Business Days
- ○ 2 Business Day Rush
- ○ Next Business Day Rush
- ○ Same Day Rush (auth req.)
- ◎ Other 3 Day TAT

STATE PROGRAM (if any): ____

E-mail? Y / N; Fax? Y / N

DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD

OUT / / VIA:

IN / / VIA:

(CLIENT) FedEx UPS MAIL COURIER GREYHOUND OTHER ____

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Client: ERM-Southeast
Project: Macon Remediation
Lab ID: 1507B75

Case Narrative

Sample Receiving Nonconformance:

Preserved soil vial in accordance with Method 5035 was not received for sample 1507B75 -007A. Vial 2 of 3 only had the sodium bisulfate liquid inside, no soil. Preserved soil vials were prepared at the laboratory from the sample jar.

Volatile Organic Compounds Analysis by Method 8260B:

Percent recovery for the internal standard compound 1,4-Dichlorobenzene-d4 on samples 1507B75-005A, -006A,& -007 A was outside control limits biased low due to suspected matrix interference. All other internal standard recoveries were within control limits.

Semi-Volatile Organics Analysis by Method 8270D SIM:

Matrix spike and matrix spike duplicate analyses were not performed with Batch 210332 due to insufficient sample volume.

Analytical Environmental Services, Inc **Date:** 23-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-48-2W-(0-2)-20150714-01
Project Name:	Macon Remediation	**Collection Date:**	7/14/2015
Lab ID:	1507B75-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	2300	17		ug/Kg-dry	210247	10	07/18/2015 01:19	YH
Benzo(a)pyrene	1600	17		ug/Kg-dry	210247	10	07/18/2015 01:19	YH
Surr: 4-Terphenyl-d14	84.9	42-124		%REC	210247	1	07/17/2015 16:10	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	BRL	4.96		mg/Kg-dry	210189	1	07/16/2015 15:52	TA
PERCENT MOISTURE D2216								
Percent Moisture	1.59	0		wt%	R296203	1	07/20/2015 09:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 23-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-49-2W-(0-2)-20150714-01
Project Name:	Macon Remediation	**Collection Date:**	7/14/2015
Lab ID:	1507B75-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	9800	550		ug/Kg-dry	210247	100	07/18/2015 01:47	YH
Benzo(a)pyrene	7000	550		ug/Kg-dry	210247	100	07/18/2015 01:47	YH
Surr: 4-Terphenyl-d14	78.5	42-124		%REC	210247	1	07/17/2015 16:37	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	12.2	5.41		mg/Kg-dry	210189	1	07/16/2015 15:37	TA
PERCENT MOISTURE D2216								
Percent Moisture	8.07	0		wt%	R296203	1	07/20/2015 09:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 23-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-50-2W-(0-2)-20150714-01
Project Name:	Macon Remediation	**Collection Date:**	7/14/2015
Lab ID:	1507B75-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	140	1.8		ug/Kg-dry	210247	1	07/17/2015 17:05	YH
Benzo(a)pyrene	100	1.8		ug/Kg-dry	210247	1	07/17/2015 17:05	YH
Surr: 4-Terphenyl-d14	84.8	42-124		%REC	210247	1	07/17/2015 17:05	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	BRL	5.08		mg/Kg-dry	210189	1	07/16/2015 15:55	TA
PERCENT MOISTURE D2216								
Percent Moisture	3.31	0		wt%	R296203	1	07/20/2015 09:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 23-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-51-2W-(0-2)-20150714-01
Project Name:	Macon Remediation	**Collection Date:**	7/14/2015
Lab ID:	1507B75-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	180	1.8		ug/Kg-dry	210247	1	07/17/2015 17:32	YH
Benzo(a)pyrene	120	1.8		ug/Kg-dry	210247	1	07/17/2015 17:32	YH
Surr: 4-Terphenyl-d14	89.5	42-124		%REC	210247	1	07/17/2015 17:32	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	BRL	5.16		mg/Kg-dry	210189	1	07/16/2015 15:58	TA
PERCENT MOISTURE D2216								
Percent Moisture	3.94	0		wt%	R296203	1	07/20/2015 09:00	PF

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 23-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-08-20150714-01
Project Name:	Macon Remediation	**Collection Date:**	7/14/2015
Lab ID:	1507B75-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	13		ug/Kg-dry	210340	1	07/18/2015 13:58	MD
Benzene	BRL	6.4		ug/Kg-dry	210340	1	07/18/2015 13:58	MD
Toluene	BRL	6.4		ug/Kg-dry	210340	1	07/18/2015 13:58	MD
Ethylbenzene	BRL	6.4		ug/Kg-dry	210340	1	07/18/2015 13:58	MD
Xylenes, Total	BRL	6.4		ug/Kg-dry	210340	1	07/18/2015 13:58	MD
Surr: 4-Bromofluorobenzene	56.6	70-128	S	%REC	210340	1	07/18/2015 13:58	MD
Surr: Dibromofluoromethane	105	78.2-128		%REC	210340	1	07/18/2015 13:58	MD
Surr: Toluene-d8	86.2	76.5-116		%REC	210340	1	07/18/2015 13:58	MD
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.134		mg/Kg-dry	210267	1	07/17/2015 11:36	TA
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	45	24		ug/Kg-dry	210323	1	07/20/2015 11:02	YH
Acenaphthylene	58	46		ug/Kg-dry	210323	1	07/20/2015 11:02	YH
Anthracene	140	2.4		ug/Kg-dry	210323	1	07/20/2015 11:02	YH
Benz(a)anthracene	410	24		ug/Kg-dry	210323	10	07/20/2015 13:19	YH
Benzo(a)pyrene	330	2.4		ug/Kg-dry	210323	1	07/20/2015 11:02	YH
Benzo(b)fluoranthene	510	46		ug/Kg-dry	210323	10	07/20/2015 13:19	YH
Benzo(g,h,i)perylene	270	4.6		ug/Kg-dry	210323	1	07/20/2015 11:02	YH
Benzo(k)fluoranthene	170	2.4		ug/Kg-dry	210323	1	07/20/2015 11:02	YH
Chrysene	430	2.4		ug/Kg-dry	210323	1	07/20/2015 11:02	YH
Dibenz(a,h)anthracene	65	4.6		ug/Kg-dry	210323	1	07/20/2015 11:02	YH
Fluoranthene	690	46		ug/Kg-dry	210323	10	07/20/2015 13:19	YH
Fluorene	53	4.6		ug/Kg-dry	210323	1	07/20/2015 11:02	YH
Indeno(1,2,3-cd)pyrene	220	2.4		ug/Kg-dry	210323	1	07/20/2015 11:02	YH
Naphthalene	68	24		ug/Kg-dry	210323	1	07/20/2015 11:02	YH
Phenanthrene	510	24		ug/Kg-dry	210323	10	07/20/2015 13:19	YH
Pyrene	650	24		ug/Kg-dry	210323	10	07/20/2015 13:19	YH
Surr: 4-Terphenyl-d14	88.6	42-124		%REC	210323	1	07/20/2015 11:02	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	460		ug/Kg-dry	210245	1	07/16/2015 21:12	YH
2-Methylphenol	BRL	460		ug/Kg-dry	210245	1	07/16/2015 21:12	YH
3,4-Methylphenol	BRL	460		ug/Kg-dry	210245	1	07/16/2015 21:12	YH
Phenol	BRL	460		ug/Kg-dry	210245	1	07/16/2015 21:12	YH
Surr: 2,4,6-Tribromophenol	70.1	41-128		%REC	210245	1	07/16/2015 21:12	YH
Surr: 2-Fluorobiphenyl	78.3	47-120		%REC	210245	1	07/16/2015 21:12	YH
Surr: 2-Fluorophenol	69.5	38.3-120		%REC	210245	1	07/16/2015 21:12	YH
Surr: 4-Terphenyl-d14	88.2	51.4-125		%REC	210245	1	07/16/2015 21:12	YH
Surr: Nitrobenzene-d5	79.8	40.1-120		%REC	210245	1	07/16/2015 21:12	YH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 23-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-08-20150714-01
Project Name:	Macon Remediation	**Collection Date:**	7/14/2015
Lab ID:	1507B75-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	81.4	40.3-120		%REC	210245	1	07/16/2015 21:12	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.40		mg/Kg-dry	210354	1	07/20/2015 10:50	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	6.74		mg/Kg-dry	210189	1	07/16/2015 16:07	TA
Arsenic	BRL	6.74		mg/Kg-dry	210189	1	07/16/2015 16:07	TA
Barium	45.9	6.74		mg/Kg-dry	210189	1	07/16/2015 16:07	TA
Beryllium	BRL	3.37		mg/Kg-dry	210189	1	07/16/2015 16:07	TA
Cadmium	BRL	3.37		mg/Kg-dry	210189	1	07/16/2015 16:07	TA
Chromium	17.0	3.37		mg/Kg-dry	210189	1	07/16/2015 16:07	TA
Copper	28.1	3.37		mg/Kg-dry	210189	1	07/16/2015 16:07	TA
Lead	121	6.74		mg/Kg-dry	210189	1	07/16/2015 16:07	TA
Nickel	BRL	6.74		mg/Kg-dry	210189	1	07/16/2015 16:07	TA
Zinc	32.4	6.74		mg/Kg-dry	210189	1	07/16/2015 16:07	TA
PERCENT MOISTURE D2216								
Percent Moisture	28.4	0		wt%	R296203	1	07/20/2015 09:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 23-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-09-20150714-01
Project Name:	Macon Remediation	**Collection Date:**	7/14/2015
Lab ID:	1507B75-006	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	11		ug/Kg-dry	210340	1	07/17/2015 19:28	CG
Benzene	BRL	5.7		ug/Kg-dry	210340	1	07/17/2015 19:28	CG
Toluene	BRL	5.7		ug/Kg-dry	210340	1	07/17/2015 19:28	CG
Ethylbenzene	BRL	5.7		ug/Kg-dry	210340	1	07/17/2015 19:28	CG
Xylenes, Total	BRL	5.7		ug/Kg-dry	210340	1	07/17/2015 19:28	CG
Surr: 4-Bromofluorobenzene	73.5	70-128		%REC	210340	1	07/17/2015 19:28	CG
Surr: Dibromofluoromethane	96.2	78.2-128		%REC	210340	1	07/17/2015 19:28	CG
Surr: Toluene-d8	94.2	76.5-116		%REC	210340	1	07/17/2015 19:28	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	0.396	0.118		mg/Kg-dry	210267	1	07/17/2015 11:43	TA
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	20		ug/Kg-dry	210323	1	07/20/2015 12:52	YH
Acenaphthylene	80	40		ug/Kg-dry	210323	1	07/20/2015 12:52	YH
Anthracene	100	2.0		ug/Kg-dry	210323	1	07/20/2015 12:52	YH
Benz(a)anthracene	410	20		ug/Kg-dry	210323	10	07/20/2015 14:40	YH
Benzo(a)pyrene	340	2.0		ug/Kg-dry	210323	1	07/20/2015 12:52	YH
Benzo(b)fluoranthene	490	40		ug/Kg-dry	210323	10	07/20/2015 14:40	YH
Benzo(g,h,i)perylene	290	4.0		ug/Kg-dry	210323	1	07/20/2015 12:52	YH
Benzo(k)fluoranthene	170	2.0		ug/Kg-dry	210323	1	07/20/2015 12:52	YH
Chrysene	360	20		ug/Kg-dry	210323	10	07/20/2015 14:40	YH
Dibenz(a,h)anthracene	84	4.0		ug/Kg-dry	210323	1	07/20/2015 12:52	YH
Fluoranthene	660	40		ug/Kg-dry	210323	10	07/20/2015 14:40	YH
Fluorene	22	4.0		ug/Kg-dry	210323	1	07/20/2015 12:52	YH
Indeno(1,2,3-cd)pyrene	260	2.0		ug/Kg-dry	210323	1	07/20/2015 12:52	YH
Naphthalene	26	20		ug/Kg-dry	210323	1	07/20/2015 12:52	YH
Phenanthrene	330	20		ug/Kg-dry	210323	10	07/20/2015 14:40	YH
Pyrene	680	20		ug/Kg-dry	210323	10	07/20/2015 14:40	YH
Surr: 4-Terphenyl-d14	92.1	42-124		%REC	210323	1	07/20/2015 12:52	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	400		ug/Kg-dry	210245	1	07/16/2015 21:39	YH
2-Methylphenol	BRL	400		ug/Kg-dry	210245	1	07/16/2015 21:39	YH
3,4-Methylphenol	BRL	400		ug/Kg-dry	210245	1	07/16/2015 21:39	YH
Phenol	BRL	400		ug/Kg-dry	210245	1	07/16/2015 21:39	YH
Surr: 2,4,6-Tribromophenol	74.3	41-128		%REC	210245	1	07/16/2015 21:39	YH
Surr: 2-Fluorobiphenyl	78.8	47-120		%REC	210245	1	07/16/2015 21:39	YH
Surr: 2-Fluorophenol	76.3	38.3-120		%REC	210245	1	07/16/2015 21:39	YH
Surr: 4-Terphenyl-d14	90.4	51.4-125		%REC	210245	1	07/16/2015 21:39	YH
Surr: Nitrobenzene-d5	84.2	40.1-120		%REC	210245	1	07/16/2015 21:39	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 23-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-09-20150714-01
Project Name:	Macon Remediation	**Collection Date:**	7/14/2015
Lab ID:	1507B75-006	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	82.2	40.3-120		%REC	210245	1	07/16/2015 21:39	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.20		mg/Kg-dry	210354	1	07/20/2015 10:50	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.62		mg/Kg-dry	210189	1	07/16/2015 16:10	TA
Arsenic	BRL	5.62		mg/Kg-dry	210189	1	07/16/2015 16:10	TA
Barium	34.3	5.62		mg/Kg-dry	210189	1	07/16/2015 16:10	TA
Beryllium	BRL	2.81		mg/Kg-dry	210189	1	07/16/2015 16:10	TA
Cadmium	BRL	2.81		mg/Kg-dry	210189	1	07/16/2015 16:10	TA
Chromium	13.4	2.81		mg/Kg-dry	210189	1	07/16/2015 16:10	TA
Copper	13.6	2.81		mg/Kg-dry	210189	1	07/16/2015 16:10	TA
Lead	40.7	5.62		mg/Kg-dry	210189	1	07/16/2015 16:10	TA
Nickel	BRL	5.62		mg/Kg-dry	210189	1	07/16/2015 16:10	TA
Zinc	27.2	5.62		mg/Kg-dry	210189	1	07/16/2015 16:10	TA
PERCENT MOISTURE D2216								
Percent Moisture	16.8	0		wt%	R296203	1	07/20/2015 09:00	PF

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 23-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-10-20150714-01
Project Name:	Macon Remediation	**Collection Date:**	7/14/2015
Lab ID:	1507B75-007	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	10		ug/Kg-dry	210340	1	07/18/2015 14:23	MD
Benzene	BRL	5.2		ug/Kg-dry	210340	1	07/18/2015 14:23	MD
Toluene	BRL	5.2		ug/Kg-dry	210340	1	07/18/2015 14:23	MD
Ethylbenzene	BRL	5.2		ug/Kg-dry	210340	1	07/18/2015 14:23	MD
Xylenes, Total	BRL	5.2		ug/Kg-dry	210340	1	07/18/2015 14:23	MD
Surr: 4-Bromofluorobenzene	59.9	70-128	S	%REC	210340	1	07/18/2015 14:23	MD
Surr: Dibromofluoromethane	100	78.2-128		%REC	210340	1	07/18/2015 14:23	MD
Surr: Toluene-d8	89.8	76.5-116		%REC	210340	1	07/18/2015 14:23	MD
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	0.134	0.106		mg/Kg-dry	210267	1	07/17/2015 11:45	TA
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	20	19		ug/Kg-dry	210323	1	07/20/2015 13:46	YH
Acenaphthylene	57	38		ug/Kg-dry	210323	1	07/20/2015 13:46	YH
Anthracene	67	1.9		ug/Kg-dry	210323	1	07/20/2015 13:46	YH
Benz(a)anthracene	380	1.9		ug/Kg-dry	210323	1	07/20/2015 13:46	YH
Benzo(a)pyrene	260	1.9		ug/Kg-dry	210323	1	07/20/2015 13:46	YH
Benzo(b)fluoranthene	320	38		ug/Kg-dry	210323	10	07/20/2015 16:02	YH
Benzo(g,h,i)perylene	230	3.8		ug/Kg-dry	210323	1	07/20/2015 13:46	YH
Benzo(k)fluoranthene	110	1.9		ug/Kg-dry	210323	1	07/20/2015 13:46	YH
Chrysene	300	1.9		ug/Kg-dry	210323	1	07/20/2015 13:46	YH
Dibenz(a,h)anthracene	61	3.8		ug/Kg-dry	210323	1	07/20/2015 13:46	YH
Fluoranthene	430	38		ug/Kg-dry	210323	10	07/20/2015 16:02	YH
Fluorene	22	3.8		ug/Kg-dry	210323	1	07/20/2015 13:46	YH
Indeno(1,2,3-cd)pyrene	190	1.9		ug/Kg-dry	210323	1	07/20/2015 13:46	YH
Naphthalene	27	19		ug/Kg-dry	210323	1	07/20/2015 13:46	YH
Phenanthrene	290	1.9		ug/Kg-dry	210323	1	07/20/2015 13:46	YH
Pyrene	460	19		ug/Kg-dry	210323	10	07/20/2015 16:02	YH
Surr: 4-Terphenyl-d14	36	42-124	S	%REC	210323	1	07/20/2015 13:46	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	380		ug/Kg-dry	210245	1	07/16/2015 22:07	YH
2-Methylphenol	BRL	380		ug/Kg-dry	210245	1	07/16/2015 22:07	YH
3,4-Methylphenol	BRL	380		ug/Kg-dry	210245	1	07/16/2015 22:07	YH
Phenol	BRL	380		ug/Kg-dry	210245	1	07/16/2015 22:07	YH
Surr: 2,4,6-Tribromophenol	68	41-128		%REC	210245	1	07/16/2015 22:07	YH
Surr: 2-Fluorobiphenyl	77.3	47-120		%REC	210245	1	07/16/2015 22:07	YH
Surr: 2-Fluorophenol	69.5	38.3-120		%REC	210245	1	07/16/2015 22:07	YH
Surr: 4-Terphenyl-d14	87.2	51.4-125		%REC	210245	1	07/16/2015 22:07	YH
Surr: Nitrobenzene-d5	83.8	40.1-120		%REC	210245	1	07/16/2015 22:07	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 23-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-10-20150714-01
Project Name:	Macon Remediation	**Collection Date:**	7/14/2015
Lab ID:	1507B75-007	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	82	40.3-120		%REC	210245	1	07/16/2015 22:07	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.14		mg/Kg-dry	210354	1	07/20/2015 10:50	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.56		mg/Kg-dry	210189	1	07/16/2015 16:13	TA
Arsenic	BRL	5.56		mg/Kg-dry	210189	1	07/16/2015 16:13	TA
Barium	39.7	5.56		mg/Kg-dry	210189	1	07/16/2015 16:13	TA
Beryllium	BRL	2.78		mg/Kg-dry	210189	1	07/16/2015 16:13	TA
Cadmium	BRL	2.78		mg/Kg-dry	210189	1	07/16/2015 16:13	TA
Chromium	12.0	2.78		mg/Kg-dry	210189	1	07/16/2015 16:13	TA
Copper	19.4	2.78		mg/Kg-dry	210189	1	07/16/2015 16:13	TA
Lead	38.6	5.56		mg/Kg-dry	210189	1	07/16/2015 16:13	TA
Nickel	BRL	5.56		mg/Kg-dry	210189	1	07/16/2015 16:13	TA
Zinc	24.2	5.56		mg/Kg-dry	210189	1	07/16/2015 16:13	TA
PERCENT MOISTURE D2216								
Percent Moisture	12.2	0		wt%	R296203	1	07/20/2015 09:00	PF

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 23-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-11-20150714-01
Project Name:	Macon Remediation	**Collection Date:**	7/14/2015
Lab ID:	1507B75-008	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	10		ug/Kg-dry	210340	1	07/18/2015 14:49	MD
Benzene	BRL	5.2		ug/Kg-dry	210340	1	07/18/2015 14:49	MD
Toluene	BRL	5.2		ug/Kg-dry	210340	1	07/18/2015 14:49	MD
Ethylbenzene	BRL	5.2		ug/Kg-dry	210340	1	07/18/2015 14:49	MD
Xylenes, Total	BRL	5.2		ug/Kg-dry	210340	1	07/18/2015 14:49	MD
Surr: 4-Bromofluorobenzene	74.8	70-128		%REC	210340	1	07/18/2015 14:49	MD
Surr: Dibromofluoromethane	97.6	78.2-128		%REC	210340	1	07/18/2015 14:49	MD
Surr: Toluene-d8	92.2	76.5-116		%REC	210340	1	07/18/2015 14:49	MD
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.128		mg/Kg-dry	210267	1	07/17/2015 11:47	TA
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	57	23		ug/Kg-dry	210323	1	07/20/2015 12:24	YH
Acenaphthylene	73	44		ug/Kg-dry	210323	1	07/20/2015 12:24	YH
Anthracene	160	2.3		ug/Kg-dry	210323	1	07/20/2015 12:24	YH
Benz(a)anthracene	590	23		ug/Kg-dry	210323	10	07/20/2015 14:13	YH
Benzo(a)pyrene	380	2.3		ug/Kg-dry	210323	1	07/20/2015 12:24	YH
Benzo(b)fluoranthene	280	4.4		ug/Kg-dry	210323	1	07/20/2015 12:24	YH
Benzo(g,h,i)perylene	300	4.4		ug/Kg-dry	210323	1	07/20/2015 12:24	YH
Benzo(k)fluoranthene	200	23		ug/Kg-dry	210323	10	07/20/2015 14:13	YH
Chrysene	550	23		ug/Kg-dry	210323	10	07/20/2015 14:13	YH
Dibenz(a,h)anthracene	88	4.4		ug/Kg-dry	210323	1	07/20/2015 12:24	YH
Fluoranthene	920	44		ug/Kg-dry	210323	10	07/20/2015 14:13	YH
Fluorene	76	4.4		ug/Kg-dry	210323	1	07/20/2015 12:24	YH
Indeno(1,2,3-cd)pyrene	280	2.3		ug/Kg-dry	210323	1	07/20/2015 12:24	YH
Naphthalene	130	23		ug/Kg-dry	210323	1	07/20/2015 12:24	YH
Phenanthrene	600	23		ug/Kg-dry	210323	10	07/20/2015 14:13	YH
Pyrene	830	23		ug/Kg-dry	210323	10	07/20/2015 14:13	YH
Surr: 4-Terphenyl-d14	87.9	42-124		%REC	210323	1	07/20/2015 12:24	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	440		ug/Kg-dry	210245	1	07/16/2015 22:35	YH
2-Methylphenol	BRL	440		ug/Kg-dry	210245	1	07/16/2015 22:35	YH
3,4-Methylphenol	BRL	440		ug/Kg-dry	210245	1	07/16/2015 22:35	YH
Phenol	BRL	440		ug/Kg-dry	210245	1	07/16/2015 22:35	YH
Surr: 2,4,6-Tribromophenol	80.6	41-128		%REC	210245	1	07/16/2015 22:35	YH
Surr: 2-Fluorobiphenyl	86.9	47-120		%REC	210245	1	07/16/2015 22:35	YH
Surr: 2-Fluorophenol	78.2	38.3-120		%REC	210245	1	07/16/2015 22:35	YH
Surr: 4-Terphenyl-d14	95.6	51.4-125		%REC	210245	1	07/16/2015 22:35	YH
Surr: Nitrobenzene-d5	91	40.1-120		%REC	210245	1	07/16/2015 22:35	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 23-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-11-20150714-01
Project Name:	Macon Remediation	**Collection Date:**	7/14/2015
Lab ID:	1507B75-008	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D					**(SW3550C)**			
Surr: Phenol-d5	88.4	40.3-120		%REC	210245	1	07/16/2015 22:35	YH
Cyanide, Total SW9014					**(SW9010C)**			
Cyanide, Total	BRL	1.34		mg/Kg-dry	210354	1	07/20/2015 10:50	PF
METALS, TOTAL SW6010C					**(SW3050B)**			
Antimony	BRL	6.57		mg/Kg-dry	210189	1	07/16/2015 16:16	TA
Arsenic	BRL	6.57		mg/Kg-dry	210189	1	07/16/2015 16:16	TA
Barium	49.8	6.57		mg/Kg-dry	210189	1	07/16/2015 16:16	TA
Beryllium	BRL	3.28		mg/Kg-dry	210189	1	07/16/2015 16:16	TA
Cadmium	BRL	3.28		mg/Kg-dry	210189	1	07/16/2015 16:16	TA
Chromium	14.3	3.28		mg/Kg-dry	210189	1	07/16/2015 16:16	TA
Copper	27.1	3.28		mg/Kg-dry	210189	1	07/16/2015 16:16	TA
Lead	65.6	6.57		mg/Kg-dry	210189	1	07/16/2015 16:16	TA
Nickel	BRL	6.57		mg/Kg-dry	210189	1	07/16/2015 16:16	TA
Zinc	45.9	6.57		mg/Kg-dry	210189	1	07/16/2015 16:16	TA
PERCENT MOISTURE D2216								
Percent Moisture	25.6	0		wt%	R296203	1	07/20/2015 09:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 23-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	DUP-05-20150714-01
Project Name:	Macon Remediation	**Collection Date:**	7/14/2015
Lab ID:	1507B75-009	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	210	1.8		ug/Kg-dry	210323	1	07/20/2015 11:29	YH
Benzo(a)pyrene	140	1.8		ug/Kg-dry	210323	1	07/20/2015 11:29	YH
Surr: 4-Terphenyl-d14	82.9	42-124		%REC	210323	1	07/20/2015 11:29	YH
METALS, TOTAL SW6010C				**(SW3050B)**				
Arsenic	BRL	5.13		mg/Kg-dry	210189	1	07/16/2015 16:19	TA
PERCENT MOISTURE D2216								
Percent Moisture	3.37	0		wt%	R296203	1	07/20/2015 09:00	PF

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 23-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	EB-06-20150714-01
Project Name:	Macon Remediation	**Collection Date:**	7/14/2015
Lab ID:	1507B75-010	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	210232	1	07/16/2015 17:15	MW
Carbon disulfide	BRL	5.0		ug/L	210232	1	07/16/2015 17:15	MW
Ethylbenzene	BRL	5.0		ug/L	210232	1	07/16/2015 17:15	MW
Toluene	BRL	5.0		ug/L	210232	1	07/16/2015 17:15	MW
Xylenes, Total	BRL	5.0		ug/L	210232	1	07/16/2015 17:15	MW
Surr: 4-Bromofluorobenzene	88.4	70.6-123		%REC	210232	1	07/16/2015 17:15	MW
Surr: Dibromofluoromethane	83.4	78.7-124		%REC	210232	1	07/16/2015 17:15	MW
Surr: Toluene-d8	94.7	81.3-120		%REC	210232	1	07/16/2015 17:15	MW
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	210332	1	07/20/2015 12:45	YH
Acenaphthylene	BRL	1.0		ug/L	210332	1	07/20/2015 12:45	YH
Acenaphthene	BRL	0.50		ug/L	210332	1	07/20/2015 12:45	YH
Fluorene	BRL	0.10		ug/L	210332	1	07/20/2015 12:45	YH
Phenanthrene	BRL	0.050		ug/L	210332	1	07/20/2015 12:45	YH
Anthracene	BRL	0.050		ug/L	210332	1	07/20/2015 12:45	YH
Fluoranthene	BRL	0.10		ug/L	210332	1	07/20/2015 12:45	YH
Pyrene	BRL	0.050		ug/L	210332	1	07/20/2015 12:45	YH
Benz(a)anthracene	BRL	0.050		ug/L	210332	1	07/20/2015 12:45	YH
Chrysene	BRL	0.050		ug/L	210332	1	07/20/2015 12:45	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	210332	1	07/20/2015 12:45	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	210332	1	07/20/2015 12:45	YH
Benzo(a)pyrene	BRL	0.050		ug/L	210332	1	07/20/2015 12:45	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	210332	1	07/20/2015 12:45	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	210332	1	07/20/2015 12:45	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	210332	1	07/20/2015 12:45	YH
Surr: 4-Terphenyl-d14	104	55.4-136		%REC	210332	1	07/20/2015 12:45	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	210141	1	07/16/2015 14:06	YH
2-Methylphenol	BRL	10		ug/L	210141	1	07/16/2015 14:06	YH
3,4-Methylphenol	BRL	10		ug/L	210141	1	07/16/2015 14:06	YH
Phenol	BRL	10		ug/L	210141	1	07/16/2015 14:06	YH
Surr: 2,4,6-Tribromophenol	96.6	52-133		%REC	210141	1	07/16/2015 14:06	YH
Surr: 2-Fluorobiphenyl	92	50-121		%REC	210141	1	07/16/2015 14:06	YH
Surr: 2-Fluorophenol	53.6	27.5-120		%REC	210141	1	07/16/2015 14:06	YH
Surr: 4-Terphenyl-d14	98	46.3-137		%REC	210141	1	07/16/2015 14:06	YH
Surr: Nitrobenzene-d5	83.8	41.2-121		%REC	210141	1	07/16/2015 14:06	YH
Surr: Phenol-d5	42.1	14.3-120		%REC	210141	1	07/16/2015 14:06	YH
METALS, TOTAL SW6010C				**(SW3010A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 23-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	EB-06-20150714-01
Project Name:	Macon Remediation	**Collection Date:**	7/14/2015
Lab ID:	1507B75-010	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
METALS, TOTAL SW6010C				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	210131	1	07/16/2015 19:46	IO
Arsenic	BRL	0.0500		mg/L	210131	1	07/16/2015 19:46	IO
Barium	BRL	0.0200		mg/L	210131	1	07/16/2015 19:46	IO
Beryllium	BRL	0.0100		mg/L	210131	1	07/16/2015 19:46	IO
Cadmium	BRL	0.0050		mg/L	210131	1	07/16/2015 19:46	IO
Chromium	BRL	0.0100		mg/L	210131	1	07/16/2015 19:46	IO
Copper	BRL	0.0100		mg/L	210131	1	07/16/2015 19:46	IO
Lead	BRL	0.0100		mg/L	210131	1	07/16/2015 19:46	IO
Nickel	BRL	0.0200		mg/L	210131	1	07/16/2015 19:46	IO
Zinc	BRL	0.0200		mg/L	210131	1	07/16/2015 19:46	IO

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 23-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	TB-04-20150714-01
Project Name:	Macon Remediation	**Collection Date:**	7/14/2015
Lab ID:	1507B75-011	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	210232	1	07/16/2015 16:51	MW
Carbon disulfide	BRL	5.0		ug/L	210232	1	07/16/2015 16:51	MW
Ethylbenzene	BRL	5.0		ug/L	210232	1	07/16/2015 16:51	MW
Toluene	BRL	5.0		ug/L	210232	1	07/16/2015 16:51	MW
Xylenes, Total	BRL	5.0		ug/L	210232	1	07/16/2015 16:51	MW
Surr: 4-Bromofluorobenzene	88.2	70.6-123		%REC	210232	1	07/16/2015 16:51	MW
Surr: Dibromofluoromethane	81.7	78.7-124		%REC	210232	1	07/16/2015 16:51	MW
Surr: Toluene-d8	94.2	81.3-120		%REC	210232	1	07/16/2015 16:51	MW

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM Work Order Number 1507B75

Checklist completed by Tanya Delles 7/15/15
Signature Date

Carrier name: FedEx __ UPS __ Courier __ Client ✓ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 3.8°C Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes __ No ✓

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by Tanya

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210131

Sample ID: **MB-210131** Client ID: Units: **mg/L** Prep Date: **07/15/2015** Run No: **296053**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **210131** Analysis Date: **07/16/2015** Seq No: **6313648**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	0.0200									
Arsenic	BRL	0.0500									
Barium	BRL	0.0200									
Beryllium	BRL	0.0100									
Cadmium	BRL	0.0050									
Chromium	BRL	0.0100									
Copper	BRL	0.0100									
Lead	BRL	0.0100									
Nickel	BRL	0.0200									
Zinc	BRL	0.0200									

Sample ID: **LCS-210131** Client ID: Units: **mg/L** Prep Date: **07/15/2015** Run No: **296053**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **210131** Analysis Date: **07/16/2015** Seq No: **6313649**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.066	0.0200	1.000		107	80	120				
Arsenic	1.018	0.0500	1.000		102	80	120				
Barium	1.027	0.0200	1.000		103	80	120				
Beryllium	1.034	0.0100	1.000		103	80	120				
Cadmium	1.029	0.0050	1.000		103	80	120				
Chromium	1.017	0.0100	1.000		102	80	120				
Copper	1.030	0.0100	1.000		103	80	120				
Lead	1.018	0.0100	1.000		102	80	120				
Nickel	1.021	0.0200	1.000		102	80	120				
Zinc	1.022	0.0200	1.000		102	80	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210131

Sample ID: **1507932-001BMS** Client ID:
SampleType: **MS** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/L** Prep Date: **07/15/2015** Run No: **296053**
BatchID: **210131** Analysis Date: **07/16/2015** Seq No: **6313651**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.045	0.0200	1.000		105	75	125				
Arsenic	1.019	0.0500	1.000		102	75	125				
Barium	1.032	0.0200	1.000	0.02859	100	75	125				
Beryllium	1.016	0.0100	1.000		102	75	125				
Cadmium	1.014	0.0050	1.000		101	75	125				
Chromium	1.004	0.0100	1.000	0.002400	100	75	125				
Copper	1.019	0.0100	1.000	0.003595	101	75	125				
Lead	0.9885	0.0100	1.000		98.8	75	125				
Nickel	1.004	0.0200	1.000		100	75	125				
Zinc	1.015	0.0200	1.000	0.02207	99.3	75	125				

Sample ID: **1507932-001BMSD** Client ID:
SampleType: **MSD** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/L** Prep Date: **07/15/2015** Run No: **296053**
BatchID: **210131** Analysis Date: **07/16/2015** Seq No: **6313652**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.023	0.0200	1.000		102	75	125	1.045	2.18	20	
Arsenic	0.9900	0.0500	1.000		99.0	75	125	1.019	2.87	20	
Barium	0.9983	0.0200	1.000	0.02859	97.0	75	125	1.032	3.31	20	
Beryllium	0.9859	0.0100	1.000		98.6	75	125	1.016	3.04	20	
Cadmium	0.9806	0.0050	1.000		98.1	75	125	1.014	3.33	20	
Chromium	0.9702	0.0100	1.000	0.002400	96.8	75	125	1.004	3.43	20	
Copper	0.9876	0.0100	1.000	0.003595	98.4	75	125	1.019	3.08	20	
Lead	0.9591	0.0100	1.000		95.9	75	125	0.9885	3.02	20	
Nickel	0.9640	0.0200	1.000		96.4	75	125	1.004	4.06	20	
Zinc	0.9838	0.0200	1.000	0.02207	96.2	75	125	1.015	3.11	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210141

Sample ID: **MB-210141** Client ID: Units: **ug/L** Prep Date: **07/15/2015** Run No: **295917**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210141** Analysis Date: **07/15/2015** Seq No: **6312794**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	10									
2-Methylphenol	BRL	10									
3,4-Methylphenol	BRL	10									
Phenol	BRL	10									
Surr: 2,4,6-Tribromophenol	77.82	0	100.0		77.8	52	133				
Surr: 2-Fluorobiphenyl	36.45	0	50.00		72.9	50	121				
Surr: 2-Fluorophenol	47.69	0	100.0		47.7	27.5	120				
Surr: 4-Terphenyl-d14	50.60	0	50.00		101	46.3	137				
Surr: Nitrobenzene-d5	35.96	0	50.00		71.9	41.2	121				
Surr: Phenol-d5	33.31	0	100.0		33.3	14.3	120				

Sample ID: **LCS-210141** Client ID: Units: **ug/L** Prep Date: **07/15/2015** Run No: **295917**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210141** Analysis Date: **07/15/2015** Seq No: **6312803**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	44.43	10	100.0		44.4	25.6	120				
Surr: 2,4,6-Tribromophenol	82.71	0	100.0		82.7	52	133				
Surr: 2-Fluorobiphenyl	42.93	0	50.00		85.9	50	121				
Surr: 2-Fluorophenol	58.86	0	100.0		58.9	27.5	120				
Surr: 4-Terphenyl-d14	51.43	0	50.00		103	46.3	137				
Surr: Nitrobenzene-d5	42.31	0	50.00		84.6	41.2	121				
Surr: Phenol-d5	44.61	0	100.0		44.6	14.3	120				

Sample ID: **1507A57-002BMS** Client ID: Units: **ug/L** Prep Date: **07/15/2015** Run No: **295917**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210141** Analysis Date: **07/15/2015** Seq No: **6312826**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	54.91	10	100.0		54.9	31	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210141

Sample ID: **1507A57-002BMS** Client ID: Units: **ug/L** Prep Date: **07/15/2015** Run No: **295917**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210141** Analysis Date: **07/15/2015** Seq No: **6312826**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 2,4,6-Tribromophenol	80.77	0	100.0		80.8	52	133				
Surr: 2-Fluorobiphenyl	39.45	0	50.00		78.9	50	121				
Surr: 2-Fluorophenol	61.97	0	100.0		62.0	27.5	120				
Surr: 4-Terphenyl-d14	49.36	0	50.00		98.7	46.3	137				
Surr: Nitrobenzene-d5	39.46	0	50.00		78.9	41.2	121				
Surr: Phenol-d5	55.14	0	100.0		55.1	14.3	120				

Sample ID: **1507A57-002BMSD** Client ID: Units: **ug/L** Prep Date: **07/15/2015** Run No: **295917**
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210141** Analysis Date: **07/15/2015** Seq No: **6312827**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	61.81	10	100.0		61.8	31	120	54.91	11.8	31.9	
Surr: 2,4,6-Tribromophenol	85.34	0	100.0		85.3	52	133	80.77	0	0	
Surr: 2-Fluorobiphenyl	41.38	0	50.00		82.8	50	121	39.45	0	0	
Surr: 2-Fluorophenol	67.37	0	100.0		67.4	27.5	120	61.97	0	0	
Surr: 4-Terphenyl-d14	49.46	0	50.00		98.9	46.3	137	49.36	0	0	
Surr: Nitrobenzene-d5	38.87	0	50.00		77.7	41.2	121	39.46	0	0	
Surr: Phenol-d5	59.20	0	100.0		59.2	14.3	120	55.14	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210189

Sample ID: **MB-210189** Client ID: Units: **mg/Kg** Prep Date: **07/15/2015** Run No: **295950**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **210189** Analysis Date: **07/16/2015** Seq No: **6314969**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	5.00									
Arsenic	BRL	5.00									
Barium	BRL	5.00									
Beryllium	BRL	2.50									
Cadmium	BRL	2.50									
Chromium	BRL	2.50									
Copper	BRL	2.50									
Lead	BRL	5.00									
Nickel	BRL	5.00									
Zinc	BRL	5.00									

Sample ID: **LCS-210189** Client ID: Units: **mg/Kg** Prep Date: **07/15/2015** Run No: **295950**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **210189** Analysis Date: **07/16/2015** Seq No: **6314970**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	48.22	5.00	50.00		96.4	80	120				
Arsenic	47.68	5.00	50.00		95.4	80	120				
Barium	50.92	5.00	50.00	0.08050	102	80	120				
Beryllium	51.14	2.50	50.00		102	80	120				
Cadmium	48.37	2.50	50.00		96.7	80	120				
Chromium	51.58	2.50	50.00	0.08600	103	80	120				
Copper	51.15	2.50	50.00		102	80	120				
Lead	48.70	5.00	50.00		97.4	80	120				
Nickel	49.85	5.00	50.00		99.7	80	120				
Zinc	48.09	5.00	50.00	0.2760	95.6	80	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210189

Sample ID: **1507B75-002BMS** Client ID: **SCS-49-2W-(0-2)-20150714-01** Units: **mg/Kg-dry** Prep Date: **07/15/2015** Run No: **295950**
SampleType: **MS** TestCode: **METALS, TOTAL SW6010C** BatchID: **210189** Analysis Date: **07/16/2015** Seq No: **6314972**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	35.90	5.41	54.09	5.397	56.4	75	125				S
Arsenic	58.69	5.41	54.09	12.20	86.0	75	125				
Barium	333.5	5.41	54.09	272.6	113	75	125				
Beryllium	48.88	2.70	54.09	0.7501	89.0	75	125				
Cadmium	53.86	2.70	54.09	4.731	90.8	75	125				
Chromium	83.07	2.70	54.09	31.92	94.6	75	125				
Copper	208.8	2.70	54.09	142.3	123	75	125				
Lead	754.7	5.41	54.09	717.2	69.3	75	125				S
Nickel	52.21	5.41	54.09	10.34	77.4	75	125				
Zinc	1096	5.41	54.09	1022	136	75	125				S

Sample ID: **1507B75-002BMSD** Client ID: **SCS-49-2W-(0-2)-20150714-01** Units: **mg/Kg-dry** Prep Date: **07/15/2015** Run No: **295950**
SampleType: **MSD** TestCode: **METALS, TOTAL SW6010C** BatchID: **210189** Analysis Date: **07/16/2015** Seq No: **6314973**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	42.85	5.41	54.08	5.397	69.3	75	125	35.90	17.7	20	S
Arsenic	63.64	5.41	54.08	12.20	95.1	75	125	58.69	8.09	20	
Barium	352.7	5.41	54.08	272.6	148	75	125	333.5	5.60	20	S
Beryllium	49.60	2.70	54.08	0.7501	90.3	75	125	48.88	1.47	20	
Cadmium	54.64	2.70	54.08	4.731	92.3	75	125	53.86	1.45	20	
Chromium	112.0	2.70	54.08	31.92	148	75	125	83.07	29.7	20	SR
Copper	217.4	2.70	54.08	142.3	139	75	125	208.8	4.02	20	S
Lead	900.3	5.41	54.08	717.2	339	75	125	754.7	17.6	20	S
Nickel	55.05	5.41	54.08	10.34	82.7	75	125	52.21	5.29	20	
Zinc	1153	5.41	54.08	1022	241	75	125	1096	5.07	20	S

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210232

Sample ID: **MB-210232** Client ID: Units: **ug/L** Prep Date: **07/15/2015** Run No: **295983**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **210232** Analysis Date: **07/15/2015** Seq No: **6313010**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	5.0									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	45.03	0	50.00		90.1	70.6	123				
Surr: Dibromofluoromethane	42.96	0	50.00		85.9	78.7	124				
Surr: Toluene-d8	47.16	0	50.00		94.3	81.3	120				

Sample ID: **LCS-210232** Client ID: Units: **ug/L** Prep Date: **07/15/2015** Run No: **295983**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **210232** Analysis Date: **07/15/2015** Seq No: **6313009**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	49.65	5.0	50.00		99.3	72.8	128				
Toluene	50.00	5.0	50.00		100	74.9	127				
Surr: 4-Bromofluorobenzene	45.44	0	50.00		90.9	70.6	123				
Surr: Dibromofluoromethane	42.58	0	50.00		85.2	78.7	124				
Surr: Toluene-d8	46.93	0	50.00		93.9	81.3	120				

Sample ID: **1507B25-001AMS** Client ID: Units: **ug/L** Prep Date: **07/15/2015** Run No: **295983**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **210232** Analysis Date: **07/15/2015** Seq No: **6313044**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	51.50	5.0	50.00		103	70	135				
Toluene	52.55	5.0	50.00		105	70.5	137				
Surr: 4-Bromofluorobenzene	44.32	0	50.00		88.6	70.6	123				
Surr: Dibromofluoromethane	43.61	0	50.00		87.2	78.7	124				
Surr: Toluene-d8	48.11	0	50.00		96.2	81.3	120				

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210232

Sample ID: **1507B25-001AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/L** Prep Date: **07/15/2015** Run No: **295983**
BatchID: **210232** Analysis Date: **07/15/2015** Seq No: **6313045**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	48.98	5.0	50.00		98.0	70	135	51.50	5.02	20	
Toluene	49.92	5.0	50.00		99.8	70.5	137	52.55	5.13	20	
Surr: 4-Bromofluorobenzene	44.87	0	50.00		89.7	70.6	123	44.32	0	0	
Surr: Dibromofluoromethane	42.62	0	50.00		85.2	78.7	124	43.61	0	0	
Surr: Toluene-d8	46.50	0	50.00		93.0	81.3	120	48.11	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210245

Sample ID: **MB-210245** Client ID: Units: **ug/Kg** Prep Date: **07/16/2015** Run No: **296134**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210245** Analysis Date: **07/16/2015** Seq No: **6315837**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	330									
2-Methylphenol	BRL	330									
3,4-Methylphenol	BRL	330									
Phenol	BRL	330									
Surr: 2,4,6-Tribromophenol	3013	0	3333		90.4	41	128				
Surr: 2-Fluorobiphenyl	1338	0	1667		80.3	47	120				
Surr: 2-Fluorophenol	2077	0	3333		62.3	38.3	120				
Surr: 4-Terphenyl-d14	1372	0	1667		82.3	51.4	125				
Surr: Nitrobenzene-d5	1187	0	1667		71.2	40.1	120				
Surr: Phenol-d5	2393	0	3333		71.8	40.3	120				

Sample ID: **LCS-210245** Client ID: Units: **ug/Kg** Prep Date: **07/16/2015** Run No: **296134**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210245** Analysis Date: **07/16/2015** Seq No: **6315849**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2339	330	3333		70.2	50.1	120				
Surr: 2,4,6-Tribromophenol	3561	0	3333		107	41	128				
Surr: 2-Fluorobiphenyl	1551	0	1667		93.1	47	120				
Surr: 2-Fluorophenol	2240	0	3333		67.2	38.3	120				
Surr: 4-Terphenyl-d14	1612	0	1667		96.7	51.4	125				
Surr: Nitrobenzene-d5	1368	0	1667		82.1	40.1	120				
Surr: Phenol-d5	2530	0	3333		75.9	40.3	120				

Sample ID: **1507C51-001AMS** Client ID: Units: **ug/Kg-dry** Prep Date: **07/16/2015** Run No: **296134**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210245** Analysis Date: **07/16/2015** Seq No: **6315865**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2842	400	4034		70.5	41.5	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210245

Sample ID: **1507C51-001AMS**	Client ID:		Units: **ug/Kg-dry**	Prep Date: **07/16/2015**	Run No: **296134**
SampleType: **MS**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **210245**	Analysis Date: **07/16/2015**	Seq No: **6315865**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 2,4,6-Tribromophenol	3982	0	4034		98.7	41	128				
Surr: 2-Fluorobiphenyl	1726	0	2017		85.6	47	120				
Surr: 2-Fluorophenol	2582	0	4034		64.0	38.3	120				
Surr: 4-Terphenyl-d14	1648	0	2017		81.7	51.4	125				
Surr: Nitrobenzene-d5	1569	0	2017		77.8	40.1	120				
Surr: Phenol-d5	2993	0	4034		74.2	40.3	120				

Sample ID: **1507C51-001AMSD**	Client ID:		Units: **ug/Kg-dry**	Prep Date: **07/16/2015**	Run No: **296134**
SampleType: **MSD**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **210245**	Analysis Date: **07/16/2015**	Seq No: **6315869**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2841	400	4034		70.4	41.5	120	2842	0.028	37.4	
Surr: 2,4,6-Tribromophenol	4233	0	4034		105	41	128	3982	0	0	
Surr: 2-Fluorobiphenyl	1805	0	2017		89.5	47	120	1726	0	0	
Surr: 2-Fluorophenol	2718	0	4034		67.4	38.3	120	2582	0	0	
Surr: 4-Terphenyl-d14	1706	0	2017		84.6	51.4	125	1648	0	0	
Surr: Nitrobenzene-d5	1655	0	2017		82.1	40.1	120	1569	0	0	
Surr: Phenol-d5	3174	0	4034		78.7	40.3	120	2993	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210247

Sample ID: **MB-210247** Client ID: Units: **ug/Kg** Prep Date: **07/17/2015** Run No: **296159**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210247** Analysis Date: **07/17/2015** Seq No: **6316095**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	BRL	1.7									
Benzo(a)pyrene	BRL	1.7									
Surr: 4-Terphenyl-d14	56.92	0	66.67		85.4	42	124				

Sample ID: **LCS-210247** Client ID: Units: **ug/Kg** Prep Date: **07/17/2015** Run No: **296159**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210247** Analysis Date: **07/17/2015** Seq No: **6316096**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	75.90	1.7	66.70		114	56.7	124				
Benzo(a)pyrene	55.46	1.7	66.70		83.1	57.5	120				
Surr: 4-Terphenyl-d14	68.44	0	66.70		103	42	124				

Sample ID: **1507B75-001AMS** Client ID: **SCS-48-2W-(0-2)-20150714-01** Units: **ug/Kg-dry** Prep Date: **07/17/2015** Run No: **296159**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210247** Analysis Date: **07/18/2015** Seq No: **6317069**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	4543	170	67.77	2318	3280	44.9	136				S
Benzo(a)pyrene	3312	170	67.77	1300	2970	40.3	123				S
Surr: 4-Terphenyl-d14	0	0	67.77		0	42	124				S

Sample ID: **1507B75-001AMSD** Client ID: **SCS-48-2W-(0-2)-20150714-01** Units: **ug/Kg-dry** Prep Date: **07/17/2015** Run No: **296210**
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210247** Analysis Date: **07/20/2015** Seq No: **6318296**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	2869	170	67.77	2318	813	44.9	136	4543	45.2	33.8	SR
Benzo(a)pyrene	2221	170	67.77	1300	1360	40.3	123	3312	39.4	40.2	S
Surr: 4-Terphenyl-d14	62.05	0	67.77		91.6	42	124	0	0	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210267

Sample ID: **MB-210267**	Client ID:			Units: **mg/Kg**	Prep Date: **07/16/2015**	Run No: **296124**
SampleType: **MBLK**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **210267**	Analysis Date: **07/17/2015**	Seq No: **6315180**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.100									

Sample ID: **LCS-210267**	Client ID:			Units: **mg/Kg**	Prep Date: **07/16/2015**	Run No: **296124**
SampleType: **LCS**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **210267**	Analysis Date: **07/17/2015**	Seq No: **6315184**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.4505	0.100	0.4000		113	80	120				

Sample ID: **1507B73-013CMS**	Client ID:			Units: **mg/Kg-dry**	Prep Date: **07/16/2015**	Run No: **296124**
SampleType: **MS**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **210267**	Analysis Date: **07/17/2015**	Seq No: **6315187**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.3489	0.104	0.4167		83.7	70	130				

Sample ID: **1507B73-013CMSD**	Client ID:			Units: **mg/Kg-dry**	Prep Date: **07/16/2015**	Run No: **296124**
SampleType: **MSD**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **210267**	Analysis Date: **07/17/2015**	Seq No: **6315188**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.3571	0.104	0.4167		85.7	70	130	0.3489	2.35	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210323

Sample ID: **MB-210323** Client ID: Units: **ug/Kg** Prep Date: **07/20/2015** Run No: **296210**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210323** Analysis Date: **07/20/2015** Seq No: **6317310**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	17									
Acenaphthylene	BRL	33									
Anthracene	BRL	1.7									
Benz(a)anthracene	BRL	1.7									
Benzo(a)pyrene	BRL	1.7									
Benzo(b)fluoranthene	BRL	3.3									
Benzo(g,h,i)perylene	BRL	3.3									
Benzo(k)fluoranthene	BRL	1.7									
Chrysene	BRL	1.7									
Dibenz(a,h)anthracene	BRL	3.3									
Fluoranthene	BRL	3.3									
Fluorene	BRL	3.3									
Indeno(1,2,3-cd)pyrene	BRL	1.7									
Naphthalene	BRL	17									
Phenanthrene	BRL	1.7									
Pyrene	BRL	1.7									
Surr: 4-Terphenyl-d14	62.62	0	66.67		93.9	42	124				

Sample ID: **LCS-210323** Client ID: Units: **ug/Kg** Prep Date: **07/20/2015** Run No: **296210**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210323** Analysis Date: **07/20/2015** Seq No: **6317311**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	56.09	17	66.70		84.1	61.2	120				
Acenaphthylene	57.05	33	66.70		85.5	60.1	120				
Anthracene	57.70	1.7	66.70		86.5	58.4	120				
Benz(a)anthracene	68.55	1.7	66.70		103	56.7	124				
Benzo(a)pyrene	53.29	1.7	66.70		79.9	57.5	120				
Benzo(b)fluoranthene	64.27	3.3	66.70		96.4	60.9	118				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210323

Sample ID: **LCS-210323** Client ID: Units: **ug/Kg** Prep Date: **07/20/2015** Run No: **296210**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210323** Analysis Date: **07/20/2015** Seq No: **6317311**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(g,h,i)perylene	55.93	3.3	66.70		83.8	50.7	125				
Benzo(k)fluoranthene	56.08	1.7	66.70		84.1	53	125				
Chrysene	57.41	1.7	66.70		86.1	61.2	120				
Dibenz(a,h)anthracene	59.14	3.3	66.70		88.7	48	125				
Fluoranthene	61.70	3.3	66.70		92.5	64.9	121				
Fluorene	59.35	3.3	66.70		89.0	62.1	120				
Indeno(1,2,3-cd)pyrene	58.79	1.7	66.70		88.1	56	121				
Naphthalene	55.47	17	66.70		83.2	57.4	120				
Phenanthrene	60.28	1.7	66.70		90.4	63.3	120				
Pyrene	61.08	1.7	66.70		91.6	61.2	120				
Surr: 4-Terphenyl-d14	64.36	0	66.70		96.5	42	124				

Sample ID: **1507B75-009AMS** Client ID: **DUP-05-20150714-01** Units: **ug/Kg-dry** Prep Date: **07/20/2015** Run No: **296210**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210323** Analysis Date: **07/20/2015** Seq No: **6317798**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	58.66	18	69.02	4.442	78.5	45.8	120				
Acenaphthylene	93.96	34	69.02	33.54	87.5	50.6	120				
Anthracene	92.01	1.8	69.02	34.46	83.4	42.4	125				
Benz(a)anthracene	288.5	1.8	69.02	212.9	110	44.9	136				
Benzo(a)pyrene	187.2	1.8	69.02	143.6	63.2	40.3	123				
Benzo(g,h,i)perylene	180.2	3.4	69.02	120.7	86.2	41.1	137				
Benzo(k)fluoranthene	121.6	1.8	69.02	80.50	59.5	37.7	126				
Chrysene	241.2	1.8	69.02	180.5	87.9	43	120				
Dibenz(a,h)anthracene	75.86	3.4	69.02	36.77	56.6	42.6	130				
Fluorene	62.50	3.4	69.02	5.757	82.2	42.5	119				
Indeno(1,2,3-cd)pyrene	163.6	1.8	69.02	105.9	83.5	41.7	135				
Naphthalene	75.00	18	69.02	22.65	75.8	42.5	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210323

Sample ID: **1507B75-009AMS**	Client ID: **DUP-05-20150714-01**				Units: **ug/Kg-dry**		Prep Date: **07/20/2015**		Run No: **296210**	
SampleType: **MS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**				BatchID: **210323**		Analysis Date: **07/20/2015**		Seq No: **6317798**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenanthrene	203.2	1.8	69.02	118.4	123	44.1	120				S
Surr: 4-Terphenyl-d14	57.52	0	69.02		83.3	42	124				

Sample ID: **1507B75-009AMSD**	Client ID: **DUP-05-20150714-01**				Units: **ug/Kg-dry**		Prep Date: **07/20/2015**		Run No: **296210**	
SampleType: **MSD**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**				BatchID: **210323**		Analysis Date: **07/20/2015**		Seq No: **6318289**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	56.49	18	69.02	4.442	75.4	45.8	120	58.66	3.77	38.4	
Acenaphthylene	84.13	34	69.02	33.54	73.3	50.6	120	93.96	11.0	37.8	
Anthracene	83.92	1.8	69.02	34.46	71.7	42.4	125	92.01	9.20	49.7	
Benz(a)anthracene	224.9	1.8	69.02	212.9	17.5	44.9	136	288.5	24.8	33.8	S
Benzo(a)pyrene	151.8	1.8	69.02	143.6	11.9	40.3	123	187.2	20.9	40.2	S
Benzo(b)fluoranthene	280.9	3.4	69.02	312.9	-46.4	37	128	360.5	24.8	36.5	S
Benzo(g,h,i)perylene	143.8	3.4	69.02	120.7	33.4	41.1	137	180.2	22.5	39.3	S
Benzo(k)fluoranthene	102.8	1.8	69.02	80.50	32.4	37.7	126	121.6	16.7	35	S
Chrysene	189.4	1.8	69.02	180.5	12.8	43	120	241.2	24.1	28.6	S
Dibenz(a,h)anthracene	87.72	3.4	69.02	36.77	73.8	42.6	130	75.86	14.5	44.6	
Fluoranthene	273.7	3.4	69.02	288.7	-21.7	44.4	133	365.9	28.8	33.2	S
Fluorene	60.25	3.4	69.02	5.757	79.0	42.5	119	62.50	3.65	35.4	
Indeno(1,2,3-cd)pyrene	134.5	1.8	69.02	105.9	41.4	41.7	135	163.6	19.5	37.3	S
Naphthalene	72.16	18	69.02	22.65	71.7	42.5	120	75.00	3.85	39.4	
Phenanthrene	157.5	1.8	69.02	118.4	56.5	44.1	120	203.2	25.4	37	
Pyrene	287.1	1.8	69.02	299.1	-17.4	41.5	120	379.9	27.8	33.1	S
Surr: 4-Terphenyl-d14	62.33	0	69.02		90.3	42	124	57.52	0	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210332

Sample ID: **MB-210332**	Client ID:		Units: **ug/L**	Prep Date: **07/20/2015**	Run No: **296217**
SampleType: **MBLK**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **210332**	Analysis Date: **07/20/2015**	Seq No: **6317518**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	0.50									
Acenaphthylene	BRL	1.0									
Anthracene	BRL	0.050									
Benz(a)anthracene	BRL	0.050									
Benzo(a)pyrene	BRL	0.050									
Benzo(b)fluoranthene	BRL	0.10									
Benzo(g,h,i)perylene	BRL	0.10									
Benzo(k)fluoranthene	BRL	0.050									
Chrysene	BRL	0.050									
Dibenz(a,h)anthracene	BRL	0.10									
Fluoranthene	BRL	0.10									
Fluorene	BRL	0.10									
Indeno(1,2,3-cd)pyrene	BRL	0.050									
Naphthalene	BRL	0.50									
Phenanthrene	BRL	0.050									
Pyrene	BRL	0.050									
Surr: 4-Terphenyl-d14	1.875	0	2.000		93.7	55.4	136				

Sample ID: **LCS-210332**	Client ID:		Units: **ug/L**	Prep Date: **07/20/2015**	Run No: **296217**
SampleType: **LCS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **210332**	Analysis Date: **07/20/2015**	Seq No: **6317519**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.675	0.50	2.000		83.8	66.3	118				
Acenaphthylene	1.627	1.0	2.000		81.3	64	120				
Anthracene	1.735	0.050	2.000		86.7	64.6	127				
Benz(a)anthracene	1.955	0.050	2.000		97.7	60.6	137				
Benzo(a)pyrene	2.097	0.050	2.000		105	64	124				
Benzo(b)fluoranthene	2.063	0.10	2.000		103	56.4	133				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210332

Sample ID: **LCS-210332** Client ID: Units: **ug/L** Prep Date: **07/20/2015** Run No: **296217**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210332** Analysis Date: **07/20/2015** Seq No: **6317519**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(g,h,i)perylene	2.017	0.10	2.000		101	49.9	137				
Benzo(k)fluoranthene	1.881	0.050	2.000		94.1	61.7	137				
Chrysene	2.136	0.050	2.000		107	65.5	127				
Dibenz(a,h)anthracene	1.973	0.10	2.000		98.7	52.4	130				
Fluoranthene	1.909	0.10	2.000		95.5	67	131				
Fluorene	1.707	0.10	2.000		85.3	68.3	120				
Indeno(1,2,3-cd)pyrene	2.128	0.050	2.000		106	50.4	139				
Naphthalene	1.600	0.50	2.000		80.0	61.1	120				
Phenanthrene	1.606	0.050	2.000		80.3	68	119				
Pyrene	1.910	0.050	2.000		95.5	62	127				
Surr: 4-Terphenyl-d14	1.746	0	2.000		87.3	55.4	136				

Sample ID: **LCSD-210332** Client ID: Units: **ug/L** Prep Date: **07/20/2015** Run No: **296217**
SampleType: **LCSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210332** Analysis Date: **07/20/2015** Seq No: **6317520**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.655	0.50	2.000		82.7	66.3	118	1.675	1.23	21.8	
Acenaphthylene	1.572	1.0	2.000		78.6	64	120	1.627	3.40	22.9	
Anthracene	1.702	0.050	2.000		85.1	64.6	127	1.735	1.88	18.6	
Benz(a)anthracene	1.833	0.050	2.000		91.7	60.6	137	1.955	6.40	22.9	
Benzo(a)pyrene	2.015	0.050	2.000		101	64	124	2.097	3.98	22.7	
Benzo(b)fluoranthene	1.987	0.10	2.000		99.3	56.4	133	2.063	3.79	20.3	
Benzo(g,h,i)perylene	2.104	0.10	2.000		105	49.9	137	2.017	4.19	20.6	
Benzo(k)fluoranthene	1.860	0.050	2.000		93.0	61.7	137	1.881	1.12	26.5	
Chrysene	2.095	0.050	2.000		105	65.5	127	2.136	1.96	21.6	
Dibenz(a,h)anthracene	2.070	0.10	2.000		104	52.4	130	1.973	4.79	21.7	
Fluoranthene	1.915	0.10	2.000		95.7	67	131	1.909	0.287	20.7	
Fluorene	1.649	0.10	2.000		82.4	68.3	120	1.707	3.48	20.5	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210332

Sample ID: **LCSD-210332** Client ID:
SampleType: **LCSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**
Units: **ug/L** Prep Date: **07/20/2015** Run No: **296217**
BatchID: **210332** Analysis Date: **07/20/2015** Seq No: **6317520**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Indeno(1,2,3-cd)pyrene	2.164	0.050	2.000		108	50.4	139	2.128	1.70	19.2	
Naphthalene	1.561	0.50	2.000		78.1	61.1	120	1.600	2.49	25.1	
Phenanthrene	1.590	0.050	2.000		79.5	68	119	1.606	0.962	19.7	
Pyrene	1.867	0.050	2.000		93.4	62	127	1.910	2.29	20.5	
Surr: 4-Terphenyl-d14	1.718	0	2.000		85.9	55.4	136	1.746	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210340

Sample ID: **MB-210340** Client ID: Units: **ug/Kg** Prep Date: **07/17/2015** Run No: **296165**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **210340** Analysis Date: **07/17/2015** Seq No: **6316675**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	10									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	45.06	0	50.00		90.1	70	128				
Surr: Dibromofluoromethane	49.27	0	50.00		98.5	78.2	128				
Surr: Toluene-d8	46.21	0	50.00		92.4	76.5	116				

Sample ID: **LCS-210340** Client ID: Units: **ug/Kg** Prep Date: **07/17/2015** Run No: **296165**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **210340** Analysis Date: **07/17/2015** Seq No: **6316681**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	51.63	5.0	50.00		103	72.3	130				
Toluene	51.99	5.0	50.00		104	71.1	130				
Surr: 4-Bromofluorobenzene	42.73	0	50.00		85.5	70	128				
Surr: Dibromofluoromethane	46.29	0	50.00		92.6	78.2	128				
Surr: Toluene-d8	44.50	0	50.00		89.0	76.5	116				

Sample ID: **1507F27-003AMS** Client ID: Units: **ug/Kg-dry** Prep Date: **07/17/2015** Run No: **296165**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **210340** Analysis Date: **07/17/2015** Seq No: **6316682**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	65.62	6.2	61.92		106	70.4	130				
Toluene	65.05	6.2	61.92		105	70.4	130				
Surr: 4-Bromofluorobenzene	51.69	0	61.92		83.5	70	128				
Surr: Dibromofluoromethane	59.86	0	61.92		96.7	78.2	128				
Surr: Toluene-d8	58.02	0	61.92		93.7	76.5	116				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210340

Sample ID: **1507F27-003AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/Kg-dry** Prep Date: **07/17/2015** Run No: **296165**
BatchID: **210340** Analysis Date: **07/17/2015** Seq No: **6316687**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	63.02	6.2	61.92		102	70.4	130	65.62	4.04	16.9	
Toluene	64.71	6.2	61.92		104	70.4	130	65.05	0.534	16.6	
Surr: 4-Bromofluorobenzene	54.84	0	61.92		88.6	70	128	51.69	0	0	
Surr: Dibromofluoromethane	59.27	0	61.92		95.7	78.2	128	59.86	0	0	
Surr: Toluene-d8	57.05	0	61.92		92.1	76.5	116	58.02	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1507B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210354

Sample ID: **MB-210354**	Client ID:			Units: **mg/Kg**	Prep Date: **07/20/2015**	Run No: **296195**
SampleType: **MBLK**	TestCode: **Cyanide, Total SW9014**			BatchID: **210354**	Analysis Date: **07/20/2015**	Seq No: **6316998**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	1.00									

Sample ID: **LCS-210354**	Client ID:			Units: **mg/Kg**	Prep Date: **07/20/2015**	Run No: **296195**
SampleType: **LCS**	TestCode: **Cyanide, Total SW9014**			BatchID: **210354**	Analysis Date: **07/20/2015**	Seq No: **6316999**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	12.22	1.00	12.50		97.8	85	115				

Sample ID: **1507B75-005BMS**	Client ID: **SSS-08-20150714-01**			Units: **mg/Kg-dry**	Prep Date: **07/20/2015**	Run No: **296195**
SampleType: **MS**	TestCode: **Cyanide, Total SW9014**			BatchID: **210354**	Analysis Date: **07/20/2015**	Seq No: **6317025**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	14.49	1.40	17.46		83.0	70	130				

Sample ID: **1507B75-005BMSD**	Client ID: **SSS-08-20150714-01**			Units: **mg/Kg-dry**	Prep Date: **07/20/2015**	Run No: **296195**
SampleType: **MSD**	TestCode: **Cyanide, Total SW9014**			BatchID: **210354**	Analysis Date: **07/20/2015**	Seq No: **6317026**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	14.51	1.40	17.46		83.1	70	130	14.49	0.144	30	

Sample ID: **1507C33-005ADUP**	Client ID:			Units: **mg/Kg**	Prep Date: **07/20/2015**	Run No: **296195**
SampleType: **DUP**	TestCode: **Cyanide, Total SW9014**			BatchID: **210354**	Analysis Date: **07/20/2015**	Seq No: **6320186**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	1.00						0	0	30	H

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

AES

July 29, 2015

Nic Vrey
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: AGL Macon Remediation

Dear Nic Vrey: Order No: 1507F75

Analytical Environmental Services, Inc. received 7 samples on 7/20/2015 7:30:00 AM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/15.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

Revision 7/29/2015

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 507F75

Date: 7/18/15 Page 1 of 1

COMPANY: ERM

ADDRESS: 3200 Windy Hill Rd Suite 1500 W ATL 30339

PHONE:

FAX:

SAMPLED BY: K. Spencer, J. Mullooly

SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	VOCs (8260B)	SVOCs (8270C)	Inorganic (6010B)	Cyanide	No # of Containers	REMARKS
	PRESERVATION (See codes)											
1	SSS-12-20150716-01	7/16	1150		X	S	X	X	X	X		
2	SSS-13-20150716-01	7/16	1145		X	S	X	X	X	X		
3	SSS-14-20150716-01	7/16	1140		X	S	X	X	X	X		
4	SSS-15-20150718-01	7/16	1150		X	S	X	X	X	X		
5	SSS-16-20150718-01	7/18	0830		X	S	X	X	X	X		
6	SSS-17-20150718-01	7/18	0830		X	S	X	X	X	X		
7	Trip Blank (TB-05-20150718-01)	7/18					X	X				
8	Temp Blank											
9												
10												
11												
12												
13												
14												

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: Kem Gunt	7/19 1900	1: Latoya Reeves	7/20/15 7:30a
2:		2:	
3:		3:	

PROJECT INFORMATION

PROJECT NAME: AGL Macon Remediation

PROJECT #:

SITE ADDRESS:

SEND REPORT TO: rob.river@erm.com

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: PO#:

RECEIPT

Total # of Containers

Turnaround Time Request
- X Standard 5 Business Days
- O 2 Business Day Rush
- O Next Business Day Rush
- O Same Day Rush (auth req.)
- O Other

STATE PROGRAM (if any):

E-mail? Y / N; Fax? Y / N

DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD

OUT / / VIA:

IN / / VIA:

CLIENT FedEx UPS MAIL COURIER GREYHOUND OTHER

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Client: ERM-Southeast
Project: AGL Macon Remediation
Lab ID: 1507F75

Case Narrative

Sample Receiving Nonconformance:

SVOCs analysis was indicated on the Chain of Custody for sample "Trip Blank". However, only vials were received. As a result SVOCs could not be reported. Only VOCs were reported.

Volatile Organic Compounds Analysis by Method 8260B:

Percent recovery for the internal standard compound 1,4-Dichlorobenzene-d4 on sample 1507F75-002 A was outside control limits biased low due to suspected matrix interference. All other internal standard recoveries were within control limits.

Analytical Environmental Services, Inc **Date:** 29-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-12-20150716-01
Project Name:	AGL Macon Remediation	**Collection Date:**	7/16/2015 11:50:00 AM
Lab ID:	1507F75-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	11		ug/Kg-dry	210542	1	07/24/2015 11:48	MD
Benzene	BRL	5.3		ug/Kg-dry	210542	1	07/24/2015 11:48	MD
Toluene	BRL	5.3		ug/Kg-dry	210542	1	07/24/2015 11:48	MD
Ethylbenzene	BRL	5.3		ug/Kg-dry	210542	1	07/24/2015 11:48	MD
Xylenes, Total	BRL	5.3		ug/Kg-dry	210542	1	07/24/2015 11:48	MD
Surr: 4-Bromofluorobenzene	95.2	70-128		%REC	210542	1	07/24/2015 11:48	MD
Surr: Dibromofluoromethane	113	78.2-128		%REC	210542	1	07/24/2015 11:48	MD
Surr: Toluene-d8	89.9	76.5-116		%REC	210542	1	07/24/2015 11:48	MD
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.102		mg/Kg-dry	210447	1	07/22/2015 11:45	TA
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	19		ug/Kg-dry	210460	1	07/23/2015 18:18	YH
Acenaphthylene	38	37		ug/Kg-dry	210460	1	07/23/2015 18:18	YH
Anthracene	48	1.9		ug/Kg-dry	210460	1	07/23/2015 18:18	YH
Benz(a)anthracene	170	1.9		ug/Kg-dry	210460	1	07/23/2015 18:18	YH
Benzo(a)pyrene	100	1.9		ug/Kg-dry	210460	1	07/23/2015 18:18	YH
Benzo(b)fluoranthene	190	3.7		ug/Kg-dry	210460	1	07/23/2015 18:18	YH
Benzo(g,h,i)perylene	77	3.7		ug/Kg-dry	210460	1	07/23/2015 18:18	YH
Benzo(k)fluoranthene	63	1.9		ug/Kg-dry	210460	1	07/23/2015 18:18	YH
Chrysene	160	1.9		ug/Kg-dry	210460	1	07/23/2015 18:18	YH
Dibenz(a,h)anthracene	14	3.7		ug/Kg-dry	210460	1	07/23/2015 18:18	YH
Fluoranthene	190	3.7		ug/Kg-dry	210460	1	07/23/2015 18:18	YH
Fluorene	9.7	3.7		ug/Kg-dry	210460	1	07/23/2015 18:18	YH
Indeno(1,2,3-cd)pyrene	70	1.9		ug/Kg-dry	210460	1	07/23/2015 18:18	YH
Naphthalene	22	19		ug/Kg-dry	210460	1	07/23/2015 18:18	YH
Phenanthrene	260	1.9		ug/Kg-dry	210460	1	07/23/2015 18:18	YH
Pyrene	210	1.9		ug/Kg-dry	210460	1	07/23/2015 18:18	YH
Surr: 4-Terphenyl-d14	81.3	42-124		%REC	210460	1	07/23/2015 18:18	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	370		ug/Kg-dry	210372	1	07/21/2015 16:00	YH
2-Methylphenol	BRL	370		ug/Kg-dry	210372	1	07/21/2015 16:00	YH
3,4-Methylphenol	BRL	370		ug/Kg-dry	210372	1	07/21/2015 16:00	YH
Phenol	BRL	370		ug/Kg-dry	210372	1	07/21/2015 16:00	YH
Surr: 2,4,6-Tribromophenol	100	41-128		%REC	210372	1	07/21/2015 16:00	YH
Surr: 2-Fluorobiphenyl	84.5	47-120		%REC	210372	1	07/21/2015 16:00	YH
Surr: 2-Fluorophenol	62.6	38.3-120		%REC	210372	1	07/21/2015 16:00	YH
Surr: 4-Terphenyl-d14	87.3	51.4-125		%REC	210372	1	07/21/2015 16:00	YH
Surr: Nitrobenzene-d5	70.8	40.1-120		%REC	210372	1	07/21/2015 16:00	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 29-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-12-20150716-01
Project Name:	AGL Macon Remediation	**Collection Date:**	7/16/2015 11:50:00 AM
Lab ID:	1507F75-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	77.9	40.3-120		%REC	210372	1	07/21/2015 16:00	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.13		mg/Kg-dry	210594	1	07/24/2015 15:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.60		mg/Kg-dry	210418	1	07/22/2015 12:00	IO
Arsenic	BRL	5.60		mg/Kg-dry	210418	1	07/22/2015 12:00	IO
Barium	21.9	5.60		mg/Kg-dry	210418	1	07/22/2015 12:00	IO
Beryllium	BRL	2.80		mg/Kg-dry	210418	1	07/22/2015 12:00	IO
Cadmium	BRL	2.80		mg/Kg-dry	210418	1	07/22/2015 12:00	IO
Chromium	13.2	2.80		mg/Kg-dry	210418	1	07/22/2015 12:00	IO
Copper	9.17	2.80		mg/Kg-dry	210418	1	07/22/2015 12:00	IO
Lead	18.8	5.60		mg/Kg-dry	210418	1	07/22/2015 12:00	IO
Nickel	BRL	5.60		mg/Kg-dry	210418	1	07/22/2015 12:00	IO
Zinc	11.0	5.60		mg/Kg-dry	210418	1	07/22/2015 12:00	IO
PERCENT MOISTURE D2216								
Percent Moisture	11.8	0		wt%	R296611	1	07/24/2015 10:00	PF

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 29-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-13-20150716-01
Project Name:	AGL Macon Remediation	**Collection Date:**	7/16/2015 11:45:00 AM
Lab ID:	1507F75-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	12		ug/Kg-dry	210542	1	07/24/2015 12:12	MD
Benzene	BRL	5.9		ug/Kg-dry	210542	1	07/24/2015 12:12	MD
Toluene	BRL	5.9		ug/Kg-dry	210542	1	07/24/2015 12:12	MD
Ethylbenzene	BRL	5.9		ug/Kg-dry	210542	1	07/24/2015 12:12	MD
Xylenes, Total	BRL	5.9		ug/Kg-dry	210542	1	07/24/2015 12:12	MD
Surr: 4-Bromofluorobenzene	85.2	70-128		%REC	210542	1	07/24/2015 12:12	MD
Surr: Dibromofluoromethane	118	78.2-128		%REC	210542	1	07/24/2015 12:12	MD
Surr: Toluene-d8	88.3	76.5-116		%REC	210542	1	07/24/2015 12:12	MD
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.126		mg/Kg-dry	210447	1	07/22/2015 11:47	TA
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	22		ug/Kg-dry	210460	1	07/23/2015 18:44	YH
Acenaphthylene	100	42		ug/Kg-dry	210460	1	07/23/2015 18:44	YH
Anthracene	98	2.2		ug/Kg-dry	210460	1	07/23/2015 18:44	YH
Benz(a)anthracene	350	22		ug/Kg-dry	210460	10	07/24/2015 00:08	YH
Benzo(a)pyrene	270	2.2		ug/Kg-dry	210460	1	07/23/2015 18:44	YH
Benzo(b)fluoranthene	420	42		ug/Kg-dry	210460	10	07/24/2015 00:08	YH
Benzo(g,h,i)perylene	190	4.2		ug/Kg-dry	210460	1	07/23/2015 18:44	YH
Benzo(k)fluoranthene	120	2.2		ug/Kg-dry	210460	1	07/23/2015 18:44	YH
Chrysene	380	2.2		ug/Kg-dry	210460	1	07/23/2015 18:44	YH
Dibenz(a,h)anthracene	38	4.2		ug/Kg-dry	210460	1	07/23/2015 18:44	YH
Fluoranthene	430	42		ug/Kg-dry	210460	10	07/24/2015 00:08	YH
Fluorene	23	4.2		ug/Kg-dry	210460	1	07/23/2015 18:44	YH
Indeno(1,2,3-cd)pyrene	160	2.2		ug/Kg-dry	210460	1	07/23/2015 18:44	YH
Naphthalene	30	22		ug/Kg-dry	210460	1	07/23/2015 18:44	YH
Phenanthrene	410	22		ug/Kg-dry	210460	10	07/24/2015 00:08	YH
Pyrene	470	22		ug/Kg-dry	210460	10	07/24/2015 00:08	YH
Surr: 4-Terphenyl-d14	89	42-124		%REC	210460	1	07/23/2015 18:44	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	420		ug/Kg-dry	210372	1	07/21/2015 16:26	YH
2-Methylphenol	BRL	420		ug/Kg-dry	210372	1	07/21/2015 16:26	YH
3,4-Methylphenol	BRL	420		ug/Kg-dry	210372	1	07/21/2015 16:26	YH
Phenol	BRL	420		ug/Kg-dry	210372	1	07/21/2015 16:26	YH
Surr: 2,4,6-Tribromophenol	98.9	41-128		%REC	210372	1	07/21/2015 16:26	YH
Surr: 2-Fluorobiphenyl	83.4	47-120		%REC	210372	1	07/21/2015 16:26	YH
Surr: 2-Fluorophenol	63.6	38.3-120		%REC	210372	1	07/21/2015 16:26	YH
Surr: 4-Terphenyl-d14	82.7	51.4-125		%REC	210372	1	07/21/2015 16:26	YH
Surr: Nitrobenzene-d5	76.2	40.1-120		%REC	210372	1	07/21/2015 16:26	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 29-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-13-20150716-01
Project Name:	AGL Macon Remediation	**Collection Date:**	7/16/2015 11:45:00 AM
Lab ID:	1507F75-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	76.1	40.3-120		%REC	210372	1	07/21/2015 16:26	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.29		mg/Kg-dry	210594	1	07/24/2015 15:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	6.29		mg/Kg-dry	210418	1	07/22/2015 15:31	IO
Arsenic	BRL	6.29		mg/Kg-dry	210418	1	07/22/2015 15:31	IO
Barium	35.9	6.29		mg/Kg-dry	210418	1	07/22/2015 15:31	IO
Beryllium	BRL	3.14		mg/Kg-dry	210418	1	07/22/2015 15:31	IO
Cadmium	BRL	3.14		mg/Kg-dry	210418	1	07/22/2015 15:31	IO
Chromium	16.0	3.14		mg/Kg-dry	210418	1	07/22/2015 15:31	IO
Copper	15.5	3.14		mg/Kg-dry	210418	1	07/22/2015 15:31	IO
Lead	30.3	6.29		mg/Kg-dry	210418	1	07/22/2015 15:31	IO
Nickel	BRL	6.29		mg/Kg-dry	210418	1	07/22/2015 15:31	IO
Zinc	24.2	6.29		mg/Kg-dry	210418	1	07/22/2015 15:31	IO
PERCENT MOISTURE D2216								
Percent Moisture	22.2	0		wt%	R296611	1	07/24/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 29-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-14-20150716-01
Project Name:	AGL Macon Remediation	**Collection Date:**	7/16/2015 11:40:00 AM
Lab ID:	1507F75-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	7.5		ug/Kg-dry	210542	1	07/24/2015 13:51	CG
Benzene	BRL	3.7		ug/Kg-dry	210542	1	07/24/2015 13:51	CG
Toluene	BRL	3.7		ug/Kg-dry	210542	1	07/24/2015 13:51	CG
Ethylbenzene	BRL	3.7		ug/Kg-dry	210542	1	07/24/2015 13:51	CG
Xylenes, Total	BRL	3.7		ug/Kg-dry	210542	1	07/24/2015 13:51	CG
Surr: 4-Bromofluorobenzene	70.3	70-128		%REC	210542	1	07/24/2015 13:51	CG
Surr: Dibromofluoromethane	103	78.2-128		%REC	210542	1	07/24/2015 13:51	CG
Surr: Toluene-d8	91.5	76.5-116		%REC	210542	1	07/24/2015 13:51	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.104		mg/Kg-dry	210447	1	07/22/2015 11:49	TA
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	29	19		ug/Kg-dry	210460	1	07/23/2015 19:11	YH
Acenaphthylene	120	36		ug/Kg-dry	210460	1	07/23/2015 19:11	YH
Anthracene	100	1.9		ug/Kg-dry	210460	1	07/23/2015 19:11	YH
Benz(a)anthracene	300	19		ug/Kg-dry	210460	10	07/24/2015 00:36	YH
Benzo(a)pyrene	180	1.9		ug/Kg-dry	210460	1	07/23/2015 19:11	YH
Benzo(b)fluoranthene	320	3.6		ug/Kg-dry	210460	1	07/23/2015 19:11	YH
Benzo(g,h,i)perylene	110	3.6		ug/Kg-dry	210460	1	07/23/2015 19:11	YH
Benzo(k)fluoranthene	78	1.9		ug/Kg-dry	210460	1	07/23/2015 19:11	YH
Chrysene	320	1.9		ug/Kg-dry	210460	1	07/23/2015 19:11	YH
Dibenz(a,h)anthracene	30	3.6		ug/Kg-dry	210460	1	07/23/2015 19:11	YH
Fluoranthene	350	36		ug/Kg-dry	210460	10	07/24/2015 00:36	YH
Fluorene	38	3.6		ug/Kg-dry	210460	1	07/23/2015 19:11	YH
Indeno(1,2,3-cd)pyrene	100	1.9		ug/Kg-dry	210460	1	07/23/2015 19:11	YH
Naphthalene	24	19		ug/Kg-dry	210460	1	07/23/2015 19:11	YH
Phenanthrene	530	19		ug/Kg-dry	210460	10	07/24/2015 00:36	YH
Pyrene	450	19		ug/Kg-dry	210460	10	07/24/2015 00:36	YH
Surr: 4-Terphenyl-d14	84.1	42-124		%REC	210460	1	07/23/2015 19:11	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	360		ug/Kg-dry	210372	1	07/21/2015 16:52	YH
2-Methylphenol	BRL	360		ug/Kg-dry	210372	1	07/21/2015 16:52	YH
3,4-Methylphenol	BRL	360		ug/Kg-dry	210372	1	07/21/2015 16:52	YH
Phenol	BRL	360		ug/Kg-dry	210372	1	07/21/2015 16:52	YH
Surr: 2,4,6-Tribromophenol	107	41-128		%REC	210372	1	07/21/2015 16:52	YH
Surr: 2-Fluorobiphenyl	87.6	47-120		%REC	210372	1	07/21/2015 16:52	YH
Surr: 2-Fluorophenol	68	38.3-120		%REC	210372	1	07/21/2015 16:52	YH
Surr: 4-Terphenyl-d14	91.4	51.4-125		%REC	210372	1	07/21/2015 16:52	YH
Surr: Nitrobenzene-d5	77.1	40.1-120		%REC	210372	1	07/21/2015 16:52	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 29-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-14-20150716-01
Project Name:	AGL Macon Remediation	**Collection Date:**	7/16/2015 11:40:00 AM
Lab ID:	1507F75-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	81.1	40.3-120		%REC	210372	1	07/21/2015 16:52	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.09		mg/Kg-dry	210594	1	07/24/2015 15:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.40		mg/Kg-dry	210418	1	07/22/2015 15:35	IO
Arsenic	BRL	5.40		mg/Kg-dry	210418	1	07/22/2015 15:35	IO
Barium	41.0	5.40		mg/Kg-dry	210418	1	07/22/2015 15:35	IO
Beryllium	BRL	2.70		mg/Kg-dry	210418	1	07/22/2015 15:35	IO
Cadmium	BRL	2.70		mg/Kg-dry	210418	1	07/22/2015 15:35	IO
Chromium	13.9	2.70		mg/Kg-dry	210418	1	07/22/2015 15:35	IO
Copper	9.01	2.70		mg/Kg-dry	210418	1	07/22/2015 15:35	IO
Lead	23.7	5.40		mg/Kg-dry	210418	1	07/22/2015 15:35	IO
Nickel	BRL	5.40		mg/Kg-dry	210418	1	07/22/2015 15:35	IO
Zinc	17.3	5.40		mg/Kg-dry	210418	1	07/22/2015 15:35	IO
PERCENT MOISTURE D2216								
Percent Moisture	8.36	0		wt%	R296611	1	07/24/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 29-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-15-20150716-01
Project Name:	AGL Macon Remediation	**Collection Date:**	7/16/2015 11:50:00 AM
Lab ID:	1507F75-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	6.2		ug/Kg-dry	210542	1	07/24/2015 14:16	CG
Benzene	BRL	3.1		ug/Kg-dry	210542	1	07/24/2015 14:16	CG
Toluene	BRL	3.1		ug/Kg-dry	210542	1	07/24/2015 14:16	CG
Ethylbenzene	BRL	3.1		ug/Kg-dry	210542	1	07/24/2015 14:16	CG
Xylenes, Total	3.5	3.1		ug/Kg-dry	210542	1	07/24/2015 14:16	CG
Surr: 4-Bromofluorobenzene	69.3	70-128	S	%REC	210542	1	07/24/2015 14:16	CG
Surr: Dibromofluoromethane	99.2	78.2-128		%REC	210542	1	07/24/2015 14:16	CG
Surr: Toluene-d8	87.3	76.5-116		%REC	210542	1	07/24/2015 14:16	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.108		mg/Kg-dry	210447	1	07/22/2015 11:56	TA
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	19		ug/Kg-dry	210460	1	07/23/2015 19:39	YH
Acenaphthylene	51	37		ug/Kg-dry	210460	1	07/23/2015 19:39	YH
Anthracene	44	1.9		ug/Kg-dry	210460	1	07/23/2015 19:39	YH
Benz(a)anthracene	280	1.9		ug/Kg-dry	210460	1	07/23/2015 19:39	YH
Benzo(a)pyrene	170	1.9		ug/Kg-dry	210460	1	07/23/2015 19:39	YH
Benzo(b)fluoranthene	250	3.7		ug/Kg-dry	210460	1	07/23/2015 19:39	YH
Benzo(g,h,i)perylene	100	3.7		ug/Kg-dry	210460	1	07/23/2015 19:39	YH
Benzo(k)fluoranthene	66	1.9		ug/Kg-dry	210460	1	07/23/2015 19:39	YH
Chrysene	220	1.9		ug/Kg-dry	210460	1	07/23/2015 19:39	YH
Dibenz(a,h)anthracene	30	3.7		ug/Kg-dry	210460	1	07/23/2015 19:39	YH
Fluoranthene	230	3.7		ug/Kg-dry	210460	1	07/23/2015 19:39	YH
Fluorene	14	3.7		ug/Kg-dry	210460	1	07/23/2015 19:39	YH
Indeno(1,2,3-cd)pyrene	93	1.9		ug/Kg-dry	210460	1	07/23/2015 19:39	YH
Naphthalene	BRL	19		ug/Kg-dry	210460	1	07/23/2015 19:39	YH
Phenanthrene	260	1.9		ug/Kg-dry	210460	1	07/23/2015 19:39	YH
Pyrene	300	1.9		ug/Kg-dry	210460	1	07/23/2015 19:39	YH
Surr: 4-Terphenyl-d14	86.2	42-124		%REC	210460	1	07/23/2015 19:39	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	370		ug/Kg-dry	210372	1	07/21/2015 17:17	YH
2-Methylphenol	BRL	370		ug/Kg-dry	210372	1	07/21/2015 17:17	YH
3,4-Methylphenol	BRL	370		ug/Kg-dry	210372	1	07/21/2015 17:17	YH
Phenol	BRL	370		ug/Kg-dry	210372	1	07/21/2015 17:17	YH
Surr: 2,4,6-Tribromophenol	91.9	41-128		%REC	210372	1	07/21/2015 17:17	YH
Surr: 2-Fluorobiphenyl	81.6	47-120		%REC	210372	1	07/21/2015 17:17	YH
Surr: 2-Fluorophenol	57.7	38.3-120		%REC	210372	1	07/21/2015 17:17	YH
Surr: 4-Terphenyl-d14	81.1	51.4-125		%REC	210372	1	07/21/2015 17:17	YH
Surr: Nitrobenzene-d5	72.7	40.1-120		%REC	210372	1	07/21/2015 17:17	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 29-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-15-20150716-01
Project Name:	AGL Macon Remediation	**Collection Date:**	7/16/2015 11:50:00 AM
Lab ID:	1507F75-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	71.4	40.3-120		%REC	210372	1	07/21/2015 17:17	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.11		mg/Kg-dry	210594	1	07/24/2015 15:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.38		mg/Kg-dry	210418	1	07/22/2015 15:39	IO
Arsenic	BRL	5.38		mg/Kg-dry	210418	1	07/22/2015 15:39	IO
Barium	23.7	5.38		mg/Kg-dry	210418	1	07/22/2015 15:39	IO
Beryllium	BRL	2.69		mg/Kg-dry	210418	1	07/22/2015 15:39	IO
Cadmium	BRL	2.69		mg/Kg-dry	210418	1	07/22/2015 15:39	IO
Chromium	10.6	2.69		mg/Kg-dry	210418	1	07/22/2015 15:39	IO
Copper	5.84	2.69		mg/Kg-dry	210418	1	07/22/2015 15:39	IO
Lead	13.9	5.38		mg/Kg-dry	210418	1	07/22/2015 15:39	IO
Nickel	BRL	5.38		mg/Kg-dry	210418	1	07/22/2015 15:39	IO
Zinc	10.6	5.38		mg/Kg-dry	210418	1	07/22/2015 15:39	IO
PERCENT MOISTURE D2216								
Percent Moisture	9.80	0		wt%	R296611	1	07/24/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 29-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-16-20150718-01
Project Name:	AGL Macon Remediation	**Collection Date:**	7/18/2015 8:30:00 AM
Lab ID:	1507F75-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	7.5		ug/Kg-dry	210542	1	07/24/2015 14:42	CG
Benzene	BRL	3.7		ug/Kg-dry	210542	1	07/24/2015 14:42	CG
Toluene	BRL	3.7		ug/Kg-dry	210542	1	07/24/2015 14:42	CG
Ethylbenzene	BRL	3.7		ug/Kg-dry	210542	1	07/24/2015 14:42	CG
Xylenes, Total	BRL	3.7		ug/Kg-dry	210542	1	07/24/2015 14:42	CG
Surr: 4-Bromofluorobenzene	63.2	70-128	S	%REC	210542	1	07/24/2015 14:42	CG
Surr: Dibromofluoromethane	110	78.2-128		%REC	210542	1	07/24/2015 14:42	CG
Surr: Toluene-d8	89.3	76.5-116		%REC	210542	1	07/24/2015 14:42	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.100		mg/Kg-dry	210447	1	07/22/2015 11:58	TA
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	160	18		ug/Kg-dry	210460	1	07/23/2015 20:05	YH
Acenaphthylene	93	35		ug/Kg-dry	210460	1	07/23/2015 20:05	YH
Anthracene	350	18		ug/Kg-dry	210460	10	07/24/2015 01:32	YH
Benz(a)anthracene	1100	18		ug/Kg-dry	210460	10	07/24/2015 01:32	YH
Benzo(a)pyrene	650	18		ug/Kg-dry	210460	10	07/24/2015 01:32	YH
Benzo(b)fluoranthene	1500	35		ug/Kg-dry	210460	10	07/24/2015 01:32	YH
Benzo(g,h,i)perylene	340	35		ug/Kg-dry	210460	10	07/24/2015 01:32	YH
Benzo(k)fluoranthene	330	1.8		ug/Kg-dry	210460	1	07/23/2015 20:05	YH
Chrysene	850	18		ug/Kg-dry	210460	10	07/24/2015 01:32	YH
Dibenz(a,h)anthracene	160	3.5		ug/Kg-dry	210460	1	07/23/2015 20:05	YH
Fluoranthene	1800	35		ug/Kg-dry	210460	10	07/24/2015 01:32	YH
Fluorene	230	3.5		ug/Kg-dry	210460	1	07/23/2015 20:05	YH
Indeno(1,2,3-cd)pyrene	330	18		ug/Kg-dry	210460	10	07/24/2015 01:32	YH
Naphthalene	330	180		ug/Kg-dry	210460	10	07/24/2015 01:32	YH
Phenanthrene	1600	18		ug/Kg-dry	210460	10	07/24/2015 01:32	YH
Pyrene	1400	18		ug/Kg-dry	210460	10	07/24/2015 01:32	YH
Surr: 4-Terphenyl-d14	89.8	42-124		%REC	210460	1	07/23/2015 20:05	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	350		ug/Kg-dry	210372	1	07/21/2015 17:42	YH
2-Methylphenol	BRL	350		ug/Kg-dry	210372	1	07/21/2015 17:42	YH
3,4-Methylphenol	BRL	350		ug/Kg-dry	210372	1	07/21/2015 17:42	YH
Phenol	BRL	350		ug/Kg-dry	210372	1	07/21/2015 17:42	YH
Surr: 2,4,6-Tribromophenol	106	41-128		%REC	210372	1	07/21/2015 17:42	YH
Surr: 2-Fluorobiphenyl	89.9	47-120		%REC	210372	1	07/21/2015 17:42	YH
Surr: 2-Fluorophenol	70	38.3-120		%REC	210372	1	07/21/2015 17:42	YH
Surr: 4-Terphenyl-d14	86.9	51.4-125		%REC	210372	1	07/21/2015 17:42	YH
Surr: Nitrobenzene-d5	82.6	40.1-120		%REC	210372	1	07/21/2015 17:42	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 29-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-16-20150718-01
Project Name:	AGL Macon Remediation	**Collection Date:**	7/18/2015 8:30:00 AM
Lab ID:	1507F75-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	80.8	40.3-120		%REC	210372	1	07/21/2015 17:42	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.07		mg/Kg-dry	210594	1	07/24/2015 15:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.19		mg/Kg-dry	210418	1	07/22/2015 15:42	IO
Arsenic	BRL	5.19		mg/Kg-dry	210418	1	07/22/2015 15:42	IO
Barium	39.4	5.19		mg/Kg-dry	210418	1	07/22/2015 15:42	IO
Beryllium	BRL	2.60		mg/Kg-dry	210418	1	07/22/2015 15:42	IO
Cadmium	BRL	2.60		mg/Kg-dry	210418	1	07/22/2015 15:42	IO
Chromium	10.9	2.60		mg/Kg-dry	210418	1	07/22/2015 15:42	IO
Copper	15.8	2.60		mg/Kg-dry	210418	1	07/22/2015 15:42	IO
Lead	46.9	5.19		mg/Kg-dry	210418	1	07/22/2015 15:42	IO
Nickel	BRL	5.19		mg/Kg-dry	210418	1	07/22/2015 15:42	IO
Zinc	25.2	5.19		mg/Kg-dry	210418	1	07/22/2015 15:42	IO
PERCENT MOISTURE D2216								
Percent Moisture	6.61	0		wt%	R296611	1	07/24/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 29-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-17-20150718-01
Project Name:	AGL Macon Remediation	**Collection Date:**	7/18/2015 8:30:00 AM
Lab ID:	1507F75-006	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	15		ug/Kg-dry	210542	1	07/24/2015 15:07	CG
Benzene	BRL	7.7		ug/Kg-dry	210542	1	07/24/2015 15:07	CG
Toluene	BRL	7.7		ug/Kg-dry	210542	1	07/24/2015 15:07	CG
Ethylbenzene	BRL	7.7		ug/Kg-dry	210542	1	07/24/2015 15:07	CG
Xylenes, Total	10	7.7		ug/Kg-dry	210542	1	07/24/2015 15:07	CG
Surr: 4-Bromofluorobenzene	74.9	70-128		%REC	210542	1	07/24/2015 15:07	CG
Surr: Dibromofluoromethane	102	78.2-128		%REC	210542	1	07/24/2015 15:07	CG
Surr: Toluene-d8	93.3	76.5-116		%REC	210542	1	07/24/2015 15:07	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.122		mg/Kg-dry	210447	1	07/22/2015 12:00	TA
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	110	21		ug/Kg-dry	210460	1	07/23/2015 20:31	YH
Acenaphthylene	270	41		ug/Kg-dry	210460	1	07/23/2015 20:31	YH
Anthracene	250	2.1		ug/Kg-dry	210460	1	07/23/2015 20:31	YH
Benz(a)anthracene	520	21		ug/Kg-dry	210460	10	07/24/2015 02:00	YH
Benzo(a)pyrene	250	2.1		ug/Kg-dry	210460	1	07/23/2015 20:31	YH
Benzo(b)fluoranthene	410	4.1		ug/Kg-dry	210460	1	07/23/2015 20:31	YH
Benzo(g,h,i)perylene	130	4.1		ug/Kg-dry	210460	1	07/23/2015 20:31	YH
Benzo(k)fluoranthene	100	2.1		ug/Kg-dry	210460	1	07/23/2015 20:31	YH
Chrysene	450	21		ug/Kg-dry	210460	10	07/24/2015 02:00	YH
Dibenz(a,h)anthracene	43	4.1		ug/Kg-dry	210460	1	07/23/2015 20:31	YH
Fluoranthene	610	41		ug/Kg-dry	210460	10	07/24/2015 02:00	YH
Fluorene	160	4.1		ug/Kg-dry	210460	1	07/23/2015 20:31	YH
Indeno(1,2,3-cd)pyrene	130	2.1		ug/Kg-dry	210460	1	07/23/2015 20:31	YH
Naphthalene	33	21		ug/Kg-dry	210460	1	07/23/2015 20:31	YH
Phenanthrene	1500	21		ug/Kg-dry	210460	10	07/24/2015 02:00	YH
Pyrene	790	21		ug/Kg-dry	210460	10	07/24/2015 02:00	YH
Surr: 4-Terphenyl-d14	84.2	42-124		%REC	210460	1	07/23/2015 20:31	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	410		ug/Kg-dry	210372	1	07/21/2015 18:08	YH
2-Methylphenol	BRL	410		ug/Kg-dry	210372	1	07/21/2015 18:08	YH
3,4-Methylphenol	BRL	410		ug/Kg-dry	210372	1	07/21/2015 18:08	YH
Phenol	BRL	410		ug/Kg-dry	210372	1	07/21/2015 18:08	YH
Surr: 2,4,6-Tribromophenol	108	41-128		%REC	210372	1	07/21/2015 18:08	YH
Surr: 2-Fluorobiphenyl	87.5	47-120		%REC	210372	1	07/21/2015 18:08	YH
Surr: 2-Fluorophenol	65.3	38.3-120		%REC	210372	1	07/21/2015 18:08	YH
Surr: 4-Terphenyl-d14	88.8	51.4-125		%REC	210372	1	07/21/2015 18:08	YH
Surr: Nitrobenzene-d5	75.1	40.1-120		%REC	210372	1	07/21/2015 18:08	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 29-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-17-20150718-01
Project Name:	AGL Macon Remediation	**Collection Date:**	7/18/2015 8:30:00 AM
Lab ID:	1507F75-006	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	79.4	40.3-120		%REC	210372	1	07/21/2015 18:08	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.24		mg/Kg-dry	210594	1	07/24/2015 15:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.92		mg/Kg-dry	210418	1	07/22/2015 15:46	IO
Arsenic	BRL	5.92		mg/Kg-dry	210418	1	07/22/2015 15:46	IO
Barium	50.8	5.92		mg/Kg-dry	210418	1	07/22/2015 15:46	IO
Beryllium	BRL	2.96		mg/Kg-dry	210418	1	07/22/2015 15:46	IO
Cadmium	BRL	2.96		mg/Kg-dry	210418	1	07/22/2015 15:46	IO
Chromium	16.8	2.96		mg/Kg-dry	210418	1	07/22/2015 15:46	IO
Copper	6.90	2.96		mg/Kg-dry	210418	1	07/22/2015 15:46	IO
Lead	18.9	5.92		mg/Kg-dry	210418	1	07/22/2015 15:46	IO
Nickel	BRL	5.92		mg/Kg-dry	210418	1	07/22/2015 15:46	IO
Zinc	21.7	5.92		mg/Kg-dry	210418	1	07/22/2015 15:46	IO
PERCENT MOISTURE D2216								
Percent Moisture	19.5	0		wt%	R296611	1	07/24/2015 10:00	PF

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 29-Jul-15

Client:	ERM-Southeast	**Client Sample ID:**	TRIP BLANK
Project Name:	AGL Macon Remediation	**Collection Date:**	7/18/2015
Lab ID:	1507F75-007	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	210556	1	07/24/2015 03:14	CH
Carbon disulfide	BRL	5.0		ug/L	210556	1	07/24/2015 03:14	CH
Ethylbenzene	BRL	5.0		ug/L	210556	1	07/24/2015 03:14	CH
Toluene	BRL	5.0		ug/L	210556	1	07/24/2015 03:14	CH
Xylenes, Total	BRL	5.0		ug/L	210556	1	07/24/2015 03:14	CH
Surr: 4-Bromofluorobenzene	87.2	70.6-123		%REC	210556	1	07/24/2015 03:14	CH
Surr: Dibromofluoromethane	94	78.7-124		%REC	210556	1	07/24/2015 03:14	CH
Surr: Toluene-d8	100	81.3-120		%REC	210556	1	07/24/2015 03:14	CH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM Work Order Number 1507F75

Checklist completed by Jason B 7/20/15
Signature Date

Carrier name: FedEx __ UPS __ Courier __ Client ✓ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 3.2° Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by _____

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1507F75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210372

Sample ID: **MB-210372** Client ID: Units: **ug/Kg** Prep Date: **07/21/2015** Run No: **296337**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210372** Analysis Date: **07/21/2015** Seq No: **6320197**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	330									
2-Methylphenol	BRL	330									
3,4-Methylphenol	BRL	330									
Phenol	BRL	330									
Surr: 2,4,6-Tribromophenol	3129	0	3333		93.9	41	128				
Surr: 2-Fluorobiphenyl	1370	0	1667		82.2	47	120				
Surr: 2-Fluorophenol	2344	0	3333		70.3	38.3	120				
Surr: 4-Terphenyl-d14	1481	0	1667		88.8	51.4	125				
Surr: Nitrobenzene-d5	1261	0	1667		75.6	40.1	120				
Surr: Phenol-d5	2631	0	3333		78.9	40.3	120				

Sample ID: **LCS-210372** Client ID: Units: **ug/Kg** Prep Date: **07/21/2015** Run No: **296337**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210372** Analysis Date: **07/21/2015** Seq No: **6320198**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2428	330	3333		72.8	50.1	120				
Surr: 2,4,6-Tribromophenol	3500	0	3333		105	41	128				
Surr: 2-Fluorobiphenyl	1519	0	1667		91.2	47	120				
Surr: 2-Fluorophenol	2379	0	3333		71.4	38.3	120				
Surr: 4-Terphenyl-d14	1567	0	1667		94.0	51.4	125				
Surr: Nitrobenzene-d5	1327	0	1667		79.6	40.1	120				
Surr: Phenol-d5	2516	0	3333		75.5	40.3	120				

Sample ID: **1507G15-003AMS** Client ID: Units: **ug/Kg-dry** Prep Date: **07/21/2015** Run No: **296337**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **210372** Analysis Date: **07/21/2015** Seq No: **6320200**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2350	340	3477		67.6	41.5	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1507F75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210372

Sample ID: **1507G15-003AMS** Client ID:
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/Kg-dry** Prep Date: **07/21/2015** Run No: **296337**
BatchID: **210372** Analysis Date: **07/21/2015** Seq No: **6320200**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 2,4,6-Tribromophenol	3270	0	3477		94.0	41	128				
Surr: 2-Fluorobiphenyl	1424	0	1739		81.9	47	120				
Surr: 2-Fluorophenol	2265	0	3477		65.1	38.3	120				
Surr: 4-Terphenyl-d14	1413	0	1739		81.3	51.4	125				
Surr: Nitrobenzene-d5	1266	0	1739		72.8	40.1	120				
Surr: Phenol-d5	2362	0	3477		67.9	40.3	120				

Sample ID: **1507G15-003AMSD** Client ID:
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/Kg-dry** Prep Date: **07/21/2015** Run No: **296337**
BatchID: **210372** Analysis Date: **07/21/2015** Seq No: **6320203**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2300	340	3477		66.2	41.5	120	2350	2.12	37.4	
Surr: 2,4,6-Tribromophenol	3490	0	3477		100	41	128	3270	0	0	
Surr: 2-Fluorobiphenyl	1430	0	1739		82.3	47	120	1424	0	0	
Surr: 2-Fluorophenol	2098	0	3477		60.4	38.3	120	2265	0	0	
Surr: 4-Terphenyl-d14	1583	0	1739		91.1	51.4	125	1413	0	0	
Surr: Nitrobenzene-d5	1267	0	1739		72.9	40.1	120	1266	0	0	
Surr: Phenol-d5	2308	0	3477		66.4	40.3	120	2362	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1507F75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210418

Sample ID: **MB-210418** Client ID: Units: **mg/Kg** Prep Date: **07/21/2015** Run No: **296404**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **210418** Analysis Date: **07/22/2015** Seq No: **6322122**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	5.00									
Arsenic	BRL	5.00									
Barium	BRL	5.00									
Beryllium	BRL	2.50									
Cadmium	BRL	2.50									
Chromium	BRL	2.50									
Copper	BRL	2.50									
Lead	BRL	5.00									
Nickel	BRL	5.00									
Zinc	BRL	5.00									

Sample ID: **LCS-210418** Client ID: Units: **mg/Kg** Prep Date: **07/21/2015** Run No: **296404**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **210418** Analysis Date: **07/22/2015** Seq No: **6322125**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	50.94	5.00	50.00		102	80	120				
Arsenic	50.80	5.00	50.00		102	80	120				
Barium	50.41	5.00	50.00		101	80	120				
Beryllium	50.08	2.50	50.00		100	80	120				
Cadmium	49.57	2.50	50.00		99.1	80	120				
Chromium	50.84	2.50	50.00	0.1055	101	80	120				
Copper	50.37	2.50	50.00	0.09375	101	80	120				
Lead	49.85	5.00	50.00		99.7	80	120				
Nickel	50.41	5.00	50.00		101	80	120				
Zinc	50.11	5.00	50.00	0.4410	99.3	80	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1507F75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210418

Sample ID: **1507F75-001DMS** Client ID: **SSS-12-20150716-01** Units: **mg/Kg-dry** Prep Date: **07/21/2015** Run No: **296404**
SampleType: **MS** TestCode: **METALS, TOTAL SW6010C** BatchID: **210418** Analysis Date: **07/22/2015** Seq No: **6322127**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	38.16	5.60	55.97		68.2	75	125				S
Arsenic	54.58	5.60	55.97	3.057	92.1	75	125				
Barium	73.97	5.60	55.97	21.93	93.0	75	125				
Beryllium	54.37	2.80	55.97	0.1076	96.9	75	125				
Cadmium	53.49	2.80	55.97		95.6	75	125				
Chromium	67.55	2.80	55.97	13.24	97.0	75	125				
Copper	63.49	2.80	55.97	9.170	97.1	75	125				
Lead	68.42	5.60	55.97	18.84	88.6	75	125				
Nickel	55.10	5.60	55.97	1.590	95.6	75	125				
Zinc	66.67	5.60	55.97	10.98	99.5	75	125				

Sample ID: **1507F75-001DMSD** Client ID: **SSS-12-20150716-01** Units: **mg/Kg-dry** Prep Date: **07/21/2015** Run No: **296404**
SampleType: **MSD** TestCode: **METALS, TOTAL SW6010C** BatchID: **210418** Analysis Date: **07/22/2015** Seq No: **6322128**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	38.93	5.60	55.95		69.6	75	125	38.16	1.99	20	S
Arsenic	54.49	5.60	55.95	3.057	91.9	75	125	54.58	0.172	20	
Barium	74.78	5.60	55.95	21.93	94.5	75	125	73.97	1.09	20	
Beryllium	55.42	2.80	55.95	0.1076	98.9	75	125	54.37	1.92	20	
Cadmium	54.55	2.80	55.95		97.5	75	125	53.49	1.96	20	
Chromium	68.28	2.80	55.95	13.24	98.4	75	125	67.55	1.08	20	
Copper	64.35	2.80	55.95	9.170	98.6	75	125	63.49	1.33	20	
Lead	68.65	5.60	55.95	18.84	89.0	75	125	68.42	0.347	20	
Nickel	56.16	5.60	55.95	1.590	97.5	75	125	55.10	1.92	20	
Zinc	69.07	5.60	55.95	10.98	104	75	125	66.67	3.54	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1507F75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210447

Sample ID: **MB-210447**	Client ID:			Units: **mg/Kg**	Prep Date: **07/22/2015**	Run No: **296409**
SampleType: **MBLK**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **210447**	Analysis Date: **07/22/2015**	Seq No: **6321845**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.100									

Sample ID: **LCS-210447**	Client ID:			Units: **mg/Kg**	Prep Date: **07/22/2015**	Run No: **296409**
SampleType: **LCS**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **210447**	Analysis Date: **07/22/2015**	Seq No: **6321846**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.3750	0.100	0.4000		93.7	80	120				

Sample ID: **1507H57-002AMS**	Client ID:			Units: **mg/Kg-dry**	Prep Date: **07/22/2015**	Run No: **296409**
SampleType: **MS**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **210447**	Analysis Date: **07/22/2015**	Seq No: **6321848**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.4527	0.121	0.4842		93.5	70	130				

Sample ID: **1507H57-002AMSD**	Client ID:			Units: **mg/Kg-dry**	Prep Date: **07/22/2015**	Run No: **296409**
SampleType: **MSD**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **210447**	Analysis Date: **07/22/2015**	Seq No: **6321849**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.4625	0.121	0.4842		95.5	70	130	0.4527	2.16	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1507F75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210460

Sample ID: **MB-210460** Client ID: Units: **ug/Kg** Prep Date: **07/23/2015** Run No: **296579**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210460** Analysis Date: **07/23/2015** Seq No: **6326583**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	17									
Acenaphthylene	BRL	33									
Anthracene	BRL	1.7									
Benz(a)anthracene	BRL	1.7									
Benzo(a)pyrene	BRL	1.7									
Benzo(b)fluoranthene	BRL	3.3									
Benzo(g,h,i)perylene	BRL	3.3									
Benzo(k)fluoranthene	BRL	1.7									
Chrysene	BRL	1.7									
Dibenz(a,h)anthracene	BRL	3.3									
Fluoranthene	BRL	3.3									
Fluorene	BRL	3.3									
Indeno(1,2,3-cd)pyrene	BRL	1.7									
Naphthalene	BRL	17									
Phenanthrene	BRL	1.7									
Pyrene	BRL	1.7									
Surr: 4-Terphenyl-d14	66.67	0	66.67		100.0	42	124				

Sample ID: **LCS-210460** Client ID: Units: **ug/Kg** Prep Date: **07/23/2015** Run No: **296579**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210460** Analysis Date: **07/23/2015** Seq No: **6326584**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	53.53	17	66.70		80.2	61.2	120				
Acenaphthylene	51.80	33	66.70		77.7	60.1	120				
Anthracene	50.21	1.7	66.70		75.3	58.4	120				
Benz(a)anthracene	60.46	1.7	66.70		90.6	56.7	124				
Benzo(a)pyrene	48.04	1.7	66.70		72.0	57.5	120				
Benzo(b)fluoranthene	54.77	3.3	66.70		82.1	60.9	118				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1507F75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210460

Sample ID: **LCS-210460** Client ID: Units: **ug/Kg** Prep Date: **07/23/2015** Run No: **296579**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210460** Analysis Date: **07/23/2015** Seq No: **6326584**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(g,h,i)perylene	51.01	3.3	66.70		76.5	50.7	125				
Benzo(k)fluoranthene	55.66	1.7	66.70		83.4	53	125				
Chrysene	59.74	1.7	66.70		89.6	61.2	120				
Dibenz(a,h)anthracene	49.68	3.3	66.70		74.5	48	125				
Fluoranthene	57.06	3.3	66.70		85.5	64.9	121				
Fluorene	54.58	3.3	66.70		81.8	62.1	120				
Indeno(1,2,3-cd)pyrene	50.53	1.7	66.70		75.8	56	121				
Naphthalene	51.88	17	66.70		77.8	57.4	120				
Phenanthrene	54.25	1.7	66.70		81.3	63.3	120				
Pyrene	58.62	1.7	66.70		87.9	61.2	120				
Surr: 4-Terphenyl-d14	60.15	0	66.70		90.2	42	124				

Sample ID: **1507H46-004BMS** Client ID: Units: **ug/Kg-dry** Prep Date: **07/23/2015** Run No: **296579**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **210460** Analysis Date: **07/23/2015** Seq No: **6326595**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	53.79	18	70.17		76.7	45.8	120				
Acenaphthylene	56.55	35	70.17		80.6	50.6	120				
Anthracene	55.53	1.8	70.17	1.180	77.5	42.4	125				
Benz(a)anthracene	77.25	1.8	70.17	3.892	105	44.9	136				
Benzo(a)pyrene	49.45	1.8	70.17	2.948	66.3	40.3	123				
Benzo(b)fluoranthene	81.22	3.5	70.17	9.148	103	37	128				
Benzo(g,h,i)perylene	38.50	3.5	70.17	3.416	50.0	41.1	137				
Benzo(k)fluoranthene	53.52	1.8	70.17	2.039	73.4	37.7	126				
Chrysene	58.11	1.8	70.17	7.067	72.7	43	120				
Dibenz(a,h)anthracene	43.38	3.5	70.17		61.8	42.6	130				
Fluoranthene	62.12	3.5	70.17	5.245	81.1	44.4	133				
Fluorene	56.44	3.5	70.17		80.4	42.5	119				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1507F75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210460

Sample ID: **1507H46-004BMS**	Client ID:		Units: **ug/Kg-dry**	Prep Date: **07/23/2015**	Run No: **296579**
SampleType: **MS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **210460**	Analysis Date: **07/23/2015**	Seq No: **6326595**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Indeno(1,2,3-cd)pyrene	43.58	1.8	70.17	2.155	59.0	41.7	135				
Naphthalene	50.40	18	70.17	9.345	58.5	42.5	120				
Phenanthrene	57.63	1.8	70.17	2.357	78.8	44.1	120				
Pyrene	65.00	1.8	70.17	5.213	85.2	41.5	120				
Surr: 4-Terphenyl-d14	58.54	0	70.17		83.4	42	124				

Sample ID: **1507H46-004BMSD**	Client ID:		Units: **ug/Kg-dry**	Prep Date: **07/23/2015**	Run No: **296579**
SampleType: **MSD**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **210460**	Analysis Date: **07/23/2015**	Seq No: **6326596**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	51.79	18	70.17		73.8	45.8	120	53.79	3.79	38.4	
Acenaphthylene	54.97	35	70.17		78.3	50.6	120	56.55	2.84	37.8	
Anthracene	55.60	1.8	70.17	1.180	77.6	42.4	125	55.53	0.129	49.7	
Benz(a)anthracene	83.96	1.8	70.17	3.892	114	44.9	136	77.25	8.32	33.8	
Benzo(a)pyrene	56.38	1.8	70.17	2.948	76.1	40.3	123	49.45	13.1	40.2	
Benzo(b)fluoranthene	93.99	3.5	70.17	9.148	121	37	128	81.22	14.6	36.5	
Benzo(g,h,i)perylene	42.51	3.5	70.17	3.416	55.7	41.1	137	38.50	9.90	39.3	
Benzo(k)fluoranthene	51.45	1.8	70.17	2.039	70.4	37.7	126	53.52	3.94	35	
Chrysene	65.64	1.8	70.17	7.067	83.5	43	120	58.11	12.2	28.6	
Dibenz(a,h)anthracene	41.58	3.5	70.17		59.3	42.6	130	43.38	4.24	44.6	
Fluoranthene	77.85	3.5	70.17	5.245	103	44.4	133	62.12	22.5	33.2	
Fluorene	56.94	3.5	70.17		81.1	42.5	119	56.44	0.885	35.4	
Indeno(1,2,3-cd)pyrene	43.29	1.8	70.17	2.155	58.6	41.7	135	43.58	0.664	37.3	
Naphthalene	51.79	18	70.17	9.345	60.5	42.5	120	50.40	2.71	39.4	
Phenanthrene	70.01	1.8	70.17	2.357	96.4	44.1	120	57.63	19.4	37	
Pyrene	87.90	1.8	70.17	5.213	118	41.5	120	65.00	29.9	33.1	
Surr: 4-Terphenyl-d14	55.98	0	70.17		79.8	42	124	58.54	0	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1507F75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210542

Sample ID: **MB-210542** Client ID: Units: **ug/Kg** Prep Date: **07/23/2015** Run No: **296490**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **210542** Analysis Date: **07/23/2015** Seq No: **6327271**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	10									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	40.99	0	50.00		82.0	70	128				
Surr: Dibromofluoromethane	49.79	0	50.00		99.6	78.2	128				
Surr: Toluene-d8	47.15	0	50.00		94.3	76.5	116				

Sample ID: **LCS-210542** Client ID: Units: **ug/Kg** Prep Date: **07/23/2015** Run No: **296490**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **210542** Analysis Date: **07/23/2015** Seq No: **6327272**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	43.44	5.0	50.00		86.9	72.3	130				
Toluene	47.90	5.0	50.00		95.8	71.1	130				
Surr: 4-Bromofluorobenzene	41.49	0	50.00		83.0	70	128				
Surr: Dibromofluoromethane	47.96	0	50.00		95.9	78.2	128				
Surr: Toluene-d8	45.61	0	50.00		91.2	76.5	116				

Sample ID: **1507F49-001AMS** Client ID: Units: **ug/Kg-dry** Prep Date: **07/23/2015** Run No: **296490**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **210542** Analysis Date: **07/23/2015** Seq No: **6327273**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	55.11	6.8	68.17		80.8	70.4	130				
Toluene	57.00	6.8	68.17		83.6	70.4	130				
Surr: 4-Bromofluorobenzene	55.93	0	68.17		82.0	70	128				
Surr: Dibromofluoromethane	66.17	0	68.17		97.1	78.2	128				
Surr: Toluene-d8	61.49	0	68.17		90.2	76.5	116				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1507F75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210542

Sample ID: **1507F49-001AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/Kg-dry** Prep Date: **07/23/2015** Run No: **296490**
BatchID: **210542** Analysis Date: **07/23/2015** Seq No: **6327274**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	59.09	6.8	68.17		86.7	70.4	130	55.11	6.97	16.9	
Toluene	60.41	6.8	68.17		88.6	70.4	130	57.00	5.81	16.6	
Surr: 4-Bromofluorobenzene	55.63	0	68.17		81.6	70	128	55.93	0	0	
Surr: Dibromofluoromethane	64.75	0	68.17		95.0	78.2	128	66.17	0	0	
Surr: Toluene-d8	62.44	0	68.17		91.6	76.5	116	61.49	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1507F75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210556

Sample ID: **MB-210556** Client ID: Units: **ug/L** Prep Date: **07/24/2015** Run No: **296556**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **210556** Analysis Date: **07/24/2015** Seq No: **6326964**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	5.0									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	47.34	0	50.00		94.7	70.6	123				
Surr: Dibromofluoromethane	48.91	0	50.00		97.8	78.7	124				
Surr: Toluene-d8	47.90	0	50.00		95.8	81.3	120				

Sample ID: **LCS-210556** Client ID: Units: **ug/L** Prep Date: **07/24/2015** Run No: **296556**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **210556** Analysis Date: **07/24/2015** Seq No: **6326963**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	53.33	5.0	50.00		107	72.8	128				
Toluene	54.79	5.0	50.00		110	74.9	127				
Surr: 4-Bromofluorobenzene	47.97	0	50.00		95.9	70.6	123				
Surr: Dibromofluoromethane	45.65	0	50.00		91.3	78.7	124				
Surr: Toluene-d8	49.40	0	50.00		98.8	81.3	120				

Sample ID: **1507G52-001AMS** Client ID: Units: **ug/L** Prep Date: **07/24/2015** Run No: **296556**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **210556** Analysis Date: **07/24/2015** Seq No: **6326966**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	55.40	5.0	50.00		111	70	135				
Toluene	55.59	5.0	50.00		111	70.5	137				
Surr: 4-Bromofluorobenzene	42.84	0	50.00		85.7	70.6	123				
Surr: Dibromofluoromethane	45.86	0	50.00		91.7	78.7	124				
Surr: Toluene-d8	49.03	0	50.00		98.1	81.3	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1507F75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210556

Sample ID: **1507G52-001AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/L** Prep Date: **07/24/2015** Run No: **296556**
BatchID: **210556** Analysis Date: **07/24/2015** Seq No: **6326967**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	56.03	5.0	50.00		112	70	135	55.40	1.13	20	
Toluene	55.87	5.0	50.00		112	70.5	137	55.59	0.502	20	
Surr: 4-Bromofluorobenzene	42.42	0	50.00		84.8	70.6	123	42.84	0	0	
Surr: Dibromofluoromethane	49.46	0	50.00		98.9	78.7	124	45.86	0	0	
Surr: Toluene-d8	50.71	0	50.00		101	81.3	120	49.03	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1507F75

ANALYTICAL QC SUMMARY REPORT

BatchID: 210594

Sample ID: **MB-210594**	Client ID:			Units: **mg/Kg**	Prep Date: **07/24/2015**	Run No: **296616**
SampleType: **MBLK**	TestCode: **Cyanide, Total SW9014**			BatchID: **210594**	Analysis Date: **07/24/2015**	Seq No: **6327417**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	1.00									

Sample ID: **LCS-210594**	Client ID:			Units: **mg/Kg**	Prep Date: **07/24/2015**	Run No: **296616**
SampleType: **LCS**	TestCode: **Cyanide, Total SW9014**			BatchID: **210594**	Analysis Date: **07/24/2015**	Seq No: **6327418**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	12.12	1.00	12.50		97.0	85	115				

Sample ID: **1507F75-001CMS**	Client ID: **SSS-12-20150716-01**			Units: **mg/Kg-dry**	Prep Date: **07/24/2015**	Run No: **296616**
SampleType: **MS**	TestCode: **Cyanide, Total SW9014**			BatchID: **210594**	Analysis Date: **07/24/2015**	Seq No: **6327441**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	11.86	1.13	14.17		83.7	70	130				

Sample ID: **1507F75-001CMSD**	Client ID: **SSS-12-20150716-01**			Units: **mg/Kg-dry**	Prep Date: **07/24/2015**	Run No: **296616**
SampleType: **MSD**	TestCode: **Cyanide, Total SW9014**			BatchID: **210594**	Analysis Date: **07/24/2015**	Seq No: **6327446**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	11.57	1.13	14.17		81.7	70	130	11.86	2.47	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

September 02, 2015

Nic Vrey
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: AGL Macon

Dear Nic Vrey: Order No: 1508H98

Analytical Environmental Services, Inc. received 11 samples on 8/20/2015 10:45:00 AM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1508H98 ~~1508H22~~ 1508181 ~~1508H1~~ MS 8/20/15

Date: 8/18/15 Page 1 of 1

COMPANY: ERM

ADDRESS: 3200 Windy Hill Rd SE Suite 1500W Atlanta, GA 30339

PHONE: 678-486-2700

FAX:

SAMPLED BY: KS/MH

SIGNATURE:

ANALYSIS REQUESTED

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	8260B (COH)	8270C (COH)	6010B (COH)	9012A (Total Cyanide)	7470A (Mercury)	PRESERVATION (See codes)	REMARKS	No # of Containers
												S/M+I / S / I / I / I		
1	SSS-33-20150818-01	8/18/15	1330		X	SO	X	X	X	X	X			6
2	SSS-34-20150818-01		1335		X	SO	X	X	X	X	X			6
3	SSS-35-20150818-01		1340		X	SO	X	X	X	X	X			6
4	SSS-36-20150818-01		1345		X	SO	X	X	X	X	X			6
5	SSS-37-20150818-01		1350		X	SO	X	X	X	X	X			6
6	DUP-07-20150818-01				X	SO	X	X	X	X	X			6
7	TB-08-20150818-01					W	X							2
8	EB-10-20150818-01		1410	X		W	X	X	X	X	X			5
9	VOC Test 1	8/19/15	1005		X	SO	X	X						4
10	VOC Test 2		1010		X	SO	X	X						4
11	VOC Test 3		1015		X	SO	X	X						4
12														
13														
14														

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY / DATE/TIME

1: ERM 8/19 0830

2:

3:

RECEIVED BY / DATE/TIME

1: 8/20/15 10:45

2:

3:

PROJECT INFORMATION

PROJECT NAME: AGL Macon

PROJECT #: 0176740

SITE ADDRESS: 224 Walnut St. Macon GA

SEND REPORT TO: Nic.Yrey@erm.com

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: PO#:

RECEIPT

Total # of Containers: 55

Turnaround Time Request

- ○ Standard 5 Business Days
- ○ 2 Business Day Rush
- ○ Next Business Day Rush
- ○ Same Day Rush (auth req.)
- ⊗ Other 7 Day TAT

STATE PROGRAM (if any):

E-mail? Y / N; Fax? Y / N

DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD

OUT / / VIA:

IN / / VIA:

CLIENT (FedEx) UPS MAIL COURIER

GREYHOUND OTHER

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.
SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Client: ERM-Southeast
Project: AGL Macon
Lab ID: 1508H98

Case Narrative

Sample 1508H98-008 requests cyanide on the coc but no container was received in the lab. A portion of the 1L amber was preserved and used for the analysis.

Semi Volatile Organic Analysis by Method 8270D SIM:

Acenaphthene, Acenaphthylene, Fluorene, Naphthalene, Phenanthrene values for the QC samples 1508H92-012BMS/MSD are "E" qualified indicating estimated values over linear calibration range due to the level of target analyte present in the unspiked sample.

Analytical Environmental Services, Inc **Date:** 2-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-33-20150818-01
Project Name:	AGL Macon	**Collection Date:**	8/18/2015 1:30:00 PM
Lab ID:	1508H98-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	6.8		ug/Kg-dry	211880	1	08/22/2015 16:04	CG
Benzene	BRL	3.4		ug/Kg-dry	211880	1	08/22/2015 16:04	CG
Toluene	BRL	3.4		ug/Kg-dry	211880	1	08/22/2015 16:04	CG
Ethylbenzene	BRL	3.4		ug/Kg-dry	211880	1	08/22/2015 16:04	CG
Xylenes, Total	BRL	3.4		ug/Kg-dry	211880	1	08/22/2015 16:04	CG
Surr: 4-Bromofluorobenzene	85.3	70-128		%REC	211880	1	08/22/2015 16:04	CG
Surr: Dibromofluoromethane	95	78.2-128		%REC	211880	1	08/22/2015 16:04	CG
Surr: Toluene-d8	98.2	76.5-116		%REC	211880	1	08/22/2015 16:04	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.109		mg/Kg-dry	211950	1	08/25/2015 15:33	TA
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	20		ug/Kg-dry	211895	1	08/24/2015 16:34	YH
Acenaphthylene	BRL	38		ug/Kg-dry	211895	1	08/24/2015 16:34	YH
Anthracene	33	2.0		ug/Kg-dry	211895	1	08/24/2015 16:34	YH
Benz(a)anthracene	88	2.0		ug/Kg-dry	211895	1	08/24/2015 16:34	YH
Benzo(a)pyrene	40	2.0		ug/Kg-dry	211895	1	08/24/2015 16:34	YH
Benzo(b)fluoranthene	49	3.8		ug/Kg-dry	211895	1	08/24/2015 16:34	YH
Benzo(g,h,i)perylene	15	3.8		ug/Kg-dry	211895	1	08/24/2015 16:34	YH
Benzo(k)fluoranthene	12	2.0		ug/Kg-dry	211895	1	08/24/2015 16:34	YH
Chrysene	70	2.0		ug/Kg-dry	211895	1	08/24/2015 16:34	YH
Dibenz(a,h)anthracene	5.0	3.8		ug/Kg-dry	211895	1	08/24/2015 16:34	YH
Fluoranthene	120	3.8		ug/Kg-dry	211895	1	08/24/2015 16:34	YH
Fluorene	14	3.8		ug/Kg-dry	211895	1	08/24/2015 16:34	YH
Indeno(1,2,3-cd)pyrene	13	2.0		ug/Kg-dry	211895	1	08/24/2015 16:34	YH
Naphthalene	BRL	20		ug/Kg-dry	211895	1	08/24/2015 16:34	YH
Phenanthrene	200	2.0		ug/Kg-dry	211895	1	08/24/2015 16:34	YH
Pyrene	150	2.0		ug/Kg-dry	211895	1	08/24/2015 16:34	YH
Surr: 4-Terphenyl-d14	95.5	42-124		%REC	211895	1	08/24/2015 16:34	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	380		ug/Kg-dry	211860	1	08/24/2015 14:53	YH
2-Methylphenol	BRL	380		ug/Kg-dry	211860	1	08/24/2015 14:53	YH
3,4-Methylphenol	BRL	380		ug/Kg-dry	211860	1	08/24/2015 14:53	YH
Phenol	BRL	380		ug/Kg-dry	211860	1	08/24/2015 14:53	YH
Surr: 2,4,6-Tribromophenol	77	41-128		%REC	211860	1	08/24/2015 14:53	YH
Surr: 2-Fluorobiphenyl	76.4	47-120		%REC	211860	1	08/24/2015 14:53	YH
Surr: 2-Fluorophenol	64.6	38.3-120		%REC	211860	1	08/24/2015 14:53	YH
Surr: 4-Terphenyl-d14	79.8	51.4-125		%REC	211860	1	08/24/2015 14:53	YH
Surr: Nitrobenzene-d5	70.4	40.1-120		%REC	211860	1	08/24/2015 14:53	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-33-20150818-01
Project Name:	AGL Macon	**Collection Date:**	8/18/2015 1:30:00 PM
Lab ID:	1508H98-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	74.9	40.3-120		%REC	211860	1	08/24/2015 14:53	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.16		mg/Kg-dry	211998	1	08/26/2015 16:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.80		mg/Kg-dry	211917	1	08/26/2015 13:26	TA
Arsenic	BRL	5.80		mg/Kg-dry	211917	1	08/26/2015 13:26	TA
Barium	14.1	5.80		mg/Kg-dry	211917	1	08/26/2015 13:26	TA
Beryllium	BRL	2.90		mg/Kg-dry	211917	1	08/26/2015 13:26	TA
Cadmium	BRL	2.90		mg/Kg-dry	211917	1	08/26/2015 13:26	TA
Chromium	15.3	2.90		mg/Kg-dry	211917	1	08/26/2015 13:26	TA
Copper	4.78	2.90		mg/Kg-dry	211917	1	08/26/2015 13:26	TA
Lead	5.82	5.80		mg/Kg-dry	211917	1	08/26/2015 13:26	TA
Nickel	BRL	5.80		mg/Kg-dry	211917	1	08/26/2015 13:26	TA
Zinc	6.05	5.80		mg/Kg-dry	211917	1	08/26/2015 13:26	TA
PERCENT MOISTURE D2216								
Percent Moisture	14.1	0		wt%	R298772	1	08/26/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-34-20150818-01
Project Name:	AGL Macon	**Collection Date:**	8/18/2015 1:35:00 PM
Lab ID:	1508H98-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	12		ug/Kg-dry	211880	1	08/22/2015 22:51	CG
Benzene	BRL	5.8		ug/Kg-dry	211880	1	08/22/2015 22:51	CG
Toluene	BRL	5.8		ug/Kg-dry	211880	1	08/22/2015 22:51	CG
Ethylbenzene	BRL	5.8		ug/Kg-dry	211880	1	08/22/2015 22:51	CG
Xylenes, Total	BRL	5.8		ug/Kg-dry	211880	1	08/22/2015 22:51	CG
Surr: 4-Bromofluorobenzene	86.8	70-128		%REC	211880	1	08/22/2015 22:51	CG
Surr: Dibromofluoromethane	98.6	78.2-128		%REC	211880	1	08/22/2015 22:51	CG
Surr: Toluene-d8	100	76.5-116		%REC	211880	1	08/22/2015 22:51	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.127		mg/Kg-dry	211950	1	08/25/2015 15:35	TA
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	22		ug/Kg-dry	211895	1	08/24/2015 17:02	YH
Acenaphthylene	BRL	43		ug/Kg-dry	211895	1	08/24/2015 17:02	YH
Anthracene	7.2	2.2		ug/Kg-dry	211895	1	08/24/2015 17:02	YH
Benz(a)anthracene	25	2.2		ug/Kg-dry	211895	1	08/24/2015 17:02	YH
Benzo(a)pyrene	19	2.2		ug/Kg-dry	211895	1	08/24/2015 17:02	YH
Benzo(b)fluoranthene	26	4.3		ug/Kg-dry	211895	1	08/24/2015 17:02	YH
Benzo(g,h,i)perylene	8.2	4.3		ug/Kg-dry	211895	1	08/24/2015 17:02	YH
Benzo(k)fluoranthene	7.0	2.2		ug/Kg-dry	211895	1	08/24/2015 17:02	YH
Chrysene	22	2.2		ug/Kg-dry	211895	1	08/24/2015 17:02	YH
Dibenz(a,h)anthracene	BRL	4.3		ug/Kg-dry	211895	1	08/24/2015 17:02	YH
Fluoranthene	25	4.3		ug/Kg-dry	211895	1	08/24/2015 17:02	YH
Fluorene	BRL	4.3		ug/Kg-dry	211895	1	08/24/2015 17:02	YH
Indeno(1,2,3-cd)pyrene	7.7	2.2		ug/Kg-dry	211895	1	08/24/2015 17:02	YH
Naphthalene	BRL	22		ug/Kg-dry	211895	1	08/24/2015 17:02	YH
Phenanthrene	37	2.2		ug/Kg-dry	211895	1	08/24/2015 17:02	YH
Pyrene	30	2.2		ug/Kg-dry	211895	1	08/24/2015 17:02	YH
Surr: 4-Terphenyl-d14	82.9	42-124		%REC	211895	1	08/24/2015 17:02	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	430		ug/Kg-dry	211860	1	08/24/2015 19:39	YH
2-Methylphenol	BRL	430		ug/Kg-dry	211860	1	08/24/2015 19:39	YH
3,4-Methylphenol	BRL	430		ug/Kg-dry	211860	1	08/24/2015 19:39	YH
Phenol	BRL	430		ug/Kg-dry	211860	1	08/24/2015 19:39	YH
Surr: 2,4,6-Tribromophenol	78.7	41-128		%REC	211860	1	08/24/2015 19:39	YH
Surr: 2-Fluorobiphenyl	76.1	47-120		%REC	211860	1	08/24/2015 19:39	YH
Surr: 2-Fluorophenol	65	38.3-120		%REC	211860	1	08/24/2015 19:39	YH
Surr: 4-Terphenyl-d14	83.5	51.4-125		%REC	211860	1	08/24/2015 19:39	YH
Surr: Nitrobenzene-d5	70	40.1-120		%REC	211860	1	08/24/2015 19:39	YH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-34-20150818-01
Project Name:	AGL Macon	**Collection Date:**	8/18/2015 1:35:00 PM
Lab ID:	1508H98-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	74.7	40.3-120		%REC	211860	1	08/24/2015 19:39	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.31		mg/Kg-dry	211998	1	08/26/2015 16:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	6.48		mg/Kg-dry	211917	1	08/26/2015 13:36	TA
Arsenic	BRL	6.48		mg/Kg-dry	211917	1	08/26/2015 13:36	TA
Barium	15.8	6.48		mg/Kg-dry	211917	1	08/26/2015 13:36	TA
Beryllium	BRL	3.24		mg/Kg-dry	211917	1	08/26/2015 13:36	TA
Cadmium	BRL	3.24		mg/Kg-dry	211917	1	08/26/2015 13:36	TA
Chromium	16.8	3.24		mg/Kg-dry	211917	1	08/26/2015 13:36	TA
Copper	6.57	3.24		mg/Kg-dry	211917	1	08/26/2015 13:36	TA
Lead	BRL	6.48		mg/Kg-dry	211917	1	08/26/2015 13:36	TA
Nickel	BRL	6.48		mg/Kg-dry	211917	1	08/26/2015 13:36	TA
Zinc	6.51	6.48		mg/Kg-dry	211917	1	08/26/2015 13:36	TA
PERCENT MOISTURE D2216								
Percent Moisture	23.5	0		wt%	R298772	1	08/26/2015 11:00	PF

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-35-20150818-01
Project Name:	AGL Macon	**Collection Date:**	8/18/2015 1:40:00 PM
Lab ID:	1508H98-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	10		ug/Kg-dry	211880	1	08/22/2015 16:28	CG
Benzene	BRL	5.2		ug/Kg-dry	211880	1	08/22/2015 16:28	CG
Toluene	BRL	5.2		ug/Kg-dry	211880	1	08/22/2015 16:28	CG
Ethylbenzene	BRL	5.2		ug/Kg-dry	211880	1	08/22/2015 16:28	CG
Xylenes, Total	BRL	5.2		ug/Kg-dry	211880	1	08/22/2015 16:28	CG
Surr: 4-Bromofluorobenzene	80.6	70-128		%REC	211880	1	08/22/2015 16:28	CG
Surr: Dibromofluoromethane	97.1	78.2-128		%REC	211880	1	08/22/2015 16:28	CG
Surr: Toluene-d8	99.1	76.5-116		%REC	211880	1	08/22/2015 16:28	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.110		mg/Kg-dry	211950	1	08/25/2015 15:37	TA
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	21		ug/Kg-dry	211895	1	08/24/2015 17:30	YH
Acenaphthylene	BRL	41		ug/Kg-dry	211895	1	08/24/2015 17:30	YH
Anthracene	11	2.1		ug/Kg-dry	211895	1	08/24/2015 17:30	YH
Benz(a)anthracene	43	2.1		ug/Kg-dry	211895	1	08/24/2015 17:30	YH
Benzo(a)pyrene	30	2.1		ug/Kg-dry	211895	1	08/24/2015 17:30	YH
Benzo(b)fluoranthene	45	4.1		ug/Kg-dry	211895	1	08/24/2015 17:30	YH
Benzo(g,h,i)perylene	15	4.1		ug/Kg-dry	211895	1	08/24/2015 17:30	YH
Benzo(k)fluoranthene	13	2.1		ug/Kg-dry	211895	1	08/24/2015 17:30	YH
Chrysene	37	2.1		ug/Kg-dry	211895	1	08/24/2015 17:30	YH
Dibenz(a,h)anthracene	4.6	4.1		ug/Kg-dry	211895	1	08/24/2015 17:30	YH
Fluoranthene	41	4.1		ug/Kg-dry	211895	1	08/24/2015 17:30	YH
Fluorene	BRL	4.1		ug/Kg-dry	211895	1	08/24/2015 17:30	YH
Indeno(1,2,3-cd)pyrene	13	2.1		ug/Kg-dry	211895	1	08/24/2015 17:30	YH
Naphthalene	BRL	21		ug/Kg-dry	211895	1	08/24/2015 17:30	YH
Phenanthrene	59	2.1		ug/Kg-dry	211895	1	08/24/2015 17:30	YH
Pyrene	52	2.1		ug/Kg-dry	211895	1	08/24/2015 17:30	YH
Surr: 4-Terphenyl-d14	96	42-124		%REC	211895	1	08/24/2015 17:30	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	410		ug/Kg-dry	211860	1	08/24/2015 20:06	YH
2-Methylphenol	BRL	410		ug/Kg-dry	211860	1	08/24/2015 20:06	YH
3,4-Methylphenol	BRL	410		ug/Kg-dry	211860	1	08/24/2015 20:06	YH
Phenol	BRL	410		ug/Kg-dry	211860	1	08/24/2015 20:06	YH
Surr: 2,4,6-Tribromophenol	81.5	41-128		%REC	211860	1	08/24/2015 20:06	YH
Surr: 2-Fluorobiphenyl	78	47-120		%REC	211860	1	08/24/2015 20:06	YH
Surr: 2-Fluorophenol	70.8	38.3-120		%REC	211860	1	08/24/2015 20:06	YH
Surr: 4-Terphenyl-d14	88.1	51.4-125		%REC	211860	1	08/24/2015 20:06	YH
Surr: Nitrobenzene-d5	76.7	40.1-120		%REC	211860	1	08/24/2015 20:06	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-35-20150818-01
Project Name:	AGL Macon	**Collection Date:**	8/18/2015 1:40:00 PM
Lab ID:	1508H98-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	78.3	40.3-120		%REC	211860	1	08/24/2015 20:06	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.25		mg/Kg-dry	211998	1	08/26/2015 16:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	6.23		mg/Kg-dry	211917	1	08/26/2015 13:40	TA
Arsenic	BRL	6.23		mg/Kg-dry	211917	1	08/26/2015 13:40	TA
Barium	16.2	6.23		mg/Kg-dry	211917	1	08/26/2015 13:40	TA
Beryllium	BRL	3.11		mg/Kg-dry	211917	1	08/26/2015 13:40	TA
Cadmium	BRL	3.11		mg/Kg-dry	211917	1	08/26/2015 13:40	TA
Chromium	20.8	3.11		mg/Kg-dry	211917	1	08/26/2015 13:40	TA
Copper	6.83	3.11		mg/Kg-dry	211917	1	08/26/2015 13:40	TA
Lead	8.71	6.23		mg/Kg-dry	211917	1	08/26/2015 13:40	TA
Nickel	BRL	6.23		mg/Kg-dry	211917	1	08/26/2015 13:40	TA
Zinc	8.17	6.23		mg/Kg-dry	211917	1	08/26/2015 13:40	TA
PERCENT MOISTURE D2216								
Percent Moisture	20.2	0		wt%	R298772	1	08/26/2015 11:00	PF

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-36-20150818-01
Project Name:	AGL Macon	**Collection Date:**	8/18/2015 1:45:00 PM
Lab ID:	1508H98-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	9.1		ug/Kg-dry	211880	1	08/22/2015 16:52	CG
Benzene	BRL	4.5		ug/Kg-dry	211880	1	08/22/2015 16:52	CG
Toluene	BRL	4.5		ug/Kg-dry	211880	1	08/22/2015 16:52	CG
Ethylbenzene	BRL	4.5		ug/Kg-dry	211880	1	08/22/2015 16:52	CG
Xylenes, Total	BRL	4.5		ug/Kg-dry	211880	1	08/22/2015 16:52	CG
Surr: 4-Bromofluorobenzene	80.7	70-128		%REC	211880	1	08/22/2015 16:52	CG
Surr: Dibromofluoromethane	98.5	78.2-128		%REC	211880	1	08/22/2015 16:52	CG
Surr: Toluene-d8	97	76.5-116		%REC	211880	1	08/22/2015 16:52	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.112		mg/Kg-dry	211950	1	08/25/2015 15:40	TA
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	19		ug/Kg-dry	211895	1	08/24/2015 17:58	YH
Acenaphthylene	BRL	37		ug/Kg-dry	211895	1	08/24/2015 17:58	YH
Anthracene	17	1.9		ug/Kg-dry	211895	1	08/24/2015 17:58	YH
Benz(a)anthracene	62	1.9		ug/Kg-dry	211895	1	08/24/2015 17:58	YH
Benzo(a)pyrene	37	1.9		ug/Kg-dry	211895	1	08/24/2015 17:58	YH
Benzo(b)fluoranthene	66	3.7		ug/Kg-dry	211895	1	08/24/2015 17:58	YH
Benzo(g,h,i)perylene	20	3.7		ug/Kg-dry	211895	1	08/24/2015 17:58	YH
Benzo(k)fluoranthene	18	1.9		ug/Kg-dry	211895	1	08/24/2015 17:58	YH
Chrysene	61	1.9		ug/Kg-dry	211895	1	08/24/2015 17:58	YH
Dibenz(a,h)anthracene	8.1	3.7		ug/Kg-dry	211895	1	08/24/2015 17:58	YH
Fluoranthene	72	3.7		ug/Kg-dry	211895	1	08/24/2015 17:58	YH
Fluorene	5.3	3.7		ug/Kg-dry	211895	1	08/24/2015 17:58	YH
Indeno(1,2,3-cd)pyrene	19	1.9		ug/Kg-dry	211895	1	08/24/2015 17:58	YH
Naphthalene	BRL	19		ug/Kg-dry	211895	1	08/24/2015 17:58	YH
Phenanthrene	90	1.9		ug/Kg-dry	211895	1	08/24/2015 17:58	YH
Pyrene	91	1.9		ug/Kg-dry	211895	1	08/24/2015 17:58	YH
Surr: 4-Terphenyl-d14	105	42-124		%REC	211895	1	08/24/2015 17:58	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	370		ug/Kg-dry	211860	1	08/24/2015 20:32	YH
2-Methylphenol	BRL	370		ug/Kg-dry	211860	1	08/24/2015 20:32	YH
3,4-Methylphenol	BRL	370		ug/Kg-dry	211860	1	08/24/2015 20:32	YH
Phenol	BRL	370		ug/Kg-dry	211860	1	08/24/2015 20:32	YH
Surr: 2,4,6-Tribromophenol	85.6	41-128		%REC	211860	1	08/24/2015 20:32	YH
Surr: 2-Fluorobiphenyl	86.3	47-120		%REC	211860	1	08/24/2015 20:32	YH
Surr: 2-Fluorophenol	72.5	38.3-120		%REC	211860	1	08/24/2015 20:32	YH
Surr: 4-Terphenyl-d14	92.4	51.4-125		%REC	211860	1	08/24/2015 20:32	YH
Surr: Nitrobenzene-d5	78.3	40.1-120		%REC	211860	1	08/24/2015 20:32	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-36-20150818-01
Project Name:	AGL Macon	**Collection Date:**	8/18/2015 1:45:00 PM
Lab ID:	1508H98-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	85.3	40.3-120		%REC	211860	1	08/24/2015 20:32	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.13		mg/Kg-dry	211998	1	08/26/2015 16:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.63		mg/Kg-dry	211917	1	08/26/2015 13:44	TA
Arsenic	BRL	5.63		mg/Kg-dry	211917	1	08/26/2015 13:44	TA
Barium	13.5	5.63		mg/Kg-dry	211917	1	08/26/2015 13:44	TA
Beryllium	BRL	2.81		mg/Kg-dry	211917	1	08/26/2015 13:44	TA
Cadmium	BRL	2.81		mg/Kg-dry	211917	1	08/26/2015 13:44	TA
Chromium	16.3	2.81		mg/Kg-dry	211917	1	08/26/2015 13:44	TA
Copper	5.72	2.81		mg/Kg-dry	211917	1	08/26/2015 13:44	TA
Lead	7.32	5.63		mg/Kg-dry	211917	1	08/26/2015 13:44	TA
Nickel	BRL	5.63		mg/Kg-dry	211917	1	08/26/2015 13:44	TA
Zinc	6.58	5.63		mg/Kg-dry	211917	1	08/26/2015 13:44	TA
PERCENT MOISTURE D2216								
Percent Moisture	11.4	0		wt%	R298772	1	08/26/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-37-20150818-01
Project Name:	AGL Macon	**Collection Date:**	8/18/2015 1:50:00 PM
Lab ID:	1508H98-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	10		ug/Kg-dry	211880	1	08/22/2015 17:16	CG
Benzene	BRL	5.1		ug/Kg-dry	211880	1	08/22/2015 17:16	CG
Toluene	BRL	5.1		ug/Kg-dry	211880	1	08/22/2015 17:16	CG
Ethylbenzene	BRL	5.1		ug/Kg-dry	211880	1	08/22/2015 17:16	CG
Xylenes, Total	BRL	5.1		ug/Kg-dry	211880	1	08/22/2015 17:16	CG
Surr: 4-Bromofluorobenzene	81.3	70-128		%REC	211880	1	08/22/2015 17:16	CG
Surr: Dibromofluoromethane	95.9	78.2-128		%REC	211880	1	08/22/2015 17:16	CG
Surr: Toluene-d8	101	76.5-116		%REC	211880	1	08/22/2015 17:16	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.125		mg/Kg-dry	211950	1	08/25/2015 15:42	TA
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	22		ug/Kg-dry	211895	1	08/24/2015 18:26	YH
Acenaphthylene	BRL	42		ug/Kg-dry	211895	1	08/24/2015 18:26	YH
Anthracene	17	2.2		ug/Kg-dry	211895	1	08/24/2015 18:26	YH
Benz(a)anthracene	69	2.2		ug/Kg-dry	211895	1	08/24/2015 18:26	YH
Benzo(a)pyrene	49	2.2		ug/Kg-dry	211895	1	08/24/2015 18:26	YH
Benzo(b)fluoranthene	89	4.2		ug/Kg-dry	211895	1	08/24/2015 18:26	YH
Benzo(g,h,i)perylene	31	4.2		ug/Kg-dry	211895	1	08/24/2015 18:26	YH
Benzo(k)fluoranthene	24	2.2		ug/Kg-dry	211895	1	08/24/2015 18:26	YH
Chrysene	66	2.2		ug/Kg-dry	211895	1	08/24/2015 18:26	YH
Dibenz(a,h)anthracene	8.9	4.2		ug/Kg-dry	211895	1	08/24/2015 18:26	YH
Fluoranthene	81	4.2		ug/Kg-dry	211895	1	08/24/2015 18:26	YH
Fluorene	4.8	4.2		ug/Kg-dry	211895	1	08/24/2015 18:26	YH
Indeno(1,2,3-cd)pyrene	29	2.2		ug/Kg-dry	211895	1	08/24/2015 18:26	YH
Naphthalene	BRL	22		ug/Kg-dry	211895	1	08/24/2015 18:26	YH
Phenanthrene	82	2.2		ug/Kg-dry	211895	1	08/24/2015 18:26	YH
Pyrene	95	2.2		ug/Kg-dry	211895	1	08/24/2015 18:26	YH
Surr: 4-Terphenyl-d14	90.3	42-124		%REC	211895	1	08/24/2015 18:26	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	420		ug/Kg-dry	211860	1	08/24/2015 20:30	YH
2-Methylphenol	BRL	420		ug/Kg-dry	211860	1	08/24/2015 20:30	YH
3,4-Methylphenol	BRL	420		ug/Kg-dry	211860	1	08/24/2015 20:30	YH
Phenol	BRL	420		ug/Kg-dry	211860	1	08/24/2015 20:30	YH
Surr: 2,4,6-Tribromophenol	92.4	41-128		%REC	211860	1	08/24/2015 20:30	YH
Surr: 2-Fluorobiphenyl	87.5	47-120		%REC	211860	1	08/24/2015 20:30	YH
Surr: 2-Fluorophenol	79.7	38.3-120		%REC	211860	1	08/24/2015 20:30	YH
Surr: 4-Terphenyl-d14	90.7	51.4-125		%REC	211860	1	08/24/2015 20:30	YH
Surr: Nitrobenzene-d5	81.8	40.1-120		%REC	211860	1	08/24/2015 20:30	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-37-20150818-01
Project Name:	AGL Macon	**Collection Date:**	8/18/2015 1:50:00 PM
Lab ID:	1508H98-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	86.3	40.3-120		%REC	211860	1	08/24/2015 20:30	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.27		mg/Kg-dry	211998	1	08/26/2015 16:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	6.35		mg/Kg-dry	211917	1	08/26/2015 13:47	TA
Arsenic	BRL	6.35		mg/Kg-dry	211917	1	08/26/2015 13:47	TA
Barium	11.3	6.35		mg/Kg-dry	211917	1	08/26/2015 13:47	TA
Beryllium	BRL	3.18		mg/Kg-dry	211917	1	08/26/2015 13:47	TA
Cadmium	BRL	3.18		mg/Kg-dry	211917	1	08/26/2015 13:47	TA
Chromium	9.75	3.18		mg/Kg-dry	211917	1	08/26/2015 13:47	TA
Copper	4.68	3.18		mg/Kg-dry	211917	1	08/26/2015 13:47	TA
Lead	BRL	6.35		mg/Kg-dry	211917	1	08/26/2015 13:47	TA
Nickel	BRL	6.35		mg/Kg-dry	211917	1	08/26/2015 13:47	TA
Zinc	BRL	6.35		mg/Kg-dry	211917	1	08/26/2015 13:47	TA
PERCENT MOISTURE D2216								
Percent Moisture	21.4	0		wt%	R298772	1	08/26/2015 11:00	PF

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	DUP-07-20150818-01
Project Name:	AGL Macon	**Collection Date:**	8/18/2015
Lab ID:	1508H98-006	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	9.8		ug/Kg-dry	211880	1	08/22/2015 17:40	CG
Benzene	BRL	4.9		ug/Kg-dry	211880	1	08/22/2015 17:40	CG
Toluene	BRL	4.9		ug/Kg-dry	211880	1	08/22/2015 17:40	CG
Ethylbenzene	BRL	4.9		ug/Kg-dry	211880	1	08/22/2015 17:40	CG
Xylenes, Total	BRL	4.9		ug/Kg-dry	211880	1	08/22/2015 17:40	CG
Surr: 4-Bromofluorobenzene	81.4	70-128		%REC	211880	1	08/22/2015 17:40	CG
Surr: Dibromofluoromethane	98.6	78.2-128		%REC	211880	1	08/22/2015 17:40	CG
Surr: Toluene-d8	98.8	76.5-116		%REC	211880	1	08/22/2015 17:40	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.125		mg/Kg-dry	211950	1	08/25/2015 15:44	TA
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	21		ug/Kg-dry	211895	1	08/24/2015 18:53	YH
Acenaphthylene	BRL	42		ug/Kg-dry	211895	1	08/24/2015 18:53	YH
Anthracene	25	2.1		ug/Kg-dry	211895	1	08/24/2015 18:53	YH
Benz(a)anthracene	99	2.1		ug/Kg-dry	211895	1	08/24/2015 18:53	YH
Benzo(a)pyrene	69	2.1		ug/Kg-dry	211895	1	08/24/2015 18:53	YH
Benzo(b)fluoranthene	120	4.2		ug/Kg-dry	211895	1	08/24/2015 18:53	YH
Benzo(g,h,i)perylene	37	4.2		ug/Kg-dry	211895	1	08/24/2015 18:53	YH
Benzo(k)fluoranthene	31	2.1		ug/Kg-dry	211895	1	08/24/2015 18:53	YH
Chrysene	90	2.1		ug/Kg-dry	211895	1	08/24/2015 18:53	YH
Dibenz(a,h)anthracene	13	4.2		ug/Kg-dry	211895	1	08/24/2015 18:53	YH
Fluoranthene	110	4.2		ug/Kg-dry	211895	1	08/24/2015 18:53	YH
Fluorene	6.7	4.2		ug/Kg-dry	211895	1	08/24/2015 18:53	YH
Indeno(1,2,3-cd)pyrene	35	2.1		ug/Kg-dry	211895	1	08/24/2015 18:53	YH
Naphthalene	BRL	21		ug/Kg-dry	211895	1	08/24/2015 18:53	YH
Phenanthrene	150	2.1		ug/Kg-dry	211895	1	08/24/2015 18:53	YH
Pyrene	130	2.1		ug/Kg-dry	211895	1	08/24/2015 18:53	YH
Surr: 4-Terphenyl-d14	83.9	42-124		%REC	211895	1	08/24/2015 18:53	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	420		ug/Kg-dry	211860	1	08/24/2015 20:56	YH
2-Methylphenol	BRL	420		ug/Kg-dry	211860	1	08/24/2015 20:56	YH
3,4-Methylphenol	BRL	420		ug/Kg-dry	211860	1	08/24/2015 20:56	YH
Phenol	BRL	420		ug/Kg-dry	211860	1	08/24/2015 20:56	YH
Surr: 2,4,6-Tribromophenol	100	41-128		%REC	211860	1	08/24/2015 20:56	YH
Surr: 2-Fluorobiphenyl	92.1	47-120		%REC	211860	1	08/24/2015 20:56	YH
Surr: 2-Fluorophenol	81.7	38.3-120		%REC	211860	1	08/24/2015 20:56	YH
Surr: 4-Terphenyl-d14	96.4	51.4-125		%REC	211860	1	08/24/2015 20:56	YH
Surr: Nitrobenzene-d5	85.4	40.1-120		%REC	211860	1	08/24/2015 20:56	YH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	DUP-07-20150818-01
Project Name:	AGL Macon	**Collection Date:**	8/18/2015
Lab ID:	1508H98-006	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	87.7	40.3-120		%REC	211860	1	08/24/2015 20:56	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.26		mg/Kg-dry	211998	1	08/26/2015 16:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	6.27		mg/Kg-dry	211917	1	08/26/2015 13:51	TA
Arsenic	BRL	6.27		mg/Kg-dry	211917	1	08/26/2015 13:51	TA
Barium	17.7	6.27		mg/Kg-dry	211917	1	08/26/2015 13:51	TA
Beryllium	BRL	3.14		mg/Kg-dry	211917	1	08/26/2015 13:51	TA
Cadmium	BRL	3.14		mg/Kg-dry	211917	1	08/26/2015 13:51	TA
Chromium	16.1	3.14		mg/Kg-dry	211917	1	08/26/2015 13:51	TA
Copper	6.90	3.14		mg/Kg-dry	211917	1	08/26/2015 13:51	TA
Lead	12.1	6.27		mg/Kg-dry	211917	1	08/26/2015 13:51	TA
Nickel	BRL	6.27		mg/Kg-dry	211917	1	08/26/2015 13:51	TA
Zinc	13.5	6.27		mg/Kg-dry	211917	1	08/26/2015 13:51	TA
PERCENT MOISTURE D2216								
Percent Moisture	20.7	0		wt%	R298772	1	08/26/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	TB-08-20150818-01
Project Name:	AGL Macon	**Collection Date:**	8/18/2015
Lab ID:	1508H98-007	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	211845	1	08/21/2015 16:47	AR
Carbon disulfide	BRL	5.0		ug/L	211845	1	08/21/2015 16:47	AR
Ethylbenzene	BRL	5.0		ug/L	211845	1	08/21/2015 16:47	AR
Toluene	BRL	5.0		ug/L	211845	1	08/21/2015 16:47	AR
Xylenes, Total	BRL	5.0		ug/L	211845	1	08/21/2015 16:47	AR
Surr: 4-Bromofluorobenzene	85.8	70.6-123		%REC	211845	1	08/21/2015 16:47	AR
Surr: Dibromofluoromethane	100	78.7-124		%REC	211845	1	08/21/2015 16:47	AR
Surr: Toluene-d8	95.5	81.3-120		%REC	211845	1	08/21/2015 16:47	AR

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	EB-10-20150818-01
Project Name:	AGL Macon	**Collection Date:**	8/18/2015 2:10:00 PM
Lab ID:	1508H98-008	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	211845	1	08/21/2015 17:13	AR
Carbon disulfide	BRL	5.0		ug/L	211845	1	08/21/2015 17:13	AR
Ethylbenzene	BRL	5.0		ug/L	211845	1	08/21/2015 17:13	AR
Toluene	BRL	5.0		ug/L	211845	1	08/21/2015 17:13	AR
Xylenes, Total	BRL	5.0		ug/L	211845	1	08/21/2015 17:13	AR
Surr: 4-Bromofluorobenzene	82.8	70.6-123		%REC	211845	1	08/21/2015 17:13	AR
Surr: Dibromofluoromethane	101	78.7-124		%REC	211845	1	08/21/2015 17:13	AR
Surr: Toluene-d8	99.4	81.3-120		%REC	211845	1	08/21/2015 17:13	AR
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	0.53	0.50		ug/L	211857	1	08/25/2015 21:18	YH
Acenaphthylene	BRL	1.0		ug/L	211857	1	08/25/2015 21:18	YH
Acenaphthene	BRL	0.50		ug/L	211857	1	08/25/2015 21:18	YH
Fluorene	BRL	0.10		ug/L	211857	1	08/25/2015 21:18	YH
Phenanthrene	BRL	0.050		ug/L	211857	1	08/25/2015 21:18	YH
Anthracene	BRL	0.050		ug/L	211857	1	08/25/2015 21:18	YH
Fluoranthene	BRL	0.10		ug/L	211857	1	08/25/2015 21:18	YH
Pyrene	BRL	0.050		ug/L	211857	1	08/25/2015 21:18	YH
Benz(a)anthracene	BRL	0.050		ug/L	211857	1	08/25/2015 21:18	YH
Chrysene	BRL	0.050		ug/L	211857	1	08/25/2015 21:18	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	211857	1	08/25/2015 21:18	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	211857	1	08/25/2015 21:18	YH
Benzo(a)pyrene	BRL	0.050		ug/L	211857	1	08/25/2015 21:18	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	211857	1	08/25/2015 21:18	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	211857	1	08/25/2015 21:18	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	211857	1	08/25/2015 21:18	YH
Surr: 4-Terphenyl-d14	96	55.4-136		%REC	211857	1	08/25/2015 21:18	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	211858	1	08/25/2015 19:04	YH
2-Methylphenol	BRL	10		ug/L	211858	1	08/25/2015 19:04	YH
3,4-Methylphenol	BRL	10		ug/L	211858	1	08/25/2015 19:04	YH
Phenol	BRL	10		ug/L	211858	1	08/25/2015 19:04	YH
Surr: 2,4,6-Tribromophenol	86.2	52-133		%REC	211858	1	08/25/2015 19:04	YH
Surr: 2-Fluorobiphenyl	86.6	50-121		%REC	211858	1	08/25/2015 19:04	YH
Surr: 2-Fluorophenol	38.2	27.5-120		%REC	211858	1	08/25/2015 19:04	YH
Surr: 4-Terphenyl-d14	90.2	46.3-137		%REC	211858	1	08/25/2015 19:04	YH
Surr: Nitrobenzene-d5	75.5	41.2-121		%REC	211858	1	08/25/2015 19:04	YH
Surr: Phenol-d5	26	14.3-120		%REC	211858	1	08/25/2015 19:04	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	EB-10-20150818-01
Project Name:	AGL Macon	**Collection Date:**	8/18/2015 2:10:00 PM
Lab ID:	1508H98-008	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	211882	1	08/24/2015 14:09	TA
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	212299	1	09/01/2015 13:40	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	211875	1	08/24/2015 16:40	TA
Arsenic	BRL	0.0500		mg/L	211875	1	08/24/2015 16:40	TA
Barium	BRL	0.0200		mg/L	211875	1	08/24/2015 16:40	TA
Beryllium	BRL	0.0100		mg/L	211875	1	08/24/2015 16:40	TA
Cadmium	BRL	0.0050		mg/L	211875	1	08/24/2015 16:40	TA
Chromium	BRL	0.0100		mg/L	211875	1	08/24/2015 16:40	TA
Copper	BRL	0.0100		mg/L	211875	1	08/24/2015 16:40	TA
Lead	BRL	0.0100		mg/L	211875	1	08/24/2015 16:40	TA
Nickel	BRL	0.0200		mg/L	211875	1	08/24/2015 16:40	TA
Zinc	BRL	0.0200		mg/L	211875	1	08/24/2015 16:40	TA

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	VOC TEST 1
Project Name:	AGL Macon	**Collection Date:**	8/15/2015 10:05:00 AM
Lab ID:	1508H98-009	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	11		ug/Kg-dry	211880	1	08/22/2015 18:04	CG
Benzene	BRL	5.4		ug/Kg-dry	211880	1	08/22/2015 18:04	CG
Toluene	BRL	5.4		ug/Kg-dry	211880	1	08/22/2015 18:04	CG
Ethylbenzene	BRL	5.4		ug/Kg-dry	211880	1	08/22/2015 18:04	CG
Xylenes, Total	13	5.4		ug/Kg-dry	211880	1	08/22/2015 18:04	CG
Surr: 4-Bromofluorobenzene	91.8	70-128		%REC	211880	1	08/22/2015 18:04	CG
Surr: Dibromofluoromethane	98.3	78.2-128		%REC	211880	1	08/22/2015 18:04	CG
Surr: Toluene-d8	98.1	76.5-116		%REC	211880	1	08/22/2015 18:04	CG
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	24	19		ug/Kg-dry	211895	1	08/24/2015 19:21	YH
Acenaphthylene	80	37		ug/Kg-dry	211895	1	08/24/2015 19:21	YH
Anthracene	94	1.9		ug/Kg-dry	211895	1	08/24/2015 19:21	YH
Benz(a)anthracene	290	1.9		ug/Kg-dry	211895	1	08/24/2015 19:21	YH
Benzo(a)pyrene	160	1.9		ug/Kg-dry	211895	1	08/24/2015 19:21	YH
Benzo(b)fluoranthene	280	3.7		ug/Kg-dry	211895	1	08/24/2015 19:21	YH
Benzo(g,h,i)perylene	78	3.7		ug/Kg-dry	211895	1	08/24/2015 19:21	YH
Benzo(k)fluoranthene	67	1.9		ug/Kg-dry	211895	1	08/24/2015 19:21	YH
Chrysene	250	1.9		ug/Kg-dry	211895	1	08/24/2015 19:21	YH
Dibenz(a,h)anthracene	27	3.7		ug/Kg-dry	211895	1	08/24/2015 19:21	YH
Fluoranthene	330	3.7		ug/Kg-dry	211895	1	08/24/2015 19:21	YH
Fluorene	33	3.7		ug/Kg-dry	211895	1	08/24/2015 19:21	YH
Indeno(1,2,3-cd)pyrene	82	1.9		ug/Kg-dry	211895	1	08/24/2015 19:21	YH
Naphthalene	28	19		ug/Kg-dry	211895	1	08/24/2015 19:21	YH
Phenanthrene	410	190		ug/Kg-dry	211895	100	08/25/2015 01:23	YH
Pyrene	330	190		ug/Kg-dry	211895	100	08/25/2015 01:23	YH
Surr: 4-Terphenyl-d14	103	42-124		%REC	211895	1	08/24/2015 19:21	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	370		ug/Kg-dry	211860	1	08/27/2015 14:03	YH
2-Methylphenol	BRL	370		ug/Kg-dry	211860	1	08/27/2015 14:03	YH
3,4-Methylphenol	BRL	370		ug/Kg-dry	211860	1	08/27/2015 14:03	YH
Phenol	BRL	370		ug/Kg-dry	211860	1	08/27/2015 14:03	YH
Surr: 2,4,6-Tribromophenol	95.5	41-128		%REC	211860	1	08/27/2015 14:03	YH
Surr: 2-Fluorobiphenyl	80.2	47-120		%REC	211860	1	08/27/2015 14:03	YH
Surr: 2-Fluorophenol	65.4	38.3-120		%REC	211860	1	08/27/2015 14:03	YH
Surr: 4-Terphenyl-d14	81.5	51.4-125		%REC	211860	1	08/27/2015 14:03	YH
Surr: Nitrobenzene-d5	71.1	40.1-120		%REC	211860	1	08/27/2015 14:03	YH
Surr: Phenol-d5	69.4	40.3-120		%REC	211860	1	08/27/2015 14:03	YH
PERCENT MOISTURE D2216								

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	VOC TEST 1
Project Name:	AGL Macon	**Collection Date:**	8/15/2015 10:05:00 AM
Lab ID:	1508H98-009	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
PERCENT MOISTURE D2216								
Percent Moisture	11.9	0		wt%	R298772	1	08/26/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	VOC TEST 2
Project Name:	AGL Macon	**Collection Date:**	8/15/2015 10:10:00 AM
Lab ID:	1508H98-010	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	9.0		ug/Kg-dry	211880	1	08/22/2015 23:14	CG
Benzene	BRL	4.5		ug/Kg-dry	211880	1	08/22/2015 23:14	CG
Toluene	BRL	4.5		ug/Kg-dry	211880	1	08/22/2015 23:14	CG
Ethylbenzene	BRL	4.5		ug/Kg-dry	211880	1	08/22/2015 23:14	CG
Xylenes, Total	BRL	4.5		ug/Kg-dry	211880	1	08/22/2015 23:14	CG
Surr: 4-Bromofluorobenzene	83.9	70-128		%REC	211880	1	08/22/2015 23:14	CG
Surr: Dibromofluoromethane	92.1	78.2-128		%REC	211880	1	08/22/2015 23:14	CG
Surr: Toluene-d8	98.6	76.5-116		%REC	211880	1	08/22/2015 23:14	CG
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	21		ug/Kg-dry	211895	1	08/24/2015 19:50	YH
Acenaphthylene	BRL	40		ug/Kg-dry	211895	1	08/24/2015 19:50	YH
Anthracene	BRL	2.1		ug/Kg-dry	211895	1	08/24/2015 19:50	YH
Benz(a)anthracene	6.4	2.1		ug/Kg-dry	211895	1	08/24/2015 19:50	YH
Benzo(a)pyrene	4.8	2.1		ug/Kg-dry	211895	1	08/24/2015 19:50	YH
Benzo(b)fluoranthene	5.8	4.0		ug/Kg-dry	211895	1	08/24/2015 19:50	YH
Benzo(g,h,i)perylene	5.4	4.0		ug/Kg-dry	211895	1	08/24/2015 19:50	YH
Benzo(k)fluoranthene	3.8	2.1		ug/Kg-dry	211895	1	08/24/2015 19:50	YH
Chrysene	5.9	2.1		ug/Kg-dry	211895	1	08/24/2015 19:50	YH
Dibenz(a,h)anthracene	5.8	4.0		ug/Kg-dry	211895	1	08/24/2015 19:50	YH
Fluoranthene	7.0	4.0		ug/Kg-dry	211895	1	08/24/2015 19:50	YH
Fluorene	BRL	4.0		ug/Kg-dry	211895	1	08/24/2015 19:50	YH
Indeno(1,2,3-cd)pyrene	5.9	2.1		ug/Kg-dry	211895	1	08/24/2015 19:50	YH
Naphthalene	BRL	21		ug/Kg-dry	211895	1	08/24/2015 19:50	YH
Phenanthrene	9.7	2.1		ug/Kg-dry	211895	1	08/24/2015 19:50	YH
Pyrene	7.6	2.1		ug/Kg-dry	211895	1	08/24/2015 19:50	YH
Surr: 4-Terphenyl-d14	88.7	42-124		%REC	211895	1	08/24/2015 19:50	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	400		ug/Kg-dry	211860	1	08/25/2015 19:30	YH
2-Methylphenol	BRL	400		ug/Kg-dry	211860	1	08/25/2015 19:30	YH
3,4-Methylphenol	BRL	400		ug/Kg-dry	211860	1	08/25/2015 19:30	YH
Phenol	BRL	400		ug/Kg-dry	211860	1	08/25/2015 19:30	YH
Surr: 2,4,6-Tribromophenol	78.4	41-128		%REC	211860	1	08/25/2015 19:30	YH
Surr: 2-Fluorobiphenyl	83.4	47-120		%REC	211860	1	08/25/2015 19:30	YH
Surr: 2-Fluorophenol	69.5	38.3-120		%REC	211860	1	08/25/2015 19:30	YH
Surr: 4-Terphenyl-d14	90.6	51.4-125		%REC	211860	1	08/25/2015 19:30	YH
Surr: Nitrobenzene-d5	79	40.1-120		%REC	211860	1	08/25/2015 19:30	YH
Surr: Phenol-d5	81	40.3-120		%REC	211860	1	08/25/2015 19:30	YH
PERCENT MOISTURE D2216								

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	VOC TEST 2
Project Name:	AGL Macon	**Collection Date:**	8/15/2015 10:10:00 AM
Lab ID:	1508H98-010	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
PERCENT MOISTURE D2216								
Percent Moisture	18.3	0		wt%	R298772	1	08/26/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	VOC TEST 3
Project Name:	AGL Macon	**Collection Date:**	8/15/2015 10:15:00 AM
Lab ID:	1508H98-011	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	12		ug/Kg-dry	211880	1	08/22/2015 18:28	CG
Benzene	BRL	6.0		ug/Kg-dry	211880	1	08/22/2015 18:28	CG
Toluene	7.9	6.0		ug/Kg-dry	211880	1	08/22/2015 18:28	CG
Ethylbenzene	6.7	6.0		ug/Kg-dry	211880	1	08/22/2015 18:28	CG
Xylenes, Total	25	6.0		ug/Kg-dry	211880	1	08/22/2015 18:28	CG
Surr: 4-Bromofluorobenzene	88.5	70-128		%REC	211880	1	08/22/2015 18:28	CG
Surr: Dibromofluoromethane	98.7	78.2-128		%REC	211880	1	08/22/2015 18:28	CG
Surr: Toluene-d8	96.4	76.5-116		%REC	211880	1	08/22/2015 18:28	CG
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	250	22		ug/Kg-dry	211895	1	08/24/2015 20:19	YH
Acenaphthylene	410	43		ug/Kg-dry	211895	1	08/24/2015 20:19	YH
Anthracene	450	220		ug/Kg-dry	211895	100	08/25/2015 01:51	YH
Benz(a)anthracene	840	220		ug/Kg-dry	211895	100	08/25/2015 01:51	YH
Benzo(a)pyrene	400	220		ug/Kg-dry	211895	100	08/25/2015 01:51	YH
Benzo(b)fluoranthene	750	430		ug/Kg-dry	211895	100	08/25/2015 01:51	YH
Benzo(g,h,i)perylene	300	4.3		ug/Kg-dry	211895	1	08/24/2015 20:19	YH
Benzo(k)fluoranthene	250	2.2		ug/Kg-dry	211895	1	08/24/2015 20:19	YH
Chrysene	910	220		ug/Kg-dry	211895	100	08/25/2015 01:51	YH
Dibenz(a,h)anthracene	110	4.3		ug/Kg-dry	211895	1	08/24/2015 20:19	YH
Fluoranthene	1400	430		ug/Kg-dry	211895	100	08/25/2015 01:51	YH
Fluorene	290	4.3		ug/Kg-dry	211895	1	08/24/2015 20:19	YH
Indeno(1,2,3-cd)pyrene	320	2.2		ug/Kg-dry	211895	1	08/24/2015 20:19	YH
Naphthalene	120	22		ug/Kg-dry	211895	1	08/24/2015 20:19	YH
Phenanthrene	2700	220		ug/Kg-dry	211895	100	08/25/2015 01:51	YH
Pyrene	1600	220		ug/Kg-dry	211895	100	08/25/2015 01:51	YH
Surr: 4-Terphenyl-d14	97.9	42-124		%REC	211895	1	08/24/2015 20:19	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	430		ug/Kg-dry	211860	1	08/25/2015 19:56	YH
2-Methylphenol	BRL	430		ug/Kg-dry	211860	1	08/25/2015 19:56	YH
3,4-Methylphenol	BRL	430		ug/Kg-dry	211860	1	08/25/2015 19:56	YH
Phenol	BRL	430		ug/Kg-dry	211860	1	08/25/2015 19:56	YH
Surr: 2,4,6-Tribromophenol	81.5	41-128		%REC	211860	1	08/25/2015 19:56	YH
Surr: 2-Fluorobiphenyl	86.2	47-120		%REC	211860	1	08/25/2015 19:56	YH
Surr: 2-Fluorophenol	71.6	38.3-120		%REC	211860	1	08/25/2015 19:56	YH
Surr: 4-Terphenyl-d14	86.1	51.4-125		%REC	211860	1	08/25/2015 19:56	YH
Surr: Nitrobenzene-d5	85.4	40.1-120		%REC	211860	1	08/25/2015 19:56	YH
Surr: Phenol-d5	87	40.3-120		%REC	211860	1	08/25/2015 19:56	YH
PERCENT MOISTURE D2216								

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	VOC TEST 3
Project Name:	AGL Macon	**Collection Date:**	8/15/2015 10:15:00 AM
Lab ID:	1508H98-011	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
PERCENT MOISTURE D2216								
Percent Moisture	24.0	0		wt%	R299101	1	09/01/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM Work Order Number 1508H98

Checklist completed by Jason B 8/21/15
Signature Date

Carrier name: FedEx ✓ UPS __ Courier __ Client __ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 3.2° Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by JB

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1508H98

ANALYTICAL QC SUMMARY REPORT

BatchID: 211857

Sample ID: **MB-211857**	Client ID:		Units: **ug/L**	Prep Date: **08/24/2015**	Run No: **298661**
SampleType: **MBLK**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **211857**	Analysis Date: **08/25/2015**	Seq No: **6376465**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	0.50									
Acenaphthylene	BRL	1.0									
Anthracene	BRL	0.050									
Benz(a)anthracene	BRL	0.050									
Benzo(a)pyrene	BRL	0.050									
Benzo(b)fluoranthene	BRL	0.10									
Benzo(g,h,i)perylene	BRL	0.10									
Benzo(k)fluoranthene	BRL	0.050									
Chrysene	BRL	0.050									
Dibenz(a,h)anthracene	BRL	0.10									
Fluoranthene	BRL	0.10									
Fluorene	BRL	0.10									
Indeno(1,2,3-cd)pyrene	BRL	0.050									
Naphthalene	BRL	0.50									
Phenanthrene	BRL	0.050									
Pyrene	BRL	0.050									
Surr: 4-Terphenyl-d14	2.010	0	2.000		100	55.4	136				

Sample ID: **LCS-211857**	Client ID:		Units: **ug/L**	Prep Date: **08/24/2015**	Run No: **298661**
SampleType: **LCS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **211857**	Analysis Date: **08/25/2015**	Seq No: **6376466**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.677	0.50	2.000		83.9	66.3	118				
Acenaphthylene	1.635	1.0	2.000		81.8	64	120				
Anthracene	1.722	0.050	2.000		86.1	64.6	127				
Benz(a)anthracene	2.158	0.050	2.000		108	60.6	137				
Benzo(a)pyrene	1.811	0.050	2.000		90.6	64	124				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1508H98

ANALYTICAL QC SUMMARY REPORT

BatchID: 211857

Sample ID: **LCS-211857**	Client ID:		Units: **ug/L**	Prep Date: **08/24/2015**	Run No: **298661**
SampleType: **LCS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **211857**	Analysis Date: **08/25/2015**	Seq No: **6376466**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(b)fluoranthene	1.984	0.10	2.000		99.2	56.4	133				
Benzo(g,h,i)perylene	1.636	0.10	2.000		81.8	49.9	137				
Benzo(k)fluoranthene	1.714	0.050	2.000		85.7	61.7	137				
Chrysene	1.785	0.050	2.000		89.3	65.5	127				
Dibenz(a,h)anthracene	1.604	0.10	2.000		80.2	52.4	130				
Fluoranthene	1.888	0.10	2.000		94.4	67	131				
Fluorene	1.723	0.10	2.000		86.2	68.3	120				
Indeno(1,2,3-cd)pyrene	1.746	0.050	2.000		87.3	50.4	139				
Naphthalene	1.428	0.50	2.000		71.4	61.1	120				
Phenanthrene	1.806	0.050	2.000		90.3	68	119				
Pyrene	1.816	0.050	2.000		90.8	62	127				
Surr: 4-Terphenyl-d14	1.833	0	2.000		91.6	55.4	136				

Sample ID: **1508H92-012BMS**	Client ID:		Units: **ug/L**	Prep Date: **08/24/2015**	Run No: **298661**
SampleType: **MS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **211857**	Analysis Date: **08/25/2015**	Seq No: **6377484**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	20.40	0.50	2.000	20.06	17.0	45.6	120				SE
Acenaphthylene	37.23	1.0	2.000	38.18	-47.4	48.3	124				SE
Anthracene	3.040	0.050	2.000	1.421	80.9	57.7	124				
Benz(a)anthracene	2.334	0.050	2.000		117	50.3	143				
Benzo(a)pyrene	1.683	0.050	2.000		84.2	44.2	127				
Benzo(b)fluoranthene	2.032	0.10	2.000		102	48.4	125				
Benzo(g,h,i)perylene	1.517	0.10	2.000		75.9	40.2	122				
Benzo(k)fluoranthene	1.411	0.050	2.000		70.6	45.5	122				
Chrysene	1.636	0.050	2.000		81.8	46	124				
Dibenz(a,h)anthracene	1.621	0.10	2.000		81.0	40.1	128				
Fluoranthene	2.340	0.10	2.000	0.5364	90.2	58	127				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1508H98

ANALYTICAL QC SUMMARY REPORT

BatchID: 211857

Sample ID: **1508H92-012BMS**	Client ID:		Units: **ug/L**	Prep Date: **08/24/2015**	Run No: **298661**
SampleType: **MS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **211857**	Analysis Date: **08/25/2015**	Seq No: **6377484**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Fluorene	37.81	0.10	2.000	39.24	-71.2	52.6	124				SE
Indeno(1,2,3-cd)pyrene	1.576	0.050	2.000		78.8	40.3	129				
Naphthalene	1792	0.50	2.000	1694	4900	46.6	120				SE
Phenanthrene	18.39	0.050	2.000	17.97	20.9	50.6	122				SE
Pyrene	2.349	0.050	2.000	0.5697	89.0	50.1	128				
Surr: 4-Terphenyl-d14	1.872	0	2.000		93.6	55.4	136				

Sample ID: **1508H92-012BMSD**	Client ID:		Units: **ug/L**	Prep Date: **08/24/2015**	Run No: **298661**
SampleType: **MSD**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **211857**	Analysis Date: **08/25/2015**	Seq No: **6377485**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	20.16	0.50	2.000	20.06	5.11	45.6	120	20.40	1.17	29.4	SE
Acenaphthylene	36.73	1.0	2.000	38.18	-72.4	48.3	124	37.23	1.35	32.5	SE
Anthracene	3.095	0.050	2.000	1.421	83.7	57.7	124	3.040	1.80	21.9	
Benz(a)anthracene	2.390	0.050	2.000		120	50.3	143	2.334	2.38	26.8	
Benzo(a)pyrene	1.726	0.050	2.000		86.3	44.2	127	1.683	2.50	40.9	
Benzo(b)fluoranthene	2.155	0.10	2.000		108	48.4	125	2.032	5.88	24.2	
Benzo(g,h,i)perylene	1.577	0.10	2.000		78.8	40.2	122	1.517	3.84	26.2	
Benzo(k)fluoranthene	1.456	0.050	2.000		72.8	45.5	122	1.411	3.13	23.3	
Chrysene	1.692	0.050	2.000		84.6	46	124	1.636	3.37	25	
Dibenz(a,h)anthracene	1.705	0.10	2.000		85.3	40.1	128	1.621	5.07	23.6	
Fluoranthene	2.328	0.10	2.000	0.5364	89.6	58	127	2.340	0.480	23.5	
Fluorene	37.03	0.10	2.000	39.24	-110	52.6	124	37.81	2.09	31.5	SE
Indeno(1,2,3-cd)pyrene	1.653	0.050	2.000		82.6	40.3	129	1.576	4.75	28.8	
Naphthalene	1750	0.50	2.000	1694	2800	46.6	120	1792	2.37	22.9	SE
Phenanthrene	18.64	0.050	2.000	17.97	33.6	50.6	122	18.39	1.37	20.2	SE
Pyrene	2.380	0.050	2.000	0.5697	90.5	50.1	128	2.349	1.29	24.7	
Surr: 4-Terphenyl-d14	1.967	0	2.000		98.4	55.4	136	1.872	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Analytical Environmental Services, Inc **Date:** 2-Sep-15

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1508H98

ANALYTICAL QC SUMMARY REPORT

BatchID: 211858

Sample ID: **MB-211858** Client ID: Units: **ug/L** Prep Date: **08/24/2015** Run No: **298592**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **211858** Analysis Date: **08/24/2015** Seq No: **6374674**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	10									
2-Methylphenol	BRL	10									
3,4-Methylphenol	BRL	10									
Phenol	BRL	10									
Surr: 2,4,6-Tribromophenol	80.75	0	100.0		80.8	52	133				
Surr: 2-Fluorobiphenyl	38.90	0	50.00		77.8	50	121				
Surr: 2-Fluorophenol	48.31	0	100.0		48.3	27.5	120				
Surr: 4-Terphenyl-d14	42.26	0	50.00		84.5	46.3	137				
Surr: Nitrobenzene-d5	38.13	0	50.00		76.3	41.2	121				
Surr: Phenol-d5	34.56	0	100.0		34.6	14.3	120				

Sample ID: **LCS-211858** Client ID: Units: **ug/L** Prep Date: **08/24/2015** Run No: **298592**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **211858** Analysis Date: **08/24/2015** Seq No: **6374675**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	31.44	10	100.0		31.4	25.6	120				
Surr: 2,4,6-Tribromophenol	94.38	0	100.0		94.4	52	133				
Surr: 2-Fluorobiphenyl	43.73	0	50.00		87.5	50	121				
Surr: 2-Fluorophenol	46.65	0	100.0		46.6	27.5	120				
Surr: 4-Terphenyl-d14	48.89	0	50.00		97.8	46.3	137				
Surr: Nitrobenzene-d5	39.84	0	50.00		79.7	41.2	121				
Surr: Phenol-d5	44.95	0	100.0		45.0	14.3	120				

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1508H98

ANALYTICAL QC SUMMARY REPORT

BatchID: 211858

Sample ID: **1508G85-004BMS**	Client ID:		Units: **ug/L**	Prep Date: **08/24/2015**	Run No: **298592**
SampleType: **MS**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **211858**	Analysis Date: **08/24/2015**	Seq No: **6375435**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	37.45	10	100.0		37.4	31	120				
Surr: 2,4,6-Tribromophenol	76.41	0	100.0		76.4	52	133				
Surr: 2-Fluorobiphenyl	33.44	0	50.00		66.9	50	121				
Surr: 2-Fluorophenol	47.28	0	100.0		47.3	27.5	120				
Surr: 4-Terphenyl-d14	30.53	0	50.00		61.1	46.3	137				
Surr: Nitrobenzene-d5	31.41	0	50.00		62.8	41.2	121				
Surr: Phenol-d5	39.82	0	100.0		39.8	14.3	120				

Sample ID: **1508G85-004BMSD**	Client ID:		Units: **ug/L**	Prep Date: **08/24/2015**	Run No: **298592**
SampleType: **MSD**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **211858**	Analysis Date: **08/24/2015**	Seq No: **6375436**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	38.10	10	100.0		38.1	31	120	37.45	1.72	31.9	
Surr: 2,4,6-Tribromophenol	73.59	0	100.0		73.6	52	133	76.41	0	0	
Surr: 2-Fluorobiphenyl	32.84	0	50.00		65.7	50	121	33.44	0	0	
Surr: 2-Fluorophenol	45.32	0	100.0		45.3	27.5	120	47.28	0	0	
Surr: 4-Terphenyl-d14	29.97	0	50.00		59.9	46.3	137	30.53	0	0	
Surr: Nitrobenzene-d5	29.77	0	50.00		59.5	41.2	121	31.41	0	0	
Surr: Phenol-d5	39.75	0	100.0		39.8	14.3	120	39.82	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1508H98

ANALYTICAL QC SUMMARY REPORT

BatchID: 211860

Sample ID: **MB-211860** Client ID: Units: **ug/Kg** Prep Date: **08/24/2015** Run No: **298544**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **211860** Analysis Date: **08/24/2015** Seq No: **6373456**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	330									
2-Methylphenol	BRL	330									
3,4-Methylphenol	BRL	330									
Phenol	BRL	330									
Surr: 2,4,6-Tribromophenol	2586	0	3333		77.6	41	128				
Surr: 2-Fluorobiphenyl	1354	0	1667		81.2	47	120				
Surr: 2-Fluorophenol	2245	0	3333		67.3	38.3	120				
Surr: 4-Terphenyl-d14	1356	0	1667		81.3	51.4	125				
Surr: Nitrobenzene-d5	1245	0	1667		74.7	40.1	120				
Surr: Phenol-d5	2437	0	3333		73.1	40.3	120				

Sample ID: **LCS-211860** Client ID: Units: **ug/Kg** Prep Date: **08/24/2015** Run No: **298544**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **211860** Analysis Date: **08/24/2015** Seq No: **6373457**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2452	330	3333		73.6	50.1	120				
Surr: 2,4,6-Tribromophenol	3190	0	3333		95.7	41	128				
Surr: 2-Fluorobiphenyl	1574	0	1667		94.4	47	120				
Surr: 2-Fluorophenol	2535	0	3333		76.1	38.3	120				
Surr: 4-Terphenyl-d14	1637	0	1667		98.2	51.4	125				
Surr: Nitrobenzene-d5	1456	0	1667		87.3	40.1	120				
Surr: Phenol-d5	2770	0	3333		83.1	40.3	120				

Sample ID: **1508I28-004BMS** Client ID: Units: **ug/Kg-dry** Prep Date: **08/24/2015** Run No: **298544**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **211860** Analysis Date: **08/24/2015** Seq No: **6375427**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2989	420	4285		69.7	41.5	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1508H98

ANALYTICAL QC SUMMARY REPORT

BatchID: 211860

Sample ID: **1508I28-004BMS**	Client ID:		Units: **ug/Kg-dry**	Prep Date: **08/24/2015**	Run No: **298544**
SampleType: **MS**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **211860**	Analysis Date: **08/24/2015**	Seq No: **6375427**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 2,4,6-Tribromophenol	3641	0	4285		85.0	41	128				
Surr: 2-Fluorobiphenyl	1773	0	2143		82.8	47	120				
Surr: 2-Fluorophenol	3047	0	4285		71.1	38.3	120				
Surr: 4-Terphenyl-d14	1846	0	2143		86.1	51.4	125				
Surr: Nitrobenzene-d5	1690	0	2143		78.9	40.1	120				
Surr: Phenol-d5	3352	0	4285		78.2	40.3	120				

Sample ID: **1508I28-004BMSD**	Client ID:		Units: **ug/Kg-dry**	Prep Date: **08/24/2015**	Run No: **298544**
SampleType: **MSD**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **211860**	Analysis Date: **08/24/2015**	Seq No: **6375429**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2978	420	4285		69.5	41.5	120	2989	0.359	37.4	
Surr: 2,4,6-Tribromophenol	3732	0	4285		87.1	41	128	3641	0	0	
Surr: 2-Fluorobiphenyl	1828	0	2143		85.3	47	120	1773	0	0	
Surr: 2-Fluorophenol	2989	0	4285		69.7	38.3	120	3047	0	0	
Surr: 4-Terphenyl-d14	1909	0	2143		89.1	51.4	125	1846	0	0	
Surr: Nitrobenzene-d5	1634	0	2143		76.3	40.1	120	1690	0	0	
Surr: Phenol-d5	3263	0	4285		76.2	40.3	120	3352	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1508H98

ANALYTICAL QC SUMMARY REPORT

BatchID: 211875

Sample ID: **MB-211875** Client ID: Units: **mg/L** Prep Date: **08/22/2015** Run No: **298605**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **211875** Analysis Date: **08/24/2015** Seq No: **6375044**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	0.0200									
Arsenic	BRL	0.0500									
Barium	BRL	0.0200									
Beryllium	BRL	0.0100									
Cadmium	BRL	0.0050									
Chromium	BRL	0.0100									
Copper	BRL	0.0100									
Lead	BRL	0.0100									
Nickel	BRL	0.0200									
Zinc	BRL	0.0200									

Sample ID: **LCS-211875** Client ID: Units: **mg/L** Prep Date: **08/22/2015** Run No: **298605**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **211875** Analysis Date: **08/24/2015** Seq No: **6375045**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.041	0.0200	1.000		104	80	120				
Arsenic	1.026	0.0500	1.000		103	80	120				
Barium	1.039	0.0200	1.000		104	80	120				
Beryllium	1.038	0.0100	1.000		104	80	120				
Cadmium	1.033	0.0050	1.000		103	80	120				
Chromium	1.035	0.0100	1.000		103	80	120				
Copper	1.053	0.0100	1.000		105	80	120				
Lead	1.032	0.0100	1.000		103	80	120				
Nickel	1.036	0.0200	1.000		104	80	120				
Zinc	1.027	0.0200	1.000		103	80	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1508H98

ANALYTICAL QC SUMMARY REPORT

BatchID: 211875

Sample ID: **1508J08-001BMS** Client ID:
SampleType: **MS** TestCode: **METALS, TOTAL SW6010C**
Units: **mg/L** Prep Date: **08/22/2015** Run No: **298605**
BatchID: **211875** Analysis Date: **08/24/2015** Seq No: **6375047**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.002	0.0200	1.000		100	75	125				
Arsenic	0.9965	0.0500	1.000		99.7	75	125				
Barium	1.144	0.0200	1.000	0.1535	99.0	75	125				
Beryllium	1.003	0.0100	1.000	0.0004600	100	75	125				
Cadmium	1.002	0.0050	1.000		100	75	125				
Chromium	0.9958	0.0100	1.000	0.0005000	99.5	75	125				
Copper	1.217	0.0100	1.000	0.2027	101	75	125				
Lead	1.053	0.0100	1.000	0.07620	97.7	75	125				
Nickel	1.038	0.0200	1.000	0.03841	100	75	125				
Zinc	3.072	0.0200	1.000	2.197	87.4	75	125				

Sample ID: **1508J08-001BMSD** Client ID:
SampleType: **MSD** TestCode: **METALS, TOTAL SW6010C**
Units: **mg/L** Prep Date: **08/22/2015** Run No: **298605**
BatchID: **211875** Analysis Date: **08/24/2015** Seq No: **6375048**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.021	0.0200	1.000		102	75	125	1.002	1.92	20	
Arsenic	1.024	0.0500	1.000		102	75	125	0.9965	2.71	20	
Barium	1.167	0.0200	1.000	0.1535	101	75	125	1.144	2.01	20	
Beryllium	1.024	0.0100	1.000	0.0004600	102	75	125	1.003	2.10	20	
Cadmium	1.025	0.0050	1.000		102	75	125	1.002	2.20	20	
Chromium	1.016	0.0100	1.000	0.0005000	102	75	125	0.9958	2.00	20	
Copper	1.239	0.0100	1.000	0.2027	104	75	125	1.217	1.78	20	
Lead	1.073	0.0100	1.000	0.07620	99.7	75	125	1.053	1.84	20	
Nickel	1.058	0.0200	1.000	0.03841	102	75	125	1.038	1.89	20	
Zinc	3.088	0.0200	1.000	2.197	89.1	75	125	3.072	0.538	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1508H98

ANALYTICAL QC SUMMARY REPORT

BatchID: 211882

Sample ID: **MB-211882**	Client ID:				Units: **mg/L**		Prep Date: **08/24/2015**		Run No: **298574**
SampleType: **MBLK**	TestCode: **Mercury, Total SW7470A**				BatchID: **211882**		Analysis Date: **08/24/2015**		Seq No: **6374284**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.00020									

Sample ID: **LCS-211882**	Client ID:				Units: **mg/L**		Prep Date: **08/24/2015**		Run No: **298574**
SampleType: **LCS**	TestCode: **Mercury, Total SW7470A**				BatchID: **211882**		Analysis Date: **08/24/2015**		Seq No: **6374285**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005452	0.00020	0.0050		109	80	120				

Sample ID: **1508H98-008BMS**	Client ID: **EB-10-20150818-01**				Units: **mg/L**		Prep Date: **08/24/2015**		Run No: **298574**
SampleType: **MS**	TestCode: **Mercury, Total SW7470A**				BatchID: **211882**		Analysis Date: **08/24/2015**		Seq No: **6374287**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005228	0.00020	0.0050		105	70	130				

Sample ID: **1508H98-008BMSD**	Client ID: **EB-10-20150818-01**				Units: **mg/L**		Prep Date: **08/24/2015**		Run No: **298574**
SampleType: **MSD**	TestCode: **Mercury, Total SW7470A**				BatchID: **211882**		Analysis Date: **08/24/2015**		Seq No: **6374288**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005397	0.00020	0.0050		108	70	130	0.005228	3.19	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1508H98

ANALYTICAL QC SUMMARY REPORT

BatchID: 211895

Sample ID: **MB-211895**	Client ID:		Units: **ug/Kg**	Prep Date: **08/24/2015**	Run No: **298589**
SampleType: **MBLK**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**		BatchID: **211895**	Analysis Date: **08/24/2015**	Seq No: **6374565**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	17									
Acenaphthylene	BRL	33									
Anthracene	BRL	1.7									
Benz(a)anthracene	BRL	1.7									
Benzo(a)pyrene	BRL	1.7									
Benzo(b)fluoranthene	BRL	3.3									
Benzo(g,h,i)perylene	BRL	3.3									
Benzo(k)fluoranthene	BRL	1.7									
Chrysene	BRL	1.7									
Dibenz(a,h)anthracene	BRL	3.3									
Fluoranthene	BRL	3.3									
Fluorene	BRL	3.3									
Indeno(1,2,3-cd)pyrene	BRL	1.7									
Naphthalene	BRL	17									
Phenanthrene	BRL	1.7									
Pyrene	BRL	1.7									
Surr: 4-Terphenyl-d14	62.95	0	66.67		94.4	42	124				

Sample ID: **LCS-211895**	Client ID:		Units: **ug/Kg**	Prep Date: **08/24/2015**	Run No: **298589**
SampleType: **LCS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**		BatchID: **211895**	Analysis Date: **08/24/2015**	Seq No: **6374566**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	62.07	17	66.70		93.1	61.2	120				
Acenaphthylene	62.07	33	66.70		93.1	60.1	120				
Anthracene	62.89	1.7	66.70		94.3	58.4	120				
Benz(a)anthracene	78.43	1.7	66.70		118	56.7	124				
Benzo(a)pyrene	63.78	1.7	66.70		95.6	57.5	120				
Benzo(b)fluoranthene	73.64	3.3	66.70		110	60.9	118				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1508H98

ANALYTICAL QC SUMMARY REPORT

BatchID: 211895

Sample ID: **LCS-211895** Client ID: Units: **ug/Kg** Prep Date: **08/24/2015** Run No: **298589**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **211895** Analysis Date: **08/24/2015** Seq No: **6374566**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(g,h,i)perylene	61.95	3.3	66.70		92.9	50.7	125				
Benzo(k)fluoranthene	60.83	1.7	66.70		91.2	53	125				
Chrysene	64.53	1.7	66.70		96.7	61.2	120				
Dibenz(a,h)anthracene	66.82	3.3	66.70		100	48	125				
Fluoranthene	71.14	3.3	66.70		107	64.9	121				
Fluorene	64.24	3.3	66.70		96.3	62.1	120				
Indeno(1,2,3-cd)pyrene	66.37	1.7	66.70		99.5	56	121				
Naphthalene	57.54	17	66.70		86.3	57.4	120				
Phenanthrene	67.15	1.7	66.70		101	63.3	120				
Pyrene	66.08	1.7	66.70		99.1	61.2	120				
Surr: 4-Terphenyl-d14	65.64	0	66.70		98.4	42	124				

Sample ID: **1508H98-003CMS** Client ID: **SSS-35-20150818-01** Units: **ug/Kg-dry** Prep Date: **08/24/2015** Run No: **298589**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **211895** Analysis Date: **08/25/2015** Seq No: **6376022**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	70.47	21	83.56	2.892	80.9	45.8	120				
Acenaphthylene	81.19	41	83.56	11.30	83.6	50.6	120				
Anthracene	78.95	2.1	83.56	11.41	80.8	42.4	125				
Benz(a)anthracene	128.0	2.1	83.56	42.85	102	44.9	136				
Benzo(a)pyrene	89.78	2.1	83.56	30.02	71.5	40.3	123				
Benzo(b)fluoranthene	114.9	4.1	83.56	44.55	84.2	37	128				
Benzo(g,h,i)perylene	70.47	4.1	83.56	14.82	66.6	41.1	137				
Benzo(k)fluoranthene	68.69	2.1	83.56	13.21	66.4	37.7	126				
Chrysene	98.75	2.1	83.56	36.65	74.3	43	120				
Dibenz(a,h)anthracene	68.93	4.1	83.56	4.554	77.0	42.6	130				
Fluoranthene	111.5	4.1	83.56	40.65	84.8	44.4	133				
Fluorene	73.21	4.1	83.56	3.309	83.7	42.5	119				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1508H98

ANALYTICAL QC SUMMARY REPORT

BatchID: 211895

Sample ID: **1508H98-003CMS**	Client ID: **SSS-35-20150818-01**					Units: **ug/Kg-dry**	Prep Date: **08/24/2015**	Run No: **298589**		
SampleType: **MS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**					BatchID: **211895**	Analysis Date: **08/25/2015**	Seq No: **6376022**		
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Indeno(1,2,3-cd)pyrene	73.74	2.1	83.56	13.45	72.1	41.7	135				
Naphthalene	68.68	21	83.56	4.200	77.2	42.5	120				
Phenanthrene	127.7	2.1	83.56	58.96	82.3	44.1	120				
Pyrene	121.5	2.1	83.56	52.14	83.0	41.5	120				
Surr: 4-Terphenyl-d14	80.82	0	83.56		96.7	42	124				

Sample ID: **1508H98-003CMSD**	Client ID: **SSS-35-20150818-01**					Units: **ug/Kg-dry**	Prep Date: **08/24/2015**	Run No: **298589**		
SampleType: **MSD**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**					BatchID: **211895**	Analysis Date: **08/25/2015**	Seq No: **6376023**		
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	73.26	21	83.56	2.892	84.2	45.8	120	70.47	3.89	38.4	
Acenaphthylene	84.79	41	83.56	11.30	87.9	50.6	120	81.19	4.34	37.8	
Anthracene	79.44	2.1	83.56	11.41	81.4	42.4	125	78.95	0.626	49.7	
Benz(a)anthracene	145.7	2.1	83.56	42.85	123	44.9	136	128.0	12.9	33.8	
Benzo(a)pyrene	98.98	2.1	83.56	30.02	82.5	40.3	123	89.78	9.75	40.2	
Benzo(b)fluoranthene	137.5	4.1	83.56	44.55	111	37	128	114.9	17.9	36.5	
Benzo(g,h,i)perylene	76.48	4.1	83.56	14.82	73.8	41.1	137	70.47	8.18	39.3	
Benzo(k)fluoranthene	74.28	2.1	83.56	13.21	73.1	37.7	126	68.69	7.81	35	
Chrysene	110.1	2.1	83.56	36.65	87.9	43	120	98.75	10.9	28.6	
Dibenz(a,h)anthracene	72.58	4.1	83.56	4.554	81.4	42.6	130	68.93	5.15	44.6	
Fluoranthene	137.8	4.1	83.56	40.65	116	44.4	133	111.5	21.1	33.2	
Fluorene	73.60	4.1	83.56	3.309	84.1	42.5	119	73.21	0.533	35.4	
Indeno(1,2,3-cd)pyrene	79.62	2.1	83.56	13.45	79.2	41.7	135	73.74	7.67	37.3	
Naphthalene	71.42	21	83.56	4.200	80.4	42.5	120	68.68	3.90	39.4	
Phenanthrene	115.5	2.1	83.56	58.96	67.7	44.1	120	127.7	10.0	37	
Pyrene	141.7	2.1	83.56	52.14	107	41.5	120	121.5	15.3	33.1	
Surr: 4-Terphenyl-d14	73.28	0	83.56		87.7	42	124	80.82	0	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1508H98

ANALYTICAL QC SUMMARY REPORT

BatchID: 211917

Sample ID: **MB-211917** Client ID: Units: **mg/Kg** Prep Date: **08/25/2015** Run No: **298808**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **211917** Analysis Date: **08/26/2015** Seq No: **6380599**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	5.00									
Arsenic	BRL	5.00									
Barium	BRL	5.00									
Beryllium	BRL	2.50									
Cadmium	BRL	2.50									
Chromium	BRL	2.50									
Copper	BRL	2.50									
Lead	BRL	5.00									
Nickel	BRL	5.00									
Zinc	BRL	5.00									

Sample ID: **LCS-211917** Client ID: Units: **mg/Kg** Prep Date: **08/25/2015** Run No: **298808**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **211917** Analysis Date: **08/26/2015** Seq No: **6380600**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	46.87	5.00	50.00		93.7	80	120				
Arsenic	46.76	5.00	50.00		93.5	80	120				
Barium	47.71	5.00	50.00		95.4	80	120				
Beryllium	47.50	2.50	50.00		95.0	80	120				
Cadmium	46.72	2.50	50.00		93.4	80	120				
Chromium	47.99	2.50	50.00	0.06164	95.9	80	120				
Copper	48.13	2.50	50.00		96.3	80	120				
Lead	46.66	5.00	50.00	0.08926	93.1	80	120				
Nickel	46.86	5.00	50.00		93.7	80	120				
Zinc	46.41	5.00	50.00		92.8	80	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1508H98

ANALYTICAL QC SUMMARY REPORT

BatchID: 211917

Sample ID: **1508H84-036AMS** Client ID:
SampleType: **MS** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/Kg-dry** Prep Date: **08/25/2015** Run No: **298808**
BatchID: **211917** Analysis Date: **08/26/2015** Seq No: **6380602**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	52.19	7.05	70.55	0.8475	72.8	75	125				S
Arsenic	67.57	7.05	70.55	5.326	88.2	75	125				
Barium	999.6	7.05	70.55	997.9	2.34	75	125				S
Beryllium	63.11	3.53	70.55	1.411	87.5	75	125				
Cadmium	172.7	3.53	70.55	116.1	80.2	75	125				
Chromium	3160	3.53	70.55	3399	-339	75	125				S
Copper	412.3	3.53	70.55	348.6	90.3	75	125				
Nickel	1266	7.05	70.55	1312	-65.1	75	125				S

Sample ID: **1508H84-036AMS** Client ID:
SampleType: **MS** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/Kg-dry** Prep Date: **08/25/2015** Run No: **298867**
BatchID: **211917** Analysis Date: **08/27/2015** Seq No: **6381062**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Lead	21250	353	70.55	23360	-2990	75	125				S
Zinc	35990	353	70.55	39610	-5140	75	125				S

Sample ID: **1508H84-036AMSD** Client ID:
SampleType: **MSD** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/Kg-dry** Prep Date: **08/25/2015** Run No: **298808**
BatchID: **211917** Analysis Date: **08/26/2015** Seq No: **6380603**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	50.62	7.06	70.56	0.8475	70.5	75	125	52.19	3.05	20	S
Arsenic	67.48	7.06	70.56	5.326	88.1	75	125	67.57	0.139	20	
Barium	1106	7.06	70.56	997.9	153	75	125	999.6	10.1	20	S
Beryllium	62.52	3.53	70.56	1.411	86.6	75	125	63.11	0.932	20	
Cadmium	179.5	3.53	70.56	116.1	89.7	75	125	172.7	3.85	20	
Chromium	3489	3.53	70.56	3399	127	75	125	3160	9.89	20	S
Copper	451.2	3.53	70.56	348.6	145	75	125	412.3	9.01	20	S
Nickel	1441	7.06	70.56	1312	183	75	125	1266	12.9	20	S

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1508H98

ANALYTICAL QC SUMMARY REPORT

BatchID: 211917

Sample ID: **1508H84-036AMSD** Client ID:
SampleType: **MSD** TestCode: **METALS, TOTAL SW6010C**
Units: **mg/Kg-dry** Prep Date: **08/25/2015** Run No: **298867**
BatchID: **211917** Analysis Date: **08/27/2015** Seq No: **6381063**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Lead	23200	353	70.56	23360	-230	75	125	21250	8.76	20	S
Zinc	39090	353	70.56	39610	-742	75	125	35990	8.27	20	S

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1508H98

ANALYTICAL QC SUMMARY REPORT

BatchID: 211950

Sample ID: **MB-211950**	Client ID:				Units: **mg/Kg**		Prep Date: **08/25/2015**		Run No: **298670**
SampleType: **MBLK**	TestCode: **TOTAL MERCURY SW7471B**				BatchID: **211950**		Analysis Date: **08/25/2015**		Seq No: **6376666**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.100									

Sample ID: **LCS-211950**	Client ID:				Units: **mg/Kg**		Prep Date: **08/25/2015**		Run No: **298670**
SampleType: **LCS**	TestCode: **TOTAL MERCURY SW7471B**				BatchID: **211950**		Analysis Date: **08/25/2015**		Seq No: **6376667**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.4283	0.100	0.4000		107	80	120				

Sample ID: **1508J10-005BMS**	Client ID:				Units: **mg/Kg-dry**		Prep Date: **08/25/2015**		Run No: **298670**
SampleType: **MS**	TestCode: **TOTAL MERCURY SW7471B**				BatchID: **211950**		Analysis Date: **08/25/2015**		Seq No: **6376669**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.4863	0.108	0.4339	0.01221	109	70	130				

Sample ID: **1508J10-005BMSD**	Client ID:				Units: **mg/Kg-dry**		Prep Date: **08/25/2015**		Run No: **298670**
SampleType: **MSD**	TestCode: **TOTAL MERCURY SW7471B**				BatchID: **211950**		Analysis Date: **08/25/2015**		Seq No: **6376672**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.4787	0.109	0.4356	0.01221	107	70	130	0.4863	1.58	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1508H98

ANALYTICAL QC SUMMARY REPORT

BatchID: 211998

Sample ID: **MB-211998**	Client ID:				Units: **mg/Kg**		Prep Date: **08/25/2015**		Run No: **298668**	
SampleType: **MBLK**	TestCode: **Cyanide, Total SW9014**				BatchID: **211998**		Analysis Date: **08/25/2015**		Seq No: **6376582**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	1.00									

Sample ID: **LCS-211998**	Client ID:				Units: **mg/Kg**		Prep Date: **08/25/2015**		Run No: **298668**	
SampleType: **LCS**	TestCode: **Cyanide, Total SW9014**				BatchID: **211998**		Analysis Date: **08/25/2015**		Seq No: **6376583**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	11.71	1.00	12.50		93.7	85	115				

Sample ID: **1508F25-001EMS**	Client ID:				Units: **mg/Kg**		Prep Date: **08/25/2015**		Run No: **298668**	
SampleType: **MS**	TestCode: **Cyanide, Total SW9014**				BatchID: **211998**		Analysis Date: **08/25/2015**		Seq No: **6376590**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	10.22	1.00	12.50		81.8	70	130				

Sample ID: **1508F25-001EMSD**	Client ID:				Units: **mg/Kg**		Prep Date: **08/25/2015**		Run No: **298668**	
SampleType: **MSD**	TestCode: **Cyanide, Total SW9014**				BatchID: **211998**		Analysis Date: **08/25/2015**		Seq No: **6376591**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	10.32	1.00	12.50		82.5	70	130	10.22	0.925	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1508H98

ANALYTICAL QC SUMMARY REPORT

BatchID: 212299

Sample ID: **MB-212299**	Client ID:					Units: **mg/L**		Prep Date: **09/01/2015**		Run No: **299116**	
SampleType: **MBLK**	TestCode: **Cyanide SW9014**					BatchID: **212299**		Analysis Date: **09/01/2015**		Seq No: **6387174**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	0.010									

Sample ID: **LCS-212299**	Client ID:					Units: **mg/L**		Prep Date: **09/01/2015**		Run No: **299116**	
SampleType: **LCS**	TestCode: **Cyanide SW9014**					BatchID: **212299**		Analysis Date: **09/01/2015**		Seq No: **6387175**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2293	0.010	0.2500		91.7	85	115				

Sample ID: **1508L19-001CMS**	Client ID:					Units: **mg/L**		Prep Date: **09/01/2015**		Run No: **299116**	
SampleType: **MS**	TestCode: **Cyanide SW9014**					BatchID: **212299**		Analysis Date: **09/01/2015**		Seq No: **6387181**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2579	0.010	0.2500		103	70	130				

Sample ID: **1508L19-001CMSD**	Client ID:					Units: **mg/L**		Prep Date: **09/01/2015**		Run No: **299116**	
SampleType: **MSD**	TestCode: **Cyanide SW9014**					BatchID: **212299**		Analysis Date: **09/01/2015**		Seq No: **6387183**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2542	0.010	0.2500		102	70	130	0.2579	1.45	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

September 25, 2015

Nic Vrey
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: AGL Macon Remediation

Dear Nic Vrey: Order No: 1509B11

Analytical Environmental Services, Inc. received 5 samples on 9/12/2015 11:35:00 AM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC

3080 Presidential Drive, Atlanta GA 30340-3704
TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

AES

CHAIN OF CUSTODY

Work Order: 1509811

Date: 9/11/15 Page 1 of 1

COMPANY:	ADDRESS:
ERM	3200 Windy Hill Rd Suite 1500W ATL, GA 30339
PHONE:	FAX:
SAMPLED BY: KS	SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	VOC's (8260B) - COI List only	SVOC's (8270C) - COI List only	Inorganics (6010B) (COI List only)	Total Cyanide (9012A)	Mercury (7470A)	No # of Containers	REMARKS
	PRESERVATION (See codes)						H+I	H+I	H+I	I	H+I		
1	Pre-ISS-20150911-01	9/11/15	1445		X	S	X	X	X	X	X	6	
2	Pre-ISS-20150911-02	9/11/15	1423		X	S	X	X	X	X	X	6	
3	Pre-ISS-20150911-03	9/11/15	1445		X	S	X	X	X	X	X	6	
4	Pre-ISS-20150909-01	9/9/15	1730		X	S	X	X	X	X	X	6	
5	TB-09-20150911-01					W	X					2	
6													
7													
8													
9													
10													
11													
12													
13													
14													

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: Kaya Erson	9/11/15	1:	9/12/15 1135
2:		2:	
3:		3:	

PROJECT INFORMATION

PROJECT NAME: AGL Macon Remediation
PROJECT #: 0136740
SITE ADDRESS: 290 Walnut St Macon GA
SEND REPORT TO: Nic.Vrey@erm.com
INVOICE TO: (IF DIFFERENT FROM ABOVE)
QUOTE #: PO#:

RECEIPT

Total # of Containers: 26

Turnaround Time Request
- Standard 5 Business Days
- 2 Business Day Rush
- Next Business Day Rush
- Same Day Rush (auth req.)
- Other 3 DAY

STATE PROGRAM (if any):
E-mail? Y / N; Fax? Y / N
DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS: See AGL Macon COI List

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
CLIENT FedEx UPS MAIL COURIER
GREYHOUND OTHER

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water
PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc **Date:** 25-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	PRE-ISS-20150911-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/11/2015 2:45:00 PM
Lab ID:	1509B11-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	9.0		ug/Kg-dry	212883	1	09/15/2015 07:55	MD
Benzene	42	4.5		ug/Kg-dry	212883	1	09/15/2015 07:55	MD
Toluene	190	90		ug/Kg-dry	212981	50	09/15/2015 15:36	CH
Ethylbenzene	250	230		ug/Kg-dry	212981	50	09/15/2015 15:36	CH
Xylenes, Total	1500	230		ug/Kg-dry	212981	50	09/15/2015 15:36	CH
Surr: 4-Bromofluorobenzene	100	70-128		%REC	212981	50	09/15/2015 15:36	CH
Surr: 4-Bromofluorobenzene	108	70-128		%REC	212883	1	09/15/2015 07:55	MD
Surr: Dibromofluoromethane	86.4	78.2-128		%REC	212981	50	09/15/2015 15:36	CH
Surr: Dibromofluoromethane	95.6	78.2-128		%REC	212883	1	09/15/2015 07:55	MD
Surr: Toluene-d8	90.3	76.5-116		%REC	212981	50	09/15/2015 15:36	CH
Surr: Toluene-d8	98.4	76.5-116		%REC	212883	1	09/15/2015 07:55	MD
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	0.126	0.121		mg/Kg-dry	212923	1	09/15/2015 14:51	CC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	420	22		ug/Kg-dry	212893	1	09/16/2015 15:17	YH
Acenaphthylene	290	42		ug/Kg-dry	212893	1	09/16/2015 15:17	YH
Anthracene	630	220		ug/Kg-dry	212893	100	09/17/2015 15:43	YH
Benz(a)anthracene	970	220		ug/Kg-dry	212893	100	09/17/2015 15:43	YH
Benzo(a)pyrene	400	2.2		ug/Kg-dry	212893	1	09/16/2015 15:17	YH
Benzo(b)fluoranthene	590	420		ug/Kg-dry	212893	100	09/17/2015 15:43	YH
Benzo(g,h,i)perylene	150	4.2		ug/Kg-dry	212893	1	09/16/2015 15:17	YH
Benzo(k)fluoranthene	170	2.2		ug/Kg-dry	212893	1	09/16/2015 15:17	YH
Chrysene	1100	220		ug/Kg-dry	212893	100	09/17/2015 15:43	YH
Dibenz(a,h)anthracene	75	4.2		ug/Kg-dry	212893	1	09/16/2015 15:17	YH
Fluoranthene	1600	420		ug/Kg-dry	212893	100	09/17/2015 15:43	YH
Fluorene	470	420		ug/Kg-dry	212893	100	09/17/2015 15:43	YH
Indeno(1,2,3-cd)pyrene	180	2.2		ug/Kg-dry	212893	1	09/16/2015 15:17	YH
Naphthalene	250	22		ug/Kg-dry	212893	1	09/16/2015 15:17	YH
Phenanthrene	4300	220		ug/Kg-dry	212893	100	09/17/2015 15:43	YH
Pyrene	1900	220		ug/Kg-dry	212893	100	09/17/2015 15:43	YH
Surr: 4-Terphenyl-d14	84.5	42-124		%REC	212893	1	09/16/2015 15:17	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	420		ug/Kg-dry	212614	1	09/15/2015 17:28	YH
2-Methylphenol	BRL	420		ug/Kg-dry	212614	1	09/15/2015 17:28	YH
3,4-Methylphenol	BRL	420		ug/Kg-dry	212614	1	09/15/2015 17:28	YH
Phenol	BRL	420		ug/Kg-dry	212614	1	09/15/2015 17:28	YH
Surr: 2,4,6-Tribromophenol	51.6	41-128		%REC	212614	1	09/15/2015 17:28	YH
Surr: 2-Fluorobiphenyl	73	47-120		%REC	212614	1	09/15/2015 17:28	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	PRE-ISS-20150911-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/11/2015 2:45:00 PM
Lab ID:	1509B11-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: 2-Fluorophenol	53.3	38.3-120		%REC	212614	1	09/15/2015 17:28	YH
Surr: 4-Terphenyl-d14	79.9	51.4-125		%REC	212614	1	09/15/2015 17:28	YH
Surr: Nitrobenzene-d5	66.1	40.1-120		%REC	212614	1	09/15/2015 17:28	YH
Surr: Phenol-d5	66.4	40.3-120		%REC	212614	1	09/15/2015 17:28	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.27		mg/Kg-dry	213119	1	09/17/2015 15:30	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	4.73		mg/Kg-dry	212864	1	09/14/2015 20:34	IO
Arsenic	BRL	4.73		mg/Kg-dry	212864	1	09/14/2015 20:34	IO
Barium	25.8	4.73		mg/Kg-dry	212864	1	09/14/2015 20:34	IO
Beryllium	BRL	2.37		mg/Kg-dry	212864	1	09/14/2015 20:34	IO
Cadmium	BRL	2.37		mg/Kg-dry	212864	1	09/14/2015 20:34	IO
Chromium	14.3	2.37		mg/Kg-dry	212864	1	09/14/2015 20:34	IO
Copper	7.02	2.37		mg/Kg-dry	212864	1	09/14/2015 20:34	IO
Lead	6.30	4.73		mg/Kg-dry	212864	1	09/14/2015 20:34	IO
Nickel	BRL	4.73		mg/Kg-dry	212864	1	09/14/2015 20:34	IO
Zinc	6.58	4.73		mg/Kg-dry	212864	1	09/14/2015 20:34	IO
PERCENT MOISTURE D2216								
Percent Moisture	21.1	0		wt%	R300175	1	09/17/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	PRE-ISS-20150911-02
Project Name:	AGL Macon Remediation	**Collection Date:**	9/11/2015 2:43:00 PM
Lab ID:	1509B11-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	6.6		ug/Kg-dry	212883	1	09/15/2015 00:47	MD
Benzene	BRL	3.3		ug/Kg-dry	212883	1	09/15/2015 00:47	MD
Toluene	BRL	3.3		ug/Kg-dry	212883	1	09/15/2015 00:47	MD
Ethylbenzene	BRL	3.3		ug/Kg-dry	212883	1	09/15/2015 00:47	MD
Xylenes, Total	5.9	3.3		ug/Kg-dry	212883	1	09/15/2015 00:47	MD
Surr: 4-Bromofluorobenzene	89.8	70-128		%REC	212883	1	09/15/2015 00:47	MD
Surr: Dibromofluoromethane	94.4	78.2-128		%REC	212883	1	09/15/2015 00:47	MD
Surr: Toluene-d8	99.3	76.5-116		%REC	212883	1	09/15/2015 00:47	MD
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.111		mg/Kg-dry	212923	1	09/15/2015 15:07	CC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	1300	400		ug/Kg-dry	212893	100	09/17/2015 16:10	YH
Acenaphthylene	590	400		ug/Kg-dry	212893	100	09/17/2015 16:10	YH
Anthracene	1000	210		ug/Kg-dry	212893	100	09/17/2015 16:10	YH
Benz(a)anthracene	1100	210		ug/Kg-dry	212893	100	09/17/2015 16:10	YH
Benzo(a)pyrene	680	210		ug/Kg-dry	212893	100	09/17/2015 16:10	YH
Benzo(b)fluoranthene	720	400		ug/Kg-dry	212893	100	09/17/2015 16:10	YH
Benzo(g,h,i)perylene	280	4.0		ug/Kg-dry	212893	1	09/16/2015 15:43	YH
Benzo(k)fluoranthene	200	2.1		ug/Kg-dry	212893	1	09/16/2015 15:43	YH
Chrysene	960	210		ug/Kg-dry	212893	100	09/17/2015 16:10	YH
Dibenz(a,h)anthracene	71	4.0		ug/Kg-dry	212893	1	09/16/2015 15:43	YH
Fluoranthene	2200	400		ug/Kg-dry	212893	100	09/17/2015 16:10	YH
Fluorene	1000	400		ug/Kg-dry	212893	100	09/17/2015 16:10	YH
Indeno(1,2,3-cd)pyrene	290	2.1		ug/Kg-dry	212893	1	09/16/2015 15:43	YH
Naphthalene	150	21		ug/Kg-dry	212893	1	09/16/2015 15:43	YH
Phenanthrene	5400	210		ug/Kg-dry	212893	100	09/17/2015 16:10	YH
Pyrene	2000	210		ug/Kg-dry	212893	100	09/17/2015 16:10	YH
Surr: 4-Terphenyl-d14	85.6	42-124		%REC	212893	1	09/16/2015 15:43	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	400		ug/Kg-dry	212614	1	09/15/2015 17:54	YH
2-Methylphenol	BRL	400		ug/Kg-dry	212614	1	09/15/2015 17:54	YH
3,4-Methylphenol	BRL	400		ug/Kg-dry	212614	1	09/15/2015 17:54	YH
Phenol	BRL	400		ug/Kg-dry	212614	1	09/15/2015 17:54	YH
Surr: 2,4,6-Tribromophenol	90.9	41-128		%REC	212614	1	09/15/2015 17:54	YH
Surr: 2-Fluorobiphenyl	82.4	47-120		%REC	212614	1	09/15/2015 17:54	YH
Surr: 2-Fluorophenol	69.1	38.3-120		%REC	212614	1	09/15/2015 17:54	YH
Surr: 4-Terphenyl-d14	84.7	51.4-125		%REC	212614	1	09/15/2015 17:54	YH
Surr: Nitrobenzene-d5	75.4	40.1-120		%REC	212614	1	09/15/2015 17:54	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	PRE-ISS-20150911-02
Project Name:	AGL Macon Remediation	**Collection Date:**	9/11/2015 2:43:00 PM
Lab ID:	1509B11-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	76.7	40.3-120		%REC	212614	1	09/15/2015 17:54	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.21		mg/Kg-dry	213119	1	09/17/2015 15:30	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.35		mg/Kg-dry	212864	1	09/14/2015 20:39	IO
Arsenic	BRL	5.35		mg/Kg-dry	212864	1	09/14/2015 20:39	IO
Barium	12.3	5.35		mg/Kg-dry	212864	1	09/14/2015 20:39	IO
Beryllium	BRL	2.67		mg/Kg-dry	212864	1	09/14/2015 20:39	IO
Cadmium	BRL	2.67		mg/Kg-dry	212864	1	09/14/2015 20:39	IO
Chromium	6.39	2.67		mg/Kg-dry	212864	1	09/14/2015 20:39	IO
Copper	4.24	2.67		mg/Kg-dry	212864	1	09/14/2015 20:39	IO
Lead	7.32	5.35		mg/Kg-dry	212864	1	09/14/2015 20:39	IO
Nickel	BRL	5.35		mg/Kg-dry	212864	1	09/14/2015 20:39	IO
Zinc	BRL	5.35		mg/Kg-dry	212864	1	09/14/2015 20:39	IO
PERCENT MOISTURE D2216								
Percent Moisture	17.5	0		wt%	R300175	1	09/17/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	PRE-ISS-20150911-03
Project Name:	AGL Macon Remediation	**Collection Date:**	9/11/2015 2:45:00 PM
Lab ID:	1509B11-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	14	7.9		ug/Kg-dry	212883	1	09/15/2015 04:45	MD
Benzene	93	3.9		ug/Kg-dry	212883	1	09/15/2015 04:45	MD
Toluene	3000	190		ug/Kg-dry	212981	50	09/15/2015 15:59	CH
Ethylbenzene	1700	190		ug/Kg-dry	212981	50	09/15/2015 15:59	CH
Xylenes, Total	11000	190		ug/Kg-dry	212981	50	09/15/2015 15:59	CH
Surr: 4-Bromofluorobenzene	109	70-128		%REC	212981	50	09/15/2015 15:59	CH
Surr: 4-Bromofluorobenzene	115	70-128		%REC	212883	1	09/15/2015 04:45	MD
Surr: Dibromofluoromethane	83	78.2-128		%REC	212981	50	09/15/2015 15:59	CH
Surr: Dibromofluoromethane	97.7	78.2-128		%REC	212883	1	09/15/2015 04:45	MD
Surr: Toluene-d8	92.7	76.5-116		%REC	212981	50	09/15/2015 15:59	CH
Surr: Toluene-d8	98	76.5-116		%REC	212883	1	09/15/2015 04:45	MD
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.120		mg/Kg-dry	212923	1	09/15/2015 15:09	CC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	4500	2100		ug/Kg-dry	212928	100	09/17/2015 16:35	YH
Acenaphthylene	6100	4000		ug/Kg-dry	212928	100	09/17/2015 16:35	YH
Anthracene	3900	210		ug/Kg-dry	212928	100	09/17/2015 16:35	YH
Benz(a)anthracene	4100	210		ug/Kg-dry	212928	100	09/17/2015 16:35	YH
Benzo(a)pyrene	2200	210		ug/Kg-dry	212928	100	09/17/2015 16:35	YH
Benzo(b)fluoranthene	2500	400		ug/Kg-dry	212928	100	09/17/2015 16:35	YH
Benzo(g,h,i)perylene	1000	400		ug/Kg-dry	212928	100	09/17/2015 16:35	YH
Benzo(k)fluoranthene	390	2.1		ug/Kg-dry	212928	1	09/16/2015 17:52	YH
Chrysene	4000	210		ug/Kg-dry	212928	100	09/17/2015 16:35	YH
Dibenz(a,h)anthracene	220	4.0		ug/Kg-dry	212928	1	09/16/2015 17:52	YH
Fluoranthene	7500	400		ug/Kg-dry	212928	100	09/17/2015 16:35	YH
Fluorene	5000	400		ug/Kg-dry	212928	100	09/17/2015 16:35	YH
Indeno(1,2,3-cd)pyrene	990	210		ug/Kg-dry	212928	100	09/17/2015 16:35	YH
Naphthalene	15000	2100		ug/Kg-dry	212928	100	09/17/2015 16:35	YH
Phenanthrene	28000	210		ug/Kg-dry	212928	100	09/17/2015 16:35	YH
Pyrene	7800	210		ug/Kg-dry	212928	100	09/17/2015 16:35	YH
Surr: 4-Terphenyl-d14	113	42-124		%REC	212928	1	09/16/2015 17:52	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	400		ug/Kg-dry	212614	1	09/15/2015 18:21	YH
2-Methylphenol	BRL	400		ug/Kg-dry	212614	1	09/15/2015 18:21	YH
3,4-Methylphenol	BRL	400		ug/Kg-dry	212614	1	09/15/2015 18:21	YH
Phenol	BRL	400		ug/Kg-dry	212614	1	09/15/2015 18:21	YH
Surr: 2,4,6-Tribromophenol	7.88	41-128	S	%REC	212614	1	09/15/2015 18:21	YH
Surr: 2-Fluorobiphenyl	73.5	47-120		%REC	212614	1	09/15/2015 18:21	YH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	PRE-ISS-20150911-03
Project Name:	AGL Macon Remediation	**Collection Date:**	9/11/2015 2:45:00 PM
Lab ID:	1509B11-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D					**(SW3550C)**			
Surr: 2-Fluorophenol	33.3	38.3-120	S	%REC	212614	1	09/15/2015 18:21	YH
Surr: 4-Terphenyl-d14	70	51.4-125		%REC	212614	1	09/15/2015 18:21	YH
Surr: Nitrobenzene-d5	62.8	40.1-120		%REC	212614	1	09/15/2015 18:21	YH
Surr: Phenol-d5	61	40.3-120		%REC	212614	1	09/15/2015 18:21	YH
Cyanide, Total SW9014					**(SW9010C)**			
Cyanide, Total	BRL	1.21		mg/Kg-dry	213119	1	09/17/2015 15:30	PF
METALS, TOTAL SW6010C					**(SW3050B)**			
Antimony	BRL	5.79		mg/Kg-dry	212864	1	09/14/2015 20:42	IO
Arsenic	BRL	5.79		mg/Kg-dry	212864	1	09/14/2015 20:42	IO
Barium	32.8	5.79		mg/Kg-dry	212864	1	09/14/2015 20:42	IO
Beryllium	BRL	2.90		mg/Kg-dry	212864	1	09/14/2015 20:42	IO
Cadmium	BRL	2.90		mg/Kg-dry	212864	1	09/14/2015 20:42	IO
Chromium	9.66	2.90		mg/Kg-dry	212864	1	09/14/2015 20:42	IO
Copper	5.59	2.90		mg/Kg-dry	212864	1	09/14/2015 20:42	IO
Lead	BRL	5.79		mg/Kg-dry	212864	1	09/14/2015 20:42	IO
Nickel	BRL	5.79		mg/Kg-dry	212864	1	09/14/2015 20:42	IO
Zinc	6.88	5.79		mg/Kg-dry	212864	1	09/14/2015 20:42	IO
PERCENT MOISTURE D2216								
Percent Moisture	17.4	0		wt%	R300175	1	09/17/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	PRE-ISS-20150909-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/9/2015 5:30:00 PM
Lab ID:	1509B11-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	7.9		ug/Kg-dry	212883	1	09/15/2015 01:11	MD
Benzene	BRL	4.0		ug/Kg-dry	212883	1	09/15/2015 01:11	MD
Toluene	BRL	4.0		ug/Kg-dry	212883	1	09/15/2015 01:11	MD
Ethylbenzene	BRL	4.0		ug/Kg-dry	212883	1	09/15/2015 01:11	MD
Xylenes, Total	9.6	4.0		ug/Kg-dry	212883	1	09/15/2015 01:11	MD
Surr: 4-Bromofluorobenzene	87.4	70-128		%REC	212883	1	09/15/2015 01:11	MD
Surr: Dibromofluoromethane	101	78.2-128		%REC	212883	1	09/15/2015 01:11	MD
Surr: Toluene-d8	101	76.5-116		%REC	212883	1	09/15/2015 01:11	MD
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.107		mg/Kg-dry	212923	1	09/15/2015 15:11	CC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	20		ug/Kg-dry	212893	1	09/16/2015 16:08	YH
Acenaphthylene	BRL	38		ug/Kg-dry	212893	1	09/16/2015 16:08	YH
Anthracene	3.8	2.0		ug/Kg-dry	212893	1	09/16/2015 16:08	YH
Benz(a)anthracene	9.6	2.0		ug/Kg-dry	212893	1	09/16/2015 16:08	YH
Benzo(a)pyrene	5.8	2.0		ug/Kg-dry	212893	1	09/16/2015 16:08	YH
Benzo(b)fluoranthene	9.7	3.8		ug/Kg-dry	212893	1	09/16/2015 16:08	YH
Benzo(g,h,i)perylene	5.1	3.8		ug/Kg-dry	212893	1	09/16/2015 16:08	YH
Benzo(k)fluoranthene	2.7	2.0		ug/Kg-dry	212893	1	09/16/2015 16:08	YH
Chrysene	9.2	2.0		ug/Kg-dry	212893	1	09/16/2015 16:08	YH
Dibenz(a,h)anthracene	BRL	3.8		ug/Kg-dry	212893	1	09/16/2015 16:08	YH
Fluoranthene	15	3.8		ug/Kg-dry	212893	1	09/16/2015 16:08	YH
Fluorene	BRL	3.8		ug/Kg-dry	212893	1	09/16/2015 16:08	YH
Indeno(1,2,3-cd)pyrene	4.8	2.0		ug/Kg-dry	212893	1	09/16/2015 16:08	YH
Naphthalene	BRL	20		ug/Kg-dry	212893	1	09/16/2015 16:08	YH
Phenanthrene	11	2.0		ug/Kg-dry	212893	1	09/16/2015 16:08	YH
Pyrene	15	2.0		ug/Kg-dry	212893	1	09/16/2015 16:08	YH
Surr: 4-Terphenyl-d14	71.8	42-124		%REC	212893	1	09/16/2015 16:08	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	380		ug/Kg-dry	212614	1	09/16/2015 01:50	YH
2-Methylphenol	BRL	380		ug/Kg-dry	212614	1	09/16/2015 01:50	YH
3,4-Methylphenol	BRL	380		ug/Kg-dry	212614	1	09/16/2015 01:50	YH
Phenol	BRL	380		ug/Kg-dry	212614	1	09/16/2015 01:50	YH
Surr: 2,4,6-Tribromophenol	84.7	41-128		%REC	212614	1	09/16/2015 01:50	YH
Surr: 2-Fluorobiphenyl	76.4	47-120		%REC	212614	1	09/16/2015 01:50	YH
Surr: 2-Fluorophenol	62.4	38.3-120		%REC	212614	1	09/16/2015 01:50	YH
Surr: 4-Terphenyl-d14	82.8	51.4-125		%REC	212614	1	09/16/2015 01:50	YH
Surr: Nitrobenzene-d5	70.2	40.1-120		%REC	212614	1	09/16/2015 01:50	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	PRE-ISS-20150909-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/9/2015 5:30:00 PM
Lab ID:	1509B11-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	71.2	40.3-120		%REC	212614	1	09/16/2015 01:50	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.17		mg/Kg-dry	213119	1	09/17/2015 15:30	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	4.59		mg/Kg-dry	212864	1	09/14/2015 20:46	IO
Arsenic	BRL	4.59		mg/Kg-dry	212864	1	09/14/2015 20:46	IO
Barium	25.0	4.59		mg/Kg-dry	212864	1	09/14/2015 20:46	IO
Beryllium	BRL	2.30		mg/Kg-dry	212864	1	09/14/2015 20:46	IO
Cadmium	BRL	2.30		mg/Kg-dry	212864	1	09/14/2015 20:46	IO
Chromium	10.2	2.30		mg/Kg-dry	212864	1	09/14/2015 20:46	IO
Copper	5.18	2.30		mg/Kg-dry	212864	1	09/14/2015 20:46	IO
Lead	5.51	4.59		mg/Kg-dry	212864	1	09/14/2015 20:46	IO
Nickel	BRL	4.59		mg/Kg-dry	212864	1	09/14/2015 20:46	IO
Zinc	6.33	4.59		mg/Kg-dry	212864	1	09/14/2015 20:46	IO
PERCENT MOISTURE D2216								
Percent Moisture	14.3	0		wt%	R300175	1	09/17/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 25-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	TB-09-20150911-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/12/2015
Lab ID:	1509B11-005	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	212956	1	09/16/2015 19:13	NP
Carbon disulfide	BRL	5.0		ug/L	212956	1	09/16/2015 19:13	NP
Ethylbenzene	BRL	5.0		ug/L	212956	1	09/16/2015 19:13	NP
Toluene	BRL	5.0		ug/L	212956	1	09/16/2015 19:13	NP
Xylenes, Total	BRL	5.0		ug/L	212956	1	09/16/2015 19:13	NP
Surr: 4-Bromofluorobenzene	99.1	70.6-123		%REC	212956	1	09/16/2015 19:13	NP
Surr: Dibromofluoromethane	96	78.7-124		%REC	212956	1	09/16/2015 19:13	NP
Surr: Toluene-d8	101	81.3-120		%REC	212956	1	09/16/2015 19:13	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM-SE Work Order Number 1509B11

Checklist completed by [signature] 9/10/15
Signature Date

Carrier name: FedEx ✓ UPS __ Courier __ Client __ US Mail __ Other _____

Shipping container/cooler in good condition?	Yes ✓	No __	Not Present __
Custody seals intact on shipping container/cooler?	Yes __	No __	Not Present ✓
Custody seals intact on sample bottles?	Yes __	No __	Not Present ✓
Container/Temp Blank temperature in compliance? (0°≤6°C)*	Yes ✓	No __	

Cooler #1 4.0 Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present?	Yes ✓	No __
Chain of custody signed when relinquished and received?	Yes ✓	No __
Chain of custody agrees with sample labels?	Yes ✓	No __
Samples in proper container/bottle?	Yes ✓	No __
Sample containers intact?	Yes ✓	No __
Sufficient sample volume for indicated test?	Yes ✓	No __
All samples received within holding time?	Yes ✓	No __
Was TAT marked on the COC?	Yes ✓	No __
Proceed with Standard TAT as per project history?	Yes __	No __ Not Applicable ✓
Water - VOA vials have zero headspace?	No VOA vials submitted __	Yes ✓ No __
Water - pH acceptable upon receipt?	Yes ✓	No __ Not Applicable __

Adjusted? _____ Checked by _____

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509B11

ANALYTICAL QC SUMMARY REPORT

BatchID: 212864

Sample ID: **MB-212864** Client ID: Units: **mg/Kg** Prep Date: **09/14/2015** Run No: **299918**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **212864** Analysis Date: **09/14/2015** Seq No: **6407208**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	5.00									
Arsenic	BRL	5.00									
Barium	BRL	5.00									
Beryllium	BRL	2.50									
Cadmium	BRL	2.50									
Chromium	BRL	2.50									
Copper	BRL	2.50									
Lead	BRL	5.00									
Nickel	BRL	5.00									
Zinc	BRL	5.00									

Sample ID: **LCS-212864** Client ID: Units: **mg/Kg** Prep Date: **09/14/2015** Run No: **299918**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **212864** Analysis Date: **09/14/2015** Seq No: **6407209**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	47.13	5.00	50.00		94.3	80	120				
Arsenic	49.00	5.00	50.00		98.0	80	120				
Barium	50.06	5.00	50.00		100	80	120				
Beryllium	49.66	2.50	50.00		99.3	80	120				
Cadmium	49.34	2.50	50.00		98.7	80	120				
Chromium	50.10	2.50	50.00	0.07354	100	80	120				
Copper	50.65	2.50	50.00		101	80	120				
Lead	49.05	5.00	50.00		98.1	80	120				
Nickel	49.42	5.00	50.00		98.8	80	120				
Zinc	48.51	5.00	50.00	0.1844	96.7	80	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509B11

ANALYTICAL QC SUMMARY REPORT

BatchID: 212864

Sample ID: **1509B29-005AMS** Client ID:
SampleType: **MS** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/Kg-dry** Prep Date: **09/14/2015** Run No: **299918**
BatchID: **212864** Analysis Date: **09/14/2015** Seq No: **6407213**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	23.90	5.35	53.49	0.7157	43.3	75	125				S
Arsenic	51.76	5.35	53.49	1.507	94.0	75	125				
Barium	152.3	5.35	53.49	117.6	65.0	75	125				S
Beryllium	49.19	2.67	53.49	0.2301	91.5	75	125				
Cadmium	50.14	2.67	53.49		93.7	75	125				
Chromium	67.57	2.67	53.49	23.24	82.9	75	125				
Copper	69.86	2.67	53.49	19.85	93.5	75	125				
Lead	56.33	5.35	53.49	10.52	85.6	75	125				
Nickel	54.17	5.35	53.49	8.368	85.6	75	125				
Zinc	108.8	5.35	53.49	51.60	107	75	125				

Sample ID: **1509B29-005AMSD** Client ID:
SampleType: **MSD** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/Kg-dry** Prep Date: **09/14/2015** Run No: **299918**
BatchID: **212864** Analysis Date: **09/14/2015** Seq No: **6407214**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	25.21	5.35	53.48	0.7157	45.8	75	125	23.90	5.34	20	S
Arsenic	52.90	5.35	53.48	1.507	96.1	75	125	51.76	2.18	20	
Barium	154.4	5.35	53.48	117.6	69.0	75	125	152.3	1.37	20	S
Beryllium	50.01	2.67	53.48	0.2301	93.1	75	125	49.19	1.65	20	
Cadmium	50.95	2.67	53.48		95.3	75	125	50.14	1.61	20	
Chromium	68.55	2.67	53.48	23.24	84.7	75	125	67.57	1.44	20	
Copper	71.00	2.67	53.48	19.85	95.6	75	125	69.86	1.62	20	
Lead	57.97	5.35	53.48	10.52	88.7	75	125	56.33	2.87	20	
Nickel	54.43	5.35	53.48	8.368	86.1	75	125	54.17	0.471	20	
Zinc	98.77	5.35	53.48	51.60	88.2	75	125	108.8	9.66	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509B11

ANALYTICAL QC SUMMARY REPORT

BatchID: 212883

Sample ID: **MB-212883** Client ID: Units: **ug/Kg** Prep Date: **09/14/2015** Run No: **299885**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **212883** Analysis Date: **09/14/2015** Seq No: **6408681**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	10									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	42.51	0	50.00		85.0	70	128				
Surr: Dibromofluoromethane	49.99	0	50.00		100.0	78.2	128				
Surr: Toluene-d8	50.18	0	50.00		100	76.5	116				

Sample ID: **LCS-212883** Client ID: Units: **ug/Kg** Prep Date: **09/14/2015** Run No: **299885**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **212883** Analysis Date: **09/14/2015** Seq No: **6408699**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	49.07	5.0	50.00		98.1	72.3	130				
Toluene	47.56	5.0	50.00		95.1	71.1	130				
Surr: 4-Bromofluorobenzene	43.61	0	50.00		87.2	70	128				
Surr: Dibromofluoromethane	49.32	0	50.00		98.6	78.2	128				
Surr: Toluene-d8	49.21	0	50.00		98.4	76.5	116				

Sample ID: **1509947-001AMS** Client ID: Units: **ug/Kg-dry** Prep Date: **09/14/2015** Run No: **299885**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **212883** Analysis Date: **09/14/2015** Seq No: **6408703**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	56.47	5.9	58.95		95.8	70.4	130				
Toluene	55.74	5.9	58.95		94.6	70.4	130				
Surr: 4-Bromofluorobenzene	49.03	0	58.95		83.2	70	128				
Surr: Dibromofluoromethane	57.66	0	58.95		97.8	78.2	128				
Surr: Toluene-d8	58.91	0	58.95		99.9	76.5	116				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509B11

ANALYTICAL QC SUMMARY REPORT

BatchID: 212883

Sample ID: **1509947-001AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/Kg-dry** Prep Date: **09/14/2015** Run No: **299885**
BatchID: **212883** Analysis Date: **09/14/2015** Seq No: **6408706**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	55.42	5.9	58.95		94.0	70.4	130	56.47	1.88	16.9	
Toluene	54.66	5.9	58.95		92.7	70.4	130	55.74	1.96	16.6	
Surr: 4-Bromofluorobenzene	49.74	0	58.95		84.4	70	128	49.03	0	0	
Surr: Dibromofluoromethane	58.17	0	58.95		98.7	78.2	128	57.66	0	0	
Surr: Toluene-d8	58.70	0	58.95		99.6	76.5	116	58.91	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509B11

ANALYTICAL QC SUMMARY REPORT

BatchID: 212893

Sample ID: **MB-212893** Client ID: Units: **ug/Kg** Prep Date: **09/15/2015** Run No: **300011**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **212893** Analysis Date: **09/15/2015** Seq No: **6411195**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	17									
Acenaphthylene	BRL	33									
Anthracene	BRL	1.7									
Benz(a)anthracene	BRL	1.7									
Benzo(a)pyrene	BRL	1.7									
Benzo(b)fluoranthene	BRL	3.3									
Benzo(g,h,i)perylene	BRL	3.3									
Benzo(k)fluoranthene	BRL	1.7									
Chrysene	BRL	1.7									
Dibenz(a,h)anthracene	BRL	3.3									
Fluoranthene	BRL	3.3									
Fluorene	BRL	3.3									
Indeno(1,2,3-cd)pyrene	BRL	1.7									
Naphthalene	BRL	17									
Phenanthrene	BRL	1.7									
Pyrene	BRL	1.7									
Surr: 4-Terphenyl-d14	69.66	0	160.0		43.5	42	124				

Sample ID: **LCS-212893** Client ID: Units: **ug/Kg** Prep Date: **09/15/2015** Run No: **300011**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **212893** Analysis Date: **09/15/2015** Seq No: **6411196**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	55.38	17	66.70		83.0	61.2	120				
Acenaphthylene	52.57	33	66.70		78.8	60.1	120				
Anthracene	51.38	1.7	66.70		77.0	58.4	120				
Benz(a)anthracene	64.66	1.7	66.70		96.9	56.7	124				
Benzo(a)pyrene	55.01	1.7	66.70		82.5	57.5	120				
Benzo(b)fluoranthene	62.11	3.3	66.70		93.1	60.9	118				

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509B11

ANALYTICAL QC SUMMARY REPORT

BatchID: 212893

Sample ID: **LCS-212893** Client ID: Units: **ug/Kg** Prep Date: **09/15/2015** Run No: **300011**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **212893** Analysis Date: **09/15/2015** Seq No: **6411196**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(g,h,i)perylene	56.42	3.3	66.70		84.6	50.7	125				
Benzo(k)fluoranthene	60.00	1.7	66.70		90.0	53	125				
Chrysene	60.45	1.7	66.70		90.6	61.2	120				
Dibenz(a,h)anthracene	54.73	3.3	66.70		82.1	48	125				
Fluoranthene	59.96	3.3	66.70		89.9	64.9	121				
Fluorene	57.59	3.3	66.70		86.3	62.1	120				
Indeno(1,2,3-cd)pyrene	56.25	1.7	66.70		84.3	56	121				
Naphthalene	49.61	17	66.70		74.4	57.4	120				
Phenanthrene	57.81	1.7	66.70		86.7	63.3	120				
Pyrene	58.72	1.7	66.70		88.0	61.2	120				
Surr: 4-Terphenyl-d14	63.50	0	66.70		95.2	42	124				

Sample ID: **1509899-045AMS** Client ID: Units: **ug/Kg-dry** Prep Date: **09/15/2015** Run No: **300086**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **212893** Analysis Date: **09/16/2015** Seq No: **6413310**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	60.39	22	87.08		69.3	45.8	120				
Acenaphthylene	61.59	43	87.08		70.7	50.6	120				
Anthracene	63.13	2.2	87.08		72.5	42.4	125				
Benz(a)anthracene	76.25	2.2	87.08		87.6	44.9	136				
Benzo(a)pyrene	65.34	2.2	87.08		75.0	40.3	123				
Benzo(b)fluoranthene	88.23	4.3	87.08		101	37	128				
Benzo(g,h,i)perylene	79.33	4.3	87.08		91.1	41.1	137				
Benzo(k)fluoranthene	61.19	2.2	87.08		70.3	37.7	126				
Chrysene	68.34	2.2	87.08		78.5	43	120				
Dibenz(a,h)anthracene	70.33	4.3	87.08		80.8	42.6	130				
Fluoranthene	77.08	4.3	87.08		88.5	44.4	133				
Fluorene	64.03	4.3	87.08		73.5	42.5	119				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509B11

ANALYTICAL QC SUMMARY REPORT

BatchID: 212893

Sample ID: **1509899-045AMS**	Client ID:		Units: **ug/Kg-dry**	Prep Date: **09/15/2015**	Run No: **300086**
SampleType: **MS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**		BatchID: **212893**	Analysis Date: **09/16/2015**	Seq No: **6413310**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Indeno(1,2,3-cd)pyrene	80.86	2.2	87.08		92.9	41.7	135				
Naphthalene	56.29	22	87.08		64.6	42.5	120				
Phenanthrene	61.76	2.2	87.08		70.9	44.1	120				
Pyrene	64.10	2.2	87.08		73.6	41.5	120				
Surr: 4-Terphenyl-d14	64.36	0	87.08		73.9	42	124				

Sample ID: **1509899-045AMSD**	Client ID:		Units: **ug/Kg-dry**	Prep Date: **09/15/2015**	Run No: **300310**
SampleType: **MSD**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**		BatchID: **212893**	Analysis Date: **09/18/2015**	Seq No: **6416990**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	67.33	22	87.08		77.3	45.8	120	60.39	10.9	38.4	
Acenaphthylene	64.95	43	87.08		74.6	50.6	120	61.59	5.31	37.8	
Anthracene	67.16	2.2	87.08	1.791	75.1	42.4	125	63.13	6.19	49.7	
Benz(a)anthracene	106.3	2.2	87.08	3.637	118	44.9	136	76.25	32.9	33.8	
Benzo(a)pyrene	87.06	2.2	87.08	3.783	95.6	40.3	123	65.34	28.5	40.2	
Benzo(b)fluoranthene	118.3	4.3	87.08	12.48	122	37	128	88.23	29.1	36.5	
Benzo(g,h,i)perylene	85.99	4.3	87.08	4.750	93.3	41.1	137	79.33	8.05	39.3	
Benzo(k)fluoranthene	77.30	2.2	87.08	6.343	81.5	37.7	126	61.19	23.3	35	
Chrysene	83.31	2.2	87.08	6.911	87.7	43	120	68.34	19.7	28.6	
Dibenz(a,h)anthracene	61.80	4.3	87.08		71.0	42.6	130	70.33	12.9	44.6	
Fluoranthene	96.59	4.3	87.08	5.044	105	44.4	133	77.08	22.5	33.2	
Fluorene	71.66	4.3	87.08		82.3	42.5	119	64.03	11.2	35.4	
Indeno(1,2,3-cd)pyrene	86.59	2.2	87.08	3.690	95.2	41.7	135	80.86	6.84	37.3	
Naphthalene	64.11	22	87.08		73.6	42.5	120	56.29	13.0	39.4	
Phenanthrene	74.56	2.2	87.08	1.746	83.6	44.1	120	61.76	18.8	37	
Pyrene	88.31	2.2	87.08	5.346	95.3	41.5	120	64.10	31.8	33.1	
Surr: 4-Terphenyl-d14	72.77	0	87.08		83.6	42	124	64.36	0	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509B11

ANALYTICAL QC SUMMARY REPORT

BatchID: 212923

Sample ID: **MB-212923**	Client ID:			Units: **mg/Kg**	Prep Date: **09/15/2015**	Run No: **300024**
SampleType: **MBLK**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **212923**	Analysis Date: **09/15/2015**	Seq No: **6409992**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.100									

Sample ID: **LCS-212923**	Client ID:			Units: **mg/Kg**	Prep Date: **09/15/2015**	Run No: **300024**
SampleType: **LCS**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **212923**	Analysis Date: **09/15/2015**	Seq No: **6409993**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.4337	0.100	0.4000		108	80	120				

Sample ID: **1509B11-001CMS**	Client ID: **PRE-ISS-20150911-01**			Units: **mg/Kg-dry**	Prep Date: **09/15/2015**	Run No: **300024**
SampleType: **MS**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **212923**	Analysis Date: **09/15/2015**	Seq No: **6409995**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.5903	0.122	0.4878	0.1264	95.1	70	130				

Sample ID: **1509B11-001CMSD**	Client ID: **PRE-ISS-20150911-01**			Units: **mg/Kg-dry**	Prep Date: **09/15/2015**	Run No: **300024**
SampleType: **MSD**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **212923**	Analysis Date: **09/15/2015**	Seq No: **6409998**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.7091	0.120	0.4795	0.1264	122	70	130	0.5903	18.3	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509B11

ANALYTICAL QC SUMMARY REPORT

BatchID: 212928

Sample ID: **MB-212928** Client ID: Units: **ug/Kg** Prep Date: **09/16/2015** Run No: **300086**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **212928** Analysis Date: **09/16/2015** Seq No: **6413312**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	17									
Acenaphthylene	BRL	33									
Anthracene	BRL	1.7									
Benz(a)anthracene	BRL	1.7									
Benzo(a)pyrene	BRL	1.7									
Benzo(b)fluoranthene	BRL	3.3									
Benzo(g,h,i)perylene	BRL	3.3									
Benzo(k)fluoranthene	BRL	1.7									
Chrysene	BRL	1.7									
Dibenz(a,h)anthracene	BRL	3.3									
Fluoranthene	BRL	3.3									
Fluorene	BRL	3.3									
Indeno(1,2,3-cd)pyrene	BRL	1.7									
Naphthalene	BRL	17									
Phenanthrene	BRL	1.7									
Pyrene	BRL	1.7									
Surr: 4-Terphenyl-d14	55.97	0	66.70		83.9	42	124				

Sample ID: **LCS-212928** Client ID: Units: **ug/Kg** Prep Date: **09/16/2015** Run No: **300086**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **212928** Analysis Date: **09/16/2015** Seq No: **6413313**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	60.18	17	66.70		90.2	61.2	120				
Acenaphthylene	61.05	33	66.70	0.7000	90.5	60.1	120				
Anthracene	59.57	1.7	66.70	0.6857	88.3	58.4	120				
Benz(a)anthracene	69.74	1.7	66.70		105	56.7	124				
Benzo(a)pyrene	54.83	1.7	66.70		82.2	57.5	120				
Benzo(b)fluoranthene	69.20	3.3	66.70		104	60.9	118				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509B11

ANALYTICAL QC SUMMARY REPORT

BatchID: 212928

Sample ID: **LCS-212928** Client ID: Units: **ug/Kg** Prep Date: **09/16/2015** Run No: **300086**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **212928** Analysis Date: **09/16/2015** Seq No: **6413313**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(g,h,i)perylene	68.91	3.3	66.70		103	50.7	125				
Benzo(k)fluoranthene	51.02	1.7	66.70		76.5	53	125				
Chrysene	58.16	1.7	66.70		87.2	61.2	120				
Dibenz(a,h)anthracene	77.02	3.3	66.70		115	48	125				
Fluoranthene	66.41	3.3	66.70	0.6650	98.6	64.9	121				
Fluorene	64.18	3.3	66.70	0.8877	94.9	62.1	120				
Indeno(1,2,3-cd)pyrene	74.90	1.7	66.70		112	56	121				
Naphthalene	58.16	17	66.70		87.2	57.4	120				
Phenanthrene	58.18	1.7	66.70	0.7283	86.1	63.3	120				
Pyrene	55.54	1.7	66.70		83.3	61.2	120				
Surr: 4-Terphenyl-d14	59.69	0	66.70		89.5	42	124				

Sample ID: **1509B81-010AMS** Client ID: Units: **ug/Kg-dry** Prep Date: **09/16/2015** Run No: **300310**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **212928** Analysis Date: **09/18/2015** Seq No: **6416751**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	68.79	21	82.07		83.8	45.8	120				
Acenaphthylene	66.69	41	82.07		81.3	50.6	120				
Anthracene	62.81	2.1	82.07		76.5	42.4	125				
Benz(a)anthracene	87.42	2.1	82.07	3.637	102	44.9	136				
Benzo(a)pyrene	68.90	2.1	82.07	3.511	79.7	40.3	123				
Benzo(b)fluoranthene	75.32	4.1	82.07	6.672	83.6	37	128				
Benzo(g,h,i)perylene	68.36	4.1	82.07	6.028	76.0	41.1	137				
Benzo(k)fluoranthene	67.27	2.1	82.07	3.500	77.7	37.7	126				
Chrysene	66.52	2.1	82.07	3.763	76.5	43	120				
Dibenz(a,h)anthracene	68.23	4.1	82.07	3.774	78.5	42.6	130				
Fluoranthene	73.95	4.1	82.07	4.196	85.0	44.4	133				
Fluorene	72.58	4.1	82.07		88.4	42.5	119				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509B11

ANALYTICAL QC SUMMARY REPORT

BatchID: 212928

Sample ID: **1509B81-010AMS** Client ID:
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**
Units: **ug/Kg-dry** Prep Date: **09/16/2015** Run No: **300310**
BatchID: **212928** Analysis Date: **09/18/2015** Seq No: **6416751**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Indeno(1,2,3-cd)pyrene	68.70	2.1	82.07	5.482	77.0	41.7	135				
Naphthalene	66.12	21	82.07		80.6	42.5	120				
Phenanthrene	69.99	2.1	82.07	1.233	83.8	44.1	120				
Pyrene	69.94	2.1	82.07	3.652	80.8	41.5	120				
Surr: 4-Terphenyl-d14	71.69	0	82.07		87.4	42	124				

Sample ID: **1509B81-010AMSD** Client ID:
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**
Units: **ug/Kg-dry** Prep Date: **09/16/2015** Run No: **300310**
BatchID: **212928** Analysis Date: **09/18/2015** Seq No: **6416752**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	63.83	21	82.07		77.8	45.8	120	69.11	7.94	38.4	
Acenaphthylene	62.64	41	82.07		76.3	50.6	120	69.85	10.9	37.8	
Anthracene	58.02	2.1	82.07		70.7	42.4	125	66.46	13.6	49.7	
Benz(a)anthracene	81.32	2.1	82.07	3.637	94.7	44.9	136	87.67	7.51	33.8	
Benzo(a)pyrene	63.87	2.1	82.07	3.511	73.5	40.3	123	67.63	5.72	40.2	
Benzo(b)fluoranthene	72.04	4.1	82.07	6.672	79.6	37	128	81.34	12.1	36.5	
Benzo(g,h,i)perylene	63.09	4.1	82.07	6.028	69.5	41.1	137	67.49	6.74	39.3	
Benzo(k)fluoranthene	62.63	2.1	82.07	3.500	72.0	37.7	126	65.04	3.77	35	
Chrysene	62.90	2.1	82.07	3.763	72.0	43	120	67.60	7.21	28.6	
Dibenz(a,h)anthracene	62.95	4.1	82.07	3.774	72.1	42.6	130	69.70	10.2	44.6	
Fluoranthene	68.50	4.1	82.07	4.196	78.3	44.4	133	74.54	8.45	33.2	
Fluorene	66.15	4.1	82.07		80.6	42.5	119	72.44	9.09	35.4	
Indeno(1,2,3-cd)pyrene	63.96	2.1	82.07	5.482	71.3	41.7	135	70.79	10.1	37.3	
Naphthalene	63.44	21	82.07		77.3	42.5	120	67.80	6.65	39.4	
Phenanthrene	64.92	2.1	82.07	1.233	77.6	44.1	120	71.70	9.94	37	
Pyrene	66.41	2.1	82.07	3.652	76.5	41.5	120	71.01	6.70	33.1	
Surr: 4-Terphenyl-d14	66.80	0	82.07		81.4	42	124	69.54	0	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509B11

ANALYTICAL QC SUMMARY REPORT

BatchID: 212956

Sample ID: **MB-212956** Client ID: Units: **ug/L** Prep Date: **09/14/2015** Run No: **299999**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **212956** Analysis Date: **09/14/2015** Seq No: **6413086**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	5.0									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	48.82	0	50.00		97.6	70.6	123				
Surr: Dibromofluoromethane	50.39	0	50.00		101	78.7	124				
Surr: Toluene-d8	50.62	0	50.00		101	81.3	120				

Sample ID: **LCS-212956** Client ID: Units: **ug/L** Prep Date: **09/14/2015** Run No: **299999**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **212956** Analysis Date: **09/15/2015** Seq No: **6413087**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	46.23	5.0	50.00		92.5	72.8	128				
Toluene	46.68	5.0	50.00		93.4	74.9	127				
Surr: 4-Bromofluorobenzene	49.24	0	50.00		98.5	70.6	123				
Surr: Dibromofluoromethane	49.25	0	50.00		98.5	78.7	124				
Surr: Toluene-d8	50.10	0	50.00		100	81.3	120				

Sample ID: **1509997-022AMS** Client ID: Units: **ug/L** Prep Date: **09/14/2015** Run No: **300009**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **212956** Analysis Date: **09/15/2015** Seq No: **6413092**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	606.4	50	500.0		121	70	135				
Toluene	599.6	50	500.0		120	70.5	137				
Surr: 4-Bromofluorobenzene	490.1	0	500.0		98.0	70.6	123				
Surr: Dibromofluoromethane	504.8	0	500.0		101	78.7	124				
Surr: Toluene-d8	496.3	0	500.0		99.3	81.3	120				

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509B11

ANALYTICAL QC SUMMARY REPORT

BatchID: 212956

Sample ID: **1509997-022AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/L** Prep Date: **09/14/2015** Run No: **300009**
BatchID: **212956** Analysis Date: **09/15/2015** Seq No: **6413093**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	538.0	50	500.0		108	70	135	606.4	12.0	20	
Toluene	534.3	50	500.0		107	70.5	137	599.6	11.5	20	
Surr: 4-Bromofluorobenzene	489.2	0	500.0		97.8	70.6	123	490.1	0	0	
Surr: Dibromofluoromethane	498.6	0	500.0		99.7	78.7	124	504.8	0	0	
Surr: Toluene-d8	504.6	0	500.0		101	81.3	120	496.3	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509B11

ANALYTICAL QC SUMMARY REPORT

BatchID: 212981

Sample ID: **MB-212981** Client ID: Units: **ug/Kg** Prep Date: **09/15/2015** Run No: **299998**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **212981** Analysis Date: **09/15/2015** Seq No: **6410197**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	250									
Carbon disulfide	BRL	500									
Ethylbenzene	BRL	250									
Toluene	BRL	250									
Xylenes, Total	BRL	250									
Surr: 4-Bromofluorobenzene	2353	0	2500		94.1	70	128				
Surr: Dibromofluoromethane	2274	0	2500		91.0	78.2	128				
Surr: Toluene-d8	2281	0	2500		91.2	76.5	116				

Sample ID: **LCS-212981** Client ID: Units: **ug/Kg** Prep Date: **09/15/2015** Run No: **299998**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **212981** Analysis Date: **09/15/2015** Seq No: **6410196**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	2508	250	2500		100	72.3	130				
Toluene	2429	250	2500		97.2	71.1	130				
Surr: 4-Bromofluorobenzene	2304	0	2500		92.2	70	128				
Surr: Dibromofluoromethane	2262	0	2500		90.5	78.2	128				
Surr: Toluene-d8	2263	0	2500		90.5	76.5	116				

Sample ID: **1509B11-001AMS** Client ID: **PRE-ISS-20150911-01** Units: **ug/Kg-dry** Prep Date: **09/15/2015** Run No: **299998**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **212981** Analysis Date: **09/15/2015** Seq No: **6410726**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	2084	230	2261		92.2	70.4	130				
Toluene	2210	230	2261	194.5	89.1	70.4	130				
Surr: 4-Bromofluorobenzene	2226	0	2261		98.4	70	128				
Surr: Dibromofluoromethane	1796	0	2261		79.4	78.2	128				
Surr: Toluene-d8	1953	0	2261		86.4	76.5	116				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509B11

ANALYTICAL QC SUMMARY REPORT

BatchID: 212981

Sample ID: **1509B11-001AMSD** Client ID: **PRE-ISS-20150911-01** Units: **ug/Kg-dry** Prep Date: **09/15/2015** Run No: **299998**
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **212981** Analysis Date: **09/15/2015** Seq No: **6410728**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	2220	230	2261		98.2	70.4	130	2084	6.33	16.9	
Toluene	2376	230	2261	194.5	96.5	70.4	130	2210	7.26	16.6	
Surr: 4-Bromofluorobenzene	2279	0	2261		101	70	128	2226	0	0	
Surr: Dibromofluoromethane	1842	0	2261		81.4	78.2	128	1796	0	0	
Surr: Toluene-d8	2020	0	2261		89.3	76.5	116	1953	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509B11

ANALYTICAL QC SUMMARY REPORT

BatchID: 213119

Sample ID: **MB-213119**	Client ID:				Units: **mg/Kg**		Prep Date: **09/17/2015**		Run No: **300233**
SampleType: **MBLK**	TestCode: **Cyanide, Total SW9014**				BatchID: **213119**		Analysis Date: **09/17/2015**		Seq No: **6414977**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	1.00									

Sample ID: **LCS-213119**	Client ID:				Units: **mg/Kg**		Prep Date: **09/17/2015**		Run No: **300233**
SampleType: **LCS**	TestCode: **Cyanide, Total SW9014**				BatchID: **213119**		Analysis Date: **09/17/2015**		Seq No: **6414978**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	12.26	1.00	12.50		98.0	85	115				

Sample ID: **1509B11-001BMS**	Client ID: **PRE-ISS-20150911-01**				Units: **mg/Kg-dry**		Prep Date: **09/17/2015**		Run No: **300233**
SampleType: **MS**	TestCode: **Cyanide, Total SW9014**				BatchID: **213119**		Analysis Date: **09/17/2015**		Seq No: **6414983**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	14.68	1.27	15.85		92.6	70	130				

Sample ID: **1509B11-001BMSD**	Client ID: **PRE-ISS-20150911-01**				Units: **mg/Kg-dry**		Prep Date: **09/17/2015**		Run No: **300233**
SampleType: **MSD**	TestCode: **Cyanide, Total SW9014**				BatchID: **213119**		Analysis Date: **09/17/2015**		Seq No: **6414984**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	14.83	1.27	15.85		93.6	70	130	14.68	1.03	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

October 02, 2015

Nic Vrey
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: AGL Macon Remediation

Dear Nic Vrey: Order No: 1509M23

Analytical Environmental Services, Inc. received 12 samples on 9/25/2015 10:25:00 AM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1509M23

Date: 9/24/15 Page 1 of 1

COMPANY: ERM	ADDRESS: 3200 Windy Hill Rd Suite 1500w ATL GA 30339
PHONE:	FAX:
SAMPLED BY: ES/DP	SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	Benzene	Benzo(a)anthracene	VOC's (8260B)-COH only	SVOC's (8270C) COH only	Inorganics (6010B)	Total Cyanide (9012A)	Mercury (7470A)	REMARKS	No # of Containers
1	P1SS-1-20150922-01	9/22/15	1500		X	S			X	X	X	X	X		6
2	P1SS-2-20150922-01		1505		X				X	X	X	X	X		6
3	P1SS-3-20150922-01		1510		X				X	X	X	X	X		6
4	P1SS-4-20150922-01		1515		X				X	X	X	X	X		6
5	P1SS-5-20150922-01		1520		X				X	X	X	X	X		6
6	SCS-66-12W-(6'-10')-20150923-01	9/23/15	1645	X			X								4
7	SCS-67-13W-(6'-10')-20150923-01		1050	X				X							1
8	SCS-68-13W-(6'-10')-20150923-01		1055	X				X							1
9	SSS-38-20150923-01		1810		X				X	X	X	X	X		6
10	SSS-39-20150923-01		1820		X				X	X	X	X	X		6
11	P1SS-6-20150923-01		1800		X				X	X	X	X	X		6
12	TB-10-20150924-01					W			X						2
13															
14															

PRESERVATION (See codes)

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:	9/24	1:	9/25/15 10:05
2:	1715	2:	
3:		3:	

SPECIAL INSTRUCTIONS/COMMENTS: See AGL Macon COI List

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
CLIENT (FedEx) UPS MAIL COURIER
GREYHOUND OTHER_____

PROJECT INFORMATION
PROJECT NAME: AGL Macon Remediation
PROJECT #: 0176740
SITE ADDRESS: 224 Walnut St Macon GA 31201
SEND REPORT TO: Nic.Vreg@erm.com
INVOICE TO: (IF DIFFERENT FROM ABOVE)
QUOTE #:_____ PO#:_____

RECEIPT
Total # of Containers

Turnaround Time Request
- Standard 5 Business Days
- 2 Business Day Rush
- Next Business Day Rush
- Same Day Rush (auth req.)
- X Other 3 DAY TAT

STATE PROGRAM (if any): _____
E-mail? Y / N; Fax? Y / N
DATA PACKAGE: I II III IV

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc

Date: 2-Oct-15

Client: ERM-Southeast
Project: AGL Macon Remediation
Lab ID: 1509M23

Case Narrative

Volatile Organic Compounds Analysis by Method 8260B:

Percent recovery for the internal standard compound 1,4-Dichlorobenzene-d4 on sample 1509M23-003 A was outside control limits biased low due to suspected matrix interference. All other internal standard recoveries were within control limits.

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	P1SS-1-20150922-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/22/2015 3:00:00 PM
Lab ID:	1509M23-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	8.8		ug/Kg-dry	213553	1	09/28/2015 18:13	CG
Benzene	BRL	4.4		ug/Kg-dry	213553	1	09/28/2015 18:13	CG
Toluene	BRL	4.4		ug/Kg-dry	213553	1	09/28/2015 18:13	CG
Ethylbenzene	BRL	4.4		ug/Kg-dry	213553	1	09/28/2015 18:13	CG
Xylenes, Total	BRL	4.4		ug/Kg-dry	213553	1	09/28/2015 18:13	CG
Surr: 4-Bromofluorobenzene	83.2	70-128		%REC	213553	1	09/28/2015 18:13	CG
Surr: Dibromofluoromethane	107	78.2-128		%REC	213553	1	09/28/2015 18:13	CG
Surr: Toluene-d8	100	76.5-116		%REC	213553	1	09/28/2015 18:13	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.110		mg/Kg-dry	213559	1	09/29/2015 13:17	CC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	20		ug/Kg-dry	213474	1	09/28/2015 21:28	YH
Acenaphthylene	75	38		ug/Kg-dry	213474	1	09/28/2015 21:28	YH
Anthracene	82	2.0		ug/Kg-dry	213474	1	09/28/2015 21:28	YH
Benz(a)anthracene	380	20		ug/Kg-dry	213474	10	09/29/2015 17:22	YH
Benzo(a)pyrene	360	2.0		ug/Kg-dry	213474	1	09/28/2015 21:28	YH
Benzo(b)fluoranthene	470	38		ug/Kg-dry	213474	10	09/29/2015 17:22	YH
Benzo(g,h,i)perylene	280	3.8		ug/Kg-dry	213474	1	09/28/2015 21:28	YH
Benzo(k)fluoranthene	170	2.0		ug/Kg-dry	213474	1	09/28/2015 21:28	YH
Chrysene	340	20		ug/Kg-dry	213474	10	09/29/2015 17:22	YH
Dibenz(a,h)anthracene	47	3.8		ug/Kg-dry	213474	1	09/28/2015 21:28	YH
Fluoranthene	660	38		ug/Kg-dry	213474	10	09/29/2015 17:22	YH
Fluorene	23	3.8		ug/Kg-dry	213474	1	09/28/2015 21:28	YH
Indeno(1,2,3-cd)pyrene	220	2.0		ug/Kg-dry	213474	1	09/28/2015 21:28	YH
Naphthalene	41	20		ug/Kg-dry	213474	1	09/28/2015 21:28	YH
Phenanthrene	340	2.0		ug/Kg-dry	213474	1	09/28/2015 21:28	YH
Pyrene	670	20		ug/Kg-dry	213474	10	09/29/2015 17:22	YH
Surr: 4-Terphenyl-d14	80	42-124		%REC	213474	1	09/28/2015 21:28	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	380		ug/Kg-dry	213628	1	09/30/2015 13:16	YH
2-Methylphenol	BRL	380		ug/Kg-dry	213628	1	09/30/2015 13:16	YH
3,4-Methylphenol	BRL	380		ug/Kg-dry	213628	1	09/30/2015 13:16	YH
Phenol	BRL	380		ug/Kg-dry	213628	1	09/30/2015 13:16	YH
Surr: 2,4,6-Tribromophenol	99.2	41-128		%REC	213628	1	09/30/2015 13:16	YH
Surr: 2-Fluorobiphenyl	92.1	47-120		%REC	213628	1	09/30/2015 13:16	YH
Surr: 2-Fluorophenol	80.2	38.3-120		%REC	213628	1	09/30/2015 13:16	YH
Surr: 4-Terphenyl-d14	97.3	51.4-125		%REC	213628	1	09/30/2015 13:16	YH
Surr: Nitrobenzene-d5	85.5	40.1-120		%REC	213628	1	09/30/2015 13:16	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	P1SS-1-20150922-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/22/2015 3:00:00 PM
Lab ID:	1509M23-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	87.2	40.3-120		%REC	213628	1	09/30/2015 13:16	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.15		mg/Kg-dry	213725	1	09/30/2015 16:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.58		mg/Kg-dry	213514	1	09/30/2015 12:49	TA
Arsenic	BRL	5.58		mg/Kg-dry	213514	1	09/30/2015 12:49	TA
Barium	38.7	5.58		mg/Kg-dry	213514	1	09/30/2015 12:49	TA
Beryllium	BRL	2.79		mg/Kg-dry	213514	1	09/30/2015 12:49	TA
Cadmium	BRL	2.79		mg/Kg-dry	213514	1	09/30/2015 12:49	TA
Chromium	14.6	2.79		mg/Kg-dry	213514	1	09/30/2015 12:49	TA
Copper	13.8	2.79		mg/Kg-dry	213514	1	09/30/2015 12:49	TA
Lead	26.0	5.58		mg/Kg-dry	213514	1	09/30/2015 12:49	TA
Nickel	BRL	5.58		mg/Kg-dry	213514	1	09/30/2015 12:49	TA
Zinc	19.5	5.58		mg/Kg-dry	213514	1	09/30/2015 12:49	TA
PERCENT MOISTURE D2216								
Percent Moisture	13.1	0		wt%	R301062	1	09/30/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	P1SS-2-20150922-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/22/2015 3:05:00 PM
Lab ID:	1509M23-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	7.3		ug/Kg-dry	213553	1	09/28/2015 18:36	CG
Benzene	BRL	3.6		ug/Kg-dry	213553	1	09/28/2015 18:36	CG
Toluene	BRL	3.6		ug/Kg-dry	213553	1	09/28/2015 18:36	CG
Ethylbenzene	BRL	3.6		ug/Kg-dry	213553	1	09/28/2015 18:36	CG
Xylenes, Total	BRL	3.6		ug/Kg-dry	213553	1	09/28/2015 18:36	CG
Surr: 4-Bromofluorobenzene	81.8	70-128		%REC	213553	1	09/28/2015 18:36	CG
Surr: Dibromofluoromethane	107	78.2-128		%REC	213553	1	09/28/2015 18:36	CG
Surr: Toluene-d8	100	76.5-116		%REC	213553	1	09/28/2015 18:36	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.113		mg/Kg-dry	213559	1	09/29/2015 13:20	CC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	21	19		ug/Kg-dry	213474	1	09/28/2015 21:55	YH
Acenaphthylene	95	37		ug/Kg-dry	213474	1	09/28/2015 21:55	YH
Anthracene	96	1.9		ug/Kg-dry	213474	1	09/28/2015 21:55	YH
Benz(a)anthracene	460	19		ug/Kg-dry	213474	10	09/29/2015 17:49	YH
Benzo(a)pyrene	350	1.9		ug/Kg-dry	213474	1	09/28/2015 21:55	YH
Benzo(b)fluoranthene	560	37		ug/Kg-dry	213474	10	09/29/2015 17:49	YH
Benzo(g,h,i)perylene	290	3.7		ug/Kg-dry	213474	1	09/28/2015 21:55	YH
Benzo(k)fluoranthene	160	1.9		ug/Kg-dry	213474	1	09/28/2015 21:55	YH
Chrysene	450	19		ug/Kg-dry	213474	10	09/29/2015 17:49	YH
Dibenz(a,h)anthracene	58	3.7		ug/Kg-dry	213474	1	09/28/2015 21:55	YH
Fluoranthene	770	37		ug/Kg-dry	213474	10	09/29/2015 17:49	YH
Fluorene	27	3.7		ug/Kg-dry	213474	1	09/28/2015 21:55	YH
Indeno(1,2,3-cd)pyrene	240	1.9		ug/Kg-dry	213474	1	09/28/2015 21:55	YH
Naphthalene	40	19		ug/Kg-dry	213474	1	09/28/2015 21:55	YH
Phenanthrene	420	19		ug/Kg-dry	213474	10	09/29/2015 17:49	YH
Pyrene	830	19		ug/Kg-dry	213474	10	09/29/2015 17:49	YH
Surr: 4-Terphenyl-d14	81.9	42-124		%REC	213474	1	09/28/2015 21:55	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	370		ug/Kg-dry	213628	1	09/30/2015 13:42	YH
2-Methylphenol	BRL	370		ug/Kg-dry	213628	1	09/30/2015 13:42	YH
3,4-Methylphenol	BRL	370		ug/Kg-dry	213628	1	09/30/2015 13:42	YH
Phenol	BRL	370		ug/Kg-dry	213628	1	09/30/2015 13:42	YH
Surr: 2,4,6-Tribromophenol	103	41-128		%REC	213628	1	09/30/2015 13:42	YH
Surr: 2-Fluorobiphenyl	96.1	47-120		%REC	213628	1	09/30/2015 13:42	YH
Surr: 2-Fluorophenol	83.6	38.3-120		%REC	213628	1	09/30/2015 13:42	YH
Surr: 4-Terphenyl-d14	99.9	51.4-125		%REC	213628	1	09/30/2015 13:42	YH
Surr: Nitrobenzene-d5	90.3	40.1-120		%REC	213628	1	09/30/2015 13:42	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	P1SS-2-20150922-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/22/2015 3:05:00 PM
Lab ID:	1509M23-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	90.4	40.3-120		%REC	213628	1	09/30/2015 13:42	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.14		mg/Kg-dry	213725	1	09/30/2015 16:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.16		mg/Kg-dry	213514	1	09/30/2015 12:51	TA
Arsenic	BRL	5.16		mg/Kg-dry	213514	1	09/30/2015 12:51	TA
Barium	30.5	5.16		mg/Kg-dry	213514	1	09/30/2015 12:51	TA
Beryllium	BRL	2.58		mg/Kg-dry	213514	1	09/30/2015 12:51	TA
Cadmium	BRL	2.58		mg/Kg-dry	213514	1	09/30/2015 12:51	TA
Chromium	16.4	2.58		mg/Kg-dry	213514	1	09/30/2015 12:51	TA
Copper	11.4	2.58		mg/Kg-dry	213514	1	09/30/2015 12:51	TA
Lead	23.8	5.16		mg/Kg-dry	213514	1	09/30/2015 12:51	TA
Nickel	BRL	5.16		mg/Kg-dry	213514	1	09/30/2015 12:51	TA
Zinc	19.0	5.16		mg/Kg-dry	213514	1	09/30/2015 12:51	TA
PERCENT MOISTURE D2216								
Percent Moisture	11.9	0		wt%	R301062	1	09/30/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	P1SS-3-20150922-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/22/2015 3:10:00 PM
Lab ID:	1509M23-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	9.5		ug/Kg-dry	213553	1	09/28/2015 19:00	CG
Benzene	BRL	4.7		ug/Kg-dry	213553	1	09/28/2015 19:00	CG
Toluene	BRL	4.7		ug/Kg-dry	213553	1	09/28/2015 19:00	CG
Ethylbenzene	BRL	4.7		ug/Kg-dry	213553	1	09/28/2015 19:00	CG
Xylenes, Total	BRL	4.7		ug/Kg-dry	213553	1	09/28/2015 19:00	CG
Surr: 4-Bromofluorobenzene	80	70-128		%REC	213553	1	09/28/2015 19:00	CG
Surr: Dibromofluoromethane	102	78.2-128		%REC	213553	1	09/28/2015 19:00	CG
Surr: Toluene-d8	98.7	76.5-116		%REC	213553	1	09/28/2015 19:00	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.110		mg/Kg-dry	213559	1	09/29/2015 13:22	CC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	32	20		ug/Kg-dry	213474	1	09/28/2015 22:22	YH
Acenaphthylene	150	39		ug/Kg-dry	213474	1	09/28/2015 22:22	YH
Anthracene	140	2.0		ug/Kg-dry	213474	1	09/28/2015 22:22	YH
Benz(a)anthracene	460	20		ug/Kg-dry	213474	10	09/29/2015 18:18	YH
Benzo(a)pyrene	320	20		ug/Kg-dry	213474	10	09/29/2015 18:18	YH
Benzo(b)fluoranthene	470	39		ug/Kg-dry	213474	10	09/29/2015 18:18	YH
Benzo(g,h,i)perylene	290	3.9		ug/Kg-dry	213474	1	09/28/2015 22:22	YH
Benzo(k)fluoranthene	180	2.0		ug/Kg-dry	213474	1	09/28/2015 22:22	YH
Chrysene	400	20		ug/Kg-dry	213474	10	09/29/2015 18:18	YH
Dibenz(a,h)anthracene	67	3.9		ug/Kg-dry	213474	1	09/28/2015 22:22	YH
Fluoranthene	810	39		ug/Kg-dry	213474	10	09/29/2015 18:18	YH
Fluorene	43	3.9		ug/Kg-dry	213474	1	09/28/2015 22:22	YH
Indeno(1,2,3-cd)pyrene	260	2.0		ug/Kg-dry	213474	1	09/28/2015 22:22	YH
Naphthalene	50	20		ug/Kg-dry	213474	1	09/28/2015 22:22	YH
Phenanthrene	560	20		ug/Kg-dry	213474	10	09/29/2015 18:18	YH
Pyrene	830	20		ug/Kg-dry	213474	10	09/29/2015 18:18	YH
Surr: 4-Terphenyl-d14	82.2	42-124		%REC	213474	1	09/28/2015 22:22	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	390		ug/Kg-dry	213628	1	09/30/2015 14:09	YH
2-Methylphenol	BRL	390		ug/Kg-dry	213628	1	09/30/2015 14:09	YH
3,4-Methylphenol	BRL	390		ug/Kg-dry	213628	1	09/30/2015 14:09	YH
Phenol	BRL	390		ug/Kg-dry	213628	1	09/30/2015 14:09	YH
Surr: 2,4,6-Tribromophenol	92.8	41-128		%REC	213628	1	09/30/2015 14:09	YH
Surr: 2-Fluorobiphenyl	86.1	47-120		%REC	213628	1	09/30/2015 14:09	YH
Surr: 2-Fluorophenol	82.2	38.3-120		%REC	213628	1	09/30/2015 14:09	YH
Surr: 4-Terphenyl-d14	90.7	51.4-125		%REC	213628	1	09/30/2015 14:09	YH
Surr: Nitrobenzene-d5	85.7	40.1-120		%REC	213628	1	09/30/2015 14:09	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	P1SS-3-20150922-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/22/2015 3:10:00 PM
Lab ID:	1509M23-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	89.3	40.3-120		%REC	213628	1	09/30/2015 14:09	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.18		mg/Kg-dry	213725	1	09/30/2015 16:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.68		mg/Kg-dry	213514	1	09/30/2015 12:54	TA
Arsenic	BRL	5.68		mg/Kg-dry	213514	1	09/30/2015 12:54	TA
Barium	31.9	5.68		mg/Kg-dry	213514	1	09/30/2015 12:54	TA
Beryllium	BRL	2.84		mg/Kg-dry	213514	1	09/30/2015 12:54	TA
Cadmium	BRL	2.84		mg/Kg-dry	213514	1	09/30/2015 12:54	TA
Chromium	26.3	2.84		mg/Kg-dry	213514	1	09/30/2015 12:54	TA
Copper	9.60	2.84		mg/Kg-dry	213514	1	09/30/2015 12:54	TA
Lead	20.1	5.68		mg/Kg-dry	213514	1	09/30/2015 12:54	TA
Nickel	BRL	5.68		mg/Kg-dry	213514	1	09/30/2015 12:54	TA
Zinc	16.4	5.68		mg/Kg-dry	213514	1	09/30/2015 12:54	TA
PERCENT MOISTURE D2216								
Percent Moisture	15.0	0		wt%	R301062	1	09/30/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	P1SS-4-20150922-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/22/2015 3:15:00 PM
Lab ID:	1509M23-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	9.0		ug/Kg-dry	213553	1	09/28/2015 19:24	CG
Benzene	BRL	4.5		ug/Kg-dry	213553	1	09/28/2015 19:24	CG
Toluene	BRL	4.5		ug/Kg-dry	213553	1	09/28/2015 19:24	CG
Ethylbenzene	BRL	4.5		ug/Kg-dry	213553	1	09/28/2015 19:24	CG
Xylenes, Total	9.7	4.5		ug/Kg-dry	213553	1	09/28/2015 19:24	CG
Surr: 4-Bromofluorobenzene	79.4	70-128		%REC	213553	1	09/28/2015 19:24	CG
Surr: Dibromofluoromethane	102	78.2-128		%REC	213553	1	09/28/2015 19:24	CG
Surr: Toluene-d8	99.2	76.5-116		%REC	213553	1	09/28/2015 19:24	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.112		mg/Kg-dry	213559	1	09/29/2015 13:28	CC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	33	19		ug/Kg-dry	213474	1	09/28/2015 22:49	YH
Acenaphthylene	170	38		ug/Kg-dry	213474	1	09/28/2015 22:49	YH
Anthracene	140	1.9		ug/Kg-dry	213474	1	09/28/2015 22:49	YH
Benz(a)anthracene	800	19		ug/Kg-dry	213474	10	09/29/2015 18:45	YH
Benzo(a)pyrene	540	19		ug/Kg-dry	213474	10	09/29/2015 18:45	YH
Benzo(b)fluoranthene	860	38		ug/Kg-dry	213474	10	09/29/2015 18:45	YH
Benzo(g,h,i)perylene	400	38		ug/Kg-dry	213474	10	09/29/2015 18:45	YH
Benzo(k)fluoranthene	260	1.9		ug/Kg-dry	213474	1	09/28/2015 22:49	YH
Chrysene	650	19		ug/Kg-dry	213474	10	09/29/2015 18:45	YH
Dibenz(a,h)anthracene	99	3.8		ug/Kg-dry	213474	1	09/28/2015 22:49	YH
Fluoranthene	1300	38		ug/Kg-dry	213474	10	09/29/2015 18:45	YH
Fluorene	42	3.8		ug/Kg-dry	213474	1	09/28/2015 22:49	YH
Indeno(1,2,3-cd)pyrene	300	19		ug/Kg-dry	213474	10	09/29/2015 18:45	YH
Naphthalene	67	19		ug/Kg-dry	213474	1	09/28/2015 22:49	YH
Phenanthrene	590	19		ug/Kg-dry	213474	10	09/29/2015 18:45	YH
Pyrene	1400	19		ug/Kg-dry	213474	10	09/29/2015 18:45	YH
Surr: 4-Terphenyl-d14	81.9	42-124		%REC	213474	1	09/28/2015 22:49	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	380		ug/Kg-dry	213628	1	09/30/2015 14:36	YH
2-Methylphenol	BRL	380		ug/Kg-dry	213628	1	09/30/2015 14:36	YH
3,4-Methylphenol	BRL	380		ug/Kg-dry	213628	1	09/30/2015 14:36	YH
Phenol	BRL	380		ug/Kg-dry	213628	1	09/30/2015 14:36	YH
Surr: 2,4,6-Tribromophenol	87.7	41-128		%REC	213628	1	09/30/2015 14:36	YH
Surr: 2-Fluorobiphenyl	88	47-120		%REC	213628	1	09/30/2015 14:36	YH
Surr: 2-Fluorophenol	68.6	38.3-120		%REC	213628	1	09/30/2015 14:36	YH
Surr: 4-Terphenyl-d14	90.3	51.4-125		%REC	213628	1	09/30/2015 14:36	YH
Surr: Nitrobenzene-d5	82.8	40.1-120		%REC	213628	1	09/30/2015 14:36	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	P1SS-4-20150922-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/22/2015 3:15:00 PM
Lab ID:	1509M23-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	78.4	40.3-120		%REC	213628	1	09/30/2015 14:36	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.15		mg/Kg-dry	213725	1	09/30/2015 16:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.26		mg/Kg-dry	213514	1	09/30/2015 12:57	TA
Arsenic	BRL	5.26		mg/Kg-dry	213514	1	09/30/2015 12:57	TA
Barium	28.0	5.26		mg/Kg-dry	213514	1	09/30/2015 12:57	TA
Beryllium	BRL	2.63		mg/Kg-dry	213514	1	09/30/2015 12:57	TA
Cadmium	BRL	2.63		mg/Kg-dry	213514	1	09/30/2015 12:57	TA
Chromium	17.6	2.63		mg/Kg-dry	213514	1	09/30/2015 12:57	TA
Copper	9.43	2.63		mg/Kg-dry	213514	1	09/30/2015 12:57	TA
Lead	18.2	5.26		mg/Kg-dry	213514	1	09/30/2015 12:57	TA
Nickel	BRL	5.26		mg/Kg-dry	213514	1	09/30/2015 12:57	TA
Zinc	13.5	5.26		mg/Kg-dry	213514	1	09/30/2015 12:57	TA
PERCENT MOISTURE D2216								
Percent Moisture	12.8	0		wt%	R301062	1	09/30/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	P1SS-5-20150922-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/22/2015 3:20:00 PM
Lab ID:	1509M23-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	6.5		ug/Kg-dry	213553	1	09/28/2015 19:48	CG
Benzene	350	300		ug/Kg-dry	213639	100	09/29/2015 20:46	NH
Toluene	6200	370		ug/Kg-dry	213639	100	09/29/2015 20:46	NH
Ethylbenzene	2500	370		ug/Kg-dry	213639	100	09/29/2015 20:46	NH
Xylenes, Total	22000	370		ug/Kg-dry	213639	100	09/29/2015 20:46	NH
Surr: 4-Bromofluorobenzene	104	70-128		%REC	213553	1	09/28/2015 19:48	CG
Surr: 4-Bromofluorobenzene	109	70-128		%REC	213639	100	09/29/2015 20:46	NH
Surr: Dibromofluoromethane	99.4	78.2-128		%REC	213553	1	09/28/2015 19:48	CG
Surr: Dibromofluoromethane	95	78.2-128		%REC	213639	100	09/29/2015 20:46	NH
Surr: Toluene-d8	93.2	76.5-116		%REC	213553	1	09/28/2015 19:48	CG
Surr: Toluene-d8	87.4	76.5-116		%REC	213639	100	09/29/2015 20:46	NH
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.125		mg/Kg-dry	213559	1	09/29/2015 13:31	CC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	4400	2100		ug/Kg-dry	213474	100	09/29/2015 15:02	YH
Acenaphthylene	4500	4100		ug/Kg-dry	213474	100	09/29/2015 15:02	YH
Anthracene	2400	21		ug/Kg-dry	213474	10	09/29/2015 19:13	YH
Benz(a)anthracene	2100	21		ug/Kg-dry	213474	10	09/29/2015 19:13	YH
Benzo(a)pyrene	860	21		ug/Kg-dry	213474	10	09/29/2015 19:13	YH
Benzo(b)fluoranthene	850	41		ug/Kg-dry	213474	10	09/29/2015 19:13	YH
Benzo(g,h,i)perylene	190	4.1		ug/Kg-dry	213474	1	09/28/2015 23:16	YH
Benzo(k)fluoranthene	210	2.1		ug/Kg-dry	213474	1	09/28/2015 23:16	YH
Chrysene	1600	21		ug/Kg-dry	213474	10	09/29/2015 19:13	YH
Dibenz(a,h)anthracene	100	4.1		ug/Kg-dry	213474	1	09/28/2015 23:16	YH
Fluoranthene	3100	41		ug/Kg-dry	213474	10	09/29/2015 19:13	YH
Fluorene	3600	410		ug/Kg-dry	213474	100	09/29/2015 15:02	YH
Indeno(1,2,3-cd)pyrene	210	2.1		ug/Kg-dry	213474	1	09/28/2015 23:16	YH
Naphthalene	11000	2100		ug/Kg-dry	213474	100	09/29/2015 15:02	YH
Phenanthrene	18000	210		ug/Kg-dry	213474	100	09/29/2015 15:02	YH
Pyrene	3800	21		ug/Kg-dry	213474	10	09/29/2015 19:13	YH
Surr: 4-Terphenyl-d14	89.1	42-124		%REC	213474	1	09/28/2015 23:16	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	410		ug/Kg-dry	213628	1	09/30/2015 16:53	YH
2-Methylphenol	BRL	410		ug/Kg-dry	213628	1	09/30/2015 16:53	YH
3,4-Methylphenol	BRL	410		ug/Kg-dry	213628	1	09/30/2015 16:53	YH
Phenol	BRL	410		ug/Kg-dry	213628	1	09/30/2015 16:53	YH
Surr: 2,4,6-Tribromophenol	115	41-128		%REC	213628	1	09/30/2015 16:53	YH
Surr: 2-Fluorobiphenyl	95.6	47-120		%REC	213628	1	09/30/2015 16:53	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	P1SS-5-20150922-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/22/2015 3:20:00 PM
Lab ID:	1509M23-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: 2-Fluorophenol	85.2	38.3-120		%REC	213628	1	09/30/2015 16:53	YH
Surr: 4-Terphenyl-d14	103	51.4-125		%REC	213628	1	09/30/2015 16:53	YH
Surr: Nitrobenzene-d5	98.6	40.1-120		%REC	213628	1	09/30/2015 16:53	YH
Surr: Phenol-d5	94	40.3-120		%REC	213628	1	09/30/2015 16:53	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.26		mg/Kg-dry	213725	1	09/30/2015 16:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.61		mg/Kg-dry	213514	1	09/30/2015 13:00	TA
Arsenic	BRL	5.61		mg/Kg-dry	213514	1	09/30/2015 13:00	TA
Barium	41.8	5.61		mg/Kg-dry	213514	1	09/30/2015 13:00	TA
Beryllium	BRL	2.80		mg/Kg-dry	213514	1	09/30/2015 13:00	TA
Cadmium	BRL	2.80		mg/Kg-dry	213514	1	09/30/2015 13:00	TA
Chromium	27.0	2.80		mg/Kg-dry	213514	1	09/30/2015 13:00	TA
Copper	17.6	2.80		mg/Kg-dry	213514	1	09/30/2015 13:00	TA
Lead	13.1	5.61		mg/Kg-dry	213514	1	09/30/2015 13:00	TA
Nickel	BRL	5.61		mg/Kg-dry	213514	2	09/30/2015 18:12	TA
Zinc	9.25	5.61		mg/Kg-dry	213514	1	09/30/2015 13:00	TA
PERCENT MOISTURE D2216								
Percent Moisture	20.4	0		wt%	R301062	1	09/30/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-66-12W-(6'-10')-20150923-(
Project Name:	AGL Macon Remediation	**Collection Date:**	9/23/2015 10:45:00 AM
Lab ID:	1509M23-006	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5035)								
Benzene	BRL	3.2		ug/Kg-dry	213553	1	09/28/2015 20:12	CG
Surr: 4-Bromofluorobenzene	83.4	70-128		%REC	213553	1	09/28/2015 20:12	CG
Surr: Dibromofluoromethane	99.1	78.2-128		%REC	213553	1	09/28/2015 20:12	CG
Surr: Toluene-d8	96.3	76.5-116		%REC	213553	1	09/28/2015 20:12	CG
PERCENT MOISTURE D2216								
Percent Moisture	9.83	0		wt%	R301062	1	09/30/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-67-13W-(6'-10')-20150923-(
Project Name:	AGL Macon Remediation	**Collection Date:**	9/23/2015 10:50:00 AM
Lab ID:	1509M23-007	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Benz(a)anthracene	10	2.3		ug/Kg-dry	213474	1	09/28/2015 23:44	YH
Surr: 4-Terphenyl-d14	76.4	42-124		%REC	213474	1	09/28/2015 23:44	YH
PERCENT MOISTURE D2216								
Percent Moisture	26.2	0		wt%	R301062	1	09/30/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	SCS-68-13W-(6'-10')-20150923-(
Project Name:	AGL Macon Remediation	**Collection Date:**	9/23/2015 10:55:00 AM
Lab ID:	1509M23-008	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3550C)								
Benz(a)anthracene	12	2.1		ug/Kg-dry	213474	1	09/29/2015 00:11	YH
Surr: 4-Terphenyl-d14	80.6	42-124		%REC	213474	1	09/29/2015 00:11	YH
PERCENT MOISTURE D2216								
Percent Moisture	18.8	0		wt%	R301062	1	09/30/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-38-20150923-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/23/2015 6:10:00 PM
Lab ID:	1509M23-009	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	8.5		ug/Kg-dry	213553	1	09/28/2015 20:35	CG
Benzene	BRL	4.2		ug/Kg-dry	213553	1	09/28/2015 20:35	CG
Toluene	BRL	4.2		ug/Kg-dry	213553	1	09/28/2015 20:35	CG
Ethylbenzene	140	4.2		ug/Kg-dry	213553	1	09/28/2015 20:35	CG
Xylenes, Total	130	4.2		ug/Kg-dry	213553	1	09/28/2015 20:35	CG
Surr: 4-Bromofluorobenzene	81.1	70-128		%REC	213553	1	09/28/2015 20:35	CG
Surr: Dibromofluoromethane	102	78.2-128		%REC	213553	1	09/28/2015 20:35	CG
Surr: Toluene-d8	97.6	76.5-116		%REC	213553	1	09/28/2015 20:35	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.107		mg/Kg-dry	213559	1	09/29/2015 13:33	CC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	86	19		ug/Kg-dry	213474	1	09/29/2015 00:39	YH
Acenaphthylene	120	36		ug/Kg-dry	213474	1	09/29/2015 00:39	YH
Anthracene	160	1.9		ug/Kg-dry	213474	1	09/29/2015 00:39	YH
Benz(a)anthracene	430	19		ug/Kg-dry	213474	10	09/29/2015 19:41	YH
Benzo(a)pyrene	250	1.9		ug/Kg-dry	213474	1	09/29/2015 00:39	YH
Benzo(b)fluoranthene	330	36		ug/Kg-dry	213474	10	09/29/2015 19:41	YH
Benzo(g,h,i)perylene	110	3.6		ug/Kg-dry	213474	1	09/29/2015 00:39	YH
Benzo(k)fluoranthene	100	1.9		ug/Kg-dry	213474	1	09/29/2015 00:39	YH
Chrysene	410	19		ug/Kg-dry	213474	10	09/29/2015 19:41	YH
Dibenz(a,h)anthracene	38	3.6		ug/Kg-dry	213474	1	09/29/2015 00:39	YH
Fluoranthene	760	36		ug/Kg-dry	213474	10	09/29/2015 19:41	YH
Fluorene	93	3.6		ug/Kg-dry	213474	1	09/29/2015 00:39	YH
Indeno(1,2,3-cd)pyrene	120	1.9		ug/Kg-dry	213474	1	09/29/2015 00:39	YH
Naphthalene	120	19		ug/Kg-dry	213474	1	09/29/2015 00:39	YH
Phenanthrene	610	19		ug/Kg-dry	213474	10	09/29/2015 19:41	YH
Pyrene	870	19		ug/Kg-dry	213474	10	09/29/2015 19:41	YH
Surr: 4-Terphenyl-d14	86.3	42-124		%REC	213474	1	09/29/2015 00:39	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	360		ug/Kg-dry	213628	1	09/30/2015 15:33	YH
2-Methylphenol	BRL	360		ug/Kg-dry	213628	1	09/30/2015 15:33	YH
3,4-Methylphenol	BRL	360		ug/Kg-dry	213628	1	09/30/2015 15:33	YH
Phenol	BRL	360		ug/Kg-dry	213628	1	09/30/2015 15:33	YH
Surr: 2,4,6-Tribromophenol	88.3	41-128		%REC	213628	1	09/30/2015 15:33	YH
Surr: 2-Fluorobiphenyl	93.8	47-120		%REC	213628	1	09/30/2015 15:33	YH
Surr: 2-Fluorophenol	76.3	38.3-120		%REC	213628	1	09/30/2015 15:33	YH
Surr: 4-Terphenyl-d14	98.5	51.4-125		%REC	213628	1	09/30/2015 15:33	YH
Surr: Nitrobenzene-d5	91.8	40.1-120		%REC	213628	1	09/30/2015 15:33	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-38-20150923-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/23/2015 6:10:00 PM
Lab ID:	1509M23-009	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	85.6	40.3-120		%REC	213628	1	09/30/2015 15:33	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.10		mg/Kg-dry	213725	1	09/30/2015 16:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.04		mg/Kg-dry	213514	1	09/30/2015 13:03	TA
Arsenic	BRL	5.04		mg/Kg-dry	213514	1	09/30/2015 13:03	TA
Barium	33.2	5.04		mg/Kg-dry	213514	1	09/30/2015 13:03	TA
Beryllium	BRL	2.52		mg/Kg-dry	213514	1	09/30/2015 13:03	TA
Cadmium	BRL	2.52		mg/Kg-dry	213514	1	09/30/2015 13:03	TA
Chromium	16.0	2.52		mg/Kg-dry	213514	1	09/30/2015 13:03	TA
Copper	7.95	2.52		mg/Kg-dry	213514	1	09/30/2015 13:03	TA
Lead	11.2	5.04		mg/Kg-dry	213514	1	09/30/2015 13:03	TA
Nickel	BRL	5.04		mg/Kg-dry	213514	1	09/30/2015 13:03	TA
Zinc	8.24	5.04		mg/Kg-dry	213514	1	09/30/2015 13:03	TA
PERCENT MOISTURE D2216								
Percent Moisture	8.69	0		wt%	R301062	1	09/30/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-39-20150923-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/23/2015 6:20:00 PM
Lab ID:	1509M23-010	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	6.2		ug/Kg-dry	213553	1	09/29/2015 19:26	CG
Benzene	BRL	3.1		ug/Kg-dry	213553	1	09/29/2015 19:26	CG
Toluene	BRL	3.1		ug/Kg-dry	213553	1	09/29/2015 19:26	CG
Ethylbenzene	BRL	3.1		ug/Kg-dry	213553	1	09/29/2015 19:26	CG
Xylenes, Total	BRL	3.1		ug/Kg-dry	213553	1	09/29/2015 19:26	CG
Surr: 4-Bromofluorobenzene	81.3	70-128		%REC	213553	1	09/29/2015 19:26	CG
Surr: Dibromofluoromethane	104	78.2-128		%REC	213553	1	09/29/2015 19:26	CG
Surr: Toluene-d8	99.3	76.5-116		%REC	213553	1	09/29/2015 19:26	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.104		mg/Kg-dry	213559	1	09/29/2015 13:35	CC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	21		ug/Kg-dry	213474	1	09/29/2015 01:07	YH
Acenaphthylene	58	40		ug/Kg-dry	213474	1	09/29/2015 01:07	YH
Anthracene	60	2.1		ug/Kg-dry	213474	1	09/29/2015 01:07	YH
Benz(a)anthracene	260	2.1		ug/Kg-dry	213474	1	09/29/2015 01:07	YH
Benzo(a)pyrene	140	2.1		ug/Kg-dry	213474	1	09/29/2015 01:07	YH
Benzo(b)fluoranthene	230	4.0		ug/Kg-dry	213474	1	09/29/2015 01:07	YH
Benzo(g,h,i)perylene	75	4.0		ug/Kg-dry	213474	1	09/29/2015 01:07	YH
Benzo(k)fluoranthene	59	2.1		ug/Kg-dry	213474	1	09/29/2015 01:07	YH
Chrysene	210	2.1		ug/Kg-dry	213474	1	09/29/2015 01:07	YH
Dibenz(a,h)anthracene	23	4.0		ug/Kg-dry	213474	1	09/29/2015 01:07	YH
Fluoranthene	310	4.0		ug/Kg-dry	213474	1	09/29/2015 01:07	YH
Fluorene	23	4.0		ug/Kg-dry	213474	1	09/29/2015 01:07	YH
Indeno(1,2,3-cd)pyrene	75	2.1		ug/Kg-dry	213474	1	09/29/2015 01:07	YH
Naphthalene	BRL	21		ug/Kg-dry	213474	1	09/29/2015 01:07	YH
Phenanthrene	250	2.1		ug/Kg-dry	213474	1	09/29/2015 01:07	YH
Pyrene	390	2.1		ug/Kg-dry	213474	1	09/29/2015 01:07	YH
Surr: 4-Terphenyl-d14	80.3	42-124		%REC	213474	1	09/29/2015 01:07	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	400		ug/Kg-dry	213628	1	09/30/2015 16:00	YH
2-Methylphenol	BRL	400		ug/Kg-dry	213628	1	09/30/2015 16:00	YH
3,4-Methylphenol	BRL	400		ug/Kg-dry	213628	1	09/30/2015 16:00	YH
Phenol	BRL	400		ug/Kg-dry	213628	1	09/30/2015 16:00	YH
Surr: 2,4,6-Tribromophenol	101	41-128		%REC	213628	1	09/30/2015 16:00	YH
Surr: 2-Fluorobiphenyl	91.8	47-120		%REC	213628	1	09/30/2015 16:00	YH
Surr: 2-Fluorophenol	80.6	38.3-120		%REC	213628	1	09/30/2015 16:00	YH
Surr: 4-Terphenyl-d14	96.3	51.4-125		%REC	213628	1	09/30/2015 16:00	YH
Surr: Nitrobenzene-d5	91.9	40.1-120		%REC	213628	1	09/30/2015 16:00	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-39-20150923-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/23/2015 6:20:00 PM
Lab ID:	1509M23-010	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	87.9	40.3-120		%REC	213628	1	09/30/2015 16:00	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.22		mg/Kg-dry	213725	1	09/30/2015 16:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.80		mg/Kg-dry	213514	1	09/30/2015 13:06	TA
Arsenic	BRL	5.80		mg/Kg-dry	213514	1	09/30/2015 13:06	TA
Barium	33.0	5.80		mg/Kg-dry	213514	1	09/30/2015 13:06	TA
Beryllium	BRL	2.90		mg/Kg-dry	213514	1	09/30/2015 13:06	TA
Cadmium	BRL	2.90		mg/Kg-dry	213514	1	09/30/2015 13:06	TA
Chromium	16.9	2.90		mg/Kg-dry	213514	1	09/30/2015 13:06	TA
Copper	9.64	2.90		mg/Kg-dry	213514	1	09/30/2015 13:06	TA
Lead	13.5	5.80		mg/Kg-dry	213514	1	09/30/2015 13:06	TA
Nickel	BRL	5.80		mg/Kg-dry	213514	1	09/30/2015 13:06	TA
Zinc	11.1	5.80		mg/Kg-dry	213514	1	09/30/2015 13:06	TA
PERCENT MOISTURE D2216								
Percent Moisture	17.8	0		wt%	R301062	1	09/30/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	P1SS-6-20150923-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/23/2015 6:00:00 PM
Lab ID:	1509M23-011	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	7.8		ug/Kg-dry	213553	1	09/28/2015 21:23	CG
Benzene	BRL	3.9		ug/Kg-dry	213553	1	09/28/2015 21:23	CG
Toluene	BRL	3.9		ug/Kg-dry	213553	1	09/28/2015 21:23	CG
Ethylbenzene	BRL	3.9		ug/Kg-dry	213553	1	09/28/2015 21:23	CG
Xylenes, Total	13	3.9		ug/Kg-dry	213553	1	09/28/2015 21:23	CG
Surr: 4-Bromofluorobenzene	94.3	70-128		%REC	213553	1	09/28/2015 21:23	CG
Surr: Dibromofluoromethane	98	78.2-128		%REC	213553	1	09/28/2015 21:23	CG
Surr: Toluene-d8	96.1	76.5-116		%REC	213553	1	09/28/2015 21:23	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.114		mg/Kg-dry	213559	1	09/29/2015 13:37	CC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	110	21		ug/Kg-dry	213474	1	09/29/2015 01:34	YH
Acenaphthylene	250	41		ug/Kg-dry	213474	1	09/29/2015 01:34	YH
Anthracene	140	2.1		ug/Kg-dry	213474	1	09/29/2015 01:34	YH
Benz(a)anthracene	610	21		ug/Kg-dry	213474	10	09/29/2015 20:08	YH
Benzo(a)pyrene	390	21		ug/Kg-dry	213474	10	09/29/2015 20:08	YH
Benzo(b)fluoranthene	440	41		ug/Kg-dry	213474	10	09/29/2015 20:08	YH
Benzo(g,h,i)perylene	140	4.1		ug/Kg-dry	213474	1	09/29/2015 01:34	YH
Benzo(k)fluoranthene	140	2.1		ug/Kg-dry	213474	1	09/29/2015 01:34	YH
Chrysene	460	21		ug/Kg-dry	213474	10	09/29/2015 20:08	YH
Dibenz(a,h)anthracene	72	4.1		ug/Kg-dry	213474	1	09/29/2015 01:34	YH
Fluoranthene	510	41		ug/Kg-dry	213474	10	09/29/2015 20:08	YH
Fluorene	120	4.1		ug/Kg-dry	213474	1	09/29/2015 01:34	YH
Indeno(1,2,3-cd)pyrene	170	2.1		ug/Kg-dry	213474	1	09/29/2015 01:34	YH
Naphthalene	70	21		ug/Kg-dry	213474	1	09/29/2015 01:34	YH
Phenanthrene	440	21		ug/Kg-dry	213474	10	09/29/2015 20:08	YH
Pyrene	860	21		ug/Kg-dry	213474	10	09/29/2015 20:08	YH
Surr: 4-Terphenyl-d14	84	42-124		%REC	213474	1	09/29/2015 01:34	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	410		ug/Kg-dry	213628	1	09/30/2015 16:26	YH
2-Methylphenol	BRL	410		ug/Kg-dry	213628	1	09/30/2015 16:26	YH
3,4-Methylphenol	BRL	410		ug/Kg-dry	213628	1	09/30/2015 16:26	YH
Phenol	BRL	410		ug/Kg-dry	213628	1	09/30/2015 16:26	YH
Surr: 2,4,6-Tribromophenol	111	41-128		%REC	213628	1	09/30/2015 16:26	YH
Surr: 2-Fluorobiphenyl	95.4	47-120		%REC	213628	1	09/30/2015 16:26	YH
Surr: 2-Fluorophenol	84.8	38.3-120		%REC	213628	1	09/30/2015 16:26	YH
Surr: 4-Terphenyl-d14	105	51.4-125		%REC	213628	1	09/30/2015 16:26	YH
Surr: Nitrobenzene-d5	95.2	40.1-120		%REC	213628	1	09/30/2015 16:26	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	P1SS-6-20150923-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/23/2015 6:00:00 PM
Lab ID:	1509M23-011	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	95.9	40.3-120		%REC	213628	1	09/30/2015 16:26	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.23		mg/Kg-dry	213725	1	09/30/2015 16:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.97		mg/Kg-dry	213514	1	09/30/2015 13:09	TA
Arsenic	BRL	5.97		mg/Kg-dry	213514	1	09/30/2015 13:09	TA
Barium	41.5	5.97		mg/Kg-dry	213514	1	09/30/2015 13:09	TA
Beryllium	BRL	2.98		mg/Kg-dry	213514	1	09/30/2015 13:09	TA
Cadmium	BRL	2.98		mg/Kg-dry	213514	1	09/30/2015 13:09	TA
Chromium	23.2	2.98		mg/Kg-dry	213514	1	09/30/2015 13:09	TA
Copper	12.1	2.98		mg/Kg-dry	213514	1	09/30/2015 13:09	TA
Lead	11.5	5.97		mg/Kg-dry	213514	1	09/30/2015 13:09	TA
Nickel	BRL	5.97		mg/Kg-dry	213514	1	09/30/2015 13:09	TA
Zinc	11.3	5.97		mg/Kg-dry	213514	1	09/30/2015 13:09	TA
PERCENT MOISTURE D2216								
Percent Moisture	19.0	0		wt%	R301062	1	09/30/2015 10:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	TB-10-20150924-01
Project Name:	AGL Macon Remediation	**Collection Date:**	9/25/2015
Lab ID:	1509M23-012	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	213556	1	09/29/2015 20:50	CH
Carbon disulfide	BRL	5.0		ug/L	213556	1	09/29/2015 20:50	CH
Ethylbenzene	BRL	5.0		ug/L	213556	1	09/29/2015 20:50	CH
Toluene	BRL	5.0		ug/L	213556	1	09/29/2015 20:50	CH
Xylenes, Total	BRL	5.0		ug/L	213556	1	09/29/2015 20:50	CH
Surr: 4-Bromofluorobenzene	78.7	70.6-123		%REC	213556	1	09/29/2015 20:50	CH
Surr: Dibromofluoromethane	92.5	78.7-124		%REC	213556	1	09/29/2015 20:50	CH
Surr: Toluene-d8	101	81.3-120		%REC	213556	1	09/29/2015 20:50	CH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM Work Order Number 1509M23

Checklist completed by _____ 9/25/15
Signature Date

Carrier name: FedEx ✓ UPS __ Courier __ Client __ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 3.1° Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by _____

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213514

Sample ID: **MB-213514** Client ID: Units: **mg/Kg** Prep Date: **09/28/2015** Run No: **301017**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **213514** Analysis Date: **09/30/2015** Seq No: **6433815**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	5.00									
Arsenic	BRL	5.00									
Barium	BRL	5.00									
Beryllium	BRL	2.50									
Cadmium	BRL	2.50									
Chromium	BRL	2.50									
Copper	BRL	2.50									
Lead	BRL	5.00									
Nickel	BRL	5.00									
Zinc	BRL	5.00									

Sample ID: **LCS-213514** Client ID: Units: **mg/Kg** Prep Date: **09/28/2015** Run No: **301017**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **213514** Analysis Date: **09/30/2015** Seq No: **6433816**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	49.63	5.00	50.00	0.2980	98.7	80	120				
Arsenic	47.84	5.00	50.00		95.7	80	120				
Barium	52.94	5.00	50.00		106	80	120				
Beryllium	52.85	2.50	50.00		106	80	120				
Cadmium	49.89	2.50	50.00		99.8	80	120				
Chromium	53.44	2.50	50.00	0.06350	107	80	120				
Copper	53.61	2.50	50.00		107	80	120				
Lead	51.30	5.00	50.00		103	80	120				
Nickel	51.29	5.00	50.00		103	80	120				
Zinc	50.62	5.00	50.00	1.630	98.0	80	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213514

Sample ID: **1509N47-001AMS** Client ID:
SampleType: **MS** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/Kg-dry** Prep Date: **09/28/2015** Run No: **301017**
BatchID: **213514** Analysis Date: **09/30/2015** Seq No: **6433818**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	37.12	5.36	53.62	0.3573	68.6	75	125				S
Arsenic	51.73	5.36	53.62	2.617	91.6	75	125				
Barium	105.5	5.36	53.62	39.80	123	75	125				
Beryllium	55.63	2.68	53.62	0.3181	103	75	125				
Cadmium	53.52	2.68	53.62	0.05150	99.7	75	125				
Chromium	63.57	2.68	53.62	6.382	107	75	125				
Copper	66.11	2.68	53.62	4.992	114	75	125				
Lead	66.39	5.36	53.62	8.392	108	75	125				
Nickel	49.21	5.36	53.62	2.730	86.7	75	125				
Zinc	93.54	5.36	53.62	23.31	131	75	125				S

Sample ID: **1509N47-001AMSD** Client ID:
SampleType: **MSD** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/Kg-dry** Prep Date: **09/28/2015** Run No: **301017**
BatchID: **213514** Analysis Date: **09/30/2015** Seq No: **6433819**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	36.72	5.37	53.65	0.3573	67.8	75	125	37.12	1.09	20	S
Arsenic	51.49	5.37	53.65	2.617	91.1	75	125	51.73	0.466	20	
Barium	103.7	5.37	53.65	39.80	119	75	125	105.5	1.69	20	
Beryllium	55.21	2.68	53.65	0.3181	102	75	125	55.63	0.765	20	
Cadmium	52.89	2.68	53.65	0.05150	98.5	75	125	53.52	1.17	20	
Chromium	64.63	2.68	53.65	6.382	109	75	125	63.57	1.65	20	
Copper	64.88	2.68	53.65	4.992	112	75	125	66.11	1.87	20	
Lead	77.26	5.37	53.65	8.392	128	75	125	66.39	15.1	20	S
Nickel	58.16	5.37	53.65	2.730	103	75	125	49.21	16.7	20	
Zinc	90.92	5.37	53.65	23.31	126	75	125	93.54	2.84	20	S

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213553

Sample ID: **MB-213553** Client ID: Units: **ug/Kg** Prep Date: **09/28/2015** Run No: **300780**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **213553** Analysis Date: **09/28/2015** Seq No: **6430173**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	10									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	42.97	0	50.00		85.9	70	128				
Surr: Dibromofluoromethane	50.75	0	50.00		102	78.2	128				
Surr: Toluene-d8	50.46	0	50.00		101	76.5	116				

Sample ID: **LCS-213553** Client ID: Units: **ug/Kg** Prep Date: **09/28/2015** Run No: **300780**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **213553** Analysis Date: **09/28/2015** Seq No: **6430163**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	47.47	5.0	50.00		94.9	72.3	130				
Toluene	48.30	5.0	50.00		96.6	71.1	130				
Surr: 4-Bromofluorobenzene	44.23	0	50.00		88.5	70	128				
Surr: Dibromofluoromethane	49.91	0	50.00		99.8	78.2	128				
Surr: Toluene-d8	48.96	0	50.00		97.9	76.5	116				

Sample ID: **1509M23-001AMS** Client ID: **P1SS-1-20150922-01** Units: **ug/Kg-dry** Prep Date: **09/28/2015** Run No: **300780**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **213553** Analysis Date: **09/28/2015** Seq No: **6430165**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	50.70	5.8	57.52		88.1	70.4	130				
Toluene	50.86	5.8	57.52		88.4	70.4	130				
Surr: 4-Bromofluorobenzene	46.43	0	57.52		80.7	70	128				
Surr: Dibromofluoromethane	57.36	0	57.52		99.7	78.2	128				
Surr: Toluene-d8	57.13	0	57.52		99.3	76.5	116				

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213553

Sample ID: **1509M23-001AMSD** Client ID: **P1SS-1-20150922-01** Units: **ug/Kg-dry** Prep Date: **09/28/2015** Run No: **300780**
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **213553** Analysis Date: **09/28/2015** Seq No: **6430170**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	51.62	5.8	57.52		89.7	70.4	130	50.70	1.80	16.9	
Toluene	49.31	5.8	57.52		85.7	70.4	130	50.86	3.10	16.6	
Surr: 4-Bromofluorobenzene	50.57	0	57.52		87.9	70	128	46.43	0	0	
Surr: Dibromofluoromethane	57.96	0	57.52		101	78.2	128	57.36	0	0	
Surr: Toluene-d8	56.14	0	57.52		97.6	76.5	116	57.13	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213559

Sample ID: **MB-213559**	Client ID:			Units: **mg/Kg**	Prep Date: **09/29/2015**	Run No: **300908**
SampleType: **MBLK**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **213559**	Analysis Date: **09/29/2015**	Seq No: **6430948**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.100									

Sample ID: **LCS-213559**	Client ID:			Units: **mg/Kg**	Prep Date: **09/29/2015**	Run No: **300908**
SampleType: **LCS**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **213559**	Analysis Date: **09/29/2015**	Seq No: **6430949**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.3615	0.100	0.4000		90.4	80	120				

Sample ID: **1509L13-001DMS**	Client ID:			Units: **mg/Kg-dry**	Prep Date: **09/29/2015**	Run No: **300908**
SampleType: **MS**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **213559**	Analysis Date: **09/29/2015**	Seq No: **6430951**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.4288	0.116	0.4646		92.3	70	130				

Sample ID: **1509L13-001DMSD**	Client ID:			Units: **mg/Kg-dry**	Prep Date: **09/29/2015**	Run No: **300908**
SampleType: **MSD**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **213559**	Analysis Date: **09/29/2015**	Seq No: **6430952**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.4096	0.117	0.4664		87.8	70	130	0.4288	4.59	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213628

Sample ID: **MB-213628** Client ID: Units: **ug/Kg** Prep Date: **09/30/2015** Run No: **301031**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **213628** Analysis Date: **09/30/2015** Seq No: **6434016**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	330									
2-Methylphenol	BRL	330									
3,4-Methylphenol	BRL	330									
Phenol	BRL	330									
Surr: 2,4,6-Tribromophenol	3221	0	3333		96.6	41	128				
Surr: 2-Fluorobiphenyl	1488	0	1667		89.3	47	120				
Surr: 2-Fluorophenol	2764	0	3333		82.9	38.3	120				
Surr: 4-Terphenyl-d14	1576	0	1667		94.6	51.4	125				
Surr: Nitrobenzene-d5	1482	0	1667		88.9	40.1	120				
Surr: Phenol-d5	2930	0	3333		87.9	40.3	120				

Sample ID: **LCS-213628** Client ID: Units: **ug/Kg** Prep Date: **09/30/2015** Run No: **301031**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **213628** Analysis Date: **09/30/2015** Seq No: **6434017**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2849	330	3333		85.5	50.1	120				
Surr: 2,4,6-Tribromophenol	3420	0	3333		103	41	128				
Surr: 2-Fluorobiphenyl	1633	0	1667		98.0	47	120				
Surr: 2-Fluorophenol	2832	0	3333		85.0	38.3	120				
Surr: 4-Terphenyl-d14	1702	0	1667		102	51.4	125				
Surr: Nitrobenzene-d5	1518	0	1667		91.1	40.1	120				
Surr: Phenol-d5	3078	0	3333		92.3	40.3	120				

Sample ID: **1509N67-008CMS** Client ID: Units: **ug/Kg-dry** Prep Date: **09/30/2015** Run No: **301031**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **213628** Analysis Date: **09/30/2015** Seq No: **6436054**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	3512	420	4196		83.7	41.5	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213628

Sample ID: **1509N67-008CMS** Client ID:
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/Kg-dry** Prep Date: **09/30/2015** Run No: **301031**
BatchID: **213628** Analysis Date: **09/30/2015** Seq No: **6436054**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 2,4,6-Tribromophenol	4357	0	4196		104	41	128				
Surr: 2-Fluorobiphenyl	2055	0	2098		98.0	47	120				
Surr: 2-Fluorophenol	3577	0	4196		85.3	38.3	120				
Surr: 4-Terphenyl-d14	2139	0	2098		102	51.4	125				
Surr: Nitrobenzene-d5	2016	0	2098		96.1	40.1	120				
Surr: Phenol-d5	3868	0	4196		92.2	40.3	120				

Sample ID: **1509N67-008CMSD** Client ID:
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/Kg-dry** Prep Date: **09/30/2015** Run No: **301031**
BatchID: **213628** Analysis Date: **09/30/2015** Seq No: **6436055**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	3320	420	4196		79.1	41.5	120	3512	5.61	37.4	
Surr: 2,4,6-Tribromophenol	4064	0	4196		96.9	41	128	4357	0	0	
Surr: 2-Fluorobiphenyl	1861	0	2098		88.7	47	120	2055	0	0	
Surr: 2-Fluorophenol	3294	0	4196		78.5	38.3	120	3577	0	0	
Surr: 4-Terphenyl-d14	2161	0	2098		103	51.4	125	2139	0	0	
Surr: Nitrobenzene-d5	1759	0	2098		83.9	40.1	120	2016	0	0	
Surr: Phenol-d5	3631	0	4196		86.5	40.3	120	3868	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213639

Sample ID: **MB-213639** Client ID: Units: **ug/Kg** Prep Date: **09/29/2015** Run No: **300929**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **213639** Analysis Date: **09/29/2015** Seq No: **6433306**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	250									
Carbon disulfide	BRL	500									
Ethylbenzene	BRL	250									
Toluene	BRL	250									
Xylenes, Total	BRL	250									
Surr: 4-Bromofluorobenzene	2270	0	2500		90.8	70	128				
Surr: Dibromofluoromethane	2548	0	2500		102	78.2	128				
Surr: Toluene-d8	2342	0	2500		93.7	76.5	116				

Sample ID: **LCS-213639** Client ID: Units: **ug/Kg** Prep Date: **09/29/2015** Run No: **300929**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **213639** Analysis Date: **09/29/2015** Seq No: **6433305**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	2755	250	2500		110	72.3	130				
Toluene	2732	250	2500		109	71.1	130				
Surr: 4-Bromofluorobenzene	2742	0	2500		110	70	128				
Surr: Dibromofluoromethane	2481	0	2500		99.2	78.2	128				
Surr: Toluene-d8	2319	0	2500		92.8	76.5	116				

Sample ID: **1509I96-005AMS** Client ID: Units: **ug/Kg-dry** Prep Date: **09/29/2015** Run No: **301024**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **213639** Analysis Date: **09/30/2015** Seq No: **6434197**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	2626	240	2407		109	70.4	130				
Toluene	2540	240	2407		106	70.4	130				
Surr: 4-Bromofluorobenzene	2607	0	2407		108	70	128				
Surr: Dibromofluoromethane	2365	0	2407		98.3	78.2	128				
Surr: Toluene-d8	2176	0	2407		90.4	76.5	116				

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213639

Sample ID: **1509I96-005AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/Kg-dry** Prep Date: **09/29/2015** Run No: **301024**
BatchID: **213639** Analysis Date: **09/30/2015** Seq No: **6434198**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	2611	240	2407		108	70.4	130	2626	0.570	16.9	
Toluene	2462	240	2407		102	70.4	130	2540	3.12	16.6	
Surr: 4-Bromofluorobenzene	2605	0	2407		108	70	128	2607	0	0	
Surr: Dibromofluoromethane	2340	0	2407		97.2	78.2	128	2365	0	0	
Surr: Toluene-d8	2217	0	2407		92.1	76.5	116	2176	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213725

Sample ID: **MB-213725**	Client ID:				Units: **mg/Kg**		Prep Date: **09/30/2015**		Run No: **301073**
SampleType: **MBLK**	TestCode: **Cyanide, Total SW9014**				BatchID: **213725**		Analysis Date: **09/30/2015**		Seq No: **6434945**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	1.00									

Sample ID: **LCS-213725**	Client ID:				Units: **mg/Kg**		Prep Date: **09/30/2015**		Run No: **301073**
SampleType: **LCS**	TestCode: **Cyanide, Total SW9014**				BatchID: **213725**		Analysis Date: **09/30/2015**		Seq No: **6434946**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	12.41	1.00	12.50		99.3	85	115				

Sample ID: **1509M23-001CMS**	Client ID: **P1SS-1-20150922-01**				Units: **mg/Kg-dry**		Prep Date: **09/30/2015**		Run No: **301073**
SampleType: **MS**	TestCode: **Cyanide, Total SW9014**				BatchID: **213725**		Analysis Date: **09/30/2015**		Seq No: **6434956**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	11.97	1.15	14.38	1.070	75.8	70	130				

Sample ID: **1509M23-001CMSD**	Client ID: **P1SS-1-20150922-01**				Units: **mg/Kg-dry**		Prep Date: **09/30/2015**		Run No: **301073**
SampleType: **MSD**	TestCode: **Cyanide, Total SW9014**				BatchID: **213725**		Analysis Date: **09/30/2015**		Seq No: **6434957**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	11.74	1.15	14.38	1.070	74.2	70	130	11.97	1.94	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213474

Sample ID: **MB-213474**	Client ID:		Units: **ug/Kg**	Prep Date: **09/28/2015**	Run No: **300878**
SampleType: **MBLK**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **213474**	Analysis Date: **09/28/2015**	Seq No: **6430167**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	17									
Acenaphthylene	BRL	33									
Anthracene	BRL	1.7									
Benz(a)anthracene	BRL	1.7									
Benzo(a)pyrene	BRL	1.7									
Benzo(b)fluoranthene	BRL	3.3									
Benzo(g,h,i)perylene	BRL	3.3									
Benzo(k)fluoranthene	BRL	1.7									
Chrysene	BRL	1.7									
Dibenz(a,h)anthracene	BRL	3.3									
Fluoranthene	BRL	3.3									
Fluorene	BRL	3.3									
Indeno(1,2,3-cd)pyrene	BRL	1.7									
Naphthalene	BRL	17									
Phenanthrene	BRL	1.7									
Pyrene	BRL	1.7									
Surr: 4-Terphenyl-d14	69.62	0	66.67		104	42	124				

Sample ID: **LCS-213474**	Client ID:		Units: **ug/Kg**	Prep Date: **09/28/2015**	Run No: **300878**
SampleType: **LCS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **213474**	Analysis Date: **09/28/2015**	Seq No: **6430168**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	62.81	17	66.70		94.2	61.2	120				
Acenaphthylene	59.57	33	66.70		89.3	60.1	120				
Anthracene	59.63	1.7	66.70		89.4	58.4	120				
Benz(a)anthracene	63.87	1.7	66.70		95.8	56.7	124				
Benzo(a)pyrene	59.92	1.7	66.70		89.8	57.5	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213474

Sample ID: **LCS-213474** Client ID: Units: **ug/Kg** Prep Date: **09/28/2015** Run No: **300878**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **213474** Analysis Date: **09/28/2015** Seq No: **6430168**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(b)fluoranthene	59.00	3.3	66.70		88.5	60.9	118				
Benzo(g,h,i)perylene	53.94	3.3	66.70		80.9	50.7	125				
Benzo(k)fluoranthene	62.79	1.7	66.70		94.1	53	125				
Chrysene	67.73	1.7	66.70		102	61.2	120				
Dibenz(a,h)anthracene	47.96	3.3	66.70		71.9	48	125				
Fluoranthene	66.28	3.3	66.70		99.4	64.9	121				
Fluorene	60.96	3.3	66.70		91.4	62.1	120				
Indeno(1,2,3-cd)pyrene	51.60	1.7	66.70		77.4	56	121				
Naphthalene	60.71	17	66.70		91.0	57.4	120				
Phenanthrene	63.49	1.7	66.70		95.2	63.3	120				
Pyrene	66.15	1.7	66.70		99.2	61.2	120				
Surr: 4-Terphenyl-d14	60.74	0	66.70		91.1	42	124				

Sample ID: **1509I32-001AMS** Client ID: Units: **ug/Kg-dry** Prep Date: **09/28/2015** Run No: **300961**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **213474** Analysis Date: **09/29/2015** Seq No: **6432657**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	73.54	24	92.34		79.6	45.8	120				
Acenaphthylene	73.03	46	92.34		79.1	50.6	120				
Anthracene	73.70	2.4	92.34		79.8	42.4	125				
Benz(a)anthracene	160.0	2.4	92.34	50.26	119	44.9	136				
Benzo(a)pyrene	149.0	2.4	92.34	69.55	86.1	40.3	123				
Benzo(b)fluoranthene	259.1	4.6	92.34	164.6	102	37	128				
Benzo(g,h,i)perylene	137.4	4.6	92.34	62.64	80.9	41.1	137				
Benzo(k)fluoranthene	131.6	2.4	92.34	61.40	76.1	37.7	126				
Chrysene	190.4	2.4	92.34	115.0	81.7	43	120				
Dibenz(a,h)anthracene	77.03	4.6	92.34	14.28	68.0	42.6	130				
Fluoranthene	244.7	4.6	92.34	156.7	95.2	44.4	133				

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213474

Sample ID: **1509I32-001AMS** Client ID:
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**
Units: **ug/Kg-dry** Prep Date: **09/28/2015** Run No: **300961**
BatchID: **213474** Analysis Date: **09/29/2015** Seq No: **6432657**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Fluorene	74.45	4.6	92.34		80.6	42.5	119				
Indeno(1,2,3-cd)pyrene	120.9	2.4	92.34	47.74	79.2	41.7	135				
Naphthalene	71.50	24	92.34		77.4	42.5	120				
Phenanthrene	105.2	2.4	92.34	26.36	85.4	44.1	120				
Pyrene	199.9	2.4	92.34	119.4	87.3	41.5	120				
Surr: 4-Terphenyl-d14	69.41	0	92.34		75.2	42	124				

Sample ID: **1509I32-001AMSD** Client ID:
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**
Units: **ug/Kg-dry** Prep Date: **09/28/2015** Run No: **300961**
BatchID: **213474** Analysis Date: **09/29/2015** Seq No: **6432658**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	66.52	24	92.34		72.0	45.8	120	73.61	10.1	38.4	
Acenaphthylene	66.79	46	92.34		72.3	50.6	120	74.18	10.5	37.8	
Anthracene	63.09	2.4	92.34		68.3	42.4	125	72.65	14.1	49.7	
Benz(a)anthracene	134.8	2.4	92.34	50.26	91.5	44.9	136	163.2	19.1	33.8	
Benzo(a)pyrene	132.7	2.4	92.34	69.55	68.4	40.3	123	150.5	12.6	40.2	
Benzo(b)fluoranthene	246.9	4.6	92.34	164.6	89.1	37	128	265.1	7.10	36.5	
Benzo(g,h,i)perylene	127.2	4.6	92.34	62.64	69.9	41.1	137	121.6	4.43	39.3	
Benzo(k)fluoranthene	121.5	2.4	92.34	61.40	65.1	37.7	126	102.4	17.1	35	
Chrysene	176.0	2.4	92.34	115.0	66.1	43	120	187.5	6.33	28.6	
Dibenz(a,h)anthracene	65.76	4.6	92.34	14.28	55.8	42.6	130	79.01	18.3	44.6	
Fluoranthene	229.5	4.6	92.34	156.7	78.8	44.4	133	236.5	3.01	33.2	
Fluorene	68.33	4.6	92.34		74.0	42.5	119	73.30	7.03	35.4	
Indeno(1,2,3-cd)pyrene	122.7	2.4	92.34	47.74	81.2	41.7	135	116.4	5.29	37.3	
Naphthalene	64.14	24	92.34		69.5	42.5	120	68.88	7.13	39.4	
Phenanthrene	100.3	2.4	92.34	26.36	80.1	44.1	120	102.3	1.95	37	
Pyrene	187.4	2.4	92.34	119.4	73.6	41.5	120	202.4	7.73	33.1	
Surr: 4-Terphenyl-d14	64.19	0	92.34		69.5	42	124	69.57	0	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213556

Sample ID: **MB-213556** Client ID: Units: **ug/L** Prep Date: **09/26/2015** Run No: **300802**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **213556** Analysis Date: **09/26/2015** Seq No: **6429108**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	BRL	5.0									
1,1,1-Trichloroethane	BRL	5.0									
1,1,2,2-Tetrachloroethane	BRL	5.0									
1,1,2-Trichloroethane	BRL	5.0									
1,1-Dichloroethane	BRL	5.0									
1,1-Dichloroethene	BRL	5.0									
1,1-Dichloropropene	BRL	5.0									
1,2,3-Trichlorobenzene	BRL	5.0									
1,2,3-Trichloropropane	BRL	5.0									
1,2,4-Trichlorobenzene	BRL	5.0									
1,2,4-Trimethylbenzene	BRL	5.0									
1,2-Dibromo-3-chloropropane	BRL	5.0									
1,2-Dibromoethane	BRL	5.0									
1,2-Dichlorobenzene	BRL	5.0									
1,2-Dichloroethane	BRL	5.0									
1,2-Dichloroethene, Total	BRL	5.0									
1,2-Dichloropropane	BRL	5.0									
1,3,5-Trimethylbenzene	BRL	5.0									
1,3-Dichlorobenzene	BRL	5.0									
1,3-Dichloropropane	BRL	5.0									
1,4-Dichlorobenzene	BRL	5.0									
2,2-Dichloropropane	BRL	5.0									
2-Butanone	BRL	50									
2-Chloroethyl vinyl ether	BRL	5.0									
2-Chlorotoluene	BRL	5.0									
2-Hexanone	BRL	10									
4-Chlorotoluene	BRL	5.0									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213556

Sample ID: **MB-213556** Client ID: Units: **ug/L** Prep Date: **09/26/2015** Run No: **300802**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **213556** Analysis Date: **09/26/2015** Seq No: **6429108**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
4-Isopropyltoluene	BRL	5.0									
4-Methyl-2-pentanone	BRL	10									
Acetone	BRL	50									
Acrolein	BRL	20									
Acrylonitrile	BRL	5.0									
Benzene	BRL	5.0									
Bromobenzene	BRL	5.0									
Bromochloromethane	BRL	5.0									
Bromodichloromethane	BRL	5.0									
Bromoform	BRL	5.0									
Bromomethane	BRL	5.0									
Carbon disulfide	BRL	5.0									
Carbon tetrachloride	BRL	5.0									
Chlorobenzene	BRL	5.0									
Chloroethane	BRL	10									
Chloroform	BRL	5.0									
Chloromethane	BRL	10									
cis-1,2-Dichloroethene	BRL	5.0									
cis-1,3-Dichloropropene	BRL	5.0									
Cyclohexane	BRL	5.0									
Dibromochloromethane	BRL	5.0									
Dibromomethane	BRL	5.0									
Dichlorodifluoromethane	BRL	10									
Ethylbenzene	BRL	5.0									
Freon-113	BRL	10									
Hexachlorobutadiene	BRL	5.0									
Iodomethane	BRL	10									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213556

Sample ID: **MB-213556** Client ID: Units: **ug/L** Prep Date: **09/26/2015** Run No: **300802**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **213556** Analysis Date: **09/26/2015** Seq No: **6429108**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Isopropylbenzene	BRL	5.0									
m,p-Xylene	BRL	5.0									
Methyl acetate	BRL	5.0									
Methyl tert-butyl ether	BRL	5.0									
Methylcyclohexane	BRL	5.0									
Methylene chloride	BRL	5.0									
n-Butylbenzene	BRL	5.0									
n-Propylbenzene	BRL	5.0									
Naphthalene	BRL	5.0									
o-Xylene	BRL	5.0									
sec-Butylbenzene	BRL	5.0									
Styrene	BRL	5.0									
tert-Butylbenzene	BRL	5.0									
Tetrachloroethene	BRL	5.0									
Toluene	BRL	5.0									
trans-1,2-Dichloroethene	BRL	5.0									
trans-1,3-Dichloropropene	BRL	5.0									
trans-1,4-Dichloro-2-butene	BRL	10									
Trichloroethene	BRL	5.0									
Trichlorofluoromethane	BRL	5.0									
Vinyl acetate	BRL	10									
Vinyl chloride	BRL	2.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	44.32	0	50.00		88.6	70.6	123				
Surr: Dibromofluoromethane	48.36	0	50.00		96.7	78.7	124				
Surr: Toluene-d8	44.00	0	50.00		88.0	81.3	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213556

Sample ID: **MB-213556**	Client ID:		Units: **ug/L**	Prep Date: **09/26/2015**	Run No: **300982**
SampleType: **MBLK**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **213556**	Analysis Date: **09/29/2015**	Seq No: **6432612**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
tert-Butyl Alcohol	BRL	100									
Surr: 4-Bromofluorobenzene	46.87	0	50.00		93.7	70.6	123				
Surr: Dibromofluoromethane	52.86	0	50.00		106	78.7	124				
Surr: Toluene-d8	53.26	0	50.00		107	81.3	120				

Sample ID: **LCS-213556**	Client ID:		Units: **ug/L**	Prep Date: **09/26/2015**	Run No: **300802**
SampleType: **LCS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **213556**	Analysis Date: **09/26/2015**	Seq No: **6429107**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	37.97	5.0	50.00		75.9	64.2	137				
Benzene	45.51	5.0	50.00		91.0	72.8	128				
Chlorobenzene	53.99	5.0	50.00		108	72.3	126				
Toluene	46.07	5.0	50.00		92.1	74.9	127				
Trichloroethene	46.65	5.0	50.00		93.3	70.5	134				
Surr: 4-Bromofluorobenzene	43.77	0	50.00		87.5	70.6	123				
Surr: Dibromofluoromethane	47.84	0	50.00		95.7	78.7	124				
Surr: Toluene-d8	43.38	0	50.00		86.8	81.3	120				

Sample ID: **1509J85-028AMS**	Client ID:		Units: **ug/L**	Prep Date: **09/26/2015**	Run No: **300828**
SampleType: **MS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **213556**	Analysis Date: **09/28/2015**	Seq No: **6431018**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	1962	250	2500	103.5	74.3	60.5	156				
Benzene	1936	250	2500		77.5	70	135				
Chlorobenzene	1972	250	2500		78.9	70.5	132				
Toluene	1992	250	2500		79.7	70.5	137				
Trichloroethene	2018	250	2500		80.7	71.8	139				
Surr: 4-Bromofluorobenzene	2469	0	2500		98.8	70.6	123				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1509M23

ANALYTICAL QC SUMMARY REPORT

BatchID: 213556

Sample ID: **1509J85-028AMS**	Client ID:		Units: **ug/L**	Prep Date: **09/26/2015**	Run No: **300828**
SampleType: **MS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **213556**	Analysis Date: **09/28/2015**	Seq No: **6431018**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: Dibromofluoromethane	2308	0	2500		92.3	78.7	124				
Surr: Toluene-d8	2490	0	2500		99.6	81.3	120				

Sample ID: **1509J85-028AMSD**	Client ID:		Units: **ug/L**	Prep Date: **09/26/2015**	Run No: **300828**
SampleType: **MSD**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **213556**	Analysis Date: **09/28/2015**	Seq No: **6431019**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	2104	250	2500	103.5	80.0	60.5	156	1962	6.99	20	
Benzene	2042	250	2500		81.7	70	135	1936	5.28	20	
Chlorobenzene	2078	250	2500		83.1	70.5	132	1972	5.21	20	
Toluene	2138	250	2500		85.5	70.5	137	1992	7.07	20	
Trichloroethene	2122	250	2500		84.9	71.8	139	2018	5.02	20	
Surr: 4-Bromofluorobenzene	2414	0	2500		96.5	70.6	123	2469	0	0	
Surr: Dibromofluoromethane	2343	0	2500		93.7	78.7	124	2308	0	0	
Surr: Toluene-d8	2467	0	2500		98.7	81.3	120	2490	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

October 09, 2015

Nic Vrey
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: Macon Remediation

Dear Nic Vrey: Order No: 1509P65

Analytical Environmental Services, Inc. received 3 samples on September 29, 2015 4:34 pm for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC

3080 Presidential Drive, Atlanta GA 30340-3704

AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1509P65

Date: 9/29/15 Page 1 of 1

COMPANY: FRM	ADDRESS: 3200 Windy Hill Rd SE Ste 1500w Atlanta, GA 30339
PHONE: 678-486-2700	FAX:
SAMPLED BY: W. Vinz	SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	8260B - VOCs	8270C - SVOCs	6010B - Metals	9012A - Cyanide	7470A - Mercury															REMARKS	No # of Containers
							PRESERVATION (See codes)																				
							H+I	N/I	H+I	N/I	N/A																
1	PISS-6-20150929-01	9/29/15	1400		X	S	X	X	X	X	X															COI List	6
2	EB-11-20150929-01	↓	1430			W	X	X	X	X	X															only	6
3	TB-11-20150929-01		—			W	X																				2
4																											
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											
13																											
14																											

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:	9/29/15 1634	1:	9/29/15 1634
2:		2:	
3:		3:	

PROJECT INFORMATION

PROJECT NAME: Macon Remediation

PROJECT #: 176740

SITE ADDRESS: Macon, GA

SEND REPORT TO: Nic Viney

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: PO#:

RECEIPT

Total # of Containers: 14

Turnaround Time Request

- ○ Standard 5 Business Days
- ○ 2 Business Day Rush
- ○ Next Business Day Rush
- ○ Same Day Rush (auth req.)
- ⊘ Other 3 Day TAT

STATE PROGRAM (if any):

E-mail? Y / N; Fax? Y / N

DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS: See AGL Macon COC List

SHIPMENT METHOD

OUT / / VIA:

IN 9/29/15 / VIA:

CLIENT FedEx UPS MAIL COURIER

GREYHOUND OTHER

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.
SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Client: ERM-Southeast
Project: Macon Remediation
Lab ID: 1509P65

Case Narrative

Sample Receiving Nonconformance:

For sample TB-11-20150929-01, one vial was received broken.

PAH Analysis by Method 8270D SIM:

Matrix spike and matrix spike duplicate analyses were not performed with Batch 213684 due to insufficient sample volume.

Analytical Environmental Services, Inc **Date:** 9-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	PISS-6-20150929-01
Project Name:	Macon Remediation	**Collection Date:**	9/29/2015 2:00:00 PM
Lab ID:	1509P65-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	8.3		ug/Kg-dry	213742	1	10/02/2015 02:08	CG
Benzene	BRL	4.1		ug/Kg-dry	213742	1	10/02/2015 02:08	CG
Toluene	BRL	4.1		ug/Kg-dry	213742	1	10/02/2015 02:08	CG
Ethylbenzene	BRL	4.1		ug/Kg-dry	213742	1	10/02/2015 02:08	CG
Xylenes, Total	4.2	4.1		ug/Kg-dry	213742	1	10/02/2015 02:08	CG
Surr: 4-Bromofluorobenzene	84.2	70-128		%REC	213742	1	10/02/2015 02:08	CG
Surr: Dibromofluoromethane	106	78.2-128		%REC	213742	1	10/02/2015 02:08	CG
Surr: Toluene-d8	101	76.5-116		%REC	213742	1	10/02/2015 02:08	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.121		mg/Kg-dry	213739	1	10/01/2015 12:35	CC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	30	21		ug/Kg-dry	213629	1	10/01/2015 13:22	YH
Acenaphthylene	BRL	42		ug/Kg-dry	213629	1	10/01/2015 13:22	YH
Anthracene	56	2.1		ug/Kg-dry	213629	1	10/01/2015 13:22	YH
Benz(a)anthracene	70	2.1		ug/Kg-dry	213629	1	10/01/2015 13:22	YH
Benzo(a)pyrene	28	2.1		ug/Kg-dry	213629	1	10/01/2015 13:22	YH
Benzo(b)fluoranthene	34	4.2		ug/Kg-dry	213629	1	10/01/2015 13:22	YH
Benzo(g,h,i)perylene	9.7	4.2		ug/Kg-dry	213629	1	10/01/2015 13:22	YH
Benzo(k)fluoranthene	10	2.1		ug/Kg-dry	213629	1	10/01/2015 13:22	YH
Chrysene	55	2.1		ug/Kg-dry	213629	1	10/01/2015 13:22	YH
Dibenz(a,h)anthracene	BRL	4.2		ug/Kg-dry	213629	1	10/01/2015 13:22	YH
Fluoranthene	95	4.2		ug/Kg-dry	213629	1	10/01/2015 13:22	YH
Fluorene	45	4.2		ug/Kg-dry	213629	1	10/01/2015 13:22	YH
Indeno(1,2,3-cd)pyrene	8.1	2.1		ug/Kg-dry	213629	1	10/01/2015 13:22	YH
Naphthalene	BRL	21		ug/Kg-dry	213629	1	10/01/2015 13:22	YH
Phenanthrene	350	2.1		ug/Kg-dry	213629	1	10/01/2015 13:22	YH
Pyrene	120	2.1		ug/Kg-dry	213629	1	10/01/2015 13:22	YH
Surr: 4-Terphenyl-d14	84	42-124		%REC	213629	1	10/01/2015 13:22	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	420		ug/Kg-dry	213678	1	10/02/2015 20:15	YH
2-Methylphenol	BRL	420		ug/Kg-dry	213678	1	10/02/2015 20:15	YH
3,4-Methylphenol	BRL	420		ug/Kg-dry	213678	1	10/02/2015 20:15	YH
Phenol	BRL	420		ug/Kg-dry	213678	1	10/02/2015 20:15	YH
Surr: 2,4,6-Tribromophenol	83.5	41-128		%REC	213678	1	10/02/2015 20:15	YH
Surr: 2-Fluorobiphenyl	88.9	47-120		%REC	213678	1	10/02/2015 20:15	YH
Surr: 2-Fluorophenol	80.4	38.3-120		%REC	213678	1	10/02/2015 20:15	YH
Surr: 4-Terphenyl-d14	90.3	51.4-125		%REC	213678	1	10/02/2015 20:15	YH
Surr: Nitrobenzene-d5	85.5	40.1-120		%REC	213678	1	10/02/2015 20:15	YH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 9-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	PISS-6-20150929-01
Project Name:	Macon Remediation	**Collection Date:**	9/29/2015 2:00:00 PM
Lab ID:	1509P65-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	88	40.3-120		%REC	213678	1	10/02/2015 20:15	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.26		mg/Kg-dry	213725	1	09/30/2015 16:00	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.88		mg/Kg-dry	213808	1	10/05/2015 12:32	IO
Arsenic	BRL	5.88		mg/Kg-dry	213808	1	10/05/2015 12:32	IO
Barium	29.4	5.88		mg/Kg-dry	213808	1	10/05/2015 12:32	IO
Beryllium	BRL	2.94		mg/Kg-dry	213808	1	10/05/2015 12:32	IO
Cadmium	BRL	2.94		mg/Kg-dry	213808	1	10/05/2015 12:32	IO
Chromium	16.9	2.94		mg/Kg-dry	213808	1	10/05/2015 12:32	IO
Copper	9.69	2.94		mg/Kg-dry	213808	1	10/05/2015 12:32	IO
Lead	7.73	5.88		mg/Kg-dry	213808	1	10/05/2015 12:32	IO
Nickel	BRL	5.88		mg/Kg-dry	213808	1	10/05/2015 12:32	IO
Zinc	10.9	5.88		mg/Kg-dry	213808	1	10/05/2015 12:32	IO
PERCENT MOISTURE D2216								
Percent Moisture	20.6	0		wt%	R301354	1	10/05/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 9-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	EB-11-20150929-01
Project Name:	Macon Remediation	**Collection Date:**	9/29/2015 2:30:00 PM
Lab ID:	1509P65-002	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	213774	1	10/03/2015 17:17	CH
Carbon disulfide	BRL	5.0		ug/L	213774	1	10/03/2015 17:17	CH
Ethylbenzene	BRL	5.0		ug/L	213774	1	10/03/2015 17:17	CH
Toluene	BRL	5.0		ug/L	213774	1	10/03/2015 17:17	CH
Xylenes, Total	BRL	5.0		ug/L	213774	1	10/03/2015 17:17	CH
Surr: 4-Bromofluorobenzene	78.1	70.6-123		%REC	213774	1	10/03/2015 17:17	CH
Surr: Dibromofluoromethane	97.6	78.7-124		%REC	213774	1	10/03/2015 17:17	CH
Surr: Toluene-d8	97.7	81.3-120		%REC	213774	1	10/03/2015 17:17	CH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	213684	1	10/01/2015 21:46	YH
Acenaphthylene	BRL	1.0		ug/L	213684	1	10/01/2015 21:46	YH
Acenaphthene	BRL	0.50		ug/L	213684	1	10/01/2015 21:46	YH
Fluorene	BRL	0.10		ug/L	213684	1	10/01/2015 21:46	YH
Phenanthrene	BRL	0.050		ug/L	213684	1	10/01/2015 21:46	YH
Anthracene	BRL	0.050		ug/L	213684	1	10/01/2015 21:46	YH
Fluoranthene	BRL	0.10		ug/L	213684	1	10/01/2015 21:46	YH
Pyrene	BRL	0.050		ug/L	213684	1	10/01/2015 21:46	YH
Benz(a)anthracene	BRL	0.050		ug/L	213684	1	10/01/2015 21:46	YH
Chrysene	BRL	0.050		ug/L	213684	1	10/01/2015 21:46	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	213684	1	10/01/2015 21:46	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	213684	1	10/01/2015 21:46	YH
Benzo(a)pyrene	BRL	0.050		ug/L	213684	1	10/01/2015 21:46	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	213684	1	10/01/2015 21:46	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	213684	1	10/01/2015 21:46	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	213684	1	10/01/2015 21:46	YH
Surr: 4-Terphenyl-d14	73.8	55.4-136		%REC	213684	1	10/01/2015 21:46	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	213746	1	10/05/2015 10:44	YH
2-Methylphenol	BRL	10		ug/L	213746	1	10/05/2015 10:44	YH
3,4-Methylphenol	BRL	10		ug/L	213746	1	10/05/2015 10:44	YH
Phenol	BRL	10		ug/L	213746	1	10/05/2015 10:44	YH
Surr: 2,4,6-Tribromophenol	94	52-133		%REC	213746	1	10/05/2015 10:44	YH
Surr: 2-Fluorobiphenyl	93	50-121		%REC	213746	1	10/05/2015 10:44	YH
Surr: 2-Fluorophenol	63.7	27.5-120		%REC	213746	1	10/05/2015 10:44	YH
Surr: 4-Terphenyl-d14	97.6	46.3-137		%REC	213746	1	10/05/2015 10:44	YH
Surr: Nitrobenzene-d5	87.7	41.2-121		%REC	213746	1	10/05/2015 10:44	YH
Surr: Phenol-d5	44.4	14.3-120		%REC	213746	1	10/05/2015 10:44	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 9-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	EB-11-20150929-01
Project Name:	Macon Remediation	**Collection Date:**	9/29/2015 2:30:00 PM
Lab ID:	1509P65-002	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	213655	1	09/30/2015 16:27	CC
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	213926	1	10/01/2015 16:00	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	213714	1	10/01/2015 17:01	TA
Arsenic	BRL	0.0500		mg/L	213714	1	10/01/2015 17:01	TA
Barium	BRL	0.0200		mg/L	213714	1	10/01/2015 17:01	TA
Beryllium	BRL	0.0100		mg/L	213714	1	10/01/2015 17:01	TA
Cadmium	BRL	0.0050		mg/L	213714	1	10/01/2015 17:01	TA
Chromium	BRL	0.0100		mg/L	213714	1	10/01/2015 17:01	TA
Copper	BRL	0.0100		mg/L	213714	1	10/01/2015 17:01	TA
Lead	BRL	0.0100		mg/L	213714	1	10/01/2015 17:01	TA
Nickel	BRL	0.0200		mg/L	213714	1	10/01/2015 17:01	TA
Zinc	BRL	0.0200		mg/L	213714	1	10/01/2015 17:01	TA

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 9-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	TB-11-20150929-01
Project Name:	Macon Remediation	**Collection Date:**	9/29/2015
Lab ID:	1509P65-003	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	213774	1	10/03/2015 16:53	CH
Carbon disulfide	BRL	5.0		ug/L	213774	1	10/03/2015 16:53	CH
Ethylbenzene	BRL	5.0		ug/L	213774	1	10/03/2015 16:53	CH
Toluene	BRL	5.0		ug/L	213774	1	10/03/2015 16:53	CH
Xylenes, Total	BRL	5.0		ug/L	213774	1	10/03/2015 16:53	CH
Surr: 4-Bromofluorobenzene	84.7	70.6-123		%REC	213774	1	10/03/2015 16:53	CH
Surr: Dibromofluoromethane	93.9	78.7-124		%REC	213774	1	10/03/2015 16:53	CH
Surr: Toluene-d8	97.2	81.3-120		%REC	213774	1	10/03/2015 16:53	CH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM Work Order Number 1509P65

Checklist completed by [signature] 9/29/15
Signature Date

Carrier name: FedEx __ UPS __ Courier __ Client ✓ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 2.7 Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No ✓ MTals 10als

Sample containers intact? Yes __ No ✓

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes __ No ✓ Not Applicable __

Adjusted? AD Checked by AD

Sample Condition: Good __ Other(Explain) 1 of 2 TB vials broken

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

AES, Inc.
3080 Presidential Drive
Atlanta GA 30340

pH Adjustment Sheet

AES Sample ID number	Test Requested	pH as Received	Required pH	Preservative Required	Lot # of Preservative	Amount Added mL or Pellets*	Final pH	Tech's Initials	Date	Time
1509P65-002C	9014_W	6	12	NaOH	147439	mL 5 Pellets	12	AD	9/29	6:25pm
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
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						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				

* Number of Pellets when adding NAOH

DWM 8/22/2014 10:01 AM

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1509P65

ANALYTICAL QC SUMMARY REPORT

BatchID: 213629

Sample ID: **MB-213629**	Client ID:		Units: **ug/Kg**	Prep Date: **09/30/2015**	Run No: **301110**
SampleType: **MBLK**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **213629**	Analysis Date: **09/30/2015**	Seq No: **6436473**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	17									
Acenaphthylene	BRL	33									
Anthracene	BRL	1.7									
Benz(a)anthracene	BRL	1.7									
Benzo(a)pyrene	BRL	1.7									
Benzo(b)fluoranthene	BRL	3.3									
Benzo(g,h,i)perylene	BRL	3.3									
Benzo(k)fluoranthene	BRL	1.7									
Chrysene	BRL	1.7									
Dibenz(a,h)anthracene	BRL	3.3									
Fluoranthene	BRL	3.3									
Fluorene	BRL	3.3									
Indeno(1,2,3-cd)pyrene	BRL	1.7									
Naphthalene	BRL	17									
Phenanthrene	BRL	1.7									
Pyrene	BRL	1.7									
Surr: 4-Terphenyl-d14	60.76	0	66.67		91.1	42	124				

Sample ID: **LCS-213629**	Client ID:		Units: **ug/Kg**	Prep Date: **09/30/2015**	Run No: **301110**
SampleType: **LCS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **213629**	Analysis Date: **09/30/2015**	Seq No: **6436474**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	60.07	17	66.70		90.1	61.2	120				
Acenaphthylene	55.68	33	66.70		83.5	60.1	120				
Anthracene	61.32	1.7	66.70		91.9	58.4	120				
Benz(a)anthracene	64.04	1.7	66.70		96.0	56.7	124				
Benzo(a)pyrene	56.61	1.7	66.70		84.9	57.5	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1509P65

ANALYTICAL QC SUMMARY REPORT

BatchID: 213629

Sample ID: **LCS-213629** Client ID: Units: **ug/Kg** Prep Date: **09/30/2015** Run No: **301110**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **213629** Analysis Date: **09/30/2015** Seq No: **6436474**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(b)fluoranthene	52.82	3.3	66.70		79.2	60.9	118				
Benzo(g,h,i)perylene	50.46	3.3	66.70		75.7	50.7	125				
Benzo(k)fluoranthene	53.04	1.7	66.70		79.5	53	125				
Chrysene	66.13	1.7	66.70		99.2	61.2	120				
Dibenz(a,h)anthracene	48.67	3.3	66.70		73.0	48	125				
Fluoranthene	63.09	3.3	66.70		94.6	64.9	121				
Fluorene	55.81	3.3	66.70		83.7	62.1	120				
Indeno(1,2,3-cd)pyrene	50.06	1.7	66.70		75.1	56	121				
Naphthalene	57.79	17	66.70		86.6	57.4	120				
Phenanthrene	59.47	1.7	66.70		89.2	63.3	120				
Pyrene	66.54	1.7	66.70		99.8	61.2	120				
Surr: 4-Terphenyl-d14	58.73	0	66.70		88.1	42	124				

Sample ID: **1509M95-009CMS** Client ID: Units: **ug/Kg-dry** Prep Date: **09/30/2015** Run No: **301235**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **213629** Analysis Date: **10/01/2015** Seq No: **6439973**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	63.93	21	80.73		79.2	45.8	120				
Acenaphthylene	65.27	40	80.73		80.8	50.6	120				
Anthracene	62.92	2.1	80.73		77.9	42.4	125				
Benz(a)anthracene	86.99	2.1	80.73		108	44.9	136				
Benzo(a)pyrene	65.08	2.1	80.73		80.6	40.3	123				
Benzo(b)fluoranthene	84.48	4.0	80.73		105	37	128				
Benzo(g,h,i)perylene	48.88	4.0	80.73		60.5	41.1	137				
Benzo(k)fluoranthene	58.36	2.1	80.73		72.3	37.7	126				
Chrysene	63.92	2.1	80.73		79.2	43	120				
Dibenz(a,h)anthracene	61.46	4.0	80.73		76.1	42.6	130				
Fluoranthene	68.88	4.0	80.73		85.3	44.4	133				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1509P65

ANALYTICAL QC SUMMARY REPORT

BatchID: 213629

Sample ID: **1509M95-009CMS** Client ID: Units: **ug/Kg-dry** Prep Date: **09/30/2015** Run No: **301235**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **213629** Analysis Date: **10/01/2015** Seq No: **6439973**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Fluorene	67.50	4.0	80.73		83.6	42.5	119				
Indeno(1,2,3-cd)pyrene	56.84	2.1	80.73		70.4	41.7	135				
Naphthalene	59.14	21	80.73		73.3	42.5	120				
Phenanthrene	67.91	2.1	80.73		84.1	44.1	120				
Pyrene	69.84	2.1	80.73		86.5	41.5	120				
Surr: 4-Terphenyl-d14	61.54	0	80.73		76.2	42	124				

Sample ID: **1509M95-009CMSD** Client ID: Units: **ug/Kg-dry** Prep Date: **09/30/2015** Run No: **301235**
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **213629** Analysis Date: **10/01/2015** Seq No: **6439974**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	65.00	21	80.73		80.5	45.8	120	63.93	1.66	38.4	
Acenaphthylene	65.43	40	80.73		81.0	50.6	120	65.27	0.249	37.8	
Anthracene	61.32	2.1	80.73		75.9	42.4	125	62.92	2.58	49.7	
Benz(a)anthracene	88.30	2.1	80.73		109	44.9	136	86.99	1.49	33.8	
Benzo(a)pyrene	65.13	2.1	80.73		80.7	40.3	123	65.08	0.068	40.2	
Benzo(b)fluoranthene	84.12	4.0	80.73		104	37	128	84.48	0.416	36.5	
Benzo(g,h,i)perylene	51.96	4.0	80.73		64.4	41.1	137	48.88	6.11	39.3	
Benzo(k)fluoranthene	59.75	2.1	80.73		74.0	37.7	126	58.36	2.36	35	
Chrysene	66.76	2.1	80.73		82.7	43	120	63.92	4.36	28.6	
Dibenz(a,h)anthracene	59.29	4.0	80.73		73.4	42.6	130	61.46	3.60	44.6	
Fluoranthene	67.86	4.0	80.73		84.0	44.4	133	68.88	1.50	33.2	
Fluorene	69.92	4.0	80.73		86.6	42.5	119	67.50	3.51	35.4	
Indeno(1,2,3-cd)pyrene	58.14	2.1	80.73		72.0	41.7	135	56.84	2.26	37.3	
Naphthalene	61.01	21	80.73		75.6	42.5	120	59.14	3.11	39.4	
Phenanthrene	68.48	2.1	80.73		84.8	44.1	120	67.91	0.830	37	
Pyrene	71.85	2.1	80.73		89.0	41.5	120	69.84	2.84	33.1	
Surr: 4-Terphenyl-d14	66.31	0	80.73		82.1	42	124	61.54	0	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Analytical Environmental Services, Inc **Date:** 9-Oct-15

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1509P65

ANALYTICAL QC SUMMARY REPORT

BatchID: 213655

Sample ID: **MB-213655** Client ID: Units: **mg/L** Prep Date: **09/30/2015** Run No: **301079**
SampleType: **MBLK** TestCode: **Mercury, Total SW7470A** BatchID: **213655** Analysis Date: **09/30/2015** Seq No: **6435143**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.00020									

Sample ID: **LCS-213655** Client ID: Units: **mg/L** Prep Date: **09/30/2015** Run No: **301079**
SampleType: **LCS** TestCode: **Mercury, Total SW7470A** BatchID: **213655** Analysis Date: **09/30/2015** Seq No: **6435144**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.004608	0.00020	0.0050		92.2	80	120				

Sample ID: **1509P29-003DMS** Client ID: Units: **mg/L** Prep Date: **09/30/2015** Run No: **301079**
SampleType: **MS** TestCode: **Mercury, Total SW7470A** BatchID: **213655** Analysis Date: **09/30/2015** Seq No: **6435146**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.004845	0.00020	0.0050		96.9	70	130				

Sample ID: **1509P29-003DMSD** Client ID: Units: **mg/L** Prep Date: **09/30/2015** Run No: **301079**
SampleType: **MSD** TestCode: **Mercury, Total SW7470A** BatchID: **213655** Analysis Date: **09/30/2015** Seq No: **6435149**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.004701	0.00020	0.0050		94.0	70	130	0.004845	3.02	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1509P65

ANALYTICAL QC SUMMARY REPORT

BatchID: 213678

Sample ID: **MB-213678** Client ID: Units: **ug/Kg** Prep Date: **10/01/2015** Run No: **301216**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **213678** Analysis Date: **10/01/2015** Seq No: **6439573**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	330									
2-Methylphenol	BRL	330									
3,4-Methylphenol	BRL	330									
Phenol	BRL	330									
Surr: 2,4,6-Tribromophenol	3131	0	3333		93.9	41	128				
Surr: 2-Fluorobiphenyl	1427	0	1667		85.6	47	120				
Surr: 2-Fluorophenol	2398	0	3333		71.9	38.3	120				
Surr: 4-Terphenyl-d14	1528	0	1667		91.7	51.4	125				
Surr: Nitrobenzene-d5	1348	0	1667		80.9	40.1	120				
Surr: Phenol-d5	2640	0	3333		79.2	40.3	120				

Sample ID: **LCS-213678** Client ID: Units: **ug/Kg** Prep Date: **10/01/2015** Run No: **301216**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **213678** Analysis Date: **10/01/2015** Seq No: **6439574**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2935	330	3333		88.0	50.1	120				
Surr: 2,4,6-Tribromophenol	3461	0	3333		104	41	128				
Surr: 2-Fluorobiphenyl	1642	0	1667		98.5	47	120				
Surr: 2-Fluorophenol	2829	0	3333		84.9	38.3	120				
Surr: 4-Terphenyl-d14	1715	0	1667		103	51.4	125				
Surr: Nitrobenzene-d5	1591	0	1667		95.5	40.1	120				
Surr: Phenol-d5	3158	0	3333		94.7	40.3	120				

Sample ID: **1509N67-014CMS** Client ID: Units: **ug/Kg-dry** Prep Date: **10/01/2015** Run No: **301216**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **213678** Analysis Date: **10/01/2015** Seq No: **6439576**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	3200	420	4241		75.4	41.5	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1509P65

ANALYTICAL QC SUMMARY REPORT

BatchID: 213678

Sample ID: **1509N67-014CMS** Client ID:
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/Kg-dry** Prep Date: **10/01/2015** Run No: **301216**
BatchID: **213678** Analysis Date: **10/01/2015** Seq No: **6439576**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 2,4,6-Tribromophenol	3690	0	4241		87.0	41	128				
Surr: 2-Fluorobiphenyl	1772	0	2121		83.6	47	120				
Surr: 2-Fluorophenol	3053	0	4241		72.0	38.3	120				
Surr: 4-Terphenyl-d14	1798	0	2121		84.8	51.4	125				
Surr: Nitrobenzene-d5	1665	0	2121		78.5	40.1	120				
Surr: Phenol-d5	3471	0	4241		81.8	40.3	120				

Sample ID: **1509N67-014CMSD** Client ID:
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/Kg-dry** Prep Date: **10/01/2015** Run No: **301216**
BatchID: **213678** Analysis Date: **10/01/2015** Seq No: **6439577**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	3210	420	4241		75.7	41.5	120	3200	0.331	37.4	
Surr: 2,4,6-Tribromophenol	3794	0	4241		89.4	41	128	3690	0	0	
Surr: 2-Fluorobiphenyl	1780	0	2121		83.9	47	120	1772	0	0	
Surr: 2-Fluorophenol	3262	0	4241		76.9	38.3	120	3053	0	0	
Surr: 4-Terphenyl-d14	1898	0	2121		89.5	51.4	125	1798	0	0	
Surr: Nitrobenzene-d5	1721	0	2121		81.2	40.1	120	1665	0	0	
Surr: Phenol-d5	3570	0	4241		84.2	40.3	120	3471	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1509P65

ANALYTICAL QC SUMMARY REPORT

BatchID: 213684

Sample ID: **MB-213684** Client ID: Units: **ug/L** Prep Date: **10/01/2015** Run No: **301227**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **213684** Analysis Date: **10/01/2015** Seq No: **6439761**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	0.50									
Acenaphthylene	BRL	1.0									
Anthracene	BRL	0.050									
Benz(a)anthracene	BRL	0.050									
Benzo(a)pyrene	BRL	0.050									
Benzo(b)fluoranthene	BRL	0.10									
Benzo(g,h,i)perylene	BRL	0.10									
Benzo(k)fluoranthene	BRL	0.050									
Chrysene	BRL	0.050									
Dibenz(a,h)anthracene	BRL	0.10									
Fluoranthene	BRL	0.10									
Fluorene	BRL	0.10									
Indeno(1,2,3-cd)pyrene	BRL	0.050									
Naphthalene	BRL	0.50									
Phenanthrene	BRL	0.050									
Pyrene	BRL	0.050									
Surr: 4-Terphenyl-d14	1.939	0	2.000		96.9	55.4	136				

Sample ID: **LCS-213684** Client ID: Units: **ug/L** Prep Date: **10/01/2015** Run No: **301227**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **213684** Analysis Date: **10/01/2015** Seq No: **6439762**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	2.001	0.50	2.000		100	66.3	118				
Acenaphthylene	1.785	1.0	2.000		89.2	64	120				
Anthracene	2.035	0.050	2.000		102	64.6	127				
Benz(a)anthracene	1.931	0.050	2.000		96.6	60.6	137				
Benzo(a)pyrene	2.194	0.050	2.000		110	64	124				
Benzo(b)fluoranthene	2.302	0.10	2.000		115	56.4	133				

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1509P65

ANALYTICAL QC SUMMARY REPORT

BatchID: 213684

Sample ID: **LCS-213684** Client ID: Units: **ug/L** Prep Date: **10/01/2015** Run No: **301227**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **213684** Analysis Date: **10/01/2015** Seq No: **6439762**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(g,h,i)perylene	2.260	0.10	2.000		113	49.9	137				
Benzo(k)fluoranthene	2.316	0.050	2.000		116	61.7	137				
Chrysene	2.322	0.050	2.000		116	65.5	127				
Dibenz(a,h)anthracene	2.311	0.10	2.000		116	52.4	130				
Fluoranthene	2.060	0.10	2.000		103	67	131				
Fluorene	2.024	0.10	2.000		101	68.3	120				
Indeno(1,2,3-cd)pyrene	2.325	0.050	2.000		116	50.4	139				
Naphthalene	1.850	0.50	2.000		92.5	61.1	120				
Phenanthrene	2.055	0.050	2.000		103	68	119				
Pyrene	2.049	0.050	2.000		102	62	127				
Surr: 4-Terphenyl-d14	1.823	0	2.000		91.2	55.4	136				

Sample ID: **LCSD-213684** Client ID: Units: **ug/L** Prep Date: **10/01/2015** Run No: **301227**
SampleType: **LCSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **213684** Analysis Date: **10/01/2015** Seq No: **6439763**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.993	0.50	2.000		99.6	66.3	118	2.001	0.416	21.8	
Acenaphthylene	1.790	1.0	2.000		89.5	64	120	1.785	0.286	22.9	
Anthracene	2.024	0.050	2.000		101	64.6	127	2.035	0.524	18.6	
Benz(a)anthracene	1.870	0.050	2.000		93.5	60.6	137	1.931	3.22	22.9	
Benzo(a)pyrene	2.129	0.050	2.000		106	64	124	2.194	2.98	22.7	
Benzo(b)fluoranthene	2.236	0.10	2.000		112	56.4	133	2.302	2.94	20.3	
Benzo(g,h,i)perylene	2.238	0.10	2.000		112	49.9	137	2.260	0.951	20.6	
Benzo(k)fluoranthene	2.278	0.050	2.000		114	61.7	137	2.316	1.65	26.5	
Chrysene	2.284	0.050	2.000		114	65.5	127	2.322	1.61	21.6	
Dibenz(a,h)anthracene	2.295	0.10	2.000		115	52.4	130	2.311	0.679	21.7	
Fluoranthene	2.057	0.10	2.000		103	67	131	2.060	0.169	20.7	
Fluorene	2.001	0.10	2.000		100	68.3	120	2.024	1.13	20.5	

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1509P65

ANALYTICAL QC SUMMARY REPORT

BatchID: 213684

Sample ID: **LCSD-213684** Client ID:
SampleType: **LCSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**
Units: **ug/L** Prep Date: **10/01/2015** Run No: **301227**
BatchID: **213684** Analysis Date: **10/01/2015** Seq No: **6439763**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Indeno(1,2,3-cd)pyrene	2.286	0.050	2.000		114	50.4	139	2.325	1.68	19.2	
Naphthalene	1.916	0.50	2.000		95.8	61.1	120	1.850	3.49	25.1	
Phenanthrene	2.058	0.050	2.000		103	68	119	2.055	0.143	19.7	
Pyrene	2.031	0.050	2.000		102	62	127	2.049	0.902	20.5	
Surr: 4-Terphenyl-d14	1.834	0	2.000		91.7	55.4	136	1.823	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1509P65

ANALYTICAL QC SUMMARY REPORT

BatchID: 213714

Sample ID: **MB-213714** Client ID: Units: **mg/L** Prep Date: **09/30/2015** Run No: **301131**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **213714** Analysis Date: **10/01/2015** Seq No: **6436879**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	0.0200									
Arsenic	BRL	0.0500									
Barium	BRL	0.0200									
Beryllium	BRL	0.0100									
Cadmium	BRL	0.0050									
Chromium	BRL	0.0100									
Copper	BRL	0.0100									
Lead	BRL	0.0100									
Nickel	BRL	0.0200									
Zinc	BRL	0.0200									

Sample ID: **LCS-213714** Client ID: Units: **mg/L** Prep Date: **09/30/2015** Run No: **301131**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **213714** Analysis Date: **10/01/2015** Seq No: **6436880**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.037	0.0200	1.000	0.004580	103	80	120				
Arsenic	1.005	0.0500	1.000		100	80	120				
Barium	1.019	0.0200	1.000		102	80	120				
Beryllium	1.014	0.0100	1.000		101	80	120				
Cadmium	1.009	0.0050	1.000		101	80	120				
Chromium	1.027	0.0100	1.000		103	80	120				
Copper	1.027	0.0100	1.000		103	80	120				
Lead	1.013	0.0100	1.000		101	80	120				
Nickel	1.006	0.0200	1.000	0.0009900	101	80	120				
Zinc	1.014	0.0200	1.000		101	80	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1509P65

ANALYTICAL QC SUMMARY REPORT

BatchID: 213714

Sample ID: **1509Q29-001CMS** Client ID:
SampleType: **MS** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/L** Prep Date: **09/30/2015** Run No: **301131**
BatchID: **213714** Analysis Date: **10/01/2015** Seq No: **6436882**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	0.9667	0.0200	1.000	0.008000	95.9	75	125				
Arsenic	0.9675	0.0500	1.000		96.7	75	125				
Barium	1.054	0.0200	1.000	0.05922	99.5	75	125				
Beryllium	0.9183	0.0100	1.000		91.8	75	125				
Cadmium	0.9576	0.0050	1.000		95.8	75	125				
Chromium	0.9144	0.0100	1.000		91.4	75	125				
Copper	1.002	0.0100	1.000	0.005220	99.7	75	125				
Lead	0.8831	0.0100	1.000		88.3	75	125				
Nickel	0.7548	0.0200	1.000		75.5	75	125				
Zinc	0.8861	0.0200	1.000	0.02038	86.6	75	125				

Sample ID: **1509Q29-001CMSD** Client ID:
SampleType: **MSD** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/L** Prep Date: **09/30/2015** Run No: **301131**
BatchID: **213714** Analysis Date: **10/01/2015** Seq No: **6436883**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.000	0.0200	1.000	0.008000	99.2	75	125	1.004	0.352	20	
Arsenic	0.9991	0.0500	1.000		99.9	75	125	0.9352	6.61	20	
Barium	1.006	0.0200	1.000	0.05922	94.6	75	125	1.060	5.28	20	
Beryllium	0.9641	0.0100	1.000		96.4	75	125	0.9788	1.51	20	
Cadmium	0.9840	0.0050	1.000		98.4	75	125	0.9581	2.67	20	
Chromium	0.9666	0.0100	1.000		96.7	75	125	0.9864	2.02	20	
Copper	1.021	0.0100	1.000	0.005220	102	75	125	0.9813	3.92	20	
Lead	0.9347	0.0100	1.000		93.5	75	125	0.9561	2.27	20	
Nickel	0.8191	0.0200	1.000		81.9	75	125	0.9794	17.8	20	
Zinc	0.9423	0.0200	1.000	0.02038	92.2	75	125	0.9869	4.62	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1509P65

ANALYTICAL QC SUMMARY REPORT

BatchID: 213725

Sample ID: **MB-213725**	Client ID:				Units: **mg/Kg**		Prep Date: **09/30/2015**		Run No: **301073**
SampleType: **MBLK**	TestCode: **Cyanide, Total SW9014**				BatchID: **213725**		Analysis Date: **09/30/2015**		Seq No: **6434945**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	1.00									

Sample ID: **LCS-213725**	Client ID:				Units: **mg/Kg**		Prep Date: **09/30/2015**		Run No: **301073**
SampleType: **LCS**	TestCode: **Cyanide, Total SW9014**				BatchID: **213725**		Analysis Date: **09/30/2015**		Seq No: **6434946**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	12.41	1.00	12.50		99.3	85	115				

Sample ID: **1509M23-001CMS**	Client ID:				Units: **mg/Kg-dry**		Prep Date: **09/30/2015**		Run No: **301073**
SampleType: **MS**	TestCode: **Cyanide, Total SW9014**				BatchID: **213725**		Analysis Date: **09/30/2015**		Seq No: **6434956**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	11.97	1.15	14.38	1.070	75.8	70	130				

Sample ID: **1509M23-001CMSD**	Client ID:				Units: **mg/Kg-dry**		Prep Date: **09/30/2015**		Run No: **301073**
SampleType: **MSD**	TestCode: **Cyanide, Total SW9014**				BatchID: **213725**		Analysis Date: **09/30/2015**		Seq No: **6434957**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	11.74	1.15	14.38	1.070	74.2	70	130	11.97	1.94	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1509P65

ANALYTICAL QC SUMMARY REPORT

BatchID: 213739

Sample ID: **MB-213739**	Client ID:			Units: **mg/Kg**	Prep Date: **10/01/2015**	Run No: **301129**
SampleType: **MBLK**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **213739**	Analysis Date: **10/01/2015**	Seq No: **6436806**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.100									

Sample ID: **LCS-213739**	Client ID:			Units: **mg/Kg**	Prep Date: **10/01/2015**	Run No: **301129**
SampleType: **LCS**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **213739**	Analysis Date: **10/01/2015**	Seq No: **6436807**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.4557	0.100	0.4000		114	80	120				

Sample ID: **1509Q69-003BMS**	Client ID:			Units: **mg/Kg-dry**	Prep Date: **10/01/2015**	Run No: **301129**
SampleType: **MS**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **213739**	Analysis Date: **10/01/2015**	Seq No: **6436809**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.5574	0.119	0.4765	0.04290	108	70	130				

Sample ID: **1509Q69-003BMSD**	Client ID:			Units: **mg/Kg-dry**	Prep Date: **10/01/2015**	Run No: **301129**
SampleType: **MSD**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **213739**	Analysis Date: **10/01/2015**	Seq No: **6436810**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.5907	0.119	0.4774	0.04290	115	70	130	0.5574	5.81	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1509P65

ANALYTICAL QC SUMMARY REPORT

BatchID: 213742

Sample ID: **MB-213742** Client ID: Units: **ug/Kg** Prep Date: **09/30/2015** Run No: **301012**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **213742** Analysis Date: **09/30/2015** Seq No: **6442176**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	10									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	42.32	0	50.00		84.6	70	128				
Surr: Dibromofluoromethane	51.06	0	50.00		102	78.2	128				
Surr: Toluene-d8	50.17	0	50.00		100	76.5	116				

Sample ID: **LCS-213742** Client ID: Units: **ug/Kg** Prep Date: **09/30/2015** Run No: **301012**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **213742** Analysis Date: **09/30/2015** Seq No: **6442177**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	49.81	5.0	50.00		99.6	72.3	130				
Toluene	47.85	5.0	50.00		95.7	71.1	130				
Surr: 4-Bromofluorobenzene	43.34	0	50.00		86.7	70	128				
Surr: Dibromofluoromethane	49.92	0	50.00		99.8	78.2	128				
Surr: Toluene-d8	49.00	0	50.00		98.0	76.5	116				

Sample ID: **1509O58-001AMS** Client ID: Units: **ug/Kg-dry** Prep Date: **09/30/2015** Run No: **301012**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **213742** Analysis Date: **09/30/2015** Seq No: **6442180**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	66.94	7.2	71.90		93.1	70.4	130				
Toluene	64.40	7.2	71.90		89.6	70.4	130				
Surr: 4-Bromofluorobenzene	58.67	0	71.90		81.6	70	128				
Surr: Dibromofluoromethane	69.77	0	71.90		97.0	78.2	128				
Surr: Toluene-d8	71.61	0	71.90		99.6	76.5	116				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1509P65

ANALYTICAL QC SUMMARY REPORT

BatchID: 213742

Sample ID: **1509O58-001AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/Kg-dry** Prep Date: **09/30/2015** Run No: **301012**
BatchID: **213742** Analysis Date: **09/30/2015** Seq No: **6442182**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	66.40	7.2	71.90		92.4	70.4	130	66.94	0.798	16.9	
Toluene	65.70	7.2	71.90		91.4	70.4	130	64.40	1.99	16.6	
Surr: 4-Bromofluorobenzene	60.26	0	71.90		83.8	70	128	58.67	0	0	
Surr: Dibromofluoromethane	71.95	0	71.90		100	78.2	128	69.77	0	0	
Surr: Toluene-d8	71.55	0	71.90		99.5	76.5	116	71.61	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1509P65

ANALYTICAL QC SUMMARY REPORT

BatchID: 213746

Sample ID: **MB-213746** Client ID: Units: **ug/L** Prep Date: **10/02/2015** Run No: **301324**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **213746** Analysis Date: **10/05/2015** Seq No: **6442577**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	10									
2-Methylphenol	BRL	10									
3,4-Methylphenol	BRL	10									
Phenol	BRL	10									
Surr: 2,4,6-Tribromophenol	88.70	0	100.0		88.7	52	133				
Surr: 2-Fluorobiphenyl	44.17	0	50.00		88.3	50	121				
Surr: 2-Fluorophenol	57.75	0	100.0		57.8	27.5	120				
Surr: 4-Terphenyl-d14	46.14	0	50.00		92.3	46.3	137				
Surr: Nitrobenzene-d5	43.26	0	50.00		86.5	41.2	121				
Surr: Phenol-d5	42.50	0	100.0		42.5	14.3	120				

Sample ID: **LCS-213746** Client ID: Units: **ug/L** Prep Date: **10/02/2015** Run No: **301324**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **213746** Analysis Date: **10/05/2015** Seq No: **6442578**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	42.83	10	100.0		42.8	25.6	120				
Surr: 2,4,6-Tribromophenol	107.4	0	100.0		107	52	133				
Surr: 2-Fluorobiphenyl	51.16	0	50.00		102	50	121				
Surr: 2-Fluorophenol	65.39	0	100.0		65.4	27.5	120				
Surr: 4-Terphenyl-d14	53.55	0	50.00		107	46.3	137				
Surr: Nitrobenzene-d5	47.93	0	50.00		95.9	41.2	121				
Surr: Phenol-d5	45.86	0	100.0		45.9	14.3	120				

Sample ID: **1509Q62-003BMS** Client ID: Units: **ug/L** Prep Date: **10/02/2015** Run No: **301324**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **213746** Analysis Date: **10/05/2015** Seq No: **6443867**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	66.51	10	100.0		66.5	31	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1509P65

ANALYTICAL QC SUMMARY REPORT

BatchID: 213746

Sample ID: **1509Q62-003BMS** Client ID: Units: **ug/L** Prep Date: **10/02/2015** Run No: **301324**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **213746** Analysis Date: **10/05/2015** Seq No: **6443867**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 2,4,6-Tribromophenol	104.8	0	100.0		105	52	133				
Surr: 2-Fluorobiphenyl	50.50	0	50.00		101	50	121				
Surr: 2-Fluorophenol	80.59	0	100.0		80.6	27.5	120				
Surr: 4-Terphenyl-d14	50.18	0	50.00		100	46.3	137				
Surr: Nitrobenzene-d5	49.42	0	50.00		98.8	41.2	121				
Surr: Phenol-d5	71.04	0	100.0		71.0	14.3	120				

Sample ID: **1509Q62-003BMSD** Client ID: Units: **ug/L** Prep Date: **10/02/2015** Run No: **301324**
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **213746** Analysis Date: **10/05/2015** Seq No: **6443868**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	53.73	10	100.0		53.7	31	120	66.51	21.3	31.9	
Surr: 2,4,6-Tribromophenol	91.09	0	100.0		91.1	52	133	104.8	0	0	
Surr: 2-Fluorobiphenyl	41.49	0	50.00		83.0	50	121	50.50	0	0	
Surr: 2-Fluorophenol	63.91	0	100.0		63.9	27.5	120	80.59	0	0	
Surr: 4-Terphenyl-d14	44.73	0	50.00		89.5	46.3	137	50.18	0	0	
Surr: Nitrobenzene-d5	40.46	0	50.00		80.9	41.2	121	49.42	0	0	
Surr: Phenol-d5	58.68	0	100.0		58.7	14.3	120	71.04	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1509P65

ANALYTICAL QC SUMMARY REPORT

BatchID: 213774

Sample ID: **MB-213774**	Client ID:		Units: **ug/L**	Prep Date: **09/30/2015**	Run No: **301078**
SampleType: **MBLK**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **213774**	Analysis Date: **09/30/2015**	Seq No: **6437074**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	5.0									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	46.25	0	50.00		92.5	70.6	123				
Surr: Dibromofluoromethane	45.66	0	50.00		91.3	78.7	124				
Surr: Toluene-d8	47.65	0	50.00		95.3	81.3	120				

Sample ID: **LCS-213774**	Client ID:		Units: **ug/L**	Prep Date: **09/30/2015**	Run No: **301175**
SampleType: **LCS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **213774**	Analysis Date: **10/01/2015**	Seq No: **6440069**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	47.19	5.0	50.00		94.4	72.8	128				
Toluene	48.12	5.0	50.00		96.2	74.9	127				
Surr: 4-Bromofluorobenzene	46.66	0	50.00		93.3	70.6	123				
Surr: Dibromofluoromethane	45.92	0	50.00		91.8	78.7	124				
Surr: Toluene-d8	47.66	0	50.00		95.3	81.3	120				

Sample ID: **1509P29-006AMS**	Client ID:		Units: **ug/L**	Prep Date: **09/30/2015**	Run No: **301175**
SampleType: **MS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **213774**	Analysis Date: **10/01/2015**	Seq No: **6440090**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	47.00	5.0	50.00		94.0	70	135				
Toluene	47.72	5.0	50.00		95.4	70.5	137				
Surr: 4-Bromofluorobenzene	46.11	0	50.00		92.2	70.6	123				
Surr: Dibromofluoromethane	46.19	0	50.00		92.4	78.7	124				
Surr: Toluene-d8	47.92	0	50.00		95.8	81.3	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1509P65

ANALYTICAL QC SUMMARY REPORT

BatchID: 213774

Sample ID: **1509P29-006AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/L** Prep Date: **09/30/2015** Run No: **301175**
BatchID: **213774** Analysis Date: **10/01/2015** Seq No: **6440091**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	45.08	5.0	50.00		90.2	70	135	47.00	4.17	20	
Toluene	45.36	5.0	50.00		90.7	70.5	137	47.72	5.07	20	
Surr: 4-Bromofluorobenzene	45.22	0	50.00		90.4	70.6	123	46.11	0	0	
Surr: Dibromofluoromethane	46.01	0	50.00		92.0	78.7	124	46.19	0	0	
Surr: Toluene-d8	47.69	0	50.00		95.4	81.3	120	47.92	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1509P65

ANALYTICAL QC SUMMARY REPORT

BatchID: 213808

Sample ID: **MB-213808** Client ID: Units: **mg/Kg** Prep Date: **10/02/2015** Run No: **301347**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **213808** Analysis Date: **10/05/2015** Seq No: **6443088**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	5.00									
Arsenic	BRL	5.00									
Barium	BRL	5.00									
Beryllium	BRL	2.50									
Cadmium	BRL	2.50									
Chromium	BRL	2.50									
Copper	BRL	2.50									
Lead	BRL	5.00									
Nickel	BRL	5.00									
Zinc	BRL	5.00									

Sample ID: **LCS-213808** Client ID: Units: **mg/Kg** Prep Date: **10/02/2015** Run No: **301347**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **213808** Analysis Date: **10/05/2015** Seq No: **6443089**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	48.48	5.00	50.00		97.0	80	120				
Arsenic	47.53	5.00	50.00		95.1	80	120				
Barium	48.16	5.00	50.00		96.3	80	120				
Beryllium	48.60	2.50	50.00		97.2	80	120				
Cadmium	48.16	2.50	50.00		96.3	80	120				
Chromium	48.84	2.50	50.00	0.06262	97.6	80	120				
Copper	49.27	2.50	50.00		98.5	80	120				
Lead	47.44	5.00	50.00		94.9	80	120				
Nickel	47.89	5.00	50.00		95.8	80	120				
Zinc	49.87	5.00	50.00	3.743	92.3	80	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1509P65

ANALYTICAL QC SUMMARY REPORT

BatchID: 213808

Sample ID: **1509P75-001CMS** Client ID:
SampleType: **MS** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/Kg-dry** Prep Date: **10/02/2015** Run No: **301347**
BatchID: **213808** Analysis Date: **10/05/2015** Seq No: **6443091**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	20.49	5.49	54.87		37.3	75	125				S
Arsenic	45.09	5.49	54.87		82.2	75	125				
Barium	289.7	5.49	54.87	243.4	84.3	75	125				
Beryllium	48.31	2.74	54.87	1.529	85.3	75	125				
Cadmium	49.09	2.74	54.87		89.5	75	125				
Chromium	115.7	2.74	54.87	67.14	88.6	75	125				
Copper	55.40	2.74	54.87	3.248	95.1	75	125				
Lead	61.36	5.49	54.87	13.02	88.1	75	125				
Nickel	96.76	5.49	54.87	53.85	78.2	75	125				
Zinc	185.0	5.49	54.87	146.9	69.3	75	125				S

Sample ID: **1509P75-001CMSD** Client ID:
SampleType: **MSD** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/Kg-dry** Prep Date: **10/02/2015** Run No: **301347**
BatchID: **213808** Analysis Date: **10/05/2015** Seq No: **6443092**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	23.07	5.49	54.88		42.0	75	125	20.49	11.9	20	S
Arsenic	45.25	5.49	54.88		82.5	75	125	45.09	0.347	20	
Barium	262.0	5.49	54.88	243.4	33.8	75	125	289.7	10.0	20	S
Beryllium	48.54	2.74	54.88	1.529	85.7	75	125	48.31	0.456	20	
Cadmium	48.99	2.74	54.88		89.3	75	125	49.09	0.210	20	
Chromium	105.0	2.74	54.88	67.14	69.0	75	125	115.7	9.72	20	S
Copper	55.46	2.74	54.88	3.248	95.1	75	125	55.40	0.103	20	
Lead	56.82	5.49	54.88	13.02	79.8	75	125	61.36	7.67	20	
Nickel	88.17	5.49	54.88	53.85	62.5	75	125	96.76	9.29	20	S
Zinc	165.9	5.49	54.88	146.9	34.6	75	125	185.0	10.8	20	S

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1509P65

ANALYTICAL QC SUMMARY REPORT

BatchID: 213926

Sample ID: **MB-213926**	Client ID:				Units: **mg/L**		Prep Date: **09/30/2015**		Run No: **301368**
SampleType: **MBLK**	TestCode: **Cyanide SW9014**				BatchID: **213926**		Analysis Date: **10/01/2015**		Seq No: **6443534**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	0.010									

Sample ID: **LCS-213926**	Client ID:				Units: **mg/L**		Prep Date: **09/30/2015**		Run No: **301368**
SampleType: **LCS**	TestCode: **Cyanide SW9014**				BatchID: **213926**		Analysis Date: **10/01/2015**		Seq No: **6443535**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2482	0.010	0.2500		99.3	85	115				

Sample ID: **1509P65-002CMS**	Client ID: **EB-11-20150929-01**				Units: **mg/L**		Prep Date: **09/30/2015**		Run No: **301368**
SampleType: **MS**	TestCode: **Cyanide SW9014**				BatchID: **213926**		Analysis Date: **10/01/2015**		Seq No: **6443544**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2415	0.010	0.2500		96.6	70	130				

Sample ID: **1509P65-002CMSD**	Client ID: **EB-11-20150929-01**				Units: **mg/L**		Prep Date: **09/30/2015**		Run No: **301368**
SampleType: **MSD**	TestCode: **Cyanide SW9014**				BatchID: **213926**		Analysis Date: **10/01/2015**		Seq No: **6443545**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2448	0.010	0.2500		97.9	70	130	0.2415	1.36	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

October 20, 2015

Nic Vrey
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: AGL Macon Remediation

Dear Nic Vrey: Order No: 1510946

Analytical Environmental Services, Inc. received 5 samples on October 10, 2015 10:30 am for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC

3080 Presidential Drive, Atlanta GA 30340-3704

AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1570946

Date: 10/9/15 Page 1 of 1

COMPANY: ERM	ADDRESS: 3200 Windy Hill Rd Suite 1500W ATL, GA 30339
PHONE:	FAX:
SAMPLED BY: KS	SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	VOCs (8260B) - COI only	SVOCs (8270C) - COI only	Inorganics (6010B) (5 COI only)	Total Cyanide (9012A)	Mercury (7470A)	REMARKS	No # of Containers
1	PreISS-7-20151007-01	10/7/15	1330		X	S	X	X	X	X	X		6
2	SSS-40-20151007-01	10/7/15	1840		X	S	X	X	X	X	X		6
3	SSS-41-20151007-01	10/7/15	1850		X	S	X	X	X	X	X		6
4	SSS-42-20151008-01	10/8/15	0900		X	S	X	X	X	X	X		6
5	TB-12-20151009-01					W	X						2
6													
7													
8													
9													
10													
11													
12													
13													
14													

PRESERVATION (See codes)

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:	10/9/15 1630	1:	10/10/15 10:30
2:		2:	
3:		3:	

PROJECT INFORMATION

PROJECT NAME: AGL Macon Remediation

PROJECT #: 0176740

SITE ADDRESS: 224 Walnut St. Macon, GA 31210

SEND REPORT TO: Nic.Vrey@erm.com

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: PO#:

SPECIAL INSTRUCTIONS/COMMENTS: See AGL Macon COI List

SHIPMENT METHOD

OUT / / VIA:

IN / / VIA:

CLIENT (FedEx) UPS MAIL COURIER

GREYHOUND OTHER

RECEIPT

Total # of Containers: 26

Turnaround Time Request

- Standard 5 Business Days
- 2 Business Day Rush
- Next Business Day Rush
- Same Day Rush (auth req.)
- Other 3 DAY TAT

STATE PROGRAM (if any):

E-mail? Y / N; Fax? Y / N

DATA PACKAGE: I II III IV

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Client: ERM-Southeast
Project: AGL Macon Remediation
Lab ID: 1510946

Case Narrative

Sample Receiving Nonconformance:

For sample 1510946-001, one 4 once jar was received broken. Sufficient sample remains proceed with the analysis.

Volatile Organic Compounds Analysis by Method 8260B:

Percent recovery for the internal standard compound 1,4-Dichlorobenzene-d4 on sample1510946-003 A was outside control limits biased low due to suspected matrix interference. All other internal standard recoveries were within control limits.

Analytical Environmental Services, Inc **Date:** 20-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	PREISS-7-20151007-01
Project Name:	AGL Macon Remediation	**Collection Date:**	10/7/2015 1:30:00 PM
Lab ID:	1510946-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	8.1		ug/Kg-dry	214206	1	10/15/2015 10:08	CG
Benzene	BRL	4.0		ug/Kg-dry	214206	1	10/15/2015 10:08	CG
Toluene	BRL	4.0		ug/Kg-dry	214206	1	10/15/2015 10:08	CG
Ethylbenzene	BRL	4.0		ug/Kg-dry	214206	1	10/15/2015 10:08	CG
Xylenes, Total	BRL	4.0		ug/Kg-dry	214206	1	10/15/2015 10:08	CG
Surr: 4-Bromofluorobenzene	86.2	70-128		%REC	214206	1	10/15/2015 10:08	CG
Surr: Dibromofluoromethane	109	78.2-128		%REC	214206	1	10/15/2015 10:08	CG
Surr: Toluene-d8	104	76.5-116		%REC	214206	1	10/15/2015 10:08	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.125		mg/Kg-dry	214226	1	10/12/2015 13:48	CC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	22		ug/Kg-dry	214326	1	10/14/2015 19:17	YH
Acenaphthylene	BRL	43		ug/Kg-dry	214326	1	10/14/2015 19:17	YH
Anthracene	9.6	2.2		ug/Kg-dry	214326	1	10/14/2015 19:17	YH
Benz(a)anthracene	33	2.2		ug/Kg-dry	214326	1	10/14/2015 19:17	YH
Benzo(a)pyrene	15	2.2		ug/Kg-dry	214326	1	10/14/2015 19:17	YH
Benzo(b)fluoranthene	17	4.3		ug/Kg-dry	214326	1	10/14/2015 19:17	YH
Benzo(g,h,i)perylene	BRL	4.3		ug/Kg-dry	214326	1	10/14/2015 19:17	YH
Benzo(k)fluoranthene	4.9	2.2		ug/Kg-dry	214326	1	10/14/2015 19:17	YH
Chrysene	24	2.2		ug/Kg-dry	214326	1	10/14/2015 19:17	YH
Dibenz(a,h)anthracene	BRL	4.3		ug/Kg-dry	214326	1	10/14/2015 19:17	YH
Fluoranthene	38	4.3		ug/Kg-dry	214326	1	10/14/2015 19:17	YH
Fluorene	6.8	4.3		ug/Kg-dry	214326	1	10/14/2015 19:17	YH
Indeno(1,2,3-cd)pyrene	3.1	2.2		ug/Kg-dry	214326	1	10/14/2015 19:17	YH
Naphthalene	BRL	22		ug/Kg-dry	214326	1	10/14/2015 19:17	YH
Phenanthrene	17	2.2		ug/Kg-dry	214326	1	10/14/2015 19:17	YH
Pyrene	48	2.2		ug/Kg-dry	214326	1	10/14/2015 19:17	YH
Surr: 4-Terphenyl-d14	77.3	42-124		%REC	214326	1	10/14/2015 19:17	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	430		ug/Kg-dry	214257	1	10/13/2015 15:34	YH
2-Methylphenol	BRL	430		ug/Kg-dry	214257	1	10/13/2015 15:34	YH
3,4-Methylphenol	BRL	430		ug/Kg-dry	214257	1	10/13/2015 15:34	YH
Phenol	BRL	430		ug/Kg-dry	214257	1	10/13/2015 15:34	YH
Surr: 2,4,6-Tribromophenol	76.3	41-128		%REC	214257	1	10/13/2015 15:34	YH
Surr: 2-Fluorobiphenyl	79.7	47-120		%REC	214257	1	10/13/2015 15:34	YH
Surr: 2-Fluorophenol	70.5	38.3-120		%REC	214257	1	10/13/2015 15:34	YH
Surr: 4-Terphenyl-d14	86.8	51.4-125		%REC	214257	1	10/13/2015 15:34	YH
Surr: Nitrobenzene-d5	86.7	40.1-120		%REC	214257	1	10/13/2015 15:34	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 20-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	PREISS-7-20151007-01
Project Name:	AGL Macon Remediation	**Collection Date:**	10/7/2015 1:30:00 PM
Lab ID:	1510946-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	78.4	40.3-120		%REC	214257	1	10/13/2015 15:34	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.31		mg/Kg-dry	214423	1	10/15/2015 15:50	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	6.15		mg/Kg-dry	214229	1	10/12/2015 20:45	IO
Arsenic	BRL	6.15		mg/Kg-dry	214229	1	10/12/2015 20:45	IO
Barium	38.8	6.15		mg/Kg-dry	214229	1	10/12/2015 20:45	IO
Beryllium	BRL	3.07		mg/Kg-dry	214229	1	10/12/2015 20:45	IO
Cadmium	BRL	3.07		mg/Kg-dry	214229	1	10/12/2015 20:45	IO
Chromium	18.5	3.07		mg/Kg-dry	214229	1	10/12/2015 20:45	IO
Copper	8.13	3.07		mg/Kg-dry	214229	1	10/12/2015 20:45	IO
Lead	7.60	6.15		mg/Kg-dry	214229	1	10/12/2015 20:45	IO
Nickel	BRL	6.15		mg/Kg-dry	214229	1	10/12/2015 20:45	IO
Zinc	7.72	6.15		mg/Kg-dry	214229	1	10/12/2015 20:45	IO
PERCENT MOISTURE D2216								
Percent Moisture	23.9	0		wt%	R302188	1	10/15/2015 11:00	PF

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 20-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-40-20151007-01
Project Name:	AGL Macon Remediation	**Collection Date:**	10/7/2015 6:40:00 PM
Lab ID:	1510946-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	8.7		ug/Kg-dry	214206	1	10/14/2015 22:36	CG
Benzene	BRL	4.4		ug/Kg-dry	214206	1	10/14/2015 22:36	CG
Toluene	6.6	4.4		ug/Kg-dry	214206	1	10/14/2015 22:36	CG
Ethylbenzene	BRL	4.4		ug/Kg-dry	214206	1	10/14/2015 22:36	CG
Xylenes, Total	24	4.4		ug/Kg-dry	214206	1	10/14/2015 22:36	CG
Surr: 4-Bromofluorobenzene	89	70-128		%REC	214206	1	10/14/2015 22:36	CG
Surr: Dibromofluoromethane	112	78.2-128		%REC	214206	1	10/14/2015 22:36	CG
Surr: Toluene-d8	104	76.5-116		%REC	214206	1	10/14/2015 22:36	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.110		mg/Kg-dry	214226	1	10/12/2015 13:50	CC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	97	20		ug/Kg-dry	214326	1	10/14/2015 19:45	YH
Acenaphthylene	100	39		ug/Kg-dry	214326	1	10/14/2015 19:45	YH
Anthracene	120	2.0		ug/Kg-dry	214326	1	10/14/2015 19:45	YH
Benz(a)anthracene	300	2.0		ug/Kg-dry	214326	1	10/14/2015 19:45	YH
Benzo(a)pyrene	190	2.0		ug/Kg-dry	214326	1	10/14/2015 19:45	YH
Benzo(b)fluoranthene	300	3.9		ug/Kg-dry	214326	1	10/14/2015 19:45	YH
Benzo(g,h,i)perylene	93	3.9		ug/Kg-dry	214326	1	10/14/2015 19:45	YH
Benzo(k)fluoranthene	73	2.0		ug/Kg-dry	214326	1	10/14/2015 19:45	YH
Chrysene	230	2.0		ug/Kg-dry	214326	1	10/14/2015 19:45	YH
Dibenz(a,h)anthracene	24	3.9		ug/Kg-dry	214326	1	10/14/2015 19:45	YH
Fluoranthene	340	39		ug/Kg-dry	214326	10	10/15/2015 11:40	YH
Fluorene	84	3.9		ug/Kg-dry	214326	1	10/14/2015 19:45	YH
Indeno(1,2,3-cd)pyrene	91	2.0		ug/Kg-dry	214326	1	10/14/2015 19:45	YH
Naphthalene	38	20		ug/Kg-dry	214326	1	10/14/2015 19:45	YH
Phenanthrene	450	20		ug/Kg-dry	214326	10	10/15/2015 11:40	YH
Pyrene	440	20		ug/Kg-dry	214326	10	10/15/2015 11:40	YH
Surr: 4-Terphenyl-d14	80.4	42-124		%REC	214326	1	10/14/2015 19:45	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	390		ug/Kg-dry	214257	1	10/13/2015 16:00	YH
2-Methylphenol	BRL	390		ug/Kg-dry	214257	1	10/13/2015 16:00	YH
3,4-Methylphenol	BRL	390		ug/Kg-dry	214257	1	10/13/2015 16:00	YH
Phenol	BRL	390		ug/Kg-dry	214257	1	10/13/2015 16:00	YH
Surr: 2,4,6-Tribromophenol	65.9	41-128		%REC	214257	1	10/13/2015 16:00	YH
Surr: 2-Fluorobiphenyl	83	47-120		%REC	214257	1	10/13/2015 16:00	YH
Surr: 2-Fluorophenol	68.3	38.3-120		%REC	214257	1	10/13/2015 16:00	YH
Surr: 4-Terphenyl-d14	90.9	51.4-125		%REC	214257	1	10/13/2015 16:00	YH
Surr: Nitrobenzene-d5	91.8	40.1-120		%REC	214257	1	10/13/2015 16:00	YH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 20-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-40-20151007-01
Project Name:	AGL Macon Remediation	**Collection Date:**	10/7/2015 6:40:00 PM
Lab ID:	1510946-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	84.5	40.3-120		%REC	214257	1	10/13/2015 16:00	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	1.86	1.17		mg/Kg-dry	214423	1	10/15/2015 15:50	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.61		mg/Kg-dry	214229	1	10/12/2015 20:49	IO
Arsenic	BRL	5.61		mg/Kg-dry	214229	1	10/12/2015 20:49	IO
Barium	31.8	5.61		mg/Kg-dry	214229	1	10/12/2015 20:49	IO
Beryllium	BRL	2.80		mg/Kg-dry	214229	1	10/12/2015 20:49	IO
Cadmium	BRL	2.80		mg/Kg-dry	214229	1	10/12/2015 20:49	IO
Chromium	16.1	2.80		mg/Kg-dry	214229	1	10/12/2015 20:49	IO
Copper	10.9	2.80		mg/Kg-dry	214229	1	10/12/2015 20:49	IO
Lead	13.5	5.61		mg/Kg-dry	214229	1	10/12/2015 20:49	IO
Nickel	BRL	5.61		mg/Kg-dry	214229	1	10/12/2015 20:49	IO
Zinc	11.9	5.61		mg/Kg-dry	214229	1	10/12/2015 20:49	IO
PERCENT MOISTURE D2216								
Percent Moisture	14.5	0		wt%	R302188	1	10/15/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 20-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-41-20151007-01
Project Name:	AGL Macon Remediation	**Collection Date:**	10/7/2015 6:50:00 PM
Lab ID:	1510946-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	9.0		ug/Kg-dry	214206	1	10/14/2015 22:12	CG
Benzene	BRL	4.5		ug/Kg-dry	214206	1	10/14/2015 22:12	CG
Toluene	BRL	4.5		ug/Kg-dry	214206	1	10/14/2015 22:12	CG
Ethylbenzene	BRL	4.5		ug/Kg-dry	214206	1	10/14/2015 22:12	CG
Xylenes, Total	BRL	4.5		ug/Kg-dry	214206	1	10/14/2015 22:12	CG
Surr: 4-Bromofluorobenzene	82.1	70-128		%REC	214206	1	10/14/2015 22:12	CG
Surr: Dibromofluoromethane	110	78.2-128		%REC	214206	1	10/14/2015 22:12	CG
Surr: Toluene-d8	102	76.5-116		%REC	214206	1	10/14/2015 22:12	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.114		mg/Kg-dry	214226	1	10/12/2015 13:52	CC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	76	21		ug/Kg-dry	214326	1	10/14/2015 20:11	YH
Acenaphthylene	260	40		ug/Kg-dry	214326	1	10/14/2015 20:11	YH
Anthracene	180	2.1		ug/Kg-dry	214326	1	10/14/2015 20:11	YH
Benz(a)anthracene	660	21		ug/Kg-dry	214326	10	10/15/2015 12:06	YH
Benzo(a)pyrene	550	21		ug/Kg-dry	214326	10	10/15/2015 12:06	YH
Benzo(b)fluoranthene	760	40		ug/Kg-dry	214326	10	10/15/2015 12:06	YH
Benzo(g,h,i)perylene	400	4.0		ug/Kg-dry	214326	1	10/14/2015 20:11	YH
Benzo(k)fluoranthene	240	2.1		ug/Kg-dry	214326	1	10/14/2015 20:11	YH
Chrysene	640	21		ug/Kg-dry	214326	10	10/15/2015 12:06	YH
Dibenz(a,h)anthracene	96	4.0		ug/Kg-dry	214326	1	10/14/2015 20:11	YH
Fluoranthene	1100	40		ug/Kg-dry	214326	10	10/15/2015 12:06	YH
Fluorene	97	4.0		ug/Kg-dry	214326	1	10/14/2015 20:11	YH
Indeno(1,2,3-cd)pyrene	370	2.1		ug/Kg-dry	214326	1	10/14/2015 20:11	YH
Naphthalene	60	21		ug/Kg-dry	214326	1	10/14/2015 20:11	YH
Phenanthrene	470	21		ug/Kg-dry	214326	10	10/15/2015 12:06	YH
Pyrene	1400	21		ug/Kg-dry	214326	10	10/15/2015 12:06	YH
Surr: 4-Terphenyl-d14	82	42-124		%REC	214326	1	10/14/2015 20:11	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	400		ug/Kg-dry	214257	1	10/13/2015 16:27	YH
2-Methylphenol	BRL	400		ug/Kg-dry	214257	1	10/13/2015 16:27	YH
3,4-Methylphenol	BRL	400		ug/Kg-dry	214257	1	10/13/2015 16:27	YH
Phenol	BRL	400		ug/Kg-dry	214257	1	10/13/2015 16:27	YH
Surr: 2,4,6-Tribromophenol	88.5	41-128		%REC	214257	1	10/13/2015 16:27	YH
Surr: 2-Fluorobiphenyl	86	47-120		%REC	214257	1	10/13/2015 16:27	YH
Surr: 2-Fluorophenol	76.2	38.3-120		%REC	214257	1	10/13/2015 16:27	YH
Surr: 4-Terphenyl-d14	92.7	51.4-125		%REC	214257	1	10/13/2015 16:27	YH
Surr: Nitrobenzene-d5	94.9	40.1-120		%REC	214257	1	10/13/2015 16:27	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 20-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-41-20151007-01
Project Name:	AGL Macon Remediation	**Collection Date:**	10/7/2015 6:50:00 PM
Lab ID:	1510946-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	87	40.3-120		%REC	214257	1	10/13/2015 16:27	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	6.24	1.22		mg/Kg-dry	214423	1	10/15/2015 15:50	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.21		mg/Kg-dry	214229	1	10/12/2015 20:53	IO
Arsenic	BRL	5.21		mg/Kg-dry	214229	1	10/12/2015 20:53	IO
Barium	27.5	5.21		mg/Kg-dry	214229	1	10/12/2015 20:53	IO
Beryllium	BRL	2.60		mg/Kg-dry	214229	1	10/12/2015 20:53	IO
Cadmium	BRL	2.60		mg/Kg-dry	214229	1	10/12/2015 20:53	IO
Chromium	9.17	2.60		mg/Kg-dry	214229	1	10/12/2015 20:53	IO
Copper	7.87	2.60		mg/Kg-dry	214229	1	10/12/2015 20:53	IO
Lead	18.9	5.21		mg/Kg-dry	214229	1	10/12/2015 20:53	IO
Nickel	BRL	5.21		mg/Kg-dry	214229	1	10/12/2015 20:53	IO
Zinc	13.0	5.21		mg/Kg-dry	214229	1	10/12/2015 20:53	IO
PERCENT MOISTURE D2216								
Percent Moisture	17.7	0		wt%	R302188	1	10/15/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 20-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-42-20151008-01
Project Name:	AGL Macon Remediation	**Collection Date:**	10/8/2015 9:00:00 AM
Lab ID:	1510946-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	7.5		ug/Kg-dry	214206	1	10/14/2015 21:48	CG
Benzene	BRL	3.8		ug/Kg-dry	214206	1	10/14/2015 21:48	CG
Toluene	BRL	3.8		ug/Kg-dry	214206	1	10/14/2015 21:48	CG
Ethylbenzene	BRL	3.8		ug/Kg-dry	214206	1	10/14/2015 21:48	CG
Xylenes, Total	BRL	3.8		ug/Kg-dry	214206	1	10/14/2015 21:48	CG
Surr: 4-Bromofluorobenzene	87.2	70-128		%REC	214206	1	10/14/2015 21:48	CG
Surr: Dibromofluoromethane	117	78.2-128		%REC	214206	1	10/14/2015 21:48	CG
Surr: Toluene-d8	108	76.5-116		%REC	214206	1	10/14/2015 21:48	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.108		mg/Kg-dry	214226	1	10/12/2015 13:54	CC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	21		ug/Kg-dry	214326	1	10/14/2015 20:38	YH
Acenaphthylene	BRL	40		ug/Kg-dry	214326	1	10/14/2015 20:38	YH
Anthracene	8.5	2.1		ug/Kg-dry	214326	1	10/14/2015 20:38	YH
Benz(a)anthracene	35	2.1		ug/Kg-dry	214326	1	10/14/2015 20:38	YH
Benzo(a)pyrene	26	2.1		ug/Kg-dry	214326	1	10/14/2015 20:38	YH
Benzo(b)fluoranthene	41	4.0		ug/Kg-dry	214326	1	10/14/2015 20:38	YH
Benzo(g,h,i)perylene	14	4.0		ug/Kg-dry	214326	1	10/14/2015 20:38	YH
Benzo(k)fluoranthene	11	2.1		ug/Kg-dry	214326	1	10/14/2015 20:38	YH
Chrysene	27	2.1		ug/Kg-dry	214326	1	10/14/2015 20:38	YH
Dibenz(a,h)anthracene	BRL	4.0		ug/Kg-dry	214326	1	10/14/2015 20:38	YH
Fluoranthene	49	4.0		ug/Kg-dry	214326	1	10/14/2015 20:38	YH
Fluorene	BRL	4.0		ug/Kg-dry	214326	1	10/14/2015 20:38	YH
Indeno(1,2,3-cd)pyrene	12	2.1		ug/Kg-dry	214326	1	10/14/2015 20:38	YH
Naphthalene	BRL	21		ug/Kg-dry	214326	1	10/14/2015 20:38	YH
Phenanthrene	26	2.1		ug/Kg-dry	214326	1	10/14/2015 20:38	YH
Pyrene	56	2.1		ug/Kg-dry	214326	1	10/14/2015 20:38	YH
Surr: 4-Terphenyl-d14	75.6	42-124		%REC	214326	1	10/14/2015 20:38	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	400		ug/Kg-dry	214257	1	10/13/2015 16:52	YH
2-Methylphenol	BRL	400		ug/Kg-dry	214257	1	10/13/2015 16:52	YH
3,4-Methylphenol	BRL	400		ug/Kg-dry	214257	1	10/13/2015 16:52	YH
Phenol	BRL	400		ug/Kg-dry	214257	1	10/13/2015 16:52	YH
Surr: 2,4,6-Tribromophenol	88	41-128		%REC	214257	1	10/13/2015 16:52	YH
Surr: 2-Fluorobiphenyl	86.9	47-120		%REC	214257	1	10/13/2015 16:52	YH
Surr: 2-Fluorophenol	82	38.3-120		%REC	214257	1	10/13/2015 16:52	YH
Surr: 4-Terphenyl-d14	94.1	51.4-125		%REC	214257	1	10/13/2015 16:52	YH
Surr: Nitrobenzene-d5	99.2	40.1-120		%REC	214257	1	10/13/2015 16:52	YH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 20-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-42-20151008-01
Project Name:	AGL Macon Remediation	**Collection Date:**	10/8/2015 9:00:00 AM
Lab ID:	1510946-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	90.8	40.3-120		%REC	214257	1	10/13/2015 16:52	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.21		mg/Kg-dry	214423	1	10/15/2015 15:50	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.73		mg/Kg-dry	214229	1	10/12/2015 20:57	IO
Arsenic	BRL	5.73		mg/Kg-dry	214229	1	10/12/2015 20:57	IO
Barium	18.1	5.73		mg/Kg-dry	214229	1	10/12/2015 20:57	IO
Beryllium	BRL	2.86		mg/Kg-dry	214229	1	10/12/2015 20:57	IO
Cadmium	BRL	2.86		mg/Kg-dry	214229	1	10/12/2015 20:57	IO
Chromium	21.3	2.86		mg/Kg-dry	214229	1	10/12/2015 20:57	IO
Copper	7.11	2.86		mg/Kg-dry	214229	1	10/12/2015 20:57	IO
Lead	7.42	5.73		mg/Kg-dry	214229	1	10/12/2015 20:57	IO
Nickel	BRL	5.73		mg/Kg-dry	214229	1	10/12/2015 20:57	IO
Zinc	10.2	5.73		mg/Kg-dry	214229	1	10/12/2015 20:57	IO
PERCENT MOISTURE D2216								
Percent Moisture	17.7	0		wt%	R302188	1	10/15/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 20-Oct-15

Client:	ERM-Southeast	**Client Sample ID:**	TB-12-20151009-01
Project Name:	AGL Macon Remediation	**Collection Date:**	10/10/2015
Lab ID:	1510946-005	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	214316	1	10/13/2015 15:10	NP
Carbon disulfide	BRL	5.0		ug/L	214316	1	10/13/2015 15:10	NP
Ethylbenzene	BRL	5.0		ug/L	214316	1	10/13/2015 15:10	NP
Toluene	BRL	5.0		ug/L	214316	1	10/13/2015 15:10	NP
Xylenes, Total	BRL	5.0		ug/L	214316	1	10/13/2015 15:10	NP
Surr: 4-Bromofluorobenzene	77.8	70.6-123		%REC	214316	1	10/13/2015 15:10	NP
Surr: Dibromofluoromethane	116	78.7-124		%REC	214316	1	10/13/2015 15:10	NP
Surr: Toluene-d8	97.8	81.3-120		%REC	214316	1	10/13/2015 15:10	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM-Ft Collins Work Order Number 1510946

Checklist completed by Miriam Ramirez 10/10/15
Signature Date

Carrier name: FedEx ✓ UPS __ Courier __ Client __ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 3.6°C Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes __ No ✓

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by _____

Sample Condition: Good __ Other(Explain) 1/2 four ounce jars received broken 1510946-001

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1510946

ANALYTICAL QC SUMMARY REPORT

BatchID: 214206

Sample ID: **MB-214206** Client ID: Units: **ug/Kg** Prep Date: **10/12/2015** Run No: **301914**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **214206** Analysis Date: **10/12/2015** Seq No: **6464305**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	10									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	51.26	0	50.00		103	70	128				
Surr: Dibromofluoromethane	52.95	0	50.00		106	78.2	128				
Surr: Toluene-d8	51.37	0	50.00		103	76.5	116				

Sample ID: **LCS-214206** Client ID: Units: **ug/Kg** Prep Date: **10/12/2015** Run No: **301914**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **214206** Analysis Date: **10/12/2015** Seq No: **6464306**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	45.17	5.0	50.00		90.3	72.3	130				
Toluene	42.22	5.0	50.00		84.4	71.1	130				
Surr: 4-Bromofluorobenzene	51.42	0	50.00		103	70	128				
Surr: Dibromofluoromethane	53.77	0	50.00		108	78.2	128				
Surr: Toluene-d8	51.66	0	50.00		103	76.5	116				

Sample ID: **1510524-005AMS** Client ID: Units: **ug/Kg-dry** Prep Date: **10/12/2015** Run No: **301970**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **214206** Analysis Date: **10/12/2015** Seq No: **6464437**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	62.76	6.8	68.08		92.2	70.4	130				
Toluene	63.89	6.8	68.08		93.8	70.4	130				
Surr: 4-Bromofluorobenzene	63.11	0	68.08		92.7	70	128				
Surr: Dibromofluoromethane	73.33	0	68.08		108	78.2	128				
Surr: Toluene-d8	70.00	0	68.08		103	76.5	116				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1510946

ANALYTICAL QC SUMMARY REPORT

BatchID: 214206

Sample ID: **1510524-005AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/Kg-dry** Prep Date: **10/12/2015** Run No: **301970**
BatchID: **214206** Analysis Date: **10/12/2015** Seq No: **6464438**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	66.70	6.8	68.08		98.0	70.4	130	62.76	6.08	16.9	
Toluene	65.13	6.8	68.08		95.7	70.4	130	63.89	1.92	16.6	
Surr: 4-Bromofluorobenzene	64.73	0	68.08		95.1	70	128	63.11	0	0	
Surr: Dibromofluoromethane	74.04	0	68.08		109	78.2	128	73.33	0	0	
Surr: Toluene-d8	70.00	0	68.08		103	76.5	116	70.00	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1510946

ANALYTICAL QC SUMMARY REPORT

BatchID: 214226

Sample ID: **MB-214226**	Client ID:				Units: **mg/Kg**		Prep Date: **10/12/2015**		Run No: **301891**
SampleType: **MBLK**	TestCode: **TOTAL MERCURY SW7471B**				BatchID: **214226**		Analysis Date: **10/12/2015**		Seq No: **6457629**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.100									

Sample ID: **LCS-214226**	Client ID:				Units: **mg/Kg**		Prep Date: **10/12/2015**		Run No: **301891**
SampleType: **LCS**	TestCode: **TOTAL MERCURY SW7471B**				BatchID: **214226**		Analysis Date: **10/12/2015**		Seq No: **6457630**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.3764	0.100	0.4000		94.1	80	120				

Sample ID: **1510907-001CMS**	Client ID:				Units: **mg/Kg-dry**		Prep Date: **10/12/2015**		Run No: **301891**
SampleType: **MS**	TestCode: **TOTAL MERCURY SW7471B**				BatchID: **214226**		Analysis Date: **10/12/2015**		Seq No: **6457632**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.4502	0.118	0.4713		95.5	70	130				

Sample ID: **1510907-001CMSD**	Client ID:				Units: **mg/Kg-dry**		Prep Date: **10/12/2015**		Run No: **301891**
SampleType: **MSD**	TestCode: **TOTAL MERCURY SW7471B**				BatchID: **214226**		Analysis Date: **10/12/2015**		Seq No: **6457633**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.4405	0.116	0.4651		94.7	70	130	0.4502	2.19	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1510946

ANALYTICAL QC SUMMARY REPORT

BatchID: 214229

Sample ID: **MB-214229** Client ID: Units: **mg/Kg** Prep Date: **10/12/2015** Run No: **301958**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **214229** Analysis Date: **10/12/2015** Seq No: **6458849**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	5.00									
Arsenic	BRL	5.00									
Barium	BRL	5.00									
Beryllium	BRL	2.50									
Cadmium	BRL	2.50									
Chromium	BRL	2.50									
Copper	BRL	2.50									
Lead	BRL	5.00									
Nickel	BRL	5.00									
Zinc	BRL	5.00									

Sample ID: **LCS-214229** Client ID: Units: **mg/Kg** Prep Date: **10/12/2015** Run No: **301958**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **214229** Analysis Date: **10/12/2015** Seq No: **6458850**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	44.43	5.00	50.00		88.9	80	120				
Arsenic	44.79	5.00	50.00		89.6	80	120				
Barium	46.10	5.00	50.00		92.2	80	120				
Beryllium	45.83	2.50	50.00		91.7	80	120				
Cadmium	45.09	2.50	50.00		90.2	80	120				
Chromium	46.03	2.50	50.00	0.04353	92.0	80	120				
Copper	45.46	2.50	50.00		90.9	80	120				
Lead	46.06	5.00	50.00		92.1	80	120				
Nickel	45.74	5.00	50.00		91.5	80	120				
Zinc	45.64	5.00	50.00		91.3	80	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1510946

ANALYTICAL QC SUMMARY REPORT

BatchID: 214229

Sample ID: **1510944-001FMS** Client ID:
SampleType: **MS** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/Kg-dry** Prep Date: **10/12/2015** Run No: **301958**
BatchID: **214229** Analysis Date: **10/12/2015** Seq No: **6458852**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	49.82	6.63	66.30		75.1	75	125				
Arsenic	57.05	6.63	66.30	0.5974	85.1	75	125				
Barium	91.74	6.63	66.30	84.48	11.0	75	125				S
Beryllium	61.65	3.31	66.30	0.09148	92.9	75	125				
Cadmium	60.14	3.31	66.30		90.7	75	125				
Chromium	73.43	3.31	66.30	11.34	93.6	75	125				
Copper	66.74	3.31	66.30	4.004	94.6	75	125				
Lead	66.81	6.63	66.30	6.456	91.0	75	125				
Nickel	62.08	6.63	66.30	1.648	91.1	75	125				
Zinc	67.87	6.63	66.30	6.306	92.9	75	125				

Sample ID: **1510944-001FMSD** Client ID:
SampleType: **MSD** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/Kg-dry** Prep Date: **10/12/2015** Run No: **301958**
BatchID: **214229** Analysis Date: **10/12/2015** Seq No: **6458853**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	49.49	6.63	66.29		74.7	75	125	49.82	0.656	20	S
Arsenic	57.96	6.63	66.29	0.5974	86.5	75	125	57.05	1.57	20	
Barium	95.44	6.63	66.29	84.48	16.5	75	125	91.74	3.95	20	S
Beryllium	62.05	3.31	66.29	0.09148	93.5	75	125	61.65	0.642	20	
Cadmium	60.66	3.31	66.29		91.5	75	125	60.14	0.854	20	
Chromium	76.07	3.31	66.29	11.34	97.6	75	125	73.43	3.53	20	
Copper	67.43	3.31	66.29	4.004	95.7	75	125	66.74	1.04	20	
Lead	68.12	6.63	66.29	6.456	93.0	75	125	66.81	1.95	20	
Nickel	63.17	6.63	66.29	1.648	92.8	75	125	62.08	1.75	20	
Zinc	69.66	6.63	66.29	6.306	95.6	75	125	67.87	2.59	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1510946

ANALYTICAL QC SUMMARY REPORT

BatchID: 214257

Sample ID: **MB-214257** Client ID: Units: **ug/Kg** Prep Date: **10/13/2015** Run No: **302026**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **214257** Analysis Date: **10/13/2015** Seq No: **6460449**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	330									
2-Methylphenol	BRL	330									
3,4-Methylphenol	BRL	330									
Phenol	BRL	330									
Surr: 2,4,6-Tribromophenol	2948	0	3333		88.4	41	128				
Surr: 2-Fluorobiphenyl	1460	0	1667		87.6	47	120				
Surr: 2-Fluorophenol	2746	0	3333		82.4	38.3	120				
Surr: 4-Terphenyl-d14	1501	0	1667		90.0	51.4	125				
Surr: Nitrobenzene-d5	1380	0	1667		82.8	40.1	120				
Surr: Phenol-d5	2822	0	3333		84.7	40.3	120				

Sample ID: **LCS-214257** Client ID: Units: **ug/Kg** Prep Date: **10/13/2015** Run No: **302026**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **214257** Analysis Date: **10/13/2015** Seq No: **6460450**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2868	330	3333		86.0	50.1	120				
Surr: 2,4,6-Tribromophenol	3677	0	3333		110	41	128				
Surr: 2-Fluorobiphenyl	1722	0	1667		103	47	120				
Surr: 2-Fluorophenol	2910	0	3333		87.3	38.3	120				
Surr: 4-Terphenyl-d14	1872	0	1667		112	51.4	125				
Surr: Nitrobenzene-d5	1581	0	1667		94.8	40.1	120				
Surr: Phenol-d5	3179	0	3333		95.4	40.3	120				

Sample ID: **1510947-001BMS** Client ID: Units: **ug/Kg-dry** Prep Date: **10/13/2015** Run No: **302026**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **214257** Analysis Date: **10/13/2015** Seq No: **6461255**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2726	380	3798		71.8	41.5	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1510946

ANALYTICAL QC SUMMARY REPORT

BatchID: 214257

Sample ID: **1510947-001BMS** Client ID:
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/Kg-dry** Prep Date: **10/13/2015** Run No: **302026**
BatchID: **214257** Analysis Date: **10/13/2015** Seq No: **6461255**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 2,4,6-Tribromophenol	3240	0	3798		85.3	41	128				
Surr: 2-Fluorobiphenyl	1529	0	1899		80.5	47	120				
Surr: 2-Fluorophenol	2796	0	3798		73.6	38.3	120				
Surr: 4-Terphenyl-d14	1681	0	1899		88.5	51.4	125				
Surr: Nitrobenzene-d5	1466	0	1899		77.2	40.1	120				
Surr: Phenol-d5	2958	0	3798		77.9	40.3	120				

Sample ID: **1510947-001BMSD** Client ID:
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/Kg-dry** Prep Date: **10/13/2015** Run No: **302026**
BatchID: **214257** Analysis Date: **10/13/2015** Seq No: **6461256**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2750	380	3798		72.4	41.5	120	0	0	37.4	
Surr: 2,4,6-Tribromophenol	3268	0	3798		86.1	41	128	0	0	0	
Surr: 2-Fluorobiphenyl	1584	0	1899		83.4	47	120	0	0	0	
Surr: 2-Fluorophenol	2692	0	3798		70.9	38.3	120	0	0	0	
Surr: 4-Terphenyl-d14	1681	0	1899		88.5	51.4	125	0	0	0	
Surr: Nitrobenzene-d5	1472	0	1899		77.5	40.1	120	0	0	0	
Surr: Phenol-d5	2961	0	3798		78.0	40.3	120	0	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1510946

ANALYTICAL QC SUMMARY REPORT

BatchID: 214316

Sample ID: **MB-214316** Client ID: Units: **ug/L** Prep Date: **10/13/2015** Run No: **301981**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **214316** Analysis Date: **10/13/2015** Seq No: **6459539**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	5.0									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	39.53	0	50.00		79.1	70.6	123				
Surr: Dibromofluoromethane	57.59	0	50.00		115	78.7	124				
Surr: Toluene-d8	48.97	0	50.00		97.9	81.3	120				

Sample ID: **LCS-214316** Client ID: Units: **ug/L** Prep Date: **10/13/2015** Run No: **301981**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **214316** Analysis Date: **10/13/2015** Seq No: **6459538**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	50.59	5.0	50.00		101	72.8	128				
Toluene	50.75	5.0	50.00		102	74.9	127				
Surr: 4-Bromofluorobenzene	39.35	0	50.00		78.7	70.6	123				
Surr: Dibromofluoromethane	53.10	0	50.00		106	78.7	124				
Surr: Toluene-d8	47.24	0	50.00		94.5	81.3	120				

Sample ID: **1510911-010AMS** Client ID: Units: **ug/L** Prep Date: **10/13/2015** Run No: **301981**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **214316** Analysis Date: **10/13/2015** Seq No: **6459541**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	44350	5000	50000		88.7	70	135				
Toluene	46690	5000	50000	570.0	92.2	70.5	137				
Surr: 4-Bromofluorobenzene	39410	0	50000		78.8	70.6	123				
Surr: Dibromofluoromethane	49860	0	50000		99.7	78.7	124				
Surr: Toluene-d8	45820	0	50000		91.6	81.3	120				

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1510946

ANALYTICAL QC SUMMARY REPORT

BatchID: 214316

Sample ID: **1510911-010AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/L** Prep Date: **10/13/2015** Run No: **301981**
BatchID: **214316** Analysis Date: **10/13/2015** Seq No: **6459542**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	43130	5000	50000		86.3	70	135	44350	2.79	20	
Toluene	44800	5000	50000	570.0	88.5	70.5	137	46690	4.13	20	
Surr: 4-Bromofluorobenzene	38970	0	50000		77.9	70.6	123	39410	0	0	
Surr: Dibromofluoromethane	53840	0	50000		108	78.7	124	49860	0	0	
Surr: Toluene-d8	47370	0	50000		94.7	81.3	120	45820	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1510946

ANALYTICAL QC SUMMARY REPORT

BatchID: 214326

Sample ID: **MB-214326** Client ID: Units: **ug/Kg** Prep Date: **10/14/2015** Run No: **302093**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **214326** Analysis Date: **10/14/2015** Seq No: **6463920**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	17									
Acenaphthylene	BRL	33									
Anthracene	BRL	1.7									
Benz(a)anthracene	BRL	1.7									
Benzo(a)pyrene	BRL	1.7									
Benzo(b)fluoranthene	BRL	3.3									
Benzo(g,h,i)perylene	BRL	3.3									
Benzo(k)fluoranthene	BRL	1.7									
Chrysene	BRL	1.7									
Dibenz(a,h)anthracene	BRL	3.3									
Fluoranthene	BRL	3.3									
Fluorene	BRL	3.3									
Indeno(1,2,3-cd)pyrene	BRL	1.7									
Naphthalene	BRL	17									
Phenanthrene	BRL	1.7									
Pyrene	BRL	1.7									
Surr: 4-Terphenyl-d14	58.55	0	66.67		87.8	42	124				

Sample ID: **LCS-214326** Client ID: Units: **ug/Kg** Prep Date: **10/14/2015** Run No: **302093**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **214326** Analysis Date: **10/14/2015** Seq No: **6463921**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	46.82	17	66.70		70.2	61.2	120				
Acenaphthylene	48.37	33	66.70		72.5	60.1	120				
Anthracene	53.34	1.7	66.70		80.0	58.4	120				
Benz(a)anthracene	77.84	1.7	66.70		117	56.7	124				
Benzo(a)pyrene	57.89	1.7	66.70		86.8	57.5	120				
Benzo(b)fluoranthene	73.53	3.3	66.70		110	60.9	118				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1510946

ANALYTICAL QC SUMMARY REPORT

BatchID: 214326

Sample ID: **LCS-214326** Client ID: Units: **ug/Kg** Prep Date: **10/14/2015** Run No: **302093**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **214326** Analysis Date: **10/14/2015** Seq No: **6463921**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(g,h,i)perylene	57.24	3.3	66.70		85.8	50.7	125				
Benzo(k)fluoranthene	52.16	1.7	66.70		78.2	53	125				
Chrysene	59.10	1.7	66.70		88.6	61.2	120				
Dibenz(a,h)anthracene	57.22	3.3	66.70		85.8	48	125				
Fluoranthene	57.26	3.3	66.70		85.8	64.9	121				
Fluorene	51.14	3.3	66.70		76.7	62.1	120				
Indeno(1,2,3-cd)pyrene	59.89	1.7	66.70		89.8	56	121				
Naphthalene	43.16	17	66.70		64.7	57.4	120				
Phenanthrene	55.64	1.7	66.70		83.4	63.3	120				
Pyrene	62.74	1.7	66.70		94.1	61.2	120				
Surr: 4-Terphenyl-d14	57.35	0	66.70		86.0	42	124				

Sample ID: **1510945-002DMS** Client ID: Units: **ug/Kg-dry** Prep Date: **10/14/2015** Run No: **302093**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **214326** Analysis Date: **10/14/2015** Seq No: **6463931**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	51.37	19	75.97		67.6	45.8	120				
Acenaphthylene	53.70	38	75.97		70.7	50.6	120				
Anthracene	53.02	1.9	75.97		69.8	42.4	125				
Benz(a)anthracene	77.23	1.9	75.97	2.165	98.8	44.9	136				
Benzo(a)pyrene	57.69	1.9	75.97	2.408	72.8	40.3	123				
Benzo(b)fluoranthene	75.19	3.8	75.97	5.038	92.3	37	128				
Benzo(g,h,i)perylene	41.21	3.8	75.97	2.300	51.2	41.1	137				
Benzo(k)fluoranthene	52.08	1.9	75.97	1.662	66.4	37.7	126				
Chrysene	58.18	1.9	75.97	2.487	73.3	43	120				
Dibenz(a,h)anthracene	46.81	3.8	75.97		61.6	42.6	130				
Fluoranthene	60.49	3.8	75.97	4.476	73.7	44.4	133				
Fluorene	55.31	3.8	75.97		72.8	42.5	119				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1510946

ANALYTICAL QC SUMMARY REPORT

BatchID: 214326

Sample ID: **1510945-002DMS** Client ID:
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**
Units: **ug/Kg-dry** Prep Date: **10/14/2015** Run No: **302093**
BatchID: **214326** Analysis Date: **10/14/2015** Seq No: **6463931**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Indeno(1,2,3-cd)pyrene	46.51	1.9	75.97	2.169	58.4	41.7	135				
Naphthalene	45.85	19	75.97		60.4	42.5	120				
Phenanthrene	57.17	1.9	75.97	2.026	72.6	44.1	120				
Pyrene	65.68	1.9	75.97	4.370	80.7	41.5	120				
Surr: 4-Terphenyl-d14	56.51	0	75.97		74.4	42	124				

Sample ID: **1510945-002DMSD** Client ID:
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**
Units: **ug/Kg-dry** Prep Date: **10/14/2015** Run No: **302093**
BatchID: **214326** Analysis Date: **10/14/2015** Seq No: **6463932**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	56.87	19	75.97		74.9	45.8	120	51.37	10.1	38.4	
Acenaphthylene	57.84	38	75.97		76.1	50.6	120	53.70	7.42	37.8	
Anthracene	59.22	1.9	75.97		78.0	42.4	125	53.02	11.0	49.7	
Benz(a)anthracene	78.86	1.9	75.97	2.165	101	44.9	136	77.23	2.09	33.8	
Benzo(a)pyrene	58.67	1.9	75.97	2.408	74.1	40.3	123	57.69	1.68	40.2	
Benzo(b)fluoranthene	75.60	3.8	75.97	5.038	92.9	37	128	75.19	0.541	36.5	
Benzo(g,h,i)perylene	43.02	3.8	75.97	2.300	53.6	41.1	137	41.21	4.28	39.3	
Benzo(k)fluoranthene	53.39	1.9	75.97	1.662	68.1	37.7	126	52.08	2.48	35	
Chrysene	59.71	1.9	75.97	2.487	75.3	43	120	58.18	2.60	28.6	
Dibenz(a,h)anthracene	48.89	3.8	75.97		64.4	42.6	130	46.81	4.35	44.6	
Fluoranthene	64.65	3.8	75.97	4.476	79.2	44.4	133	60.49	6.65	33.2	
Fluorene	59.55	3.8	75.97		78.4	42.5	119	55.31	7.37	35.4	
Indeno(1,2,3-cd)pyrene	49.33	1.9	75.97	2.169	62.1	41.7	135	46.51	5.90	37.3	
Naphthalene	51.76	19	75.97		68.1	42.5	120	45.85	12.1	39.4	
Phenanthrene	61.98	1.9	75.97	2.026	78.9	44.1	120	57.17	8.07	37	
Pyrene	66.68	1.9	75.97	4.370	82.0	41.5	120	65.68	1.51	33.1	
Surr: 4-Terphenyl-d14	57.16	0	75.97		75.2	42	124	56.51	0	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon Remediation
Workorder: 1510946

ANALYTICAL QC SUMMARY REPORT

BatchID: 214423

Sample ID: **MB-214423**	Client ID:				Units: **mg/Kg**		Prep Date: **10/15/2015**		Run No: **302209**
SampleType: **MBLK**	TestCode: **Cyanide, Total SW9014**				BatchID: **214423**		Analysis Date: **10/15/2015**		Seq No: **6465284**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	1.00									

Sample ID: **LCS-214423**	Client ID:				Units: **mg/Kg**		Prep Date: **10/15/2015**		Run No: **302209**
SampleType: **LCS**	TestCode: **Cyanide, Total SW9014**				BatchID: **214423**		Analysis Date: **10/15/2015**		Seq No: **6465285**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	11.28	1.00	12.50		90.2	85	115				

Sample ID: **1510895-003BMS**	Client ID:				Units: **mg/Kg**		Prep Date: **10/15/2015**		Run No: **302209**
SampleType: **MS**	TestCode: **Cyanide, Total SW9014**				BatchID: **214423**		Analysis Date: **10/15/2015**		Seq No: **6465293**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	10.65	1.00	12.50		85.2	70	130				

Sample ID: **1510895-003BMSD**	Client ID:				Units: **mg/Kg**		Prep Date: **10/15/2015**		Run No: **302209**
SampleType: **MSD**	TestCode: **Cyanide, Total SW9014**				BatchID: **214423**		Analysis Date: **10/15/2015**		Seq No: **6465294**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	10.66	1.00	12.50		85.3	70	130	10.65	0.141	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

November 11, 2015

Nic Vrey
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: Macon Remediation

Dear Nic Vrey: Order No: 1510Q67

Analytical Environmental Services, Inc. received 6 samples on 10/29/2015 10:20:00 AM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

COI COI COI

Work Order: 1510Q67

Date: 10/28/15 Page 1 of 1

COMPANY: ERM

ADDRESS: 3200 Windy Hill Rd ~~Attn~~ Suite 1500W Atlanta, GA 30339

PHONE: 678-486-2700

FAX:

SAMPLED BY: K. Spencer, B. Mitchell

SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	8260B - Macon	8270C - Macon	6010B - Macon	9012A	7470A										REMARKS	No # of Containers
	PRESERVATION (See codes)						4	1	1	1	1											
1	SSS-43-20151028-01	10-28-15	12:05		X	SO	4	1	1	1	1										6010B, 9012A, 7470A Cont.	6
2	SSS-44-20151028-01	10-28-15	12:00		X	SO	4	1	1	1	1										"	6
3	SSS-45-20151028-01	10-28-15	12:10		X	SO	4	1	1	1	1										"	6
4	SSS-46-20151028-01	10-28-15	12:15		X	SO	4	1	1	1	1										"	6
5	DUP-04-20151028-01	10-28-15			X	SO	4	1	1	1	1										"	6
6	TB-14-20151028-01	10/28/15				W	2															2
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						

ANALYSIS REQUESTED

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: Bill Mitchell	10-28-15 17:00	1: [signature]	10/29/15 10:20 AM
2:		2:	
3:		3:	

PROJECT INFORMATION

PROJECT NAME: Macon Remediation

PROJECT #: 0176740

SITE ADDRESS: 224 Walnut St.

SEND REPORT TO: Nic.Vrey@erm.com

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: PO#:

RECEIPT

Total # of Containers: 30

Turnaround Time Request
- ○ Standard 5 Business Days
- ○ 2 Business Day Rush
- ○ Next Business Day Rush
- ○ Same Day Rush (auth req.)
- ☒ Other 3 DAY TAT

STATE PROGRAM (if any): _____

E-mail? Y / N; Fax? Y / N

DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS:
Please See AGL Macon COI List

SHIPMENT METHOD

OUT / / VIA:

IN / / VIA:

CLIENT (FedEx) UPS MAIL COURIER

GREYHOUND OTHER_____

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.
SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc **Date:** 11-Nov-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-43-20151028-01
Project Name:	Macon Remediation	**Collection Date:**	10/28/2015 12:05:00 PM
Lab ID:	1510Q67-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	7.1		ug/Kg-dry	215350	1	11/03/2015 13:40	CG
Benzene	BRL	3.6		ug/Kg-dry	215350	1	11/03/2015 13:40	CG
Toluene	BRL	3.6		ug/Kg-dry	215350	1	11/03/2015 13:40	CG
Ethylbenzene	BRL	3.6		ug/Kg-dry	215350	1	11/03/2015 13:40	CG
Xylenes, Total	BRL	3.6		ug/Kg-dry	215350	1	11/03/2015 13:40	CG
Surr: 4-Bromofluorobenzene	90.6	70-128		%REC	215350	1	11/03/2015 13:40	CG
Surr: Dibromofluoromethane	117	78.2-128		%REC	215350	1	11/03/2015 13:40	CG
Surr: Toluene-d8	111	76.5-116		%REC	215350	1	11/03/2015 13:40	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.116		mg/Kg-dry	215242	1	10/30/2015 12:48	CC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	20		ug/Kg-dry	215352	1	11/03/2015 13:32	YH
Acenaphthylene	69	39		ug/Kg-dry	215352	1	11/03/2015 13:32	YH
Anthracene	40	2.0		ug/Kg-dry	215352	1	11/03/2015 13:32	YH
Benz(a)anthracene	260	2.0		ug/Kg-dry	215352	1	11/03/2015 13:32	YH
Benzo(a)pyrene	270	2.0		ug/Kg-dry	215352	1	11/03/2015 13:32	YH
Benzo(b)fluoranthene	300	3.9		ug/Kg-dry	215352	1	11/03/2015 13:32	YH
Benzo(g,h,i)perylene	190	3.9		ug/Kg-dry	215352	1	11/03/2015 13:32	YH
Benzo(k)fluoranthene	100	2.0		ug/Kg-dry	215352	1	11/03/2015 13:32	YH
Chrysene	210	2.0		ug/Kg-dry	215352	1	11/03/2015 13:32	YH
Dibenz(a,h)anthracene	30	3.9		ug/Kg-dry	215352	1	11/03/2015 13:32	YH
Fluoranthene	430	39		ug/Kg-dry	215352	10	11/03/2015 14:10	YH
Fluorene	14	3.9		ug/Kg-dry	215352	1	11/03/2015 13:32	YH
Indeno(1,2,3-cd)pyrene	160	2.0		ug/Kg-dry	215352	1	11/03/2015 13:32	YH
Naphthalene	BRL	20		ug/Kg-dry	215352	1	11/03/2015 13:32	YH
Phenanthrene	150	2.0		ug/Kg-dry	215352	1	11/03/2015 13:32	YH
Pyrene	520	20		ug/Kg-dry	215352	10	11/03/2015 14:10	YH
Surr: 4-Terphenyl-d14	101	42-124		%REC	215352	1	11/03/2015 13:32	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	390		ug/Kg-dry	215199	1	10/30/2015 13:53	YH
2-Methylphenol	BRL	390		ug/Kg-dry	215199	1	10/30/2015 13:53	YH
3,4-Methylphenol	BRL	390		ug/Kg-dry	215199	1	10/30/2015 13:53	YH
Phenol	BRL	390		ug/Kg-dry	215199	1	10/30/2015 13:53	YH
Surr: 2,4,6-Tribromophenol	80	41-128		%REC	215199	1	10/30/2015 13:53	YH
Surr: 2-Fluorobiphenyl	80.6	47-120		%REC	215199	1	10/30/2015 13:53	YH
Surr: 2-Fluorophenol	75.4	38.3-120		%REC	215199	1	10/30/2015 13:53	YH
Surr: 4-Terphenyl-d14	80.9	51.4-125		%REC	215199	1	10/30/2015 13:53	YH
Surr: Nitrobenzene-d5	76	40.1-120		%REC	215199	1	10/30/2015 13:53	YH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 11-Nov-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-43-20151028-01
Project Name:	Macon Remediation	**Collection Date:**	10/28/2015 12:05:00 PM
Lab ID:	1510Q67-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	79.6	40.3-120		%REC	215199	1	10/30/2015 13:53	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	2.32	1.19		mg/Kg-dry	215408	1	11/03/2015 15:50	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.18		mg/Kg-dry	215236	1	11/02/2015 17:06	IO
Arsenic	BRL	5.18		mg/Kg-dry	215236	1	11/02/2015 17:06	IO
Barium	40.8	5.18		mg/Kg-dry	215236	1	11/02/2015 17:06	IO
Beryllium	BRL	2.59		mg/Kg-dry	215236	1	11/02/2015 17:06	IO
Cadmium	BRL	2.59		mg/Kg-dry	215236	1	11/02/2015 17:06	IO
Chromium	19.2	2.59		mg/Kg-dry	215236	1	11/02/2015 17:06	IO
Copper	8.91	2.59		mg/Kg-dry	215236	1	11/02/2015 17:06	IO
Lead	15.3	5.18		mg/Kg-dry	215236	1	11/02/2015 17:06	IO
Nickel	BRL	5.18		mg/Kg-dry	215236	1	11/02/2015 17:06	IO
Zinc	17.0	5.18		mg/Kg-dry	215236	1	11/02/2015 17:06	IO
PERCENT MOISTURE D2216								
Percent Moisture	15.8	0		wt%	R303518	1	11/03/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 11-Nov-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-44-20151028-01
Project Name:	Macon Remediation	**Collection Date:**	10/28/2015 12:00:00 PM
Lab ID:	1510Q67-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	7.5		ug/Kg-dry	215350	1	11/03/2015 14:04	CG
Benzene	BRL	3.8		ug/Kg-dry	215350	1	11/03/2015 14:04	CG
Toluene	BRL	3.8		ug/Kg-dry	215350	1	11/03/2015 14:04	CG
Ethylbenzene	BRL	3.8		ug/Kg-dry	215350	1	11/03/2015 14:04	CG
Xylenes, Total	BRL	3.8		ug/Kg-dry	215350	1	11/03/2015 14:04	CG
Surr: 4-Bromofluorobenzene	89.6	70-128		%REC	215350	1	11/03/2015 14:04	CG
Surr: Dibromofluoromethane	120	78.2-128		%REC	215350	1	11/03/2015 14:04	CG
Surr: Toluene-d8	109	76.5-116		%REC	215350	1	11/03/2015 14:04	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.118		mg/Kg-dry	215242	1	10/30/2015 12:55	CC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	32	20		ug/Kg-dry	215352	1	11/03/2015 13:58	YH
Acenaphthylene	110	39		ug/Kg-dry	215352	1	11/03/2015 13:58	YH
Anthracene	110	2.0		ug/Kg-dry	215352	1	11/03/2015 13:58	YH
Benz(a)anthracene	420	20		ug/Kg-dry	215352	10	11/03/2015 14:38	YH
Benzo(a)pyrene	340	20		ug/Kg-dry	215352	10	11/03/2015 14:38	YH
Benzo(b)fluoranthene	480	39		ug/Kg-dry	215352	10	11/03/2015 14:38	YH
Benzo(g,h,i)perylene	290	3.9		ug/Kg-dry	215352	1	11/03/2015 13:58	YH
Benzo(k)fluoranthene	160	2.0		ug/Kg-dry	215352	1	11/03/2015 13:58	YH
Chrysene	400	2.0		ug/Kg-dry	215352	1	11/03/2015 13:58	YH
Dibenz(a,h)anthracene	48	3.9		ug/Kg-dry	215352	1	11/03/2015 13:58	YH
Fluoranthene	670	39		ug/Kg-dry	215352	10	11/03/2015 14:38	YH
Fluorene	43	3.9		ug/Kg-dry	215352	1	11/03/2015 13:58	YH
Indeno(1,2,3-cd)pyrene	250	2.0		ug/Kg-dry	215352	1	11/03/2015 13:58	YH
Naphthalene	31	20		ug/Kg-dry	215352	1	11/03/2015 13:58	YH
Phenanthrene	370	20		ug/Kg-dry	215352	10	11/03/2015 14:38	YH
Pyrene	790	20		ug/Kg-dry	215352	10	11/03/2015 14:38	YH
Surr: 4-Terphenyl-d14	101	42-124		%REC	215352	1	11/03/2015 13:58	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	390		ug/Kg-dry	215199	1	10/30/2015 19:05	YH
2-Methylphenol	BRL	390		ug/Kg-dry	215199	1	10/30/2015 19:05	YH
3,4-Methylphenol	BRL	390		ug/Kg-dry	215199	1	10/30/2015 19:05	YH
Phenol	BRL	390		ug/Kg-dry	215199	1	10/30/2015 19:05	YH
Surr: 2,4,6-Tribromophenol	90.3	41-128		%REC	215199	1	10/30/2015 19:05	YH
Surr: 2-Fluorobiphenyl	88.1	47-120		%REC	215199	1	10/30/2015 19:05	YH
Surr: 2-Fluorophenol	82.2	38.3-120		%REC	215199	1	10/30/2015 19:05	YH
Surr: 4-Terphenyl-d14	89.1	51.4-125		%REC	215199	1	10/30/2015 19:05	YH
Surr: Nitrobenzene-d5	84	40.1-120		%REC	215199	1	10/30/2015 19:05	YH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 11-Nov-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-44-20151028-01
Project Name:	Macon Remediation	**Collection Date:**	10/28/2015 12:00:00 PM
Lab ID:	1510Q67-002	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	87.5	40.3-120		%REC	215199	1	10/30/2015 19:05	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	1.54	1.19		mg/Kg-dry	215408	1	11/03/2015 15:50	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.95		mg/Kg-dry	215236	1	11/02/2015 17:09	IO
Arsenic	BRL	5.95		mg/Kg-dry	215236	1	11/02/2015 17:09	IO
Barium	37.4	5.95		mg/Kg-dry	215236	1	11/02/2015 17:09	IO
Beryllium	BRL	2.97		mg/Kg-dry	215236	1	11/02/2015 17:09	IO
Cadmium	BRL	2.97		mg/Kg-dry	215236	1	11/02/2015 17:09	IO
Chromium	11.1	2.97		mg/Kg-dry	215236	1	11/02/2015 17:09	IO
Copper	6.77	2.97		mg/Kg-dry	215236	1	11/02/2015 17:09	IO
Lead	11.4	5.95		mg/Kg-dry	215236	1	11/02/2015 17:09	IO
Nickel	BRL	5.95		mg/Kg-dry	215236	1	11/02/2015 17:09	IO
Zinc	9.78	5.95		mg/Kg-dry	215236	1	11/02/2015 17:09	IO
PERCENT MOISTURE D2216								
Percent Moisture	16.2	0		wt%	R303518	1	11/03/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 11-Nov-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-45-20151028-01
Project Name:	Macon Remediation	**Collection Date:**	10/28/2015 12:10:00 PM
Lab ID:	1510Q67-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	6.9		ug/Kg-dry	215350	1	11/03/2015 14:28	CG
Benzene	BRL	3.5		ug/Kg-dry	215350	1	11/03/2015 14:28	CG
Toluene	BRL	3.5		ug/Kg-dry	215350	1	11/03/2015 14:28	CG
Ethylbenzene	BRL	3.5		ug/Kg-dry	215350	1	11/03/2015 14:28	CG
Xylenes, Total	BRL	3.5		ug/Kg-dry	215350	1	11/03/2015 14:28	CG
Surr: 4-Bromofluorobenzene	93.1	70-128		%REC	215350	1	11/03/2015 14:28	CG
Surr: Dibromofluoromethane	117	78.2-128		%REC	215350	1	11/03/2015 14:28	CG
Surr: Toluene-d8	110	76.5-116		%REC	215350	1	11/03/2015 14:28	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.123		mg/Kg-dry	215242	1	10/30/2015 12:57	CC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	26	21		ug/Kg-dry	215352	1	11/03/2015 14:26	YH
Acenaphthylene	250	41		ug/Kg-dry	215352	1	11/03/2015 14:26	YH
Anthracene	83	2.1		ug/Kg-dry	215352	1	11/03/2015 14:26	YH
Benz(a)anthracene	310	21		ug/Kg-dry	215352	10	11/03/2015 15:05	YH
Benzo(a)pyrene	440	21		ug/Kg-dry	215352	10	11/03/2015 15:05	YH
Benzo(b)fluoranthene	520	41		ug/Kg-dry	215352	10	11/03/2015 15:05	YH
Benzo(g,h,i)perylene	380	41		ug/Kg-dry	215352	10	11/03/2015 15:05	YH
Benzo(k)fluoranthene	180	2.1		ug/Kg-dry	215352	1	11/03/2015 14:26	YH
Chrysene	350	2.1		ug/Kg-dry	215352	1	11/03/2015 14:26	YH
Dibenz(a,h)anthracene	73	4.1		ug/Kg-dry	215352	1	11/03/2015 14:26	YH
Fluoranthene	500	41		ug/Kg-dry	215352	10	11/03/2015 15:05	YH
Fluorene	24	4.1		ug/Kg-dry	215352	1	11/03/2015 14:26	YH
Indeno(1,2,3-cd)pyrene	380	2.1		ug/Kg-dry	215352	1	11/03/2015 14:26	YH
Naphthalene	BRL	21		ug/Kg-dry	215352	1	11/03/2015 14:26	YH
Phenanthrene	150	2.1		ug/Kg-dry	215352	1	11/03/2015 14:26	YH
Pyrene	630	21		ug/Kg-dry	215352	10	11/03/2015 15:05	YH
Surr: 4-Terphenyl-d14	111	42-124		%REC	215352	1	11/03/2015 14:26	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	410		ug/Kg-dry	215199	1	10/30/2015 19:33	YH
2-Methylphenol	BRL	410		ug/Kg-dry	215199	1	10/30/2015 19:33	YH
3,4-Methylphenol	BRL	410		ug/Kg-dry	215199	1	10/30/2015 19:33	YH
Phenol	BRL	410		ug/Kg-dry	215199	1	10/30/2015 19:33	YH
Surr: 2,4,6-Tribromophenol	88	41-128		%REC	215199	1	10/30/2015 19:33	YH
Surr: 2-Fluorobiphenyl	87.9	47-120		%REC	215199	1	10/30/2015 19:33	YH
Surr: 2-Fluorophenol	77.9	38.3-120		%REC	215199	1	10/30/2015 19:33	YH
Surr: 4-Terphenyl-d14	87.1	51.4-125		%REC	215199	1	10/30/2015 19:33	YH
Surr: Nitrobenzene-d5	83.3	40.1-120		%REC	215199	1	10/30/2015 19:33	YH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 11-Nov-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-45-20151028-01
Project Name:	Macon Remediation	**Collection Date:**	10/28/2015 12:10:00 PM
Lab ID:	1510Q67-003	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	83.9	40.3-120		%REC	215199	1	10/30/2015 19:33	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.23		mg/Kg-dry	215408	1	11/03/2015 15:50	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	6.08		mg/Kg-dry	215236	1	11/02/2015 17:14	IO
Arsenic	BRL	6.08		mg/Kg-dry	215236	1	11/02/2015 17:14	IO
Barium	42.8	6.08		mg/Kg-dry	215236	1	11/02/2015 17:14	IO
Beryllium	BRL	3.04		mg/Kg-dry	215236	1	11/02/2015 17:14	IO
Cadmium	BRL	3.04		mg/Kg-dry	215236	1	11/02/2015 17:14	IO
Chromium	22.0	3.04		mg/Kg-dry	215236	1	11/02/2015 17:14	IO
Copper	11.8	3.04		mg/Kg-dry	215236	1	11/02/2015 17:14	IO
Lead	17.4	6.08		mg/Kg-dry	215236	1	11/02/2015 17:14	IO
Nickel	BRL	6.08		mg/Kg-dry	215236	1	11/02/2015 17:14	IO
Zinc	24.0	6.08		mg/Kg-dry	215236	1	11/02/2015 17:14	IO
PERCENT MOISTURE D2216								
Percent Moisture	18.6	0		wt%	R303518	1	11/03/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 11-Nov-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-46-20151028-01
Project Name:	Macon Remediation	**Collection Date:**	10/28/2015 12:15:00 PM
Lab ID:	1510Q67-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	7.9		ug/Kg-dry	215350	1	11/03/2015 14:51	CG
Benzene	BRL	3.9		ug/Kg-dry	215350	1	11/03/2015 14:51	CG
Toluene	BRL	3.9		ug/Kg-dry	215350	1	11/03/2015 14:51	CG
Ethylbenzene	BRL	3.9		ug/Kg-dry	215350	1	11/03/2015 14:51	CG
Xylenes, Total	BRL	3.9		ug/Kg-dry	215350	1	11/03/2015 14:51	CG
Surr: 4-Bromofluorobenzene	95.6	70-128		%REC	215350	1	11/03/2015 14:51	CG
Surr: Dibromofluoromethane	120	78.2-128		%REC	215350	1	11/03/2015 14:51	CG
Surr: Toluene-d8	110	76.5-116		%REC	215350	1	11/03/2015 14:51	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.115		mg/Kg-dry	215242	1	10/30/2015 12:59	CC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	BRL	20		ug/Kg-dry	215352	1	11/03/2015 14:53	YH
Acenaphthylene	110	39		ug/Kg-dry	215352	1	11/03/2015 14:53	YH
Anthracene	61	2.0		ug/Kg-dry	215352	1	11/03/2015 14:53	YH
Benz(a)anthracene	350	20		ug/Kg-dry	215352	10	11/03/2015 15:32	YH
Benzo(a)pyrene	350	20		ug/Kg-dry	215352	10	11/03/2015 15:32	YH
Benzo(b)fluoranthene	470	39		ug/Kg-dry	215352	10	11/03/2015 15:32	YH
Benzo(g,h,i)perylene	380	3.9		ug/Kg-dry	215352	1	11/03/2015 14:53	YH
Benzo(k)fluoranthene	180	2.0		ug/Kg-dry	215352	1	11/03/2015 14:53	YH
Chrysene	350	2.0		ug/Kg-dry	215352	1	11/03/2015 14:53	YH
Dibenz(a,h)anthracene	53	3.9		ug/Kg-dry	215352	1	11/03/2015 14:53	YH
Fluoranthene	570	39		ug/Kg-dry	215352	10	11/03/2015 15:32	YH
Fluorene	25	3.9		ug/Kg-dry	215352	1	11/03/2015 14:53	YH
Indeno(1,2,3-cd)pyrene	300	2.0		ug/Kg-dry	215352	1	11/03/2015 14:53	YH
Naphthalene	23	20		ug/Kg-dry	215352	1	11/03/2015 14:53	YH
Phenanthrene	160	2.0		ug/Kg-dry	215352	1	11/03/2015 14:53	YH
Pyrene	640	20		ug/Kg-dry	215352	10	11/03/2015 15:32	YH
Surr: 4-Terphenyl-d14	105	42-124		%REC	215352	1	11/03/2015 14:53	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	390		ug/Kg-dry	215199	1	10/30/2015 20:03	YH
2-Methylphenol	BRL	390		ug/Kg-dry	215199	1	10/30/2015 20:03	YH
3,4-Methylphenol	BRL	390		ug/Kg-dry	215199	1	10/30/2015 20:03	YH
Phenol	BRL	390		ug/Kg-dry	215199	1	10/30/2015 20:03	YH
Surr: 2,4,6-Tribromophenol	84.8	41-128		%REC	215199	1	10/30/2015 20:03	YH
Surr: 2-Fluorobiphenyl	85.6	47-120		%REC	215199	1	10/30/2015 20:03	YH
Surr: 2-Fluorophenol	74.9	38.3-120		%REC	215199	1	10/30/2015 20:03	YH
Surr: 4-Terphenyl-d14	87.3	51.4-125		%REC	215199	1	10/30/2015 20:03	YH
Surr: Nitrobenzene-d5	81.8	40.1-120		%REC	215199	1	10/30/2015 20:03	YH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 11-Nov-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-46-20151028-01
Project Name:	Macon Remediation	**Collection Date:**	10/28/2015 12:15:00 PM
Lab ID:	1510Q67-004	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	81.7	40.3-120		%REC	215199	1	10/30/2015 20:03	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.18		mg/Kg-dry	215408	1	11/03/2015 15:50	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.65		mg/Kg-dry	215236	1	11/02/2015 17:25	IO
Arsenic	BRL	5.65		mg/Kg-dry	215236	1	11/02/2015 17:25	IO
Barium	37.7	5.65		mg/Kg-dry	215236	1	11/02/2015 17:25	IO
Beryllium	BRL	2.82		mg/Kg-dry	215236	1	11/02/2015 17:25	IO
Cadmium	BRL	2.82		mg/Kg-dry	215236	1	11/02/2015 17:25	IO
Chromium	17.0	2.82		mg/Kg-dry	215236	1	11/02/2015 17:25	IO
Copper	8.59	2.82		mg/Kg-dry	215236	1	11/02/2015 17:25	IO
Lead	16.1	5.65		mg/Kg-dry	215236	1	11/02/2015 17:25	IO
Nickel	BRL	5.65		mg/Kg-dry	215236	1	11/02/2015 17:25	IO
Zinc	15.1	5.65		mg/Kg-dry	215236	1	11/02/2015 17:25	IO
PERCENT MOISTURE D2216								
Percent Moisture	15.2	0		wt%	R303518	1	11/03/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 11-Nov-15

Client:	ERM-Southeast	**Client Sample ID:**	DUP-08-20151028-01
Project Name:	Macon Remediation	**Collection Date:**	10/28/2015
Lab ID:	1510Q67-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	7.7		ug/Kg-dry	215350	1	11/03/2015 15:14	CG
Benzene	43	3.9		ug/Kg-dry	215350	1	11/03/2015 15:14	CG
Toluene	BRL	3.9		ug/Kg-dry	215350	1	11/03/2015 15:14	CG
Ethylbenzene	BRL	3.9		ug/Kg-dry	215350	1	11/03/2015 15:14	CG
Xylenes, Total	BRL	3.9		ug/Kg-dry	215350	1	11/03/2015 15:14	CG
Surr: 4-Bromofluorobenzene	93.1	70-128		%REC	215350	1	11/03/2015 15:14	CG
Surr: Dibromofluoromethane	116	78.2-128		%REC	215350	1	11/03/2015 15:14	CG
Surr: Toluene-d8	105	76.5-116		%REC	215350	1	11/03/2015 15:14	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.122		mg/Kg-dry	215242	1	10/30/2015 13:01	CC
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	34	21		ug/Kg-dry	215352	1	11/03/2015 15:19	YH
Acenaphthylene	720	410		ug/Kg-dry	215352	10	11/03/2015 16:00	YH
Anthracene	390	21		ug/Kg-dry	215352	10	11/03/2015 16:00	YH
Benz(a)anthracene	2900	21		ug/Kg-dry	215352	10	11/03/2015 16:00	YH
Benzo(a)pyrene	2600	21		ug/Kg-dry	215352	10	11/03/2015 16:00	YH
Benzo(b)fluoranthene	3700	41		ug/Kg-dry	215352	10	11/03/2015 16:00	YH
Benzo(g,h,i)perylene	2000	41		ug/Kg-dry	215352	10	11/03/2015 16:00	YH
Benzo(k)fluoranthene	1000	21		ug/Kg-dry	215352	10	11/03/2015 16:00	YH
Chrysene	2100	21		ug/Kg-dry	215352	10	11/03/2015 16:00	YH
Dibenz(a,h)anthracene	360	4.1		ug/Kg-dry	215352	1	11/03/2015 15:19	YH
Fluoranthene	6100	410		ug/Kg-dry	215352	100	11/03/2015 16:12	YH
Fluorene	79	4.1		ug/Kg-dry	215352	1	11/03/2015 15:19	YH
Indeno(1,2,3-cd)pyrene	1600	21		ug/Kg-dry	215352	10	11/03/2015 16:00	YH
Naphthalene	100	21		ug/Kg-dry	215352	1	11/03/2015 15:19	YH
Phenanthrene	920	21		ug/Kg-dry	215352	10	11/03/2015 16:00	YH
Pyrene	6500	210		ug/Kg-dry	215352	100	11/03/2015 16:12	YH
Surr: 4-Terphenyl-d14	115	42-124		%REC	215352	1	11/03/2015 15:19	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	410		ug/Kg-dry	215199	1	10/30/2015 20:31	YH
2-Methylphenol	BRL	410		ug/Kg-dry	215199	1	10/30/2015 20:31	YH
3,4-Methylphenol	BRL	410		ug/Kg-dry	215199	1	10/30/2015 20:31	YH
Phenol	BRL	410		ug/Kg-dry	215199	1	10/30/2015 20:31	YH
Surr: 2,4,6-Tribromophenol	83.2	41-128		%REC	215199	1	10/30/2015 20:31	YH
Surr: 2-Fluorobiphenyl	83.9	47-120		%REC	215199	1	10/30/2015 20:31	YH
Surr: 2-Fluorophenol	75.1	38.3-120		%REC	215199	1	10/30/2015 20:31	YH
Surr: 4-Terphenyl-d14	85.6	51.4-125		%REC	215199	1	10/30/2015 20:31	YH
Surr: Nitrobenzene-d5	77	40.1-120		%REC	215199	1	10/30/2015 20:31	YH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 11-Nov-15

Client:	ERM-Southeast	**Client Sample ID:**	DUP-08-20151028-01
Project Name:	Macon Remediation	**Collection Date:**	10/28/2015
Lab ID:	1510Q67-005	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	81	40.3-120		%REC	215199	1	10/30/2015 20:31	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	1.32	1.25		mg/Kg-dry	215408	1	11/03/2015 15:50	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	6.16		mg/Kg-dry	215236	1	11/02/2015 17:29	IO
Arsenic	BRL	6.16		mg/Kg-dry	215236	1	11/02/2015 17:29	IO
Barium	35.1	6.16		mg/Kg-dry	215236	1	11/02/2015 17:29	IO
Beryllium	BRL	3.08		mg/Kg-dry	215236	1	11/02/2015 17:29	IO
Cadmium	BRL	3.08		mg/Kg-dry	215236	1	11/02/2015 17:29	IO
Chromium	23.7	3.08		mg/Kg-dry	215236	1	11/02/2015 17:29	IO
Copper	8.97	3.08		mg/Kg-dry	215236	1	11/02/2015 17:29	IO
Lead	13.3	6.16		mg/Kg-dry	215236	1	11/02/2015 17:29	IO
Nickel	BRL	6.16		mg/Kg-dry	215236	1	11/02/2015 17:29	IO
Zinc	15.2	6.16		mg/Kg-dry	215236	1	11/02/2015 17:29	IO
PERCENT MOISTURE D2216								
Percent Moisture	20.3	0		wt%	R303518	1	11/03/2015 11:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 11-Nov-15

Client:	ERM-Southeast	**Client Sample ID:**	TB-14-20151028-01
Project Name:	Macon Remediation	**Collection Date:**	10/29/2015
Lab ID:	1510Q67-006	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	215156	1	10/30/2015 16:12	NP
Carbon disulfide	BRL	5.0		ug/L	215156	1	10/30/2015 16:12	NP
Ethylbenzene	BRL	5.0		ug/L	215156	1	10/30/2015 16:12	NP
Toluene	BRL	5.0		ug/L	215156	1	10/30/2015 16:12	NP
Xylenes, Total	BRL	5.0		ug/L	215156	1	10/30/2015 16:12	NP
Surr: 4-Bromofluorobenzene	99.4	70.6-123		%REC	215156	1	10/30/2015 16:12	NP
Surr: Dibromofluoromethane	102	78.7-124		%REC	215156	1	10/30/2015 16:12	NP
Surr: Toluene-d8	100	81.3-120		%REC	215156	1	10/30/2015 16:12	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM Work Order Number 1510Q67

Checklist completed by _____ 10/29/15
Signature Date

Carrier name: FedEx ✓ UPS __ Courier __ Client __ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 3.6 Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by _____

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1510Q67

ANALYTICAL QC SUMMARY REPORT

BatchID: 215156

Sample ID: **MB-215156** Client ID: Units: **ug/L** Prep Date: **10/28/2015** Run No: **303096**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **215156** Analysis Date: **10/28/2015** Seq No: **6486424**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	5.0									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	49.81	0	50.00		99.6	70.6	123				
Surr: Dibromofluoromethane	49.60	0	50.00		99.2	78.7	124				
Surr: Toluene-d8	49.85	0	50.00		99.7	81.3	120				

Sample ID: **LCS-215156** Client ID: Units: **ug/L** Prep Date: **10/28/2015** Run No: **303096**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **215156** Analysis Date: **10/28/2015** Seq No: **6486423**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	49.49	5.0	50.00		99.0	72.8	128				
Toluene	49.38	5.0	50.00		98.8	74.9	127				
Surr: 4-Bromofluorobenzene	49.15	0	50.00		98.3	70.6	123				
Surr: Dibromofluoromethane	49.91	0	50.00		99.8	78.7	124				
Surr: Toluene-d8	49.35	0	50.00		98.7	81.3	120				

Sample ID: **1510L82-028AMS** Client ID: Units: **ug/L** Prep Date: **10/28/2015** Run No: **303096**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **215156** Analysis Date: **10/28/2015** Seq No: **6488393**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	27670	2500	25000		111	70	135				
Toluene	27630	2500	25000		110	70.5	137				
Surr: 4-Bromofluorobenzene	24840	0	25000		99.4	70.6	123				
Surr: Dibromofluoromethane	25750	0	25000		103	78.7	124				
Surr: Toluene-d8	24010	0	25000		96.0	81.3	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1510Q67

ANALYTICAL QC SUMMARY REPORT

BatchID: 215156

Sample ID: **1510L82-028AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/L** Prep Date: **10/28/2015** Run No: **303096**
BatchID: **215156** Analysis Date: **10/28/2015** Seq No: **6488394**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	30950	2500	25000		124	70	135	27670	11.2	20	
Toluene	31080	2500	25000		124	70.5	137	27630	11.8	20	
Surr: 4-Bromofluorobenzene	24800	0	25000		99.2	70.6	123	24840	0	0	
Surr: Dibromofluoromethane	27040	0	25000		108	78.7	124	25750	0	0	
Surr: Toluene-d8	24960	0	25000		99.8	81.3	120	24010	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1510Q67

ANALYTICAL QC SUMMARY REPORT

BatchID: 215199

Sample ID: **MB-215199** Client ID: Units: **ug/Kg** Prep Date: **10/29/2015** Run No: **303269**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **215199** Analysis Date: **10/30/2015** Seq No: **6490693**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	330									
2-Methylphenol	BRL	330									
3,4-Methylphenol	BRL	330									
Phenol	BRL	330									
Surr: 2,4,6-Tribromophenol	2895	0	3333		86.8	41	128				
Surr: 2-Fluorobiphenyl	1371	0	1667		82.3	47	120				
Surr: 2-Fluorophenol	2495	0	3333		74.9	38.3	120				
Surr: 4-Terphenyl-d14	1538	0	1667		92.3	51.4	125				
Surr: Nitrobenzene-d5	1279	0	1667		76.8	40.1	120				
Surr: Phenol-d5	2618	0	3333		78.6	40.3	120				

Sample ID: **LCS-215199** Client ID: Units: **ug/Kg** Prep Date: **10/29/2015** Run No: **303269**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **215199** Analysis Date: **10/30/2015** Seq No: **6490694**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2816	330	3333		84.5	50.1	120				
Surr: 2,4,6-Tribromophenol	3645	0	3333		109	41	128				
Surr: 2-Fluorobiphenyl	1687	0	1667		101	47	120				
Surr: 2-Fluorophenol	3003	0	3333		90.1	38.3	120				
Surr: 4-Terphenyl-d14	1729	0	1667		104	51.4	125				
Surr: Nitrobenzene-d5	1583	0	1667		95.0	40.1	120				
Surr: Phenol-d5	3156	0	3333		94.7	40.3	120				

Sample ID: **1510O86-001CMS** Client ID: Units: **ug/Kg-dry** Prep Date: **10/29/2015** Run No: **303269**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **215199** Analysis Date: **10/30/2015** Seq No: **6492706**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2879	380	3818		75.4	41.5	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1510Q67

ANALYTICAL QC SUMMARY REPORT

BatchID: 215199

Sample ID: **1510O86-001CMS** Client ID: Units: **ug/Kg-dry** Prep Date: **10/29/2015** Run No: **303269**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **215199** Analysis Date: **10/30/2015** Seq No: **6492706**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 2,4,6-Tribromophenol	3603	0	3818		94.4	41	128				
Surr: 2-Fluorobiphenyl	1691	0	1909		88.6	47	120				
Surr: 2-Fluorophenol	2910	0	3818		76.2	38.3	120				
Surr: 4-Terphenyl-d14	1770	0	1909		92.7	51.4	125				
Surr: Nitrobenzene-d5	1575	0	1909		82.5	40.1	120				
Surr: Phenol-d5	3226	0	3818		84.5	40.3	120				

Sample ID: **1510O86-001CMSD** Client ID: Units: **ug/Kg-dry** Prep Date: **10/29/2015** Run No: **303269**
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **215199** Analysis Date: **10/30/2015** Seq No: **6492707**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2846	380	3818		74.6	41.5	120	2879	1.12	37.4	
Surr: 2,4,6-Tribromophenol	3432	0	3818		89.9	41	128	3603	0	0	
Surr: 2-Fluorobiphenyl	1627	0	1909		85.2	47	120	1691	0	0	
Surr: 2-Fluorophenol	2921	0	3818		76.5	38.3	120	2910	0	0	
Surr: 4-Terphenyl-d14	1721	0	1909		90.2	51.4	125	1770	0	0	
Surr: Nitrobenzene-d5	1564	0	1909		81.9	40.1	120	1575	0	0	
Surr: Phenol-d5	3186	0	3818		83.4	40.3	120	3226	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1510Q67

ANALYTICAL QC SUMMARY REPORT

BatchID: 215236

Sample ID: **MB-215236** Client ID: Units: **mg/Kg** Prep Date: **10/30/2015** Run No: **303380**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **215236** Analysis Date: **11/02/2015** Seq No: **6492961**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	5.00									
Arsenic	BRL	5.00									
Barium	BRL	5.00									
Beryllium	BRL	2.50									
Cadmium	BRL	2.50									
Chromium	BRL	2.50									
Copper	BRL	2.50									
Lead	BRL	5.00									
Nickel	BRL	5.00									
Zinc	BRL	5.00									

Sample ID: **LCS-215236** Client ID: Units: **mg/Kg** Prep Date: **10/30/2015** Run No: **303380**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **215236** Analysis Date: **11/02/2015** Seq No: **6492963**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	49.77	5.00	50.00		99.5	80	120				
Arsenic	48.63	5.00	50.00		97.3	80	120				
Barium	50.28	5.00	50.00		101	80	120				
Beryllium	48.65	2.50	50.00		97.3	80	120				
Cadmium	48.79	2.50	50.00		97.6	80	120				
Chromium	49.72	2.50	50.00	0.05968	99.3	80	120				
Copper	50.20	2.50	50.00		100	80	120				
Lead	48.49	5.00	50.00		97.0	80	120				
Nickel	49.36	5.00	50.00		98.7	80	120				
Zinc	47.84	5.00	50.00		95.7	80	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1510Q67

ANALYTICAL QC SUMMARY REPORT

BatchID: 215236

Sample ID: **1510Q77-003BMS** Client ID:
SampleType: **MS** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/Kg-dry** Prep Date: **10/30/2015** Run No: **303380**
BatchID: **215236** Analysis Date: **11/02/2015** Seq No: **6492969**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	37.48	6.75	67.47		55.5	75	125				S
Arsenic	57.71	6.75	67.47	0.7243	84.5	75	125				
Barium	144.6	6.75	67.47	89.40	81.8	75	125				
Beryllium	61.80	3.37	67.47	0.5942	90.7	75	125				
Cadmium	62.69	3.37	67.47		92.9	75	125				
Chromium	89.22	3.37	67.47	23.90	96.8	75	125				
Copper	106.2	3.37	67.47	43.39	93.0	75	125				
Lead	80.42	6.75	67.47	22.36	86.1	75	125				
Nickel	69.06	6.75	67.47	10.11	87.4	75	125				
Zinc	103.4	6.75	67.47	46.40	84.5	75	125				

Sample ID: **1510Q77-003BMSD** Client ID:
SampleType: **MSD** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/Kg-dry** Prep Date: **10/30/2015** Run No: **303380**
BatchID: **215236** Analysis Date: **11/02/2015** Seq No: **6492972**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	35.98	6.75	67.46		53.3	75	125	37.48	4.08	20	S
Arsenic	57.28	6.75	67.46	0.7243	83.8	75	125	57.71	0.739	20	
Barium	138.1	6.75	67.46	89.40	72.2	75	125	144.6	4.57	20	S
Beryllium	61.50	3.37	67.46	0.5942	90.3	75	125	61.80	0.488	20	
Cadmium	62.27	3.37	67.46		92.3	75	125	62.69	0.678	20	
Chromium	89.05	3.37	67.46	23.90	96.6	75	125	89.22	0.201	20	
Copper	104.4	3.37	67.46	43.39	90.4	75	125	106.2	1.68	20	
Lead	78.54	6.75	67.46	22.36	83.3	75	125	80.42	2.37	20	
Nickel	68.32	6.75	67.46	10.11	86.3	75	125	69.06	1.07	20	
Zinc	100.1	6.75	67.46	46.40	79.7	75	125	103.4	3.21	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1510Q67

ANALYTICAL QC SUMMARY REPORT

BatchID: 215242

Sample ID: **MB-215242** Client ID: Units: **mg/Kg** Prep Date: **10/30/2015** Run No: **303259**
SampleType: **MBLK** TestCode: **TOTAL MERCURY SW7471B** BatchID: **215242** Analysis Date: **10/30/2015** Seq No: **6490650**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.100									

Sample ID: **LCS-215242** Client ID: Units: **mg/Kg** Prep Date: **10/30/2015** Run No: **303259**
SampleType: **LCS** TestCode: **TOTAL MERCURY SW7471B** BatchID: **215242** Analysis Date: **10/30/2015** Seq No: **6490651**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.4335	0.100	0.4000		108	80	120				

Sample ID: **1510Q62-001BMS** Client ID: Units: **mg/Kg-dry** Prep Date: **10/30/2015** Run No: **303259**
SampleType: **MS** TestCode: **TOTAL MERCURY SW7471B** BatchID: **215242** Analysis Date: **10/30/2015** Seq No: **6490653**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.7976	0.124	0.4977	0.5272	54.3	70	130				S

Sample ID: **1510Q62-001BMSD** Client ID: Units: **mg/Kg-dry** Prep Date: **10/30/2015** Run No: **303259**
SampleType: **MSD** TestCode: **TOTAL MERCURY SW7471B** BatchID: **215242** Analysis Date: **10/30/2015** Seq No: **6490654**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.7490	0.125	0.4987	0.5272	44.5	70	130	0.7976	6.29	30	S

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1510Q67

ANALYTICAL QC SUMMARY REPORT

BatchID: 215350

Sample ID: **MB-215350**	Client ID:		Units: **ug/Kg**	Prep Date: **11/02/2015**	Run No: **303332**
SampleType: **MBLK**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **215350**	Analysis Date: **11/02/2015**	Seq No: **6494084**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	10									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	42.06	0	50.00		84.1	70	128				
Surr: Dibromofluoromethane	61.15	0	50.00		122	78.2	128				
Surr: Toluene-d8	53.87	0	50.00		108	76.5	116				

Sample ID: **LCS-215350**	Client ID:		Units: **ug/Kg**	Prep Date: **11/02/2015**	Run No: **303332**
SampleType: **LCS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **215350**	Analysis Date: **11/02/2015**	Seq No: **6494072**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	61.72	5.0	50.00		123	72.3	130				
Toluene	61.74	5.0	50.00		123	71.1	130				
Surr: 4-Bromofluorobenzene	44.30	0	50.00		88.6	70	128				
Surr: Dibromofluoromethane	60.35	0	50.00		121	78.2	128				
Surr: Toluene-d8	54.09	0	50.00		108	76.5	116				

Sample ID: **1510Q67-001AMS**	Client ID: **SSS-43-20151028-01**		Units: **ug/Kg-dry**	Prep Date: **11/02/2015**	Run No: **303332**
SampleType: **MS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **215350**	Analysis Date: **11/02/2015**	Seq No: **6494063**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	69.08	5.9	59.40		116	70.4	130				
Toluene	68.99	5.9	59.40		116	70.4	130				
Surr: 4-Bromofluorobenzene	52.60	0	59.40		88.5	70	128				
Surr: Dibromofluoromethane	68.29	0	59.40		115	78.2	128				
Surr: Toluene-d8	62.75	0	59.40		106	76.5	116				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1510Q67

ANALYTICAL QC SUMMARY REPORT

BatchID: 215350

Sample ID: **1510Q67-001AMSD** Client ID: **SSS-43-20151028-01** Units: **ug/Kg-dry** Prep Date: **11/02/2015** Run No: **303332**
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **215350** Analysis Date: **11/02/2015** Seq No: **6494064**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	69.06	5.9	59.40		116	70.4	130	69.08	0.017	16.9	
Toluene	67.46	5.9	59.40		114	70.4	130	68.99	2.25	16.6	
Surr: 4-Bromofluorobenzene	51.61	0	59.40		86.9	70	128	52.60	0	0	
Surr: Dibromofluoromethane	66.97	0	59.40		113	78.2	128	68.29	0	0	
Surr: Toluene-d8	65.06	0	59.40		110	76.5	116	62.75	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1510Q67

ANALYTICAL QC SUMMARY REPORT

BatchID: 215352

Sample ID: **MB-215352** Client ID: Units: **ug/Kg** Prep Date: **11/03/2015** Run No: **303501**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **215352** Analysis Date: **11/03/2015** Seq No: **6495541**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	17									
Acenaphthylene	BRL	33									
Anthracene	BRL	1.7									
Benz(a)anthracene	BRL	1.7									
Benzo(a)pyrene	BRL	1.7									
Benzo(b)fluoranthene	BRL	3.3									
Benzo(g,h,i)perylene	BRL	3.3									
Benzo(k)fluoranthene	BRL	1.7									
Chrysene	BRL	1.7									
Dibenz(a,h)anthracene	BRL	3.3									
Fluoranthene	BRL	3.3									
Fluorene	BRL	3.3									
Indeno(1,2,3-cd)pyrene	BRL	1.7									
Naphthalene	BRL	17									
Phenanthrene	BRL	1.7									
Pyrene	BRL	1.7									
Surr: 4-Terphenyl-d14	73.67	0	160.0		46.0	42	124				

Sample ID: **LCS-215352** Client ID: Units: **ug/Kg** Prep Date: **11/03/2015** Run No: **303501**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **215352** Analysis Date: **11/03/2015** Seq No: **6495542**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	62.44	17	66.70		93.6	61.2	120				
Acenaphthylene	58.95	33	66.70		88.4	60.1	120				
Anthracene	64.41	1.7	66.70		96.6	58.4	120				
Benz(a)anthracene	72.35	1.7	66.70		108	56.7	124				
Benzo(a)pyrene	71.36	1.7	66.70		107	57.5	120				
Benzo(b)fluoranthene	71.41	3.3	66.70		107	60.9	118				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1510Q67

ANALYTICAL QC SUMMARY REPORT

BatchID: 215352

Sample ID: **LCS-215352** Client ID: Units: **ug/Kg** Prep Date: **11/03/2015** Run No: **303501**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **215352** Analysis Date: **11/03/2015** Seq No: **6495542**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(g,h,i)perylene	77.59	3.3	66.70		116	50.7	125				
Benzo(k)fluoranthene	73.87	1.7	66.70		111	53	125				
Chrysene	72.03	1.7	66.70		108	61.2	120				
Dibenz(a,h)anthracene	82.03	3.3	66.70		123	48	125				
Fluoranthene	65.89	3.3	66.70		98.8	64.9	121				
Fluorene	64.16	3.3	66.70		96.2	62.1	120				
Indeno(1,2,3-cd)pyrene	79.61	1.7	66.70		119	56	121				
Naphthalene	58.27	17	66.70		87.4	57.4	120				
Phenanthrene	61.59	1.7	66.70		92.3	63.3	120				
Pyrene	67.90	1.7	66.70		102	61.2	120				
Surr: 4-Terphenyl-d14	60.53	0	66.70		90.8	42	124				

Sample ID: **1510Q67-005BMS** Client ID: **DUP-08-20151028-01** Units: **ug/Kg-dry** Prep Date: **11/03/2015** Run No: **303501**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **215352** Analysis Date: **11/03/2015** Seq No: **6496417**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	96.05	21	83.65	27.40	82.1	45.8	120				
Acenaphthylene	262.3	41	83.65	673.4	-491	50.6	120				S
Naphthalene	92.13	21	83.65	81.54	12.7	42.5	120				S

Sample ID: **1510Q67-005BMS** Client ID: **DUP-08-20151028-01** Units: **ug/Kg-dry** Prep Date: **11/03/2015** Run No: **303504**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **215352** Analysis Date: **11/03/2015** Seq No: **6497536**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Anthracene	201.5	21	83.65	393.4	-229	42.4	125				S
Benz(a)anthracene	680.2	21	83.65	2904	-2660	44.9	136				S
Benzo(a)pyrene	637.3	21	83.65	2584	-2330	40.3	123				S
Benzo(b)fluoranthene	872.1	41	83.65	3697	-3380	37	128				S

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1510Q67

ANALYTICAL QC SUMMARY REPORT

BatchID: 215352

Sample ID: **1510Q67-005BMS** Client ID: **DUP-08-20151028-01** Units: **ug/Kg-dry** Prep Date: **11/03/2015** Run No: **303504**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **215352** Analysis Date: **11/03/2015** Seq No: **6497536**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(g,h,i)perylene	553.9	41	83.65	1954	-1670	41.1	137				S
Benzo(k)fluoranthene	295.7	21	83.65	1036	-885	37.7	126				S
Chrysene	560.9	21	83.65	2102	-1840	43	120				S
Dibenz(a,h)anthracene	172.8	41	83.65	324.6	-181	42.6	130				S
Fluoranthene	1219	41	83.65	5783	-5460	44.4	133				S
Fluorene	68.85	41	83.65	50.51	21.9	42.5	119				S
Indeno(1,2,3-cd)pyrene	436.2	21	83.65	1555	-1340	41.7	135				S
Phenanthrene	324.4	21	83.65	917.0	-708	44.1	120				S
Pyrene	1372	21	83.65	6041	-5580	41.5	120				S
Surr: 4-Terphenyl-d14	65.63	0	83.65		78.5	42	124				

Sample ID: **1510Q67-005BMSD** Client ID: **DUP-08-20151028-01** Units: **ug/Kg-dry** Prep Date: **11/03/2015** Run No: **303501**
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **215352** Analysis Date: **11/03/2015** Seq No: **6496548**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	95.39	21	83.65	27.40	81.3	45.8	120	96.05	0.694	38.4	
Acenaphthylene	203.9	41	83.65	673.4	-561	50.6	120	262.3	25.1	37.8	S
Naphthalene	89.10	21	83.65	81.54	9.03	42.5	120	92.13	3.35	39.4	S

Sample ID: **1510Q67-005BMSD** Client ID: **DUP-08-20151028-01** Units: **ug/Kg-dry** Prep Date: **11/03/2015** Run No: **303504**
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **215352** Analysis Date: **11/03/2015** Seq No: **6497546**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Anthracene	141.2	21	83.65	393.4	-301	42.4	125	201.5	35.2	49.7	S
Benz(a)anthracene	340.6	21	83.65	2904	-3060	44.9	136	680.2	66.5	33.8	SR
Benzo(a)pyrene	345.2	21	83.65	2584	-2680	40.3	123	637.3	59.5	40.2	SR
Benzo(b)fluoranthene	437.9	41	83.65	3697	-3900	37	128	872.1	66.3	36.5	SR
Benzo(g,h,i)perylene	358.0	41	83.65	1954	-1910	41.1	137	553.9	43.0	39.3	SR

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1510Q67

ANALYTICAL QC SUMMARY REPORT

BatchID: 215352

Sample ID: **1510Q67-005BMSD** Client ID: **DUP-08-20151028-01** Units: **ug/Kg-dry** Prep Date: **11/03/2015** Run No: **303504**
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **215352** Analysis Date: **11/03/2015** Seq No: **6497546**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(k)fluoranthene	184.4	21	83.65	1036	-1020	37.7	126	295.7	46.4	35	SR
Chrysene	281.4	21	83.65	2102	-2180	43	120	560.9	66.4	28.6	SR
Dibenz(a,h)anthracene	135.3	41	83.65	324.6	-226	42.6	130	172.8	24.3	44.6	S
Fluoranthene	467.5	41	83.65	5783	-6350	44.4	133	1219	89.1	33.2	SR
Fluorene	72.57	41	83.65	50.51	26.4	42.5	119	68.85	5.27	35.4	S
Indeno(1,2,3-cd)pyrene	277.6	21	83.65	1555	-1530	41.7	135	436.2	44.5	37.3	SR
Phenanthrene	175.4	21	83.65	917.0	-887	44.1	120	324.4	59.6	37	SR
Pyrene	580.5	21	83.65	6041	-6530	41.5	120	1372	81.1	33.1	SR
Surr: 4-Terphenyl-d14	66.83	0	83.65		79.9	42	124	65.63	0	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1510Q67

ANALYTICAL QC SUMMARY REPORT

BatchID: 215408

Sample ID: **MB-215408** Client ID: Units: **mg/Kg** Prep Date: **11/03/2015** Run No: **303529**
SampleType: **MBLK** TestCode: **Cyanide, Total SW9014** BatchID: **215408** Analysis Date: **11/03/2015** Seq No: **6496555**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	1.00									

Sample ID: **LCS-215408** Client ID: Units: **mg/Kg** Prep Date: **11/03/2015** Run No: **303529**
SampleType: **LCS** TestCode: **Cyanide, Total SW9014** BatchID: **215408** Analysis Date: **11/03/2015** Seq No: **6496556**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	12.59	1.00	12.50		101	85	115				

Sample ID: **1510O88-001CMS** Client ID: Units: **mg/Kg-dry** Prep Date: **11/03/2015** Run No: **303529**
SampleType: **MS** TestCode: **Cyanide, Total SW9014** BatchID: **215408** Analysis Date: **11/03/2015** Seq No: **6496566**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	11.99	1.19	14.85		80.8	70	130				

Sample ID: **1510O88-001CMSD** Client ID: Units: **mg/Kg-dry** Prep Date: **11/03/2015** Run No: **303529**
SampleType: **MSD** TestCode: **Cyanide, Total SW9014** BatchID: **215408** Analysis Date: **11/03/2015** Seq No: **6496594**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	11.85	1.19	14.85		79.8	70	130	11.99	1.20	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

November 22, 2015

Nic Vrey
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: AGL Macon

Dear Nic Vrey: Order No: 1511D28

Analytical Environmental Services, Inc. received 2 samples on November 13, 2015 9:10 am for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1511D28

Date: 11/12/15 Page 1 of 1

COMPANY: ERM

ADDRESS: 3200 Windy Hill Rd ATL GA 30339

PHONE:

FAX:

SAMPLED BY: KG

SIGNATURE:

ANALYSIS REQUESTED

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	8260B - COI only	8270C - COI only	6010B - COI only	9012A	7470A	REMARKS	No # of Containers
	PRESERVATION (See codes)												
1	SSS-47-20151107-01	11/7	1000		X	S	X	X	X	X	X		6
2	TB-14-20151112-01	11/12	—			W	X						2
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:	11/12/15	1:	11-13-15 910
2:		2:	
3:		3:	

PROJECT INFORMATION

PROJECT NAME: AGL Macon

PROJECT #: 0176740

SITE ADDRESS: 224 Walnut St.

SEND REPORT TO: Nic.Vrey@erm.com

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: PO#:

RECEIPT

Total # of Containers: 8

Turnaround Time Request
- Standard 5 Business Days
- 2 Business Day Rush
- Next Business Day Rush
- Same Day Rush (auth req.)
- X Other 3DAY TAT

STATE PROGRAM (if any):

E-mail? Y / N; Fax? Y / N

DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS:

See AGL Macon COI

SHIPMENT METHOD

OUT / / VIA:

IN / / VIA:

CLIENT FedEx UPS MAIL COURIER

GREYHOUND OTHER

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.
SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc **Date:** 22-Nov-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-47-20151107-01
Project Name:	AGL Macon	**Collection Date:**	11/7/2015 10:00:00 AM
Lab ID:	1511D28-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	7.7		ug/Kg-dry	215949	1	11/17/2015 01:08	CG
Benzene	BRL	3.9		ug/Kg-dry	215949	1	11/17/2015 01:08	CG
Toluene	BRL	3.9		ug/Kg-dry	215949	1	11/17/2015 01:08	CG
Ethylbenzene	BRL	3.9		ug/Kg-dry	215949	1	11/17/2015 01:08	CG
Xylenes, Total	5.1	3.9		ug/Kg-dry	215949	1	11/17/2015 01:08	CG
Surr: 4-Bromofluorobenzene	87.3	70-128		%REC	215949	1	11/17/2015 01:08	CG
Surr: Dibromofluoromethane	97	78.2-128		%REC	215949	1	11/17/2015 01:08	CG
Surr: Toluene-d8	92.3	76.5-116		%REC	215949	1	11/17/2015 01:08	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	0.329	0.117		mg/Kg-dry	215920	1	11/16/2015 16:30	TA
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	360	20		ug/Kg-dry	216073	1	11/18/2015 13:24	YH
Acenaphthylene	530	200		ug/Kg-dry	216073	100	11/18/2015 15:52	YH
Anthracene	760	200		ug/Kg-dry	216073	100	11/18/2015 15:52	YH
Benz(a)anthracene	2900	200		ug/Kg-dry	216073	100	11/18/2015 15:52	YH
Benzo(a)pyrene	2000	200		ug/Kg-dry	216073	100	11/18/2015 15:52	YH
Benzo(b)fluoranthene	3400	390		ug/Kg-dry	216073	100	11/18/2015 15:52	YH
Benzo(g,h,i)perylene	1400	390		ug/Kg-dry	216073	100	11/18/2015 15:52	YH
Benzo(k)fluoranthene	1100	200		ug/Kg-dry	216073	100	11/18/2015 15:52	YH
Chrysene	2900	200		ug/Kg-dry	216073	100	11/18/2015 15:52	YH
Dibenz(a,h)anthracene	470	390		ug/Kg-dry	216073	100	11/18/2015 15:52	YH
Fluoranthene	5000	390		ug/Kg-dry	216073	100	11/18/2015 15:52	YH
Fluorene	270	200		ug/Kg-dry	216073	100	11/18/2015 15:52	YH
Indeno(1,2,3-cd)pyrene	1300	200		ug/Kg-dry	216073	100	11/18/2015 15:52	YH
Naphthalene	360	20		ug/Kg-dry	216073	1	11/18/2015 13:24	YH
Phenanthrene	4000	200		ug/Kg-dry	216073	100	11/18/2015 15:52	YH
Pyrene	5000	200		ug/Kg-dry	216073	100	11/18/2015 15:52	YH
Surr: 4-Terphenyl-d14	93.8	42-124		%REC	216073	1	11/18/2015 13:24	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	390		ug/Kg-dry	215862	1	11/16/2015 19:41	YH
2-Methylphenol	BRL	390		ug/Kg-dry	215862	1	11/16/2015 19:41	YH
3,4-Methylphenol	BRL	390		ug/Kg-dry	215862	1	11/16/2015 19:41	YH
Phenol	BRL	390		ug/Kg-dry	215862	1	11/16/2015 19:41	YH
Surr: 2,4,6-Tribromophenol	52.6	41-128		%REC	215862	1	11/16/2015 19:41	YH
Surr: 2-Fluorobiphenyl	94.9	47-120		%REC	215862	1	11/16/2015 19:41	YH
Surr: 2-Fluorophenol	77.5	38.3-120		%REC	215862	1	11/16/2015 19:41	YH
Surr: 4-Terphenyl-d14	88.4	51.4-125		%REC	215862	1	11/16/2015 19:41	YH
Surr: Nitrobenzene-d5	90.4	40.1-120		%REC	215862	1	11/16/2015 19:41	YH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 22-Nov-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-47-20151107-01
Project Name:	AGL Macon	**Collection Date:**	11/7/2015 10:00:00 AM
Lab ID:	1511D28-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	90.9	40.3-120		%REC	215862	1	11/16/2015 19:41	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.19		mg/Kg-dry	216105	1	11/18/2015 15:56	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	4.75		mg/Kg-dry	215760	1	11/13/2015 20:41	IO
Arsenic	BRL	4.75		mg/Kg-dry	215760	1	11/13/2015 20:41	IO
Barium	78.7	4.75		mg/Kg-dry	215760	1	11/13/2015 20:41	IO
Beryllium	BRL	2.38		mg/Kg-dry	215760	1	11/13/2015 20:41	IO
Cadmium	BRL	2.38		mg/Kg-dry	215760	1	11/13/2015 20:41	IO
Chromium	13.8	2.38		mg/Kg-dry	215760	1	11/13/2015 20:41	IO
Copper	21.6	2.38		mg/Kg-dry	215760	1	11/13/2015 20:41	IO
Lead	127	4.75		mg/Kg-dry	215760	1	11/13/2015 20:41	IO
Nickel	BRL	4.75		mg/Kg-dry	215760	1	11/13/2015 20:41	IO
Zinc	48.6	4.75		mg/Kg-dry	215760	1	11/16/2015 16:19	IO
PERCENT MOISTURE D2216								
Percent Moisture	15.9	0		wt%	R304688	1	11/18/2015 11:00	PF

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 22-Nov-15

Client:	ERM-Southeast	**Client Sample ID:**	TB-14-20151112-01
Project Name:	AGL Macon	**Collection Date:**	11/13/2015
Lab ID:	1511D28-002	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	215997	1	11/16/2015 21:07	NP
Carbon disulfide	BRL	5.0		ug/L	215997	1	11/16/2015 21:07	NP
Ethylbenzene	BRL	5.0		ug/L	215997	1	11/16/2015 21:07	NP
Toluene	BRL	5.0		ug/L	215997	1	11/16/2015 21:07	NP
Xylenes, Total	BRL	5.0		ug/L	215997	1	11/16/2015 21:07	NP
Surr: 4-Bromofluorobenzene	98.9	70.7-125		%REC	215997	1	11/16/2015 21:07	NP
Surr: Dibromofluoromethane	100	82.2-120		%REC	215997	1	11/16/2015 21:07	NP
Surr: Toluene-d8	97.6	81.8-120		%REC	215997	1	11/16/2015 21:07	NP

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM-SE Work Order Number 1511Da8

Checklist completed by [signature] 11-13-15
Signature Date

Carrier name: FedEx ✓ UPS __ Courier __ Client __ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 3.3°C Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted ✓ Yes __ No __

Water - pH acceptable upon receipt? Yes __ No __ Not Applicable ✓

Sample Condition: Good ✓ Adjusted? _____ Checked by _____
Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1511D28

ANALYTICAL QC SUMMARY REPORT

BatchID: 215760

Sample ID: **MB-215760** Client ID: Units: **mg/Kg** Prep Date: **11/12/2015** Run No: **304388**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **215760** Analysis Date: **11/13/2015** Seq No: **6517148**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	5.00									
Arsenic	BRL	5.00									
Barium	BRL	5.00									
Beryllium	BRL	2.50									
Cadmium	BRL	2.50									
Chromium	BRL	2.50									
Copper	BRL	2.50									
Lead	BRL	5.00									
Nickel	BRL	5.00									
Zinc	BRL	5.00									

Sample ID: **LCS-215760** Client ID: Units: **mg/Kg** Prep Date: **11/12/2015** Run No: **304388**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **215760** Analysis Date: **11/13/2015** Seq No: **6517149**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	48.52	5.00	50.00		97.0	80	120				
Arsenic	48.91	5.00	50.00		97.8	80	120				
Barium	49.81	5.00	50.00		99.6	80	120				
Beryllium	48.90	2.50	50.00		97.8	80	120				
Cadmium	49.12	2.50	50.00		98.2	80	120				
Chromium	50.30	2.50	50.00	0.07604	100	80	120				
Copper	49.54	2.50	50.00		99.1	80	120				
Lead	48.94	5.00	50.00		97.9	80	120				
Nickel	49.32	5.00	50.00		98.6	80	120				
Zinc	48.79	5.00	50.00		97.6	80	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1511D28

ANALYTICAL QC SUMMARY REPORT

BatchID: 215760

Sample ID: **1511A78-001AMS** Client ID: Units: **mg/Kg-dry** Prep Date: **11/12/2015** Run No: **304388**
SampleType: **MS** TestCode: **METALS, TOTAL SW6010C** BatchID: **215760** Analysis Date: **11/13/2015** Seq No: **6517153**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	34.56	5.45	54.53	11.08	43.1	75	125				S
Arsenic	72.09	5.45	54.53	25.23	86.0	75	125				
Barium	474.7	5.45	54.53	434.3	74.2	75	125				S
Beryllium	49.23	2.73	54.53	1.031	88.4	75	125				
Cadmium	51.56	2.73	54.53	1.833	91.2	75	125				
Chromium	86.22	2.73	54.53	46.30	73.2	75	125				S
Copper	340.0	2.73	54.53	309.6	55.7	75	125				S
Lead	2417	5.45	54.53	1560	1570	75	125				S
Nickel	70.53	5.45	54.53	23.65	86.0	75	125				
Zinc	851.8	5.45	54.53	851.3	0.851	75	125				S

Sample ID: **1511A78-001AMSD** Client ID: Units: **mg/Kg-dry** Prep Date: **11/12/2015** Run No: **304388**
SampleType: **MSD** TestCode: **METALS, TOTAL SW6010C** BatchID: **215760** Analysis Date: **11/13/2015** Seq No: **6517154**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	35.93	5.44	54.42	11.08	45.7	75	125	34.56	3.90	20	S
Arsenic	76.67	5.44	54.42	25.23	94.5	75	125	72.09	6.16	20	
Barium	507.6	5.44	54.42	434.3	135	75	125	474.7	6.69	20	S
Beryllium	50.29	2.72	54.42	1.031	90.5	75	125	49.23	2.14	20	
Cadmium	53.33	2.72	54.42	1.833	94.6	75	125	51.56	3.37	20	
Chromium	96.47	2.72	54.42	46.30	92.2	75	125	86.22	11.2	20	
Copper	354.9	2.72	54.42	309.6	83.3	75	125	340.0	4.31	20	
Lead	2105	5.44	54.42	1560	1000	75	125	2417	13.8	20	S
Nickel	78.84	5.44	54.42	23.65	101	75	125	70.53	11.1	20	
Zinc	821.3	5.44	54.42	851.3	-55.1	75	125	851.8	3.64	20	S

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1511D28

ANALYTICAL QC SUMMARY REPORT

BatchID: 215862

Sample ID: **MB-215862** Client ID: Units: **ug/Kg** Prep Date: **11/13/2015** Run No: **304427**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **215862** Analysis Date: **11/13/2015** Seq No: **6518269**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	330									
2-Methylphenol	BRL	330									
3,4-Methylphenol	BRL	330									
Phenol	BRL	330									
Surr: 2,4,6-Tribromophenol	2803	0	3333		84.1	41	128				
Surr: 2-Fluorobiphenyl	1477	0	1667		88.6	47	120				
Surr: 2-Fluorophenol	2870	0	3333		86.1	38.3	120				
Surr: 4-Terphenyl-d14	1559	0	1667		93.5	51.4	125				
Surr: Nitrobenzene-d5	1435	0	1667		86.1	40.1	120				
Surr: Phenol-d5	3018	0	3333		90.6	40.3	120				

Sample ID: **LCS-215862** Client ID: Units: **ug/Kg** Prep Date: **11/13/2015** Run No: **304453**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **215862** Analysis Date: **11/16/2015** Seq No: **6518842**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2802	330	3333		84.0	50.1	120				
Surr: 2,4,6-Tribromophenol	3052	0	3333		91.6	41	128				
Surr: 2-Fluorobiphenyl	1550	0	1667		93.0	47	120				
Surr: 2-Fluorophenol	2901	0	3333		87.0	38.3	120				
Surr: 4-Terphenyl-d14	1593	0	1667		95.6	51.4	125				
Surr: Nitrobenzene-d5	1536	0	1667		92.1	40.1	120				
Surr: Phenol-d5	2968	0	3333		89.0	40.3	120				

Sample ID: **1511859-001BMS** Client ID: Units: **ug/Kg-dry** Prep Date: **11/13/2015** Run No: **304427**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **215862** Analysis Date: **11/13/2015** Seq No: **6518272**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2779	380	3843		72.3	41.5	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1511D28

ANALYTICAL QC SUMMARY REPORT

BatchID: 215862

Sample ID: **1511859-001BMS** Client ID: Units: **ug/Kg-dry** Prep Date: **11/13/2015** Run No: **304427**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **215862** Analysis Date: **11/13/2015** Seq No: **6518272**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 2,4,6-Tribromophenol	2977	0	3843		77.4	41	128				
Surr: 2-Fluorobiphenyl	1610	0	1922		83.8	47	120				
Surr: 2-Fluorophenol	2706	0	3843		70.4	38.3	120				
Surr: 4-Terphenyl-d14	1588	0	1922		82.6	51.4	125				
Surr: Nitrobenzene-d5	1555	0	1922		80.9	40.1	120				
Surr: Phenol-d5	2954	0	3843		76.8	40.3	120				

Sample ID: **1511859-001BMSD** Client ID: Units: **ug/Kg-dry** Prep Date: **11/13/2015** Run No: **304427**
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **215862** Analysis Date: **11/13/2015** Seq No: **6518273**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2718	380	3843		70.7	41.5	120	2779	2.22	37.4	
Surr: 2,4,6-Tribromophenol	3015	0	3843		78.4	41	128	2977	0	0	
Surr: 2-Fluorobiphenyl	1544	0	1922		80.4	47	120	1610	0	0	
Surr: 2-Fluorophenol	2765	0	3843		71.9	38.3	120	2706	0	0	
Surr: 4-Terphenyl-d14	1632	0	1922		84.9	51.4	125	1588	0	0	
Surr: Nitrobenzene-d5	1468	0	1922		76.4	40.1	120	1555	0	0	
Surr: Phenol-d5	2986	0	3843		77.7	40.3	120	2954	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1511D28

ANALYTICAL QC SUMMARY REPORT

BatchID: 215920

Sample ID: **MB-215920**	Client ID:			Units: **mg/Kg**	Prep Date: **11/16/2015**	Run No: **304378**
SampleType: **MBLK**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **215920**	Analysis Date: **11/16/2015**	Seq No: **6519552**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.100									

Sample ID: **LCS-215920**	Client ID:			Units: **mg/Kg**	Prep Date: **11/16/2015**	Run No: **304378**
SampleType: **LCS**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **215920**	Analysis Date: **11/16/2015**	Seq No: **6519633**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.4143	0.100	0.4000		104	80	120				

Sample ID: **1511859-001CMS**	Client ID:			Units: **mg/Kg-dry**	Prep Date: **11/16/2015**	Run No: **304378**
SampleType: **MS**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **215920**	Analysis Date: **11/16/2015**	Seq No: **6519555**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.3700	0.112	0.4495		82.3	70	130				

Sample ID: **1511859-001CMSD**	Client ID:			Units: **mg/Kg-dry**	Prep Date: **11/16/2015**	Run No: **304378**
SampleType: **MSD**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **215920**	Analysis Date: **11/16/2015**	Seq No: **6519556**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.3592	0.112	0.4460		80.5	70	130	0.3700	2.94	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1511D28

ANALYTICAL QC SUMMARY REPORT

BatchID: 215949

Sample ID: **MB-215949** Client ID: Units: **ug/Kg** Prep Date: **11/13/2015** Run No: **304425**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **215949** Analysis Date: **11/13/2015** Seq No: **6518262**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	10									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	37.98	0	50.00		76.0	70	128				
Surr: Dibromofluoromethane	49.60	0	50.00		99.2	78.2	128				
Surr: Toluene-d8	45.27	0	50.00		90.5	76.5	116				

Sample ID: **LCS-215949** Client ID: Units: **ug/Kg** Prep Date: **11/13/2015** Run No: **304425**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **215949** Analysis Date: **11/13/2015** Seq No: **6518265**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	49.88	5.0	50.00		99.8	72.3	130				
Toluene	50.21	5.0	50.00		100	71.1	130				
Surr: 4-Bromofluorobenzene	39.91	0	50.00		79.8	70	128				
Surr: Dibromofluoromethane	47.62	0	50.00		95.2	78.2	128				
Surr: Toluene-d8	43.76	0	50.00		87.5	76.5	116				

Sample ID: **1511855-009AMS** Client ID: Units: **ug/Kg-dry** Prep Date: **11/13/2015** Run No: **304474**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **215949** Analysis Date: **11/16/2015** Seq No: **6520794**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	43.08	4.8	48.45		88.9	70.4	130				
Toluene	47.97	4.8	48.45		99.0	70.4	130				
Surr: 4-Bromofluorobenzene	42.34	0	48.45		87.4	70	128				
Surr: Dibromofluoromethane	44.63	0	48.45		92.1	78.2	128				
Surr: Toluene-d8	44.27	0	48.45		91.4	76.5	116				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1511D28

ANALYTICAL QC SUMMARY REPORT

BatchID: 215949

Sample ID: **1511855-009AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/Kg-dry** Prep Date: **11/13/2015** Run No: **304474**
BatchID: **215949** Analysis Date: **11/16/2015** Seq No: **6520795**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	45.38	5.1	50.59		89.7	70.4	130	43.08	5.19	16.9	
Toluene	50.81	5.1	50.59		100	70.4	130	47.97	5.76	16.6	
Surr: 4-Bromofluorobenzene	43.34	0	50.59		85.7	70	128	42.34	0	0	
Surr: Dibromofluoromethane	44.49	0	50.59		87.9	78.2	128	44.63	0	0	
Surr: Toluene-d8	46.10	0	50.59		91.1	76.5	116	44.27	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1511D28

ANALYTICAL QC SUMMARY REPORT

BatchID: 215997

Sample ID: **MB-215997** Client ID: Units: **ug/L** Prep Date: **11/16/2015** Run No: **304506**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **215997** Analysis Date: **11/16/2015** Seq No: **6520913**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	5.0									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	48.35	0	50.00		96.7	70.7	125				
Surr: Dibromofluoromethane	51.19	0	50.00		102	82.2	120				
Surr: Toluene-d8	48.24	0	50.00		96.5	81.8	120				

Sample ID: **LCS-215997** Client ID: Units: **ug/L** Prep Date: **11/16/2015** Run No: **304506**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **215997** Analysis Date: **11/16/2015** Seq No: **6520908**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	49.10	5.0	50.00		98.2	72.8	128				
Toluene	47.64	5.0	50.00		95.3	74.9	127				
Surr: 4-Bromofluorobenzene	48.24	0	50.00		96.5	70.7	125				
Surr: Dibromofluoromethane	49.58	0	50.00		99.2	82.2	120				
Surr: Toluene-d8	47.91	0	50.00		95.8	81.8	120				

Sample ID: **1511C39-010AMS** Client ID: Units: **ug/L** Prep Date: **11/16/2015** Run No: **304506**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **215997** Analysis Date: **11/16/2015** Seq No: **6520920**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	53000	5000	50000		106	70	135				
Toluene	117900	5000	50000	66470	103	70.5	137				
Surr: 4-Bromofluorobenzene	47950	0	50000		95.9	70.7	125				
Surr: Dibromofluoromethane	50610	0	50000		101	82.2	120				
Surr: Toluene-d8	50460	0	50000		101	81.8	120				

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1511D28

ANALYTICAL QC SUMMARY REPORT

BatchID: 215997

Sample ID: **1511C39-010AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/L** Prep Date: **11/16/2015** Run No: **304506**
BatchID: **215997** Analysis Date: **11/16/2015** Seq No: **6520921**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	52940	5000	50000		106	70	135	53000	0.113	20	
Toluene	118600	5000	50000	66470	104	70.5	137	117900	0.626	20	
Surr: 4-Bromofluorobenzene	49620	0	50000		99.2	70.7	125	47950	0	0	
Surr: Dibromofluoromethane	51270	0	50000		103	82.2	120	50610	0	0	
Surr: Toluene-d8	51290	0	50000		103	81.8	120	50460	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1511D28

ANALYTICAL QC SUMMARY REPORT

BatchID: 216073

Sample ID: **MB-216073** Client ID: Units: **ug/Kg** Prep Date: **11/18/2015** Run No: **304681**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **216073** Analysis Date: **11/18/2015** Seq No: **6524665**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	17									
Acenaphthylene	BRL	33									
Anthracene	BRL	1.7									
Benz(a)anthracene	BRL	1.7									
Benzo(a)pyrene	BRL	1.7									
Benzo(b)fluoranthene	BRL	3.3									
Benzo(g,h,i)perylene	BRL	3.3									
Benzo(k)fluoranthene	BRL	1.7									
Chrysene	BRL	1.7									
Dibenz(a,h)anthracene	BRL	3.3									
Fluoranthene	BRL	3.3									
Fluorene	BRL	3.3									
Indeno(1,2,3-cd)pyrene	BRL	1.7									
Naphthalene	BRL	17									
Phenanthrene	BRL	1.7									
Pyrene	BRL	1.7									
Surr: 4-Terphenyl-d14	73.27	0	160.0		45.8	42	124				

Sample ID: **LCS-216073** Client ID: Units: **ug/Kg** Prep Date: **11/18/2015** Run No: **304681**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **216073** Analysis Date: **11/18/2015** Seq No: **6524666**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	63.04	17	66.70		94.5	61.2	120				
Acenaphthylene	62.61	33	66.70		93.9	60.1	120				
Anthracene	55.74	1.7	66.70		83.6	58.4	120				
Benz(a)anthracene	79.34	1.7	66.70		119	56.7	124				
Benzo(a)pyrene	66.48	1.7	66.70		99.7	57.5	120				
Benzo(b)fluoranthene	69.72	3.3	66.70		105	60.9	118				

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1511D28

ANALYTICAL QC SUMMARY REPORT

BatchID: 216073

Sample ID: **LCS-216073** Client ID: Units: **ug/Kg** Prep Date: **11/18/2015** Run No: **304681**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **216073** Analysis Date: **11/18/2015** Seq No: **6524666**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(g,h,i)perylene	66.41	3.3	66.70		99.6	50.7	125				
Benzo(k)fluoranthene	60.82	1.7	66.70		91.2	53	125				
Chrysene	73.60	1.7	66.70		110	61.2	120				
Dibenz(a,h)anthracene	68.74	3.3	66.70		103	48	125				
Fluoranthene	69.87	3.3	66.70		105	64.9	121				
Fluorene	62.11	3.3	66.70		93.1	62.1	120				
Indeno(1,2,3-cd)pyrene	68.54	1.7	66.70		103	56	121				
Naphthalene	57.26	17	66.70		85.8	57.4	120				
Phenanthrene	65.43	1.7	66.70		98.1	63.3	120				
Pyrene	71.28	1.7	66.70		107	61.2	120				
Surr: 4-Terphenyl-d14	62.79	0	66.70		94.1	42	124				

Sample ID: **1511D28-001BMS** Client ID: **SSS-47-20151107-01** Units: **ug/Kg-dry** Prep Date: **11/18/2015** Run No: **304681**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **216073** Analysis Date: **11/18/2015** Seq No: **6527750**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	2000	79.28	361.1	95.4	45.8	120				
Acenaphthylene	BRL	3900	79.28	484.9	234	50.6	120				S
Anthracene	869.1	200	79.28	859.3	12.4	42.4	125				S
Benz(a)anthracene	3457	200	79.28	3985	-667	44.9	136				S
Benzo(a)pyrene	2298	200	79.28	1770	666	40.3	123				S
Benzo(b)fluoranthene	3952	390	79.28	3296	827	37	128				S
Benzo(g,h,i)perylene	1213	390	79.28	1311	-124	41.1	137				S
Benzo(k)fluoranthene	895.6	200	79.28	659.1	298	37.7	126				S
Chrysene	2712	200	79.28	3275	-710	43	120				S
Dibenz(a,h)anthracene	512.1	390	79.28	442.7	87.6	42.6	130				
Fluoranthene	4936	390	79.28	5767	-1050	44.4	133				S
Fluorene	492.7	390	79.28	426.3	83.8	42.5	119				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1511D28

ANALYTICAL QC SUMMARY REPORT

BatchID: 216073

Sample ID: **1511D28-001BMS** Client ID: **SSS-47-20151107-01** Units: **ug/Kg-dry** Prep Date: **11/18/2015** Run No: **304681**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **216073** Analysis Date: **11/18/2015** Seq No: **6527750**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Indeno(1,2,3-cd)pyrene	1188	200	79.28	1234	-57.6	41.7	135				S
Naphthalene	BRL	2000	79.28	357.6	338	42.5	120				S
Phenanthrene	4680	200	79.28	4935	-321	44.1	120				S
Pyrene	4936	200	79.28	5829	-1130	41.5	120				S
Surr: 4-Terphenyl-d14	86.41	0	79.28		109	42	124				

Sample ID: **1511D28-001BMSD** Client ID: **SSS-47-20151107-01** Units: **ug/Kg-dry** Prep Date: **11/18/2015** Run No: **304681**
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **216073** Analysis Date: **11/18/2015** Seq No: **6527755**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	2000	79.28	361.1	-7.03	45.8	120	442.4	0	38.4	S
Acenaphthylene	BRL	3900	79.28	484.9	98.2	50.6	120	597.1	0	37.8	
Anthracene	588.7	200	79.28	859.3	-341	42.4	125	910.7	43.0	49.7	S
Benz(a)anthracene	2865	200	79.28	3985	-1410	44.9	136	4209	38.0	33.8	SR
Benzo(a)pyrene	1906	200	79.28	1770	172	40.3	123	1897	0.444	40.2	S
Benzo(b)fluoranthene	3282	390	79.28	3296	-17.8	37	128	3432	4.46	36.5	S
Benzo(g,h,i)perylene	1090	390	79.28	1311	-280	41.1	137	1336	20.3	39.3	S
Benzo(k)fluoranthene	810.2	200	79.28	659.1	191	37.7	126	689.7	16.1	35	S
Chrysene	2432	200	79.28	3275	-1060	43	120	3250	28.8	28.6	SR
Dibenz(a,h)anthracene	426.5	390	79.28	442.7	-20.5	42.6	130	521.2	20.0	44.6	S
Fluoranthene	3728	390	79.28	5767	-2570	44.4	133	5653	41.1	33.2	SR
Fluorene	BRL	390	79.28	426.3	-53.6	42.5	119	561.8	0	35.4	S
Indeno(1,2,3-cd)pyrene	1054	200	79.28	1234	-227	41.7	135	1276	19.0	37.3	S
Naphthalene	BRL	2000	79.28	357.6	20.7	42.5	120	746.3	0	39.4	S
Phenanthrene	2685	200	79.28	4935	-2840	44.1	120	5482	68.5	37	SR
Pyrene	3953	200	79.28	5829	-2370	41.5	120	5678	35.8	33.1	SR
Surr: 4-Terphenyl-d14	91.00	0	79.28		115	42	124	71.28	0	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1511D28

ANALYTICAL QC SUMMARY REPORT

BatchID: 216105

Sample ID: **MB-216105**	Client ID:			Units: **mg/Kg**	Prep Date: **11/18/2015**	Run No: **304706**
SampleType: **MBLK**	TestCode: **Cyanide, Total SW9014**			BatchID: **216105**	Analysis Date: **11/18/2015**	Seq No: **6525188**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	1.00									

Sample ID: **LCS-216105**	Client ID:			Units: **mg/Kg**	Prep Date: **11/18/2015**	Run No: **304706**
SampleType: **LCS**	TestCode: **Cyanide, Total SW9014**			BatchID: **216105**	Analysis Date: **11/18/2015**	Seq No: **6525189**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	11.59	1.00	12.50		92.7	85	115				

Sample ID: **1511D28-001DMS**	Client ID: **SSS-47-20151107-01**			Units: **mg/Kg-dry**	Prep Date: **11/18/2015**	Run No: **304706**
SampleType: **MS**	TestCode: **Cyanide, Total SW9014**			BatchID: **216105**	Analysis Date: **11/18/2015**	Seq No: **6525191**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	14.43	1.19	14.86		97.2	70	130				

Sample ID: **1511D28-001DMSD**	Client ID: **SSS-47-20151107-01**			Units: **mg/Kg-dry**	Prep Date: **11/18/2015**	Run No: **304706**
SampleType: **MSD**	TestCode: **Cyanide, Total SW9014**			BatchID: **216105**	Analysis Date: **11/18/2015**	Seq No: **6525192**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	14.55	1.19	14.86		98.0	70	130	14.43	0.820	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

December 23, 2015

Nic Vrey
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: Macon Remediation

Dear Nic Vrey: Order No: 1512B34

Analytical Environmental Services, Inc. received 2 samples on 12/11/2015 1:31:00 PM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC

3080 Presidential Drive, Atlanta GA 30340-3704

AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 15/2B34

Date: 12/10/15 Page 1 of 1

COMPANY: ERM	ADDRESS: 3200 Windy Hill Rd Suite 1500W ATL GA 30339
PHONE:	FAX:
SAMPLED BY: KS	SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	8260B-COI (37)	8270C-COI (37)	6010 B-Cation (4)	9012 A	7470A	REMARKS	No # of Containers
	PRESERVATION (See codes)												
1	SSS-47A-20151210-01	12/10/15	1330		X	S	X	X	X	X	X		6
2	TB-16-20151210-01	12/10/15				W	X						2
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:	12/10/15	1: (FEDEX)	12/11/15 1:31pm
2:		2:	
3:		3:	

PROJECT INFORMATION

PROJECT NAME: AGL Macon Remediation

PROJECT #: 0176740

SITE ADDRESS: 224 Walnut St

SEND REPORT TO: Nic.Vrey@erm.com

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: PO#:

RECEIPT

Total # of Containers

Turnaround Time Request

- ○ Standard 5 Business Days
- ⊗ 2 Business Day Rush
- ○ Next Business Day Rush
- ○ Same Day Rush (auth req.)
- ○ Other

STATE PROGRAM (if any):

E-mail? Y / N; Fax? Y / N

DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS: See AGL Macon COI List

SHIPMENT METHOD

OUT / / VIA:

IN / / VIA:

CLIENT FedEx UPS MAIL COURIER

GREYHOUND OTHER

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc **Date:** 23-Dec-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-47A-20151210-01
Project Name:	Macon Remediation	**Collection Date:**	12/10/2015 1:30:00 PM
Lab ID:	1512B34-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5035)**				
Carbon disulfide	BRL	9.6		ug/Kg-dry	217228	1	12/15/2015 11:55	CG
Benzene	BRL	4.8		ug/Kg-dry	217228	1	12/15/2015 11:55	CG
Toluene	7.3	4.8		ug/Kg-dry	217228	1	12/15/2015 11:55	CG
Ethylbenzene	BRL	4.8		ug/Kg-dry	217228	1	12/15/2015 11:55	CG
Xylenes, Total	21	4.8		ug/Kg-dry	217228	1	12/15/2015 11:55	CG
Surr: 4-Bromofluorobenzene	106	70-128		%REC	217228	1	12/15/2015 11:55	CG
Surr: Dibromofluoromethane	105	78.2-128		%REC	217228	1	12/15/2015 11:55	CG
Surr: Toluene-d8	104	76.5-116		%REC	217228	1	12/15/2015 11:55	CG
TOTAL MERCURY SW7471B				**(SW7471B)**				
Mercury	BRL	0.111		mg/Kg-dry	217088	1	12/14/2015 12:54	JR
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3550C)**				
Acenaphthene	80	22		ug/Kg-dry	217064	1	12/14/2015 13:12	YH
Acenaphthylene	150	42		ug/Kg-dry	217064	1	12/14/2015 13:12	YH
Anthracene	120	2.2		ug/Kg-dry	217064	1	12/14/2015 13:12	YH
Benz(a)anthracene	280	2.2		ug/Kg-dry	217064	1	12/14/2015 13:12	YH
Benzo(a)pyrene	160	2.2		ug/Kg-dry	217064	1	12/14/2015 13:12	YH
Benzo(b)fluoranthene	180	4.2		ug/Kg-dry	217064	1	12/14/2015 13:12	YH
Benzo(g,h,i)perylene	69	4.2		ug/Kg-dry	217064	1	12/14/2015 13:12	YH
Benzo(k)fluoranthene	64	2.2		ug/Kg-dry	217064	1	12/14/2015 13:12	YH
Chrysene	250	2.2		ug/Kg-dry	217064	1	12/14/2015 13:12	YH
Dibenz(a,h)anthracene	17	4.2		ug/Kg-dry	217064	1	12/14/2015 13:12	YH
Fluoranthene	440	42		ug/Kg-dry	217064	10	12/14/2015 16:15	YH
Fluorene	100	4.2		ug/Kg-dry	217064	1	12/14/2015 13:12	YH
Indeno(1,2,3-cd)pyrene	64	2.2		ug/Kg-dry	217064	1	12/14/2015 13:12	YH
Naphthalene	57	22		ug/Kg-dry	217064	1	12/14/2015 13:12	YH
Phenanthrene	690	22		ug/Kg-dry	217064	10	12/14/2015 16:15	YH
Pyrene	530	22		ug/Kg-dry	217064	10	12/14/2015 16:15	YH
Surr: 4-Terphenyl-d14	88.3	42-124		%REC	217064	1	12/14/2015 13:12	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
2,4-Dimethylphenol	BRL	420		ug/Kg-dry	217043	1	12/11/2015 17:17	YH
2-Methylphenol	BRL	420		ug/Kg-dry	217043	1	12/11/2015 17:17	YH
3,4-Methylphenol	BRL	420		ug/Kg-dry	217043	1	12/11/2015 17:17	YH
Phenol	BRL	420		ug/Kg-dry	217043	1	12/11/2015 17:17	YH
Surr: 2,4,6-Tribromophenol	93.5	41-128		%REC	217043	1	12/11/2015 17:17	YH
Surr: 2-Fluorobiphenyl	80.3	47-120		%REC	217043	1	12/11/2015 17:17	YH
Surr: 2-Fluorophenol	73.2	38.3-120		%REC	217043	1	12/11/2015 17:17	YH
Surr: 4-Terphenyl-d14	84.6	51.4-125		%REC	217043	1	12/11/2015 17:17	YH
Surr: Nitrobenzene-d5	87	40.1-120		%REC	217043	1	12/11/2015 17:17	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 23-Dec-15

Client:	ERM-Southeast	**Client Sample ID:**	SSS-47A-20151210-01
Project Name:	Macon Remediation	**Collection Date:**	12/10/2015 1:30:00 PM
Lab ID:	1512B34-001	**Matrix:**	Soil

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3550C)**				
Surr: Phenol-d5	86.4	40.3-120		%REC	217043	1	12/11/2015 17:17	YH
Cyanide, Total SW9014				**(SW9010C)**				
Cyanide, Total	BRL	1.28		mg/Kg-dry	217197	1	12/15/2015 12:15	PF
METALS, TOTAL SW6010C				**(SW3050B)**				
Antimony	BRL	5.92		mg/Kg-dry	217018	1	12/11/2015 18:37	IO
Arsenic	BRL	5.92		mg/Kg-dry	217018	1	12/11/2015 18:37	IO
Barium	39.3	5.92		mg/Kg-dry	217018	1	12/11/2015 18:37	IO
Beryllium	BRL	2.96		mg/Kg-dry	217018	1	12/11/2015 18:37	IO
Cadmium	BRL	2.96		mg/Kg-dry	217018	1	12/11/2015 18:37	IO
Chromium	18.7	2.96		mg/Kg-dry	217018	1	12/11/2015 18:37	IO
Copper	11.5	2.96		mg/Kg-dry	217018	1	12/11/2015 18:37	IO
Lead	11.7	5.92		mg/Kg-dry	217018	1	12/11/2015 18:37	IO
Nickel	BRL	5.92		mg/Kg-dry	217018	1	12/11/2015 18:37	IO
Zinc	8.87	5.92		mg/Kg-dry	217018	1	12/14/2015 13:41	IO
PERCENT MOISTURE D2216								
Percent Moisture	22.2	0		wt%	R306345	1	12/14/2015 17:00	PF

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 23-Dec-15

Client:	ERM-Southeast	**Client Sample ID:**	TB-16-20151210-01
Project Name:	Macon Remediation	**Collection Date:**	12/10/2015
Lab ID:	1512B34-002	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	217163	1	12/14/2015 12:02	TH
Carbon disulfide	BRL	5.0		ug/L	217163	1	12/14/2015 12:02	TH
Ethylbenzene	BRL	5.0		ug/L	217163	1	12/14/2015 12:02	TH
Toluene	BRL	5.0		ug/L	217163	1	12/14/2015 12:02	TH
Xylenes, Total	BRL	5.0		ug/L	217163	1	12/14/2015 12:02	TH
Surr: 4-Bromofluorobenzene	101	70.7-125		%REC	217163	1	12/14/2015 12:02	TH
Surr: Dibromofluoromethane	99	82.2-120		%REC	217163	1	12/14/2015 12:02	TH
Surr: Toluene-d8	99.5	81.8-120		%REC	217163	1	12/14/2015 12:02	TH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client EKM Work Order Number 1512B34

Checklist completed by _____ 12/11/15
Signature Date

Carrier name: FedEx __ UPS __ Courier __ Client __ US Mail __ Other _____

Shipping container/cooler in good condition?	Yes ✓	No __	Not Present __
Custody seals intact on shipping container/cooler?	Yes __	No __	Not Present ✓
Custody seals intact on sample bottles?	Yes __	No __	Not Present ✓
Container/Temp Blank temperature in compliance? (0°≤6°C)*	Yes ✓	No __	

Cooler #1 3.5 Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present?	Yes ✓	No __
Chain of custody signed when relinquished and received?	Yes ✓	No __
Chain of custody agrees with sample labels?	Yes ✓	No __
Samples in proper container/bottle?	Yes ✓	No __
Sample containers intact?	Yes ✓	No __
Sufficient sample volume for indicated test?	Yes ✓	No __
All samples received within holding time?	Yes ✓	No __
Was TAT marked on the COC?	Yes ✓	No __
Proceed with Standard TAT as per project history?	Yes __	No __ Not Applicable ✓
Water - VOA vials have zero headspace?	No VOA vials submitted __	Yes ✓ No __
Water - pH acceptable upon receipt?	Yes ✓	No __ Not Applicable __

Adjusted? _____ Checked by _____

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1512B34

ANALYTICAL QC SUMMARY REPORT

BatchID: 217018

Sample ID: **MB-217018** Client ID: Units: **mg/Kg** Prep Date: **12/11/2015** Run No: **306214**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **217018** Analysis Date: **12/11/2015** Seq No: **6564130**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	5.00									
Arsenic	BRL	5.00									
Barium	BRL	5.00									
Beryllium	BRL	2.50									
Cadmium	BRL	2.50									
Chromium	BRL	2.50									
Copper	BRL	2.50									
Lead	BRL	5.00									
Nickel	BRL	5.00									
Zinc	BRL	5.00									

Sample ID: **LCS-217018** Client ID: Units: **mg/Kg** Prep Date: **12/11/2015** Run No: **306214**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **217018** Analysis Date: **12/11/2015** Seq No: **6564131**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	48.19	5.00	50.00		96.4	80	120				
Arsenic	48.37	5.00	50.00		96.7	80	120				
Barium	50.72	5.00	50.00		101	80	120				
Beryllium	50.11	2.50	50.00		100	80	120				
Cadmium	49.08	2.50	50.00		98.2	80	120				
Chromium	50.60	2.50	50.00	0.07825	101	80	120				
Copper	51.01	2.50	50.00		102	80	120				
Lead	49.48	5.00	50.00		99.0	80	120				
Nickel	49.48	5.00	50.00		99.0	80	120				
Zinc	48.35	5.00	50.00		96.7	80	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1512B34

ANALYTICAL QC SUMMARY REPORT

BatchID: 217018

Sample ID: **1512743-001AMS** Client ID:
SampleType: **MS** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/Kg-dry** Prep Date: **12/11/2015** Run No: **306214**
BatchID: **217018** Analysis Date: **12/11/2015** Seq No: **6564133**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	34.13	5.68	56.78		60.1	75	125				S
Arsenic	50.20	5.68	56.78	0.4201	87.7	75	125				
Barium	87.05	5.68	56.78	31.09	98.6	75	125				
Beryllium	55.37	2.84	56.78	0.2622	97.1	75	125				
Cadmium	54.17	2.84	56.78		95.4	75	125				
Chromium	64.12	2.84	56.78	8.786	97.4	75	125				
Copper	64.06	2.84	56.78	5.751	103	75	125				
Lead	68.94	5.68	56.78	16.58	92.2	75	125				
Nickel	56.78	5.68	56.78	2.984	94.7	75	125				
Zinc	73.41	5.68	56.78	19.21	95.5	75	125				

Sample ID: **1512743-001AMSD** Client ID:
SampleType: **MSD** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/Kg-dry** Prep Date: **12/11/2015** Run No: **306214**
BatchID: **217018** Analysis Date: **12/11/2015** Seq No: **6564134**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	33.55	5.68	56.78		59.1	75	125	34.13	1.73	20	S
Arsenic	51.14	5.68	56.78	0.4201	89.3	75	125	50.20	1.87	20	
Barium	88.54	5.68	56.78	31.09	101	75	125	87.05	1.70	20	
Beryllium	55.86	2.84	56.78	0.2622	97.9	75	125	55.37	0.877	20	
Cadmium	54.91	2.84	56.78		96.7	75	125	54.17	1.37	20	
Chromium	64.93	2.84	56.78	8.786	98.9	75	125	64.12	1.25	20	
Copper	64.49	2.84	56.78	5.751	103	75	125	64.06	0.664	20	
Lead	70.29	5.68	56.78	16.58	94.6	75	125	68.94	1.94	20	
Nickel	57.66	5.68	56.78	2.984	96.3	75	125	56.78	1.54	20	
Zinc	74.45	5.68	56.78	19.21	97.3	75	125	73.41	1.41	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1512B34

ANALYTICAL QC SUMMARY REPORT

BatchID: 217043

Sample ID: **MB-217043** Client ID: Units: **ug/Kg** Prep Date: **12/11/2015** Run No: **306259**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **217043** Analysis Date: **12/11/2015** Seq No: **6565786**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	330									
2-Methylphenol	BRL	330									
3,4-Methylphenol	BRL	330									
Phenol	BRL	330									
Surr: 2,4,6-Tribromophenol	2093	0	3333		62.8	41	128				
Surr: 2-Fluorobiphenyl	1223	0	1667		73.4	47	120				
Surr: 2-Fluorophenol	2249	0	3333		67.5	38.3	120				
Surr: 4-Terphenyl-d14	1431	0	1667		85.9	51.4	125				
Surr: Nitrobenzene-d5	1124	0	1667		67.5	40.1	120				
Surr: Phenol-d5	2480	0	3333		74.4	40.3	120				

Sample ID: **LCS-217043** Client ID: Units: **ug/Kg** Prep Date: **12/11/2015** Run No: **306259**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **217043** Analysis Date: **12/11/2015** Seq No: **6565787**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2767	330	3333		83.0	50.1	120				
Surr: 2,4,6-Tribromophenol	2695	0	3333		80.9	41	128				
Surr: 2-Fluorobiphenyl	1438	0	1667		86.3	47	120				
Surr: 2-Fluorophenol	2622	0	3333		78.7	38.3	120				
Surr: 4-Terphenyl-d14	1693	0	1667		102	51.4	125				
Surr: Nitrobenzene-d5	1471	0	1667		88.3	40.1	120				
Surr: Phenol-d5	2958	0	3333		88.8	40.3	120				

Sample ID: **1512A47-001BMS** Client ID: Units: **ug/Kg-dry** Prep Date: **12/11/2015** Run No: **306259**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **217043** Analysis Date: **12/11/2015** Seq No: **6565789**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2691	350	3569		75.4	41.5	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1512B34

ANALYTICAL QC SUMMARY REPORT

BatchID: 217043

Sample ID: **1512A47-001BMS** Client ID:
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/Kg-dry** Prep Date: **12/11/2015** Run No: **306259**
BatchID: **217043** Analysis Date: **12/11/2015** Seq No: **6565789**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 2,4,6-Tribromophenol	2623	0	3569		73.5	41	128				
Surr: 2-Fluorobiphenyl	1405	0	1784		78.8	47	120				
Surr: 2-Fluorophenol	2537	0	3569		71.1	38.3	120				
Surr: 4-Terphenyl-d14	1696	0	1784		95.1	51.4	125				
Surr: Nitrobenzene-d5	1366	0	1784		76.6	40.1	120				
Surr: Phenol-d5	2913	0	3569		81.6	40.3	120				

Sample ID: **1512A47-001BMSD** Client ID:
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/Kg-dry** Prep Date: **12/11/2015** Run No: **306259**
BatchID: **217043** Analysis Date: **12/11/2015** Seq No: **6565790**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	2838	350	3569		79.5	41.5	120	2691	5.32	37.4	
Surr: 2,4,6-Tribromophenol	2728	0	3569		76.4	41	128	2623	0	0	
Surr: 2-Fluorobiphenyl	1529	0	1784		85.7	47	120	1405	0	0	
Surr: 2-Fluorophenol	2754	0	3569		77.2	38.3	120	2537	0	0	
Surr: 4-Terphenyl-d14	1648	0	1784		92.3	51.4	125	1696	0	0	
Surr: Nitrobenzene-d5	1294	0	1784		72.5	40.1	120	1366	0	0	
Surr: Phenol-d5	3108	0	3569		87.1	40.3	120	2913	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1512B34

ANALYTICAL QC SUMMARY REPORT

BatchID: 217064

Sample ID: **MB-217064** Client ID: Units: **ug/Kg** Prep Date: **12/14/2015** Run No: **306305**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **217064** Analysis Date: **12/14/2015** Seq No: **6567354**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	17									
Acenaphthylene	BRL	33									
Anthracene	BRL	1.7									
Benz(a)anthracene	BRL	1.7									
Benzo(a)pyrene	BRL	1.7									
Benzo(b)fluoranthene	BRL	3.3									
Benzo(g,h,i)perylene	BRL	3.3									
Benzo(k)fluoranthene	BRL	1.7									
Chrysene	BRL	1.7									
Dibenz(a,h)anthracene	BRL	3.3									
Fluoranthene	BRL	3.3									
Fluorene	BRL	3.3									
Indeno(1,2,3-cd)pyrene	BRL	1.7									
Naphthalene	BRL	17									
Phenanthrene	BRL	1.7									
Pyrene	BRL	1.7									
Surr: 4-Terphenyl-d14	61.66	0	66.67		92.5	42	124				

Sample ID: **LCS-217064** Client ID: Units: **ug/Kg** Prep Date: **12/14/2015** Run No: **306305**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **217064** Analysis Date: **12/14/2015** Seq No: **6567355**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	64.44	17	66.70		96.6	61.2	120				
Acenaphthylene	57.81	33	66.70		86.7	60.1	120				
Anthracene	60.49	1.7	66.70		90.7	58.4	120				
Benz(a)anthracene	64.61	1.7	66.70		96.9	56.7	124				
Benzo(a)pyrene	63.87	1.7	66.70		95.8	57.5	120				
Benzo(b)fluoranthene	56.50	3.3	66.70		84.7	60.9	118				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1512B34

ANALYTICAL QC SUMMARY REPORT

BatchID: 217064

Sample ID: **LCS-217064** Client ID: Units: **ug/Kg** Prep Date: **12/14/2015** Run No: **306305**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **217064** Analysis Date: **12/14/2015** Seq No: **6567355**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(g,h,i)perylene	58.91	3.3	66.70		88.3	50.7	125				
Benzo(k)fluoranthene	64.59	1.7	66.70		96.8	53	125				
Chrysene	69.96	1.7	66.70		105	61.2	120				
Dibenz(a,h)anthracene	58.24	3.3	66.70		87.3	48	125				
Fluoranthene	67.75	3.3	66.70		102	64.9	121				
Fluorene	64.00	3.3	66.70		95.9	62.1	120				
Indeno(1,2,3-cd)pyrene	58.09	1.7	66.70		87.1	56	121				
Naphthalene	59.96	17	66.70		89.9	57.4	120				
Phenanthrene	62.29	1.7	66.70		93.4	63.3	120				
Pyrene	68.44	1.7	66.70		103	61.2	120				
Surr: 4-Terphenyl-d14	61.21	0	66.70		91.8	42	124				

Sample ID: **1512B34-001CMS** Client ID: **SSS-47A-20151210-01** Units: **ug/Kg-dry** Prep Date: **12/14/2015** Run No: **306417**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **217064** Analysis Date: **12/15/2015** Seq No: **6570455**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	237.0	220	85.70	79.58	184	45.8	120				S
Acenaphthylene	BRL	420	85.70	145.8	188	50.6	120				S
Anthracene	247.7	22	85.70	123.4	145	42.4	125				S
Benz(a)anthracene	389.6	22	85.70	282.3	125	44.9	136				
Benzo(a)pyrene	223.1	22	85.70	158.9	75.0	40.3	123				
Benzo(b)fluoranthene	223.7	42	85.70	180.4	50.5	37	128				
Benzo(g,h,i)perylene	125.3	42	85.70	68.64	66.1	41.1	137				
Benzo(k)fluoranthene	161.3	22	85.70	63.97	114	37.7	126				
Chrysene	389.4	22	85.70	255.0	157	43	120				S
Dibenz(a,h)anthracene	81.05	42	85.70	16.73	75.1	42.6	130				
Fluoranthene	529.3	42	85.70	453.0	89.1	44.4	133				
Fluorene	240.9	42	85.70	103.6	160	42.5	119				S

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1512B34

ANALYTICAL QC SUMMARY REPORT

BatchID: 217064

Sample ID: **1512B34-001CMS** Client ID: **SSS-47A-20151210-01** Units: **ug/Kg-dry** Prep Date: **12/14/2015** Run No: **306417**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **217064** Analysis Date: **12/15/2015** Seq No: **6570455**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Indeno(1,2,3-cd)pyrene	111.0	22	85.70	63.75	55.1	41.7	135				
Naphthalene	BRL	220	85.70	56.63	136	42.5	120				S
Phenanthrene	1130	22	85.70	695.1	507	44.1	120				S
Pyrene	686.7	22	85.70	550.9	159	41.5	120				S
Surr: 4-Terphenyl-d14	87.60	0	85.70		102	42	124				

Sample ID: **1512B34-001CMSD** Client ID: **SSS-47A-20151210-01** Units: **ug/Kg-dry** Prep Date: **12/14/2015** Run No: **306417**
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **217064** Analysis Date: **12/15/2015** Seq No: **6570456**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	220	85.70	79.58	90.5	45.8	120	237.0	0	38.4	
Acenaphthylene	BRL	420	85.70	145.8	60.4	50.6	120	307.1	0	37.8	
Anthracene	169.0	22	85.70	123.4	53.3	42.4	125	247.7	37.7	49.7	
Benz(a)anthracene	308.8	22	85.70	282.3	31.0	44.9	136	389.6	23.1	33.8	S
Benzo(a)pyrene	182.6	22	85.70	158.9	27.7	40.3	123	223.1	20.0	40.2	S
Benzo(b)fluoranthene	182.4	42	85.70	180.4	2.27	37	128	223.7	20.3	36.5	S
Benzo(g,h,i)perylene	113.4	42	85.70	68.64	52.2	41.1	137	125.3	9.99	39.3	
Benzo(k)fluoranthene	137.7	22	85.70	63.97	86.1	37.7	126	161.3	15.8	35	
Chrysene	294.0	22	85.70	255.0	45.5	43	120	389.4	27.9	28.6	
Dibenz(a,h)anthracene	72.01	42	85.70	16.73	64.5	42.6	130	81.05	11.8	44.6	
Fluoranthene	406.1	42	85.70	453.0	-54.8	44.4	133	529.3	26.4	33.2	S
Fluorene	152.6	42	85.70	103.6	57.1	42.5	119	240.9	44.9	35.4	R
Indeno(1,2,3-cd)pyrene	96.39	22	85.70	63.75	38.1	41.7	135	111.0	14.1	37.3	S
Naphthalene	BRL	220	85.70	56.63	79.4	42.5	120	172.9	0	39.4	
Phenanthrene	640.6	22	85.70	695.1	-63.5	44.1	120	1130	55.3	37	SR
Pyrene	528.3	22	85.70	550.9	-26.3	41.5	120	686.7	26.1	33.1	S
Surr: 4-Terphenyl-d14	78.20	0	85.70		91.3	42	124	87.60	0	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1512B34

ANALYTICAL QC SUMMARY REPORT

BatchID: 217088

Sample ID: **MB-217088**	Client ID:			Units: **mg/Kg**	Prep Date: **12/14/2015**	Run No: **306234**
SampleType: **MBLK**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **217088**	Analysis Date: **12/14/2015**	Seq No: **6566821**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.100									

Sample ID: **LCS-217088**	Client ID:			Units: **mg/Kg**	Prep Date: **12/14/2015**	Run No: **306234**
SampleType: **LCS**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **217088**	Analysis Date: **12/14/2015**	Seq No: **6566823**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.3829	0.100	0.4000		95.7	80	120				

Sample ID: **1512B34-001DMS**	Client ID: **SSS-47A-20151210-01**			Units: **mg/Kg-dry**	Prep Date: **12/14/2015**	Run No: **306234**
SampleType: **MS**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **217088**	Analysis Date: **12/14/2015**	Seq No: **6566826**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.4576	0.111	0.4438	0.03340	95.6	70	130				

Sample ID: **1512B34-001DMSD**	Client ID: **SSS-47A-20151210-01**			Units: **mg/Kg-dry**	Prep Date: **12/14/2015**	Run No: **306234**
SampleType: **MSD**	TestCode: **TOTAL MERCURY SW7471B**			BatchID: **217088**	Analysis Date: **12/14/2015**	Seq No: **6566828**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.4642	0.111	0.4454	0.03340	96.7	70	130	0.4576	1.44	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1512B34

ANALYTICAL QC SUMMARY REPORT

BatchID: 217163

Sample ID: **MB-217163** Client ID: Units: **ug/L** Prep Date: **12/14/2015** Run No: **306342**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **217163** Analysis Date: **12/14/2015** Seq No: **6568402**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	5.0									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	51.71	0	50.00		103	70.7	125				
Surr: Dibromofluoromethane	49.00	0	50.00		98.0	82.2	120				
Surr: Toluene-d8	50.57	0	50.00		101	81.8	120				

Sample ID: **LCS-217163** Client ID: Units: **ug/L** Prep Date: **12/14/2015** Run No: **306342**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **217163** Analysis Date: **12/14/2015** Seq No: **6568401**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	53.23	5.0	50.00		106	72.8	128				
Toluene	53.24	5.0	50.00		106	74.9	127				
Surr: 4-Bromofluorobenzene	50.79	0	50.00		102	70.7	125				
Surr: Dibromofluoromethane	50.73	0	50.00		101	82.2	120				
Surr: Toluene-d8	49.63	0	50.00		99.3	81.8	120				

Sample ID: **1512741-001AMS** Client ID: Units: **ug/L** Prep Date: **12/14/2015** Run No: **306342**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **217163** Analysis Date: **12/14/2015** Seq No: **6568411**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	29500	2500	25000	2180	109	70	135				
Toluene	51990	2500	25000	25640	105	70.5	137				
Surr: 4-Bromofluorobenzene	25850	0	25000		103	70.7	125				
Surr: Dibromofluoromethane	24810	0	25000		99.2	82.2	120				
Surr: Toluene-d8	25150	0	25000		101	81.8	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1512B34

ANALYTICAL QC SUMMARY REPORT

BatchID: 217163

Sample ID: **1512741-001AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/L** Prep Date: **12/14/2015** Run No: **306342**
BatchID: **217163** Analysis Date: **12/14/2015** Seq No: **6568412**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	28880	2500	25000	2180	107	70	135	29500	2.14	20	
Toluene	51350	2500	25000	25640	103	70.5	137	51990	1.24	20	
Surr: 4-Bromofluorobenzene	25690	0	25000		103	70.7	125	25850	0	0	
Surr: Dibromofluoromethane	24100	0	25000		96.4	82.2	120	24810	0	0	
Surr: Toluene-d8	24780	0	25000		99.1	81.8	120	25150	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1512B34

ANALYTICAL QC SUMMARY REPORT

BatchID: 217197

Sample ID: **MB-217197**	Client ID:			Units: **mg/Kg**		Prep Date: **12/15/2015**		Run No: **306398**	
SampleType: **MBLK**	TestCode: **Cyanide, Total SW9014**			BatchID: **217197**		Analysis Date: **12/15/2015**		Seq No: **6570005**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	1.00									

Sample ID: **LCS-217197**	Client ID:			Units: **mg/Kg**		Prep Date: **12/15/2015**		Run No: **306398**	
SampleType: **LCS**	TestCode: **Cyanide, Total SW9014**			BatchID: **217197**		Analysis Date: **12/15/2015**		Seq No: **6570006**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	11.96	1.00	12.50		95.7	85	115				

Sample ID: **1512B34-001BMS**	Client ID: **SSS-47A-20151210-01**			Units: **mg/Kg**		Prep Date: **12/15/2015**		Run No: **306398**	
SampleType: **MS**	TestCode: **Cyanide, Total SW9014**			BatchID: **217197**		Analysis Date: **12/15/2015**		Seq No: **6570011**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	11.40	1.00	12.50		91.2	70	130				

Sample ID: **1512B34-001BMSD**	Client ID: **SSS-47A-20151210-01**			Units: **mg/Kg**		Prep Date: **12/15/2015**		Run No: **306398**	
SampleType: **MSD**	TestCode: **Cyanide, Total SW9014**			BatchID: **217197**		Analysis Date: **12/15/2015**		Seq No: **6570012**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	11.57	1.00	12.50		92.6	70	130	11.40	1.48	30	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1512B34

ANALYTICAL QC SUMMARY REPORT

BatchID: 217228

Sample ID: **MB-217228** Client ID: Units: **ug/Kg** Prep Date: **12/15/2015** Run No: **306445**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **217228** Analysis Date: **12/15/2015** Seq No: **6571112**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	10									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	52.95	0	50.00		106	70	128				
Surr: Dibromofluoromethane	50.80	0	50.00		102	78.2	128				
Surr: Toluene-d8	51.49	0	50.00		103	76.5	116				

Sample ID: **LCS-217228** Client ID: Units: **ug/Kg** Prep Date: **12/15/2015** Run No: **306445**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **217228** Analysis Date: **12/15/2015** Seq No: **6571109**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	54.87	5.0	50.00		110	72.3	130				
Toluene	55.24	5.0	50.00		110	71.1	130				
Surr: 4-Bromofluorobenzene	52.99	0	50.00		106	70	128				
Surr: Dibromofluoromethane	52.55	0	50.00		105	78.2	128				
Surr: Toluene-d8	51.14	0	50.00		102	76.5	116				

Sample ID: **1512B34-001AMS** Client ID: **SSS-47A-20151210-01** Units: **ug/Kg-dry** Prep Date: **12/15/2015** Run No: **306445**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **217228** Analysis Date: **12/15/2015** Seq No: **6571110**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	75.93	6.4	64.24	1.911	115	70.4	130				
Toluene	74.67	6.4	64.24	7.250	105	70.4	130				
Surr: 4-Bromofluorobenzene	67.03	0	64.24		104	70	128				
Surr: Dibromofluoromethane	66.81	0	64.24		104	78.2	128				
Surr: Toluene-d8	66.50	0	64.24		104	76.5	116				

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: ERM-Southeast
Project Name: Macon Remediation
Workorder: 1512B34

ANALYTICAL QC SUMMARY REPORT

BatchID: 217228

Sample ID: **1512B34-001AMSD** Client ID: **SSS-47A-20151210-01** Units: **ug/Kg-dry** Prep Date: **12/15/2015** Run No: **306445**
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **217228** Analysis Date: **12/15/2015** Seq No: **6571111**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	72.44	6.4	64.24	1.911	110	70.4	130	75.93	4.71	16.9	
Toluene	70.27	6.4	64.24	7.250	98.1	70.4	130	74.67	6.08	16.6	
Surr: 4-Bromofluorobenzene	69.60	0	64.24		108	70	128	67.03	0	0	
Surr: Dibromofluoromethane	67.24	0	64.24		105	78.2	128	66.81	0	0	
Surr: Toluene-d8	66.99	0	64.24		104	76.5	116	66.50	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Geotechnical Laboratory and Field Compaction Reports

Appendix A-12

May 21, 2016
Project No. 0176740
Corrective Action Completion Report

Environmental Resources Management
3200 Windy Hill Rd. Suite 1500W
Atlanta, GA 30339
(678) 486-2700

GEC
GEOTECHNICAL & ENVIRONMENTAL
CONSULTANTS

REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 1/20/2016
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
8	115.6	14.1	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 1/ 7/2016

AREA: 6th Street

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
60		Right lane 25'N of Mulberry St	128.7	15.8	111.1	8	96.1	95
61		Left lane 70'N of Mulberry St	127.1	15.1	110.4	8	95.5	95
62		Right lane 65'N of Mulberry St	129.4	15.5	112.0	8	96.9	95
63		Left lane 20'N of Mulberry St	129.1	15.7	111.6	8	96.5	95
64		Right lane 15'N of Mulberry St	127.7	16.2	109.9	8	95.1	95

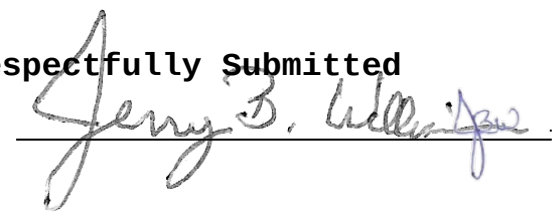
Notes: Tested By: S. Whatley
Test Method: ASTM 6938

6th Street 0' to 100' North of Mulberry Street

Remarks:

Copies To:

Respectfully Submitted



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GEOTECHNICAL & ENVIRONMENTAL
CONSULTANTS

REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 1/20/2016
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
8	115.6	14.1	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 1/ 7/2016

AREA: 6th Street

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
65		Left lane 80'N of Mulberry St	130.0	15.1	112.9	8	97.7	95
66		Right lane 75'N of Mulberry St	128.6	15.5	111.3	8	96.3	95
67		Left lane 25'N of Mulberry St	129.9	16.5	111.5	8	96.5	95
68		Right lane 40'N of Mulberry St	126.8	14.9	110.4	8	95.5	95
69		Left lane 90'N of Mulberry St	127.5	15.2	110.7	8	95.8	95

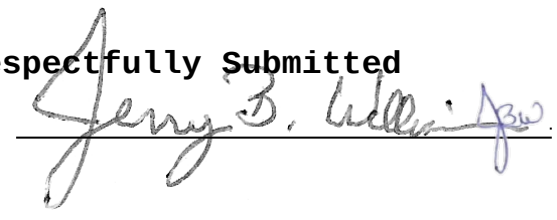
Notes: Tested By: S. Whatley
Test Method: ASTM 6938

6th Street 0' to 100' North of Mulberry Street

Remarks:

Copies To:

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REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 1/20/2016
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
8	115.6	14.1	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 1/ 7/2016

AREA: 6th Street

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
70		Right lane 80'N of Mulberry St	126.6	14.8	110.3	8	95.4	95
71		Left lane 20'N of Mulberry St	129.2	16.3	111.1	8	96.1	95
72		Right lane 30'N of Mulberry St	128.7	15.0	111.9	8	96.8	95
73		Left lane 70'N of Mulberry St	127.9	14.8	111.4	8	96.4	95
74		Right lane 85'N of Mulberry St	126.9	15.5	109.9	8	95.1	95

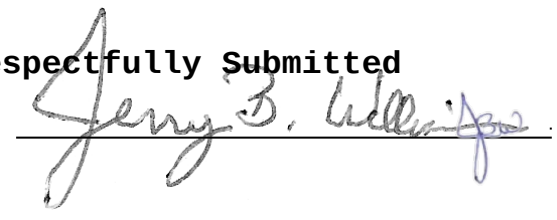
Notes: Tested By: S. Whatley
Test Method: ASTM 6938

6th Street 0' to 100' North of Mulberry Street

Remarks:

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REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 1/20/2016
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
8	115.6	14.1	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 1/ 7/2016

AREA: 6th Street

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
75		Left lane 30'N of Mulberry St	128.1	15.7	110.7	8	95.8	95
76		Right lane 20'N of Mulberry St	129.4	16.6	111.0	8	96.0	95
77		Left lane 75'N of Mulberry St	128.8	14.9	112.1	8	97.0	95

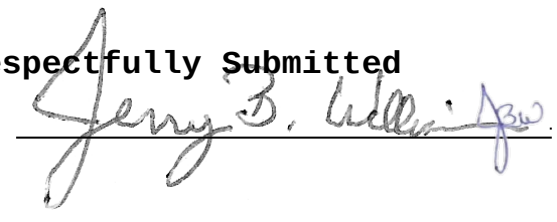
Notes: Tested By: S. Whatley
Test Method: ASTM 6938

6th Street 0' to 100' North of Mulberry Street

Remarks:

Copies To:

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CONSULTANTS

REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 1/20/2016
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
8	115.6	14.1	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 1/12/2016

AREA: 6th Street

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
78		Right lane 30'N of Mulberry St	127.2	15.7	109.9	8	95.1	95
79		Left lane 80'N of Mulberry St	128.5	16.1	110.7	8	95.8	95
80		Right lane 70'N of Mulberry St	127.7	15.0	111.0	8	96.0	95
81		Left lane 25'N of Mulberry St	128.2	16.6	109.9	8	95.1	95
82		Right lane 20'N of Mulberry St	129.1	15.7	111.6	8	96.5	95

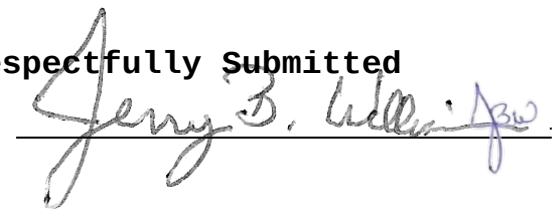
Notes: Tested By: S. Whatley
Test Method: ASTM 6938

6th Street 0' to 100' North of Mulberry Street

Remarks:

Copies To:

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CONSULTANTS

REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 1/20/2016
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
8	115.6	14.1	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 1/12/2016

AREA: 6th Street

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
83		Left lane 75'N of Mulberry St	128.2	16.0	110.5	8	95.6	95
84		Right lane 85'N of Mulberry St	127.3	15.1	110.6	8	95.7	95
85		Left lane 30'N of Mulberry St	129.4	15.6	111.9	8	96.8	95
86		Right lane 25'N of Mulberry St	127.9	15.5	110.7	8	95.8	95
87		Left lane 80'N of Mulberry St	128.8	14.9	112.1	8	97.0	95

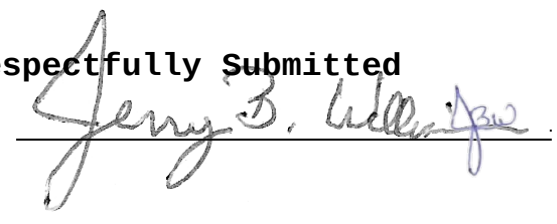
Notes: Tested By: S. Whatley
Test Method: ASTM 6938

6th Street 0' to 100' North of Mulberry Street

Remarks:

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GEOTECHNICAL & ENVIRONMENTAL
CONSULTANTS

REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 1/20/2016
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
8	115.6	14.1	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 1/12/2016

AREA: 6th Street

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
88		Right lane 70'N of Mulberry St	127.5	15.9	110.0	8	95.2	95
89		Left lane 15'N of Mulberry St	128.1	15.7	110.7	8	95.8	95
90		Right lane 25'N of Mulberry St	128.6	15.3	111.5	8	96.5	95
91		Left lane 75'N of Mulberry St	129.0	16.2	111.0	8	96.0	95

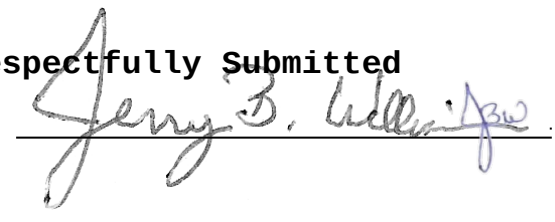
Notes: Tested By: S. Whatley
Test Method: ASTM 6938

6th Street 0' to 100' North of Mulberry Street

Remarks:

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REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 1/20/2016
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
8	115.6	14.1	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 1/13/2016

AREA: 6th Street

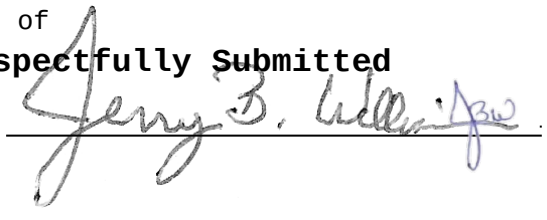
Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
102		Right lane 70'N of Mulberry St	129.4	15.6	111.9	8	96.8	95
103		Left lane 35'S of Mulberry St	126.9	15.5	109.9	8	95.1	95
104		Right lane 20'N of Mulberry St	128.8	14.9	112.1	8	97.0	95
105		Left lane 75'N of Mulberry St	127.7	16.2	109.9	8	95.1	95

Notes: Tested By: S. Whatley
Test Method: ASTM 6938

Remarks: 6th Street 0' to 100' North and 0' to 60' South of Mulberry Street.

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REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 1/20/2016
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
8	115.6	14.1	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 1/13/2016

AREA: 6th Street

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
92		Right lane 10'N of Mulberry St	128.8	14.9	112.1	8	97.0	95
93		Left lane 80'N of Mulberry St	127.9	14.8	111.4	8	96.4	95
94		Right lane 40'S of Mulberry St	128.4	15.5	111.2	8	96.2	95
95		Left lane 20'N of Mulberry St	130.0	15.1	112.9	8	97.7	95
96		Right lane 75'N of Mulberry St	129.4	15.6	111.9	8	96.8	95

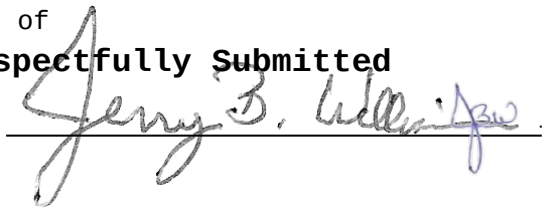
Notes: Tested By: S. Whatley
Test Method: ASTM 6938

6th Street 0' to 100' North and 0' to 60' South of

Remarks: Mulberry Street.

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8	115.6	14.1	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 1/13/2016

AREA: 6th Street

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
97		Left lane 30'S of Mulberry St	129.1	15.7	111.6	8	96.5	95
98		Right lane 15'N of Mulberry St	128.8	14.9	112.1	8	97.0	95
99		Left lane 80'N of Mulberry St	127.2	15.7	109.9	8	95.1	95
100		Right lane 40'S of Mulberry St	128.2	16.0	110.5	8	95.6	95
101		Left lane 25'N of Mulberry St	127.7	15.0	111.0	8	96.0	95

Notes: Tested By: S. Whatley
Test Method: ASTM 6938

6th Street 0' to 100' North and 0' to 60' South of

Remarks: Mulberry Street.

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REPORT OF FIELD DENSITY TESTS

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#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
8	115.6	14.1	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 1/14/2016

AREA: 6th Street

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
106		Right lane 15'N of Mulberry St	128.8	14.9	112.1	8	97.0	95
107		Left lane 80'N of Mulberry St	129.5	14.7	112.9	8	97.7	95
108		Right lane 40'S of Mulberry St	128.9	15.0	112.1	8	97.0	98
109		Left lane 25'N of Mulberry St	131.4	14.9	114.4	8	99.0	98
110		Right lane 70'N of Mulberry St	130.5	15.0	113.5	8	98.2	98

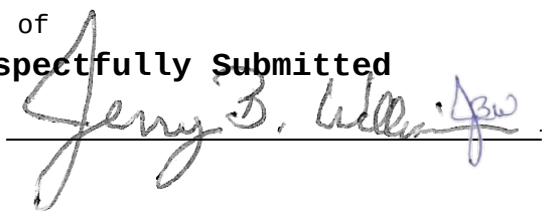
Notes: Tested By: S. Whatley
Test Method: ASTM 6938

6th Street 0' to 100' North and 0' to 60' South of

Remarks: Mulberry Street.

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8	115.6	14.1	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 1/14/2016

AREA: 6th Street

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
111		Left lane 30'S of Mulberry St	130.2	14.7	113.5	8	98.2	98
112		Right lane 30'N of Mulberry St	131.1	15.0	114.0	8	98.6	98
113		Left lane 75'N of Mulberry St	132.0	14.6	115.2	8	99.7	98
114		Right lane 20'S of Mulberry St	131.2	14.8	114.3	8	98.9	98
115		Left lane 15'N of Mulberry St	131.0	15.2	113.7	8	98.4	98

Notes: Tested By: S. Whatley
Test Method: ASTM 6938

6th Street 0' to 100' North and 0' to 60' South of

Remarks: Mulberry Street.

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8	115.6	14.1	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 1/14/2016

AREA: 6th Street

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
115		Left lane 15'N of Mulberry St	131.0	15.2	113.7	8	98.4	98
116		Right lane 80'N of Mulberry St	131.6	14.5	114.9	8	99.4	98
117		Left lane 35'S of Mulberry St	129.9	14.9	113.1	8	98	98
118		Right lane 35'N of Mulberry St	132.4	14.5	115.6	8	100.0	98
119		Left lane 85'N of Mulberry St	130.5	14.4	114.1	8	98.7	98

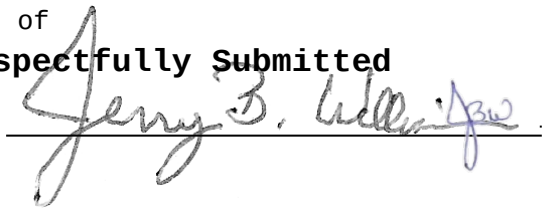
Notes: Tested By: S. Whatley
Test Method: ASTM 6938

6th Street 0' to 100' North and 0' to 60' South of

Remarks: Mulberry Street.

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PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
8	115.6	14.1	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 1/18/2016

AREA: 6th Street 100' West

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
120	1st lift	Left side on south side	128.7	16.2	110.8	8	95.8	90
121	1st lift	Center on south side	125.4	15.7	108.4	8	93.8	90
122	1st lift	Right side on south side	126.6	15.9	109.2	8	94.5	90
123	1st lift	Left side on north side	125.9	16.2	108.3	8	93.7	90
124	1st lift	Center on north side	122.6	15.7	106.0	8	91.7	90

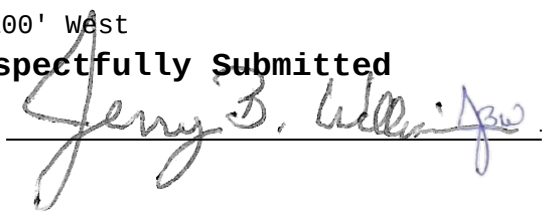
Notes: Tested By: S. Whatley
Test Method: ASTM 6938

Non structural fill placement from 6th Street 100' West

Remarks:

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PROJECT: Macon Former MGP Site Remediation
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PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
8	115.6	14.1	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 1/18/2016

AREA: 6th Street 100' West

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
125	1st lift	Right side on north side	124.4	15.9	107.3	8	92.8	90

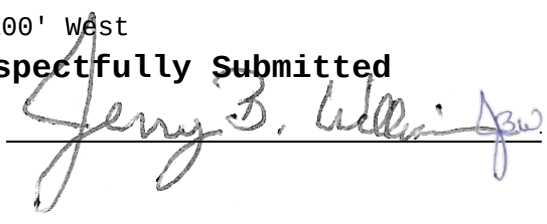
Notes: Tested By: S. Whatley
Test Method: ASTM 6938

Non structural fill placement from 6th Street 100' West

Remarks:

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PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
8	115.6	14.1	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 1/19/2016

AREA: 6th Street 150' West

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
126	2nd lift	Left side on South side	127.6	15.7	110.3	8	95.4	90
127	2nd lift	Center on South side	126.3	15.2	109.6	8	94.8	90
128	2nd lift	Right side on South side	124.7	15.8	107.7	8	93.2	90
129	2nd lift	Left side on North side	125.1	16.0	107.8	8	93.3	90
130	2nd lift	Center on North side	123.9	15.5	107.3	8	92.8	90

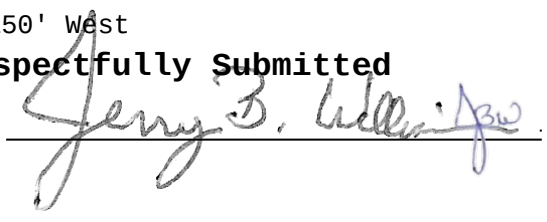
Notes: Tested By: S. Whatley
Test Method: ASTM 6938

Non structural fill placement from 6th street 150' West

Remarks:

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PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
8	115.6	14.1	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 1/19/2016

AREA: 6th Street 150' West

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
131	2nd lift	Right side on North side	122.6	16.3	105.4	8	91.2	90
132	3rd lift	Left side on North side	124.4	15.8	107.4	8	92.9	90
133	3rd lift	Center on North side	125.5	16.1	108.1	8	93.5	90
134	3rd lift	Right side on North side	126.3	15.2	109.6	8	94.8	90
135	3rd lift	Left side on South side	122.9	15.6	106.3	8	92.0	90

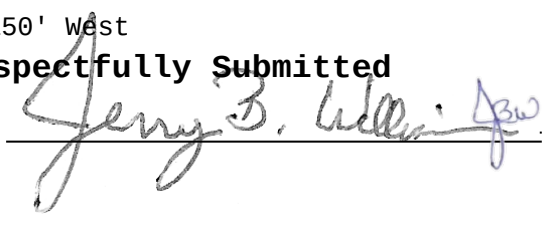
Notes: Tested By: S. Whatley
Test Method: ASTM 6938

Non structural fill placement from 6th street 150' West

Remarks:

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#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
8	115.6	14.1	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 1/19/2016

AREA: 6th Street 150' West

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
136	3rd lift	Center on South side	123.7	16.1	106.5	8	92.1	90
137	3rd lift	Right side on South side	125.3	15.3	108.7	8	94.0	90

Notes: Tested By: S. Whatley
Test Method: ASTM 6938

Non structural fill placement from 6th street 150' West

Remarks:

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#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
8	115.6	14.1	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 1/20/2016

AREA: 6th Street 150'W main site s

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
138	4th lift	Left side on South side	123.2	15.5	106.7	8	92.3	90
139	4th lift	Center on South side	124.5	15.9	107.4	8	92.9	90
140	4th lift	Right side on South side	123.8	15.3	107.4	8	92.9	90
141	4th lift	Left side on North side	125.0	16.1	107.7	8	93.2	90
142	4th lift	Center on North side	122.7	15.8	106.0	8	91.7	90

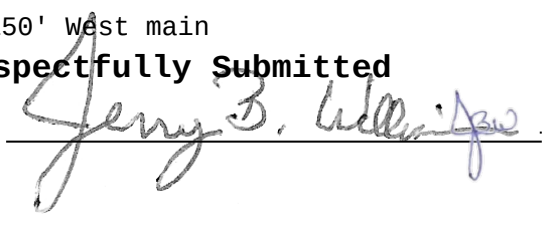
Notes: Tested By: S. Whatley
Test Method: ASTM 6938

Non structural fill placement from 6th Street 150' West main

Remarks: site south.

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REPORT DATE: 1/20/2016
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
8	115.6	14.1	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 1/20/2016

AREA: 6th Street 150'W main site s

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
143	4th lift	Right side on North side	123.1	15.7	106.4	8	92.0	90

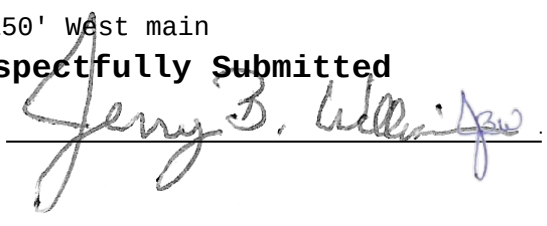
Notes: Tested By: S. Whatley
Test Method: ASTM 6938

Non structural fill placement from 6th Street 150' West main site south.

Remarks:

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REPORT DATE: 1/21/2016
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
8	115.6	14.1	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 1/21/2016

AREA: Mulberry St and 6th St

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
144	1st lift	80' West	122.2	15.8	105.5	8	91.3	90
145	1st lift	110' West	123.6	16.1	106.5	8	92.1	90
146	1st lift	140' West	122.7	15.6	106.1	8	91.8	90
147	2nd lift	75' West	123.4	16.0	106.4	8	92.0	90
148	2nd lift	105' West	122.9	15.9	106.0	8	91.7	90

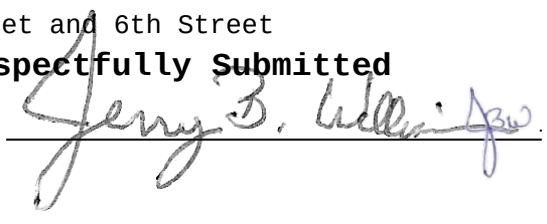
Notes: Tested By: S. Whatley
Test Method: ASTM 6938

Non structural fill placement fromMulberry Street and 6th Street

Remarks: 70' to 150' West main site south.

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REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

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PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
8	115.6	14.1	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 1/21/2016

AREA: Mulberry St and 6th St

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
149	2nd lift	145' West	123.5	15.5	106.9	8	92.5	90

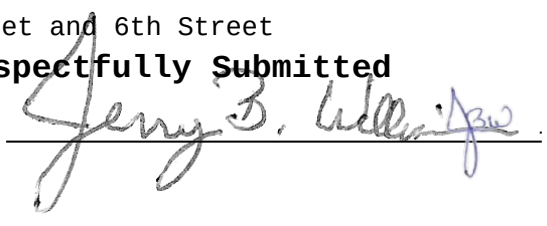
Notes: Tested By: S. Whatley
Test Method: ASTM 6938

Non structural fill placement fromMulberry Street and 6th Street

Remarks: 70' to 150' West main site south.

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REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 11/18/2015
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
1	116.8	12.5	ASTM D 1557-07 Method

TEST DATA: **Tests were performed on:** 11/13/2015

AREA: Mulberry

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
5	Lift 5	Mulberry	128.7	15.2	111.7	1	95.6	95

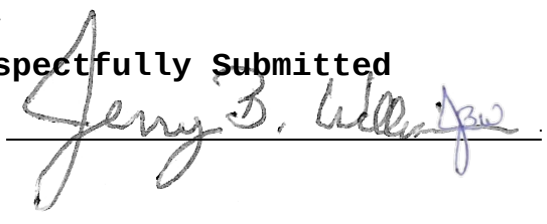
Notes: Tested By: Harry Price
Test Method: ASTM 6938

All tests run in area designated as Mulberry by

Remarks: contractor/client.

Copies To:

Respectfully Submitted



GEC
GEOTECHNICAL & ENVIRONMENTAL
CONSULTANTS

REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 11/18/2015
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
1	116.8	12.5	ASTM D 1557-07 Method

TEST DATA: **Tests were performed on:** 11/13/2015

AREA: Mulberry

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
6		Mulberry lift # 6	128.4	15.5	111.2	1	95.2	95
7		Mulberry lift # 7	128.8	15.7	111.3	1	95.3	95
8		Mulberry lift # 8	129.3	15.2	112.2	1	96.1	95

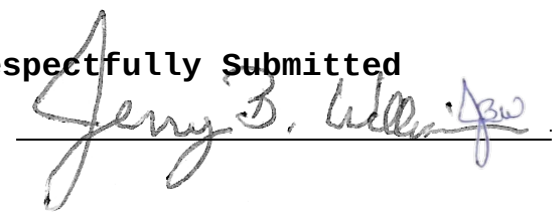
Notes: Tested By: Stephen Whatley
Test Method: ASTM 6938

Mulberry

Remarks:

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GEOTECHNICAL & ENVIRONMENTAL
CONSULTANTS

REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 11/18/2015
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
1	116.8	12.5	ASTM D 1557-07 Method
4	114.9	13.6	ASTM D 1557-07 Method

TEST DATA: **Tests were performed on:** 11/16/2015

AREA: Mulberry Street Backfill

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
9	Lift 9	Mulberry St E end	130.1	13.6	114.5	1	98.0	95
10	Lift 8	Mulberry St W end	130.5	15.6	112.9	1	96.7	95
11	Lift 10	Mulberry St E end	127.9	16.6	109.7	4	95.5	95

Notes: Tested By: Jason Hencely
Test Method: ASTM 6938

Mulberry Street backfill.

Remarks:

Copies To:

Respectfully Submitted

Jerry B. Wilson

GEC
GEOTECHNICAL & ENVIRONMENTAL
CONSULTANTS

REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 11/18/2015
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
1	116.8	12.5	ASTM D 1557-07 Method

TEST DATA: **Tests were performed on:** 11/17/2015

AREA: Mulberry

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
12		Mulberry lift 11	132.0	15.2	114.6	1	98.1	95

Notes: Tested By: Stephen Whatley
Test Method: ASTM 6938

Mulberry Street area.

Remarks:

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Jerry B. Wilkins JBW

GEC
GEOTECHNICAL & ENVIRONMENTAL
CONSULTANTS

REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 12/ 9/2015
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
2	116.2	11.3	ASTM D 1557-07 Method

TEST DATA: **Tests were performed on:** 12/ 9/2015

AREA: Mulberry Street

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
18	Lift # 14	South end of Mulberry Street	128.7	15.0	111.9	2	96.3	95

Notes: Tested By: Stephen Whatley
Test Method: ASTM 6938

Remarks: Mulberry Street

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Jerry B. Wilkins JBW

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GEOTECHNICAL & ENVIRONMENTAL
CONSULTANTS

REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 12/ 9/2015
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
2	116.2	11.3	ASTM D 1557-07 Method

TEST DATA: **Tests were performed on:** 12/ 9/2015

AREA: Mulberry Street

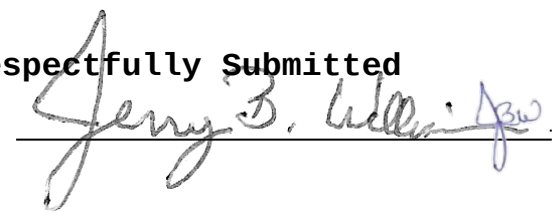
Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
13	Lift # 12	North end of Mulberry Street	129.9	15.6	112.4	2	96.7	95
14	Lift # 12	South end of Mulberry Street	127.4	14.5	111.3	2	95.8	95
15	Lift # 13	North end of Mulberry Street	128.9	14.9	112.2	2	96.6	95
16	Lift # 13	South end of Mulberry Street	127.9	15.2	111.0	2	95.5	95
17	Lift # 14	North end of Mulberry Street	129.5	15.4	112.2	2	96.6	95

Notes: Tested By: Stephen Whatley
Test Method: ASTM 6938

Remarks: Mulberry Street

Copies To:

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GEC
GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS, INC

514 Hillcrest Industrial Blvd.
Macon, Georgia 31204
Tel: (478)757-1606●Fax: (478) 757-1608

DATE	PROJECT NO.
12/09/15	150678.230
PROJECT: Macon Former MGP Site Remediation #11-046	
LOCATION: Macon,Ga	
CONTRACTOR: Geo-Solutions, Inc.	MILEAGE
WEATHER	TEMP: Mid to upper 60's
PRESENT ON SITE	REMARKS

To: Geo-Solutions, Inc.

THE FOLLOWING WAS NOTED:

The GEC rep was on site today, as requested, to observe and test fill placement on Mulberry St area. The soil was placed in 8" loose lifts. Spread with a Deere 650k dozer and compacted with a Hamm 2307 sheepfoot roller. There were 3 lifts placed and 6 tests total with 6 tests showing they meet project spec of 95% compaction.

COPIES TO:

FIELD REPORTS

Signed: Stephen Whatley

GEC
GEOTECHNICAL & ENVIRONMENTAL
CONSULTANTS

REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 12/11/2015
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
5	120.8	11.4	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 12/10/2015

AREA: Mulberry Street

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
19	Lift #19	Mulberry St	118.3	19.3	99.2	5	82.1	95

Notes: Tested By: Tim Croft
Test Method: ASTM 6938

Remarks: Mulberry Street

Copies To:

Respectfully Submitted

Jerry B. Williams

GEC
GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS, INC

514 Hillcrest Industrial Blvd.
Macon, Georgia 31204
Tel: (478)757-1606●Fax: (478) 757-1608

DATE	PROJECT NO.
12/10/15	150678.230
PROJECT: Macon Former MGP Site Remediation #11-046	
LOCATION: Bibb Co	
CONTRACTOR	MILEAGE
WEATHER: Clear	TEMP
PRESENT ON SITE: Tim Croft	REMARKS

To: Geo-Solutions, Inc.

THE FOLLOWING WAS NOTED:

On this date this GEC Rep was on site, as requested, to perform density test on lift 19 at Mulberry Street. Also, cooked out moisture on site due to high moisture content of 19.3 percent. This GEC Rep's recommendation is to scarfy area up to allow to dry back and retest at a later date. See the field density report for locations and test results.

COPIES TO:

FIELD REPORTS

Signed: T. Croft

GEC
GEOTECHNICAL & ENVIRONMENTAL
CONSULTANTS

REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 12/17/2015
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
2	116.2	11.3	ASTM D 1557-07 Method

TEST DATA: **Tests were performed on:** 12/11/2015

AREA: Mulberry Street

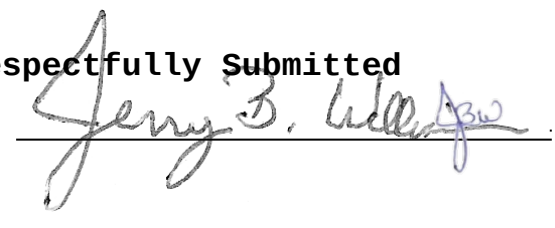
Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
20	Lift #15	North end of Mulberry Street	127.2	13.5	112.1	2	96.5	95
21	Lift #15	South end of Mulberry Street	129.2	14.1	113.2	2	97.4	95
22	Lift #16	North end of Mulberry Street	128.4	13.7	112.9	2	97.2	95
23	Lift #16	South end of Mulberry Street	126.8	14.0	111.2	2	95.7	95
24	Lift #17	North end of Mulberry Street	127.3	13.9	111.8	2	96.2	95

Notes: Tested By: S. Whatley
Test Method: ASTM 6938

Remarks: Mulberry Street

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GEC
GEOTECHNICAL & ENVIRONMENTAL
CONSULTANTS

REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 12/17/2015
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
2	116.2	11.3	ASTM D 1557-07 Method

TEST DATA: **Tests were performed on:** 12/11/2015

AREA: Mulberry Street

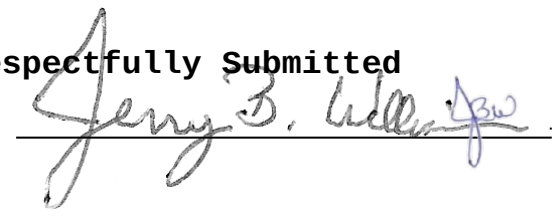
Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
25	Lift #17	South end of Mulberry Street	128.5	14.2	112.5	2	96.8	95
26	Lift #18	North end of Mulberry Street	127.7	13.3	112.7	2	97.0	95
27	Lift #18	South end of Mulberry Street	128.3	13.6	112.9	2	97.2	95

Notes: Tested By: S. Whatley
Test Method: ASTM 6938

Remarks: Mulberry Street

Copies To:

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GEC
GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS, INC

514 Hillcrest Industrial Blvd.
Macon, Georgia 31204
Tel: (478)757-1606●Fax: (478) 757-1608

DATE	PROJECT NO.
12/11/15	150678.230
PROJECT: Macon Former MGP Site Remediation #11-046	
LOCATION: Macon, Ga	
CONTRACTOR: Geo-Solutions, Inc.	MILEAGE
WEATHER	TEMP
PRESENT ON SITE	REMARKS

To: _____

_____

THE FOLLOWING WAS NOTED:

The GEC rep was on site today, as requested, to observe and test fill placement on Mulberry Street on the East side of the road way. There were 3 lifts placed about 8". The lift was spread with a Deere DZ1375 dozer and compacted with a Hamm VR-2 sheepfoot roller. There were 8 tests taken and met project specifications.

COPIES TO:

_____

_____

FIELD REPORTS

Signed: Stephen Walters

GEC
GEOTECHNICAL & ENVIRONMENTAL
CONSULTANTS

REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 12/17/2015
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
2	116.2	11.3	ASTM D 1557-07 Method

TEST DATA: **Tests were performed on:** 12/12/2015

AREA: Mulberry Street

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
28	Lift #19	North end of Mulberry Street	127.5	13.6	112.2	2	96.6	95
29	Lift #19	South end of Mulberry Street	128.6	13.9	112.9	2	97.2	95
30	Lift #20	North end of Mulberry Street	126.8	13.5	111.7	2	96.1	95
31	Lift #20	South end of Mulberry Street	127.7	13.7	112.3	2	96.6	95
32	Lift #21	North end of Mulberry Street	129.9	13.3	114.7	2	98.7	98

Notes: Tested By: S. Whatley
Test Method: ASTM 6938

Remarks: Mulberry Street

Copies To:

Respectfully Submitted

Jerry B. Wilkins JBW

GEC
GEOTECHNICAL & ENVIRONMENTAL
CONSULTANTS

REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 12/17/2015
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
2	116.2	11.3	ASTM D 1557-07 Method

TEST DATA: **Tests were performed on:** 12/12/2015

AREA: Mulberry Street

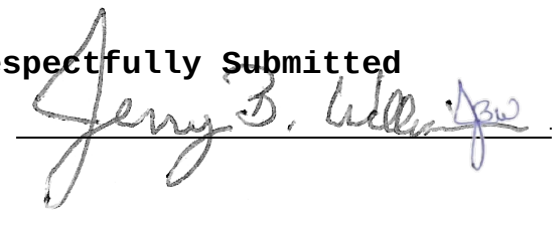
Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
33	Lift #21	South end of Mulberry Street	130.5	13.8	114.7	2	98.7	98
34	Lift #22	North end of Mulberry Street	131.2	13.6	115.5	2	99.4	98
35	Lift #22	South end of Mulberry Street	130.1	13.5	114.6	2	98.6	98

Notes: Tested By: S. Whatley
Test Method: ASTM 6938

Remarks: Mulberry Street

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GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS, INC

514 Hillcrest Industrial Blvd.
Macon, Georgia 31204
Tel: (478)757-1606●Fax: (478) 757-1608

DATE	PROJECT NO.
12/12/15	150678.230
PROJECT: Macon Former MGP Site Remediation #11-046	
LOCATION: Macon, Ga	
CONTRACTOR: Geo-Solutions, Inc.	MILEAGE
WEATHER	TEMP
PRESENT ON SITE	REMARKS

To: _____

_____

THE FOLLOWING WAS NOTED:

The GEC rep was on site today, as requested, to observe and test fill placement on Mulberry Street on the East side of the road way. There were 3 lifts placed about 8".
The lift was spread with a Deere DZ1375 dozer and compacted with a Hamm VR-2 sheepfoot roller. There were 8 tests taken and met project specifications.

COPIES TO:

_____

_____

FIELD REPORTS

Signed: Stephen Walters

GEC
GEOTECHNICAL & ENVIRONMENTAL
CONSULTANTS

REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 12/22/2015
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
6	111.7	14.0	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 12/18/2015

AREA: 7th Street

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
36	Lift #1	Center of rd 30'W of Mulberry St	124.5	15.1	108.2	6	96.9	95
37	Lift #2	Right lane 25' W of Mulberry St	123.2	15.4	106.8	6	95.6	95
38	Lift #3	Left lane 35' W of Mulberry St	124.7	15.9	107.6	6	96.3	95

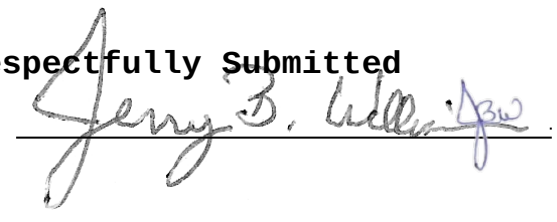
Notes: Tested By: S. Whatley
Test Method: ASTM 6938

7th Street 15' to 50' west of Mulberry Street

Remarks:

Copies To:

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GEOTECHNICAL & ENVIRONMENTAL
CONSULTANTS

REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 12/22/2015
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
6	111.7	14.0	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 12/19/2015

AREA: 7th Street

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
39	Lift # 4	Right lane 35' W of Mulberry St	122.9	15.0	106.9	6	95.7	95
40	Lift # 5	Left lane 25' W of Mulberry St	124.0	15.2	107.6	6	96.3	95
41	Lift # 6	Right lane 30' W of Mulberry St	123.5	15.5	106.9	6	95.7	95
42	Lift # 1	Left lane 10' W of Mulberry St	123.1	14.9	107.1	6	95.9	95
43	Lift # 2	Right lane 15' W of Mulberry St	122.5	15.0	106.5	6	95.3	95

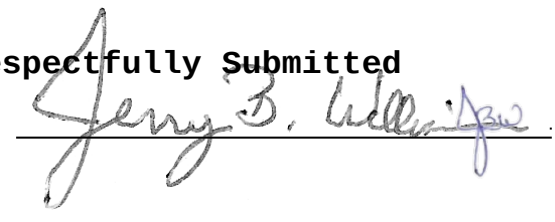
Notes: Tested By: S. Whatley
Test Method: ASTM 6938

7th Street 0' to 50' west of Mulberry Street

Remarks:

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GEOTECHNICAL & ENVIRONMENTAL
CONSULTANTS

REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 12/22/2015
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
6	111.7	14.0	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 12/19/2015

AREA: 7th Street

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
44	Lift # 3	Left lane 15' W of Mulberry St	124.3	15.3	107.8	6	96.5	95
45	Lift # 4	Right lane 10' W of Mulberry St	123.4	15.5	106.8	6	95.6	95
46	Lift # 7	Left lane 35' W of Mulberry St	122.7	14.8	106.9	6	95.7	95
47	Lift # 8	Right lane 40' West of Mulberry St	123.3	15.1	107.1	6	95.9	95
48	Lift # 5	Left lane 20' W of Mulberry St	124.2	15.3	107.7	6	96.4	95

Notes: Tested By: S. Whatley
Test Method: ASTM 6938

7th Street 0' to 50' west of Mulberry Street

Remarks:

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Respectfully Submitted

Jerry B. Whatley

GEC
GEOTECHNICAL & ENVIRONMENTAL
CONSULTANTS

REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 12/22/2015
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
6	111.7	14.0	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 12/19/2015

AREA: 7th Street

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
49	Lift # 9	Left lane 30' W of Mulberry St	124.9	15.9	107.8	6	96.5	95
50	Lift # 6	Right lane 10' W of Mulberry St	122.7	14.8	106.9	6	95.7	95

Notes: Tested By: S. Whatley
Test Method: ASTM 6938

7th Street 0' to 50' west of Mulberry Street

Remarks:

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Respectfully Submitted

Jerry B. Williams

GEC
GEOTECHNICAL & ENVIRONMENTAL
CONSULTANTS

REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 12/22/2015
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
6	111.7	14.0	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 12/20/2015

AREA: 7th Street

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
56	Lift # 12	Left lane 40' W of Mulberry St	124.2	15.3	107.7	6	96.4	95
57	Lift # 13	Left lane 35' W of Mulberry St	123.4	15.5	106.8	6	95.6	95
58	Lift # 14	Right lane 30' W of Mulberry St	123.0	15.3	106.7	6	95.5	95

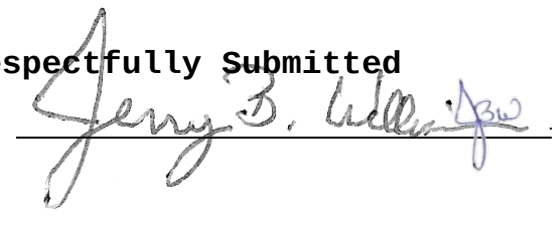
Notes: Tested By: S. Whatley
Test Method: ASTM 6938

7th Street 0' to 50' west of Mulberry Street

Remarks:

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CONSULTANTS

REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 12/22/2015
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
6	111.7	14.0	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 12/20/2015

AREA: 7th Street

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
59	Lift # 22	Left side of Mulberry St outside of	122.5	15.0	106.5	6	95.3	90

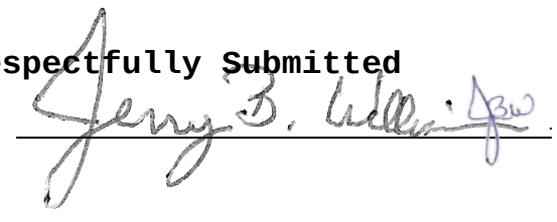
Notes: Tested By: S. Whatley
Test Method: ASTM 6938

7th Street 0' to 50' west of Mulberry Street

Remarks:

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GEOTECHNICAL & ENVIRONMENTAL
CONSULTANTS

REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 12/22/2015
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
6	111.7	14.0	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 12/20/2015

AREA: 7th Street

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
51	Lift # 9	Right lane 35' W of Mulberry St	124.1	15.0	107.9	6	96.6	95
52	Lift # 6	Left lane 15' W of Mulberry St	123.6	15.4	107.1	6	95.9	95
53	Lift # 10	Left lane 40' W of Mulberry St	122.9	15.0	106.9	6	95.7	95
54	Lift # 7	Right lane 10' W of Mulberry St	123.3	15.1	107.1	6	95.9	95
55	Lift # 11	Right lane 30' W of Mulberry St	122.8	15.1	106.7	6	95.5	95

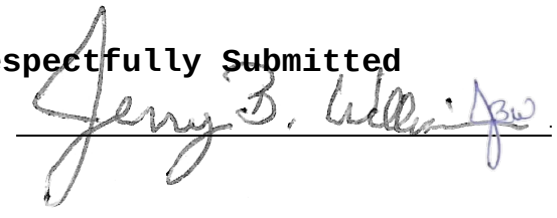
Notes: Tested By: S. Whatley
Test Method: ASTM 6938

7th Street 0' to 50' west of Mulberry Street

Remarks:

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REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 2/ 2/2016
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
11	134.1	7.6	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 1/29/2016

AREA: M10 placement on Terminal Av

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
150	1st lift	From SW end 150'NE	136.7	6.3	128.6	11	95.9	95
151	2nd lift	From SW end 70'NE	138.6	8.2	128.1	11	95.5	95
152	2nd lift	From SW end 140'NE	135.5	5.8	128.1	11	95.5	95
153	3rd lift	From SW end 170'NE	140.5	5.6	133.0	11	99.2	95
154	4th lift	From SW end 60'NE	139.6	5.8	131.9	11	98.4	95

Notes: Tested By: S. Whatley
Test Method: ASTM 6938

M10 placement on Terminal Avenue

Remarks:

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Jerry B. Wilkins JBW

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REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 2/ 2/2016
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
11	134.1	7.6	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 1/30/2016

AREA: M10 placement on Terminal Av

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
155	5th lift	From SW end 100' NE	139.6	6.1	131.6	11	98.1	95
156	6th lift	From SW end 70' NE	140.0	5.7	132.5	11	98.8	95
157	7th lift	From SW end 140' NE	137.8	7.1	128.7	11	96.0	95
158	8th lift	From SW end 95' NE	139.1	8.9	127.7	11	95.2	95

Notes: Tested By: S. Whatley
Test Method: ASTM 6938

M10 placement on Terminal Avenue

Remarks:

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Jerry B. Whatley Jr.

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REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 2/ 2/2016
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
8	115.6	14.1	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 1/31/2016

AREA: Terminal Ave

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
164	Lift 14	From SW end 70'NE	127.5	15.2	110.7	8	95.8	95
165	Lift 15	From SW end 130'NE	128.7	15.8	111.1	8	96.1	95

Notes: Tested By: S. Whatley
Test Method: ASTM 6938

Backfill

Remarks:

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Jerry B. Williams

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REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 2/ 2/2016
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
8	115.6	14.1	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 1/31/2016

AREA: Terminal Ave

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
159	Lift 9	From SW end 50'NE	127.7	15.0	111.0	8	96.0	95
160	Lift 10	From SW end 160'NE	128.2	16.0	110.5	8	95.6	95
161	Lift 11	From SW end 90'NE	127.2	16.1	109.6	8	95	95
162	Lift 12	From SW end 40'NE	129.4	15.6	111.9	8	96.8	95
163	Lift 13	From SW end 175'NE	127.5	15.9	110.0	8	95.2	95

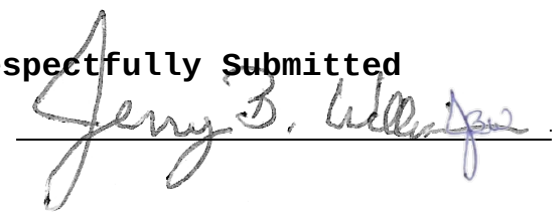
Notes: Tested By: S. Whatley
Test Method: ASTM 6938

Backfill

Remarks:

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REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 2/ 2/2016
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
8	115.6	14.1	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 2/ 1/2016

AREA: Terminal Ave

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
166	Lift 16	From SW end 70'NE	128.6	15.5	111.3	8	96.3	95
167	Lift 16	From SW end 170'NE	127.5	15.9	110.0	8	95.2	95

Notes: Tested By: S. Whatley
Test Method: ASTM 6938

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Remarks:

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REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 2/ 9/2016
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
8	115.6	14.1	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 2/ 5/2016

AREA: Terminal Avenue

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
168	Lift 17	From SW end 100'NE	131.4	14.9	114.4	8	99.0	95
169	Lift 18	From SW end 150'NE	131.0	15.2	113.7	8	98.4	95
170	Lift 19	From SW end 65'NE	132.0	14.6	115.2	8	99.7	95
171	Lift 20	From SW end 120'NE	130.5	15.0	113.5	8	98.2	95
172	Lift 21	From SW end 80'NE	131.6	14.5	114.9	8	99.4	95

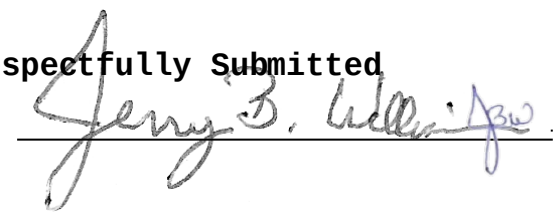
Notes: Tested By: S. Whatley
Test Method: ASTM 6938

Soil fill placement on Terminal Avenue.

Remarks:

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REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 11/17/2015
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
1	116.8	12.5	ASTM D 1557-07 Method

TEST DATA: **Tests were performed on:** 11/12/2015

AREA: Mulberry

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
1	Lift 1	Mulberry	129.0	14.2	113.0	1	96.7	95
2	Lift 2	Mulberry	130.1	13.9	114.2	1	97.8	95
3	Lift 3	Mulberry	131.7	12.8	116.8	1	100.0	95
4	Lift 4	Mulberry	126.9	12.3	113.0	1	96.7	95

Notes: Tested By: Harry Price
Test Method: ASTM 6938

All tests run in area designated by client and contractor as Mulberry.

Remarks:

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Jerry B. Williams

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REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 2/23/2016
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
8	115.6	14.1	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 1/26/2016

AREA: Non structural soil fill

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
173	Lift 1	50'W-30'N of Terminal Ave north end	128.7	16.2	110.8	8	95.8	90
174	Lift 2	25'W-60'N of Terminal Ave north end	125.4	15.7	108.4	8	93.8	90
175	Lift 3	40'W-25'N of Terminal Ave north end	126.6	15.9	109.2	8	94.5	90
176	Lift 4	20'W-40'N of Terminal Ave north end	125.9	16.2	108.3	8	93.7	90
177	Lift 5	30'W-50'N of terminal ave north end	122.6	15.7	106.0	8	91.7	90

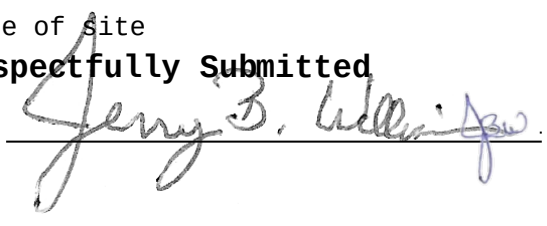
Notes: Tested By: S. Whatley
Test Method: ASTM 6938

Non structural soil fill placement on north side of site

Remarks:

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REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 2/23/2016
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
8	115.6	14.1	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 2/13/2016

AREA: Non structural area

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
178	@ grade	32 50'03.061"N 083 37'17.504"W	127.5	15.9	110.0	8	95.2	90
179	@ grade	32 50'02.567N 083 37'17.257"W	128.6	15.5	111.3	8	96.3	90
180	@ grade	32 50'02.666"N 083 37'18.514"W	127.7	15.0	111.0	8	96.0	90
181	@ grade	32 50'02.804"N 083 37'18.338"W	127.2	15.7	109.9	8	95.1	90
182	@ grade	32 50'17.182"N 803 37'02.577"W	128.6	16.0	110.9	8	95.9	90

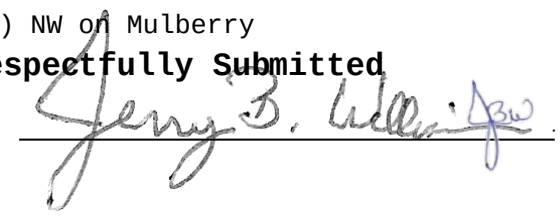
Notes: Tested By: S. Whatley
Test Method: ASTM 6938

Fill placement on non structural area (178-179) NW on Mulberry Street / (180-182) W of Terminal Avenue.

Remarks:

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REPORT DATE: 2/23/2016
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
8	115.6	14.1	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 2/20/2016

AREA: Non structural area

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
183	Lift 1	32*50'17.182"N, 083*37'02.577"W	125.1	15.5	108.3	8	93.7	90
184	Lift 2	32*50'03.785"N, 083*37'18.049"W	124.7	15.2	108.2	8	93.6	90
185	Lift 3	32*50'04.313"N, 083*37'18.012"W	124.5	16.1	107.2	8	92.7	90
186	Lift 4	32*50'17.182"N, 083*37'02.577"W	126.2	15.8	109.0	8	94.3	90
187	Lift 5	32*50'04.326"N, 083*37'17.784"W	124.9	16.0	107.7	8	93.2	90

Notes: Tested By: S. Whatley
Test Method: ASTM 6938

Fill placement on non structural area north of 6th Street.

Remarks:

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REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 2/23/2016
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
8	115.6	14.1	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 2/20/2016

AREA: Non structural area

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
188	Lift 6	32*50'17.156"N, 083*37'02.527"W	125.3	15.6	108.4	8	93.8	90
189	Lift 7	32*50'17.182"N, 083*37'02.577"W	124.6	15.9	107.5	8	93.0	90

Notes: Tested By: S. Whatley
Test Method: ASTM 6938

Fill placement on non structural area north of 6th Street.

Remarks:

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REPORT DATE: 2/23/2016
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
8	115.6	14.1	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 2/21/2016

AREA: Non structural area

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
190	Lift 8	32*50'01.364"N, 083*37'17.694"W	124.9	16.1	107.6	8	93.1	90
191	Lift 9	32*50'25.723"N, 083*36'56.589"W	123.9	15.4	107.4	8	92.9	90
192	Lift 10	32*50'04.260"N, 083*37'18.030"W	125.4	15.8	108.3	8	93.7	90
193	Lift 11	32*50'17.147"N, 083*02.542"W	125.0	15.1	108.6	8	93.9	90
194	Lift 12	32*50'17.182"N, 083*37'02.577"W	124.2	15.9	107.2	8	92.7	90

Notes: Tested By: S. Whatley
Test Method: ASTM 6938

Fill placement on non structural area north of 6th Street.

Remarks:

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PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
8	115.6	14.1	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 2/21/2016

AREA: Non structural area

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
195	Lift 13	32*50'17.182"N, 083*37'02.500"W	124.7	15.2	108.2	8	93.6	90
196	Lift 14	32*50'04.159"N, 083*37'18.048"W	125.3	15.6	108.4	8	93.8	90
197	Lift 15	32*50'04.158"N, 083*37'18.036"W	124.8	16.1	107.5	8	93.0	90
198	Lift 16	32*50'04.241"N, 083*37'17.816"W	124.0	15.7	107.2	8	92.7	90

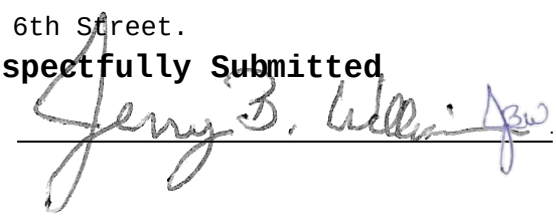
Notes: Tested By: S. Whatley
Test Method: ASTM 6938

Fill placement on non structural area north of 6th Street.

Remarks:

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REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 2/26/2016
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
8	115.6	14.1	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 2/26/2016

AREA: Non structural soil fill pla

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
199	@ grade	32*50'25.662"N, 083*36'55.392"W	124.2	15.5	107.5	8	93.0	90
200	@ grade	32*50'03.335"N, 083*37'18.266"W	123.5	15.9	106.6	8	92.2	90

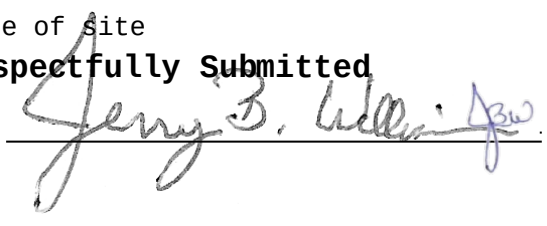
Notes: Tested By: S. Whatley
Test Method: ASTM 6938

Non structural soil fill placement on north side of site

Remarks: near Mulberry Street.

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REPORT OF FIELD DENSITY TESTS

CLIENT: Geo-Solutions, Inc.

REPORT DATE: 3/16/2016
PROJECT NO.: 150678.230

PROJECT: Macon Former MGP Site Remediation
#11-046

PROCTOR INFORMATION

Proctor No.	Maximum Dry Density (pcf)	Optimum Moisture Percent	Test Method
8	115.6	14.1	ASTM D 1557-12 Method

TEST DATA: **Tests were performed on:** 2/ 8/2016

AREA: Non structural soil fill pla

Test No.	Depth or Elevation	Location	Wet Density PCF	Moisture Content (%)	Dry Density PCF	Proctor Curve No.	Degree Comp. (%)	Req'd. Comp. (%)
201	Grade	32*50'20.341"N, 083*36'42.275"W	122.5	16.0	105.6	8	91.3	90
202	Grade	32*50'10.763"N, 083*37'20.231"W	123.2	15.5	106.7	8	92.3	90

Notes: Tested By: S. Whatley
Test Method: ASTM 6938

Remarks: Non structural soil fill placement on northside of site near Terminal Avenue.

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Jerry B. Williams

COMPACTION TEST REPORT

Curve No.: 6

Project No.: 150678.230 **Date:** 12/14/15

Project: Macon Former MGP Site Remediation #11-046

Client: Geo-Solutions, Inc.

Location: On Site Stockpile

Sample Number: Proctor #6, 2361

Remarks:

MATERIAL DESCRIPTION

Description: Brown silty m-f SAND some clay

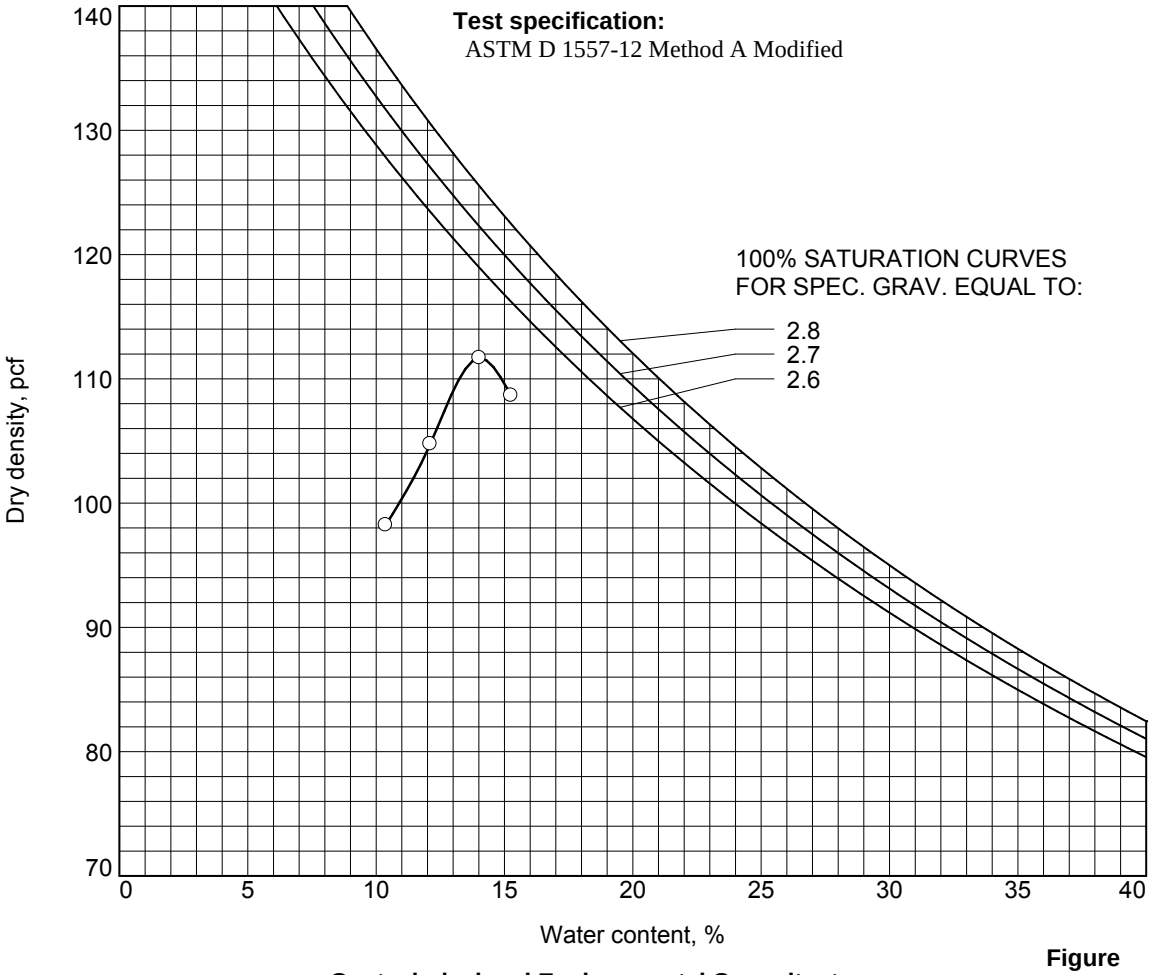
Classifications - **USCS:** SM **AASHTO:**

Nat. Moist. = **Sp.G. =**

Liquid Limit = **Plasticity Index =**

% < No.200 = 39.3 %

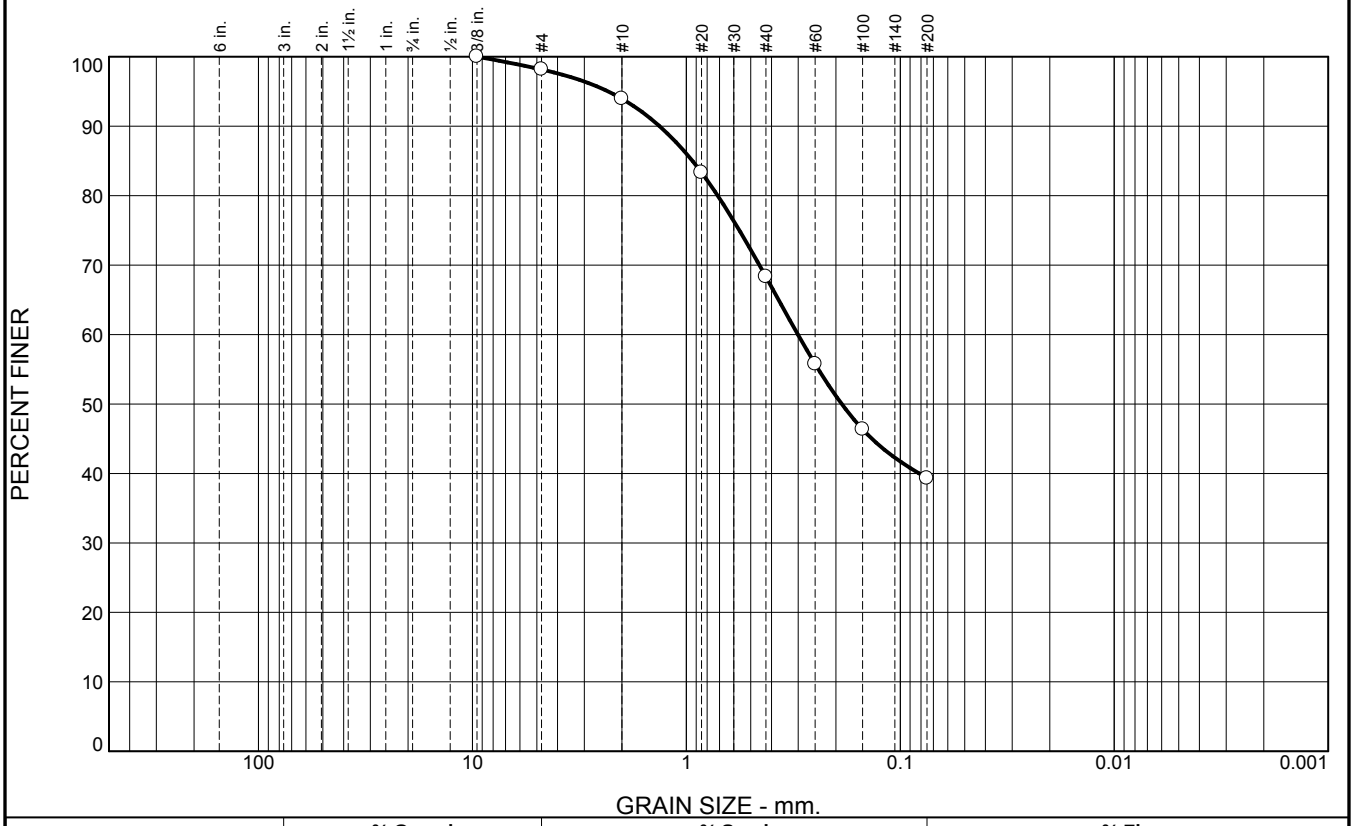
TEST RESULTS
Maximum dry density = 111.7 pcf
Optimum moisture = 14.0 %



Figure

Geotechnical and Environmental Consultants

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.8	4.3	25.6	29.0	39.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/8"	100.0		
#4	98.2		
#10	93.9		
#20	83.3		
#40	68.3		
#60	55.7		
#100	46.3		
#200	39.3		

* (no specification provided)

Material Description

Brown silty m-f SAND some clay

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 1.3348 D_{85}= 0.9371 D_{60}= 0.3011
D_{50}= 0.1879 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: On Site Stockpile
Sample Number: Proctor #6, 2361

Date: 12/15/15

Geotechnical and Environmental Consultants

Client: Geo-Solutions, Inc.
Project: Macon Former MGP Site Remediation #11-046

Project No: 150678.230 **Figure**

COMPACTION TEST REPORT

Curve No.: 7

Project No.: 150678.230 **Date:** 12/14/15

Project: Macon Former MGP Site Remediation #11-046

Client: Geo-Solutions, Inc.

Location: On Site Stockpile

Sample Number: Proctor #7, 2363

Remarks:

MATERIAL DESCRIPTION

Description: Tan brown silty c-f SAND some clay

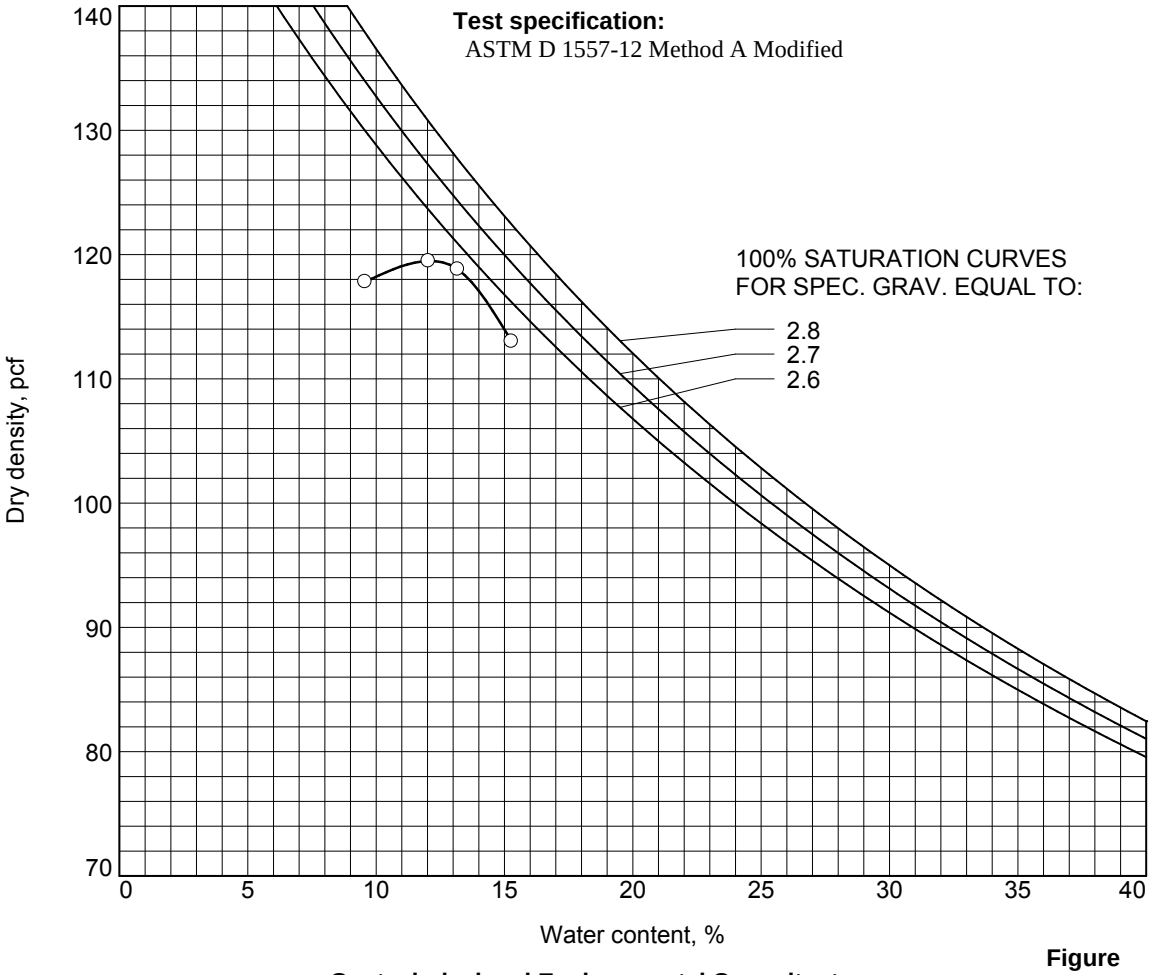
Classifications - **USCS:** SM **AASHTO:**

Nat. Moist. = **Sp.G. =**

Liquid Limit = **Plasticity Index =**

% < No.200 = 37.0 %

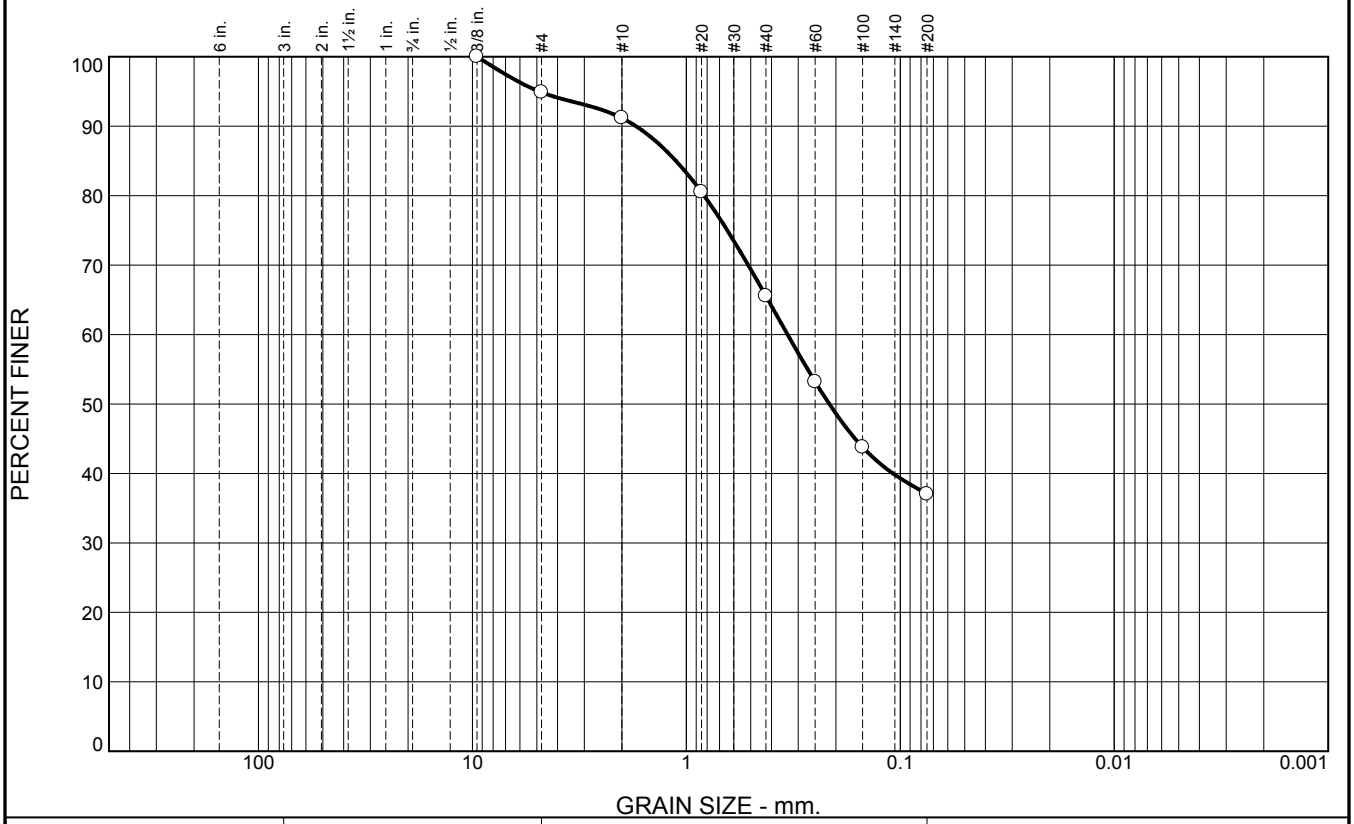
TEST RESULTS
Maximum dry density = 119.5 pcf
Optimum moisture = 12.1 %



Figure

Geotechnical and Environmental Consultants

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	5.1	3.7	25.6	28.6	37.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/8"	100.0		
#4	94.9		
#10	91.2		
#20	80.5		
#40	65.6		
#60	53.2		
#100	43.8		
#200	37.0		

* (no specification provided)

Material Description

Tan brown silty c-f SAND some clay

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 1.7200 D_{85}= 1.1183 D_{60}= 0.3366
D_{50}= 0.2147 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Location: On Site Stockpile
Sample Number: Proctor #7, 2363

Date: 12/17/15

Geotechnical and Environmental Consultants

Client: Geo-Solutions, Inc.
Project: Macon Former MGP Site Remediation #11-046

Project No: 150678.230 **Figure**

COMPACTION TEST REPORT

Curve No.: 8

Project No.: 150678.230 **Date:** 12/17/15

Project: Macon Former MGP Site Remediation #11-046

Client: Geo-Solutions, Inc.

Sample Number: Proctor #8, 2369

Remarks:

MATERIAL DESCRIPTION

Description: Brown sitly c-f SAND some clay

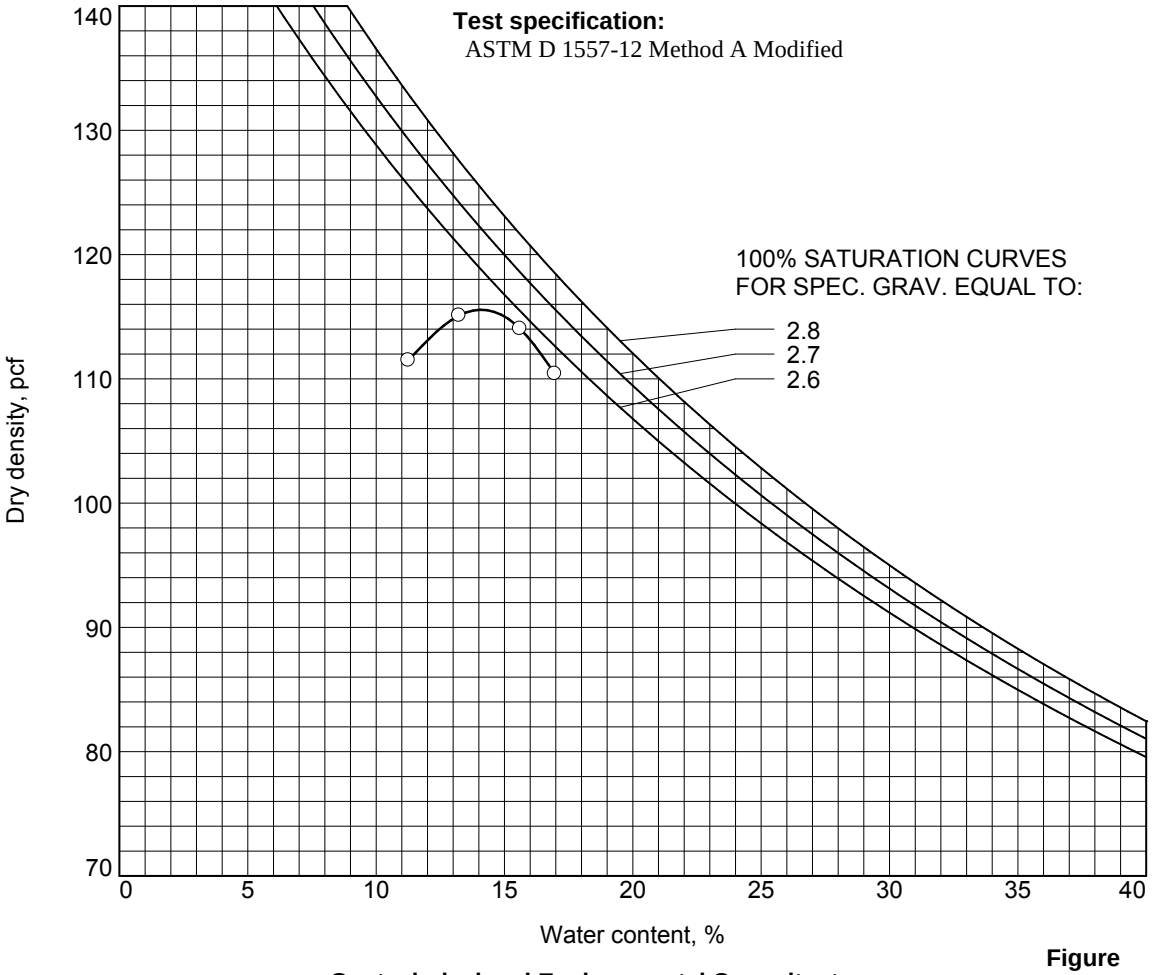
Classifications - **USCS:** SM **AASHTO:**

Nat. Moist. = **Sp.G. =**

Liquid Limit = **Plasticity Index =**

% < No.200 = 31.5 %

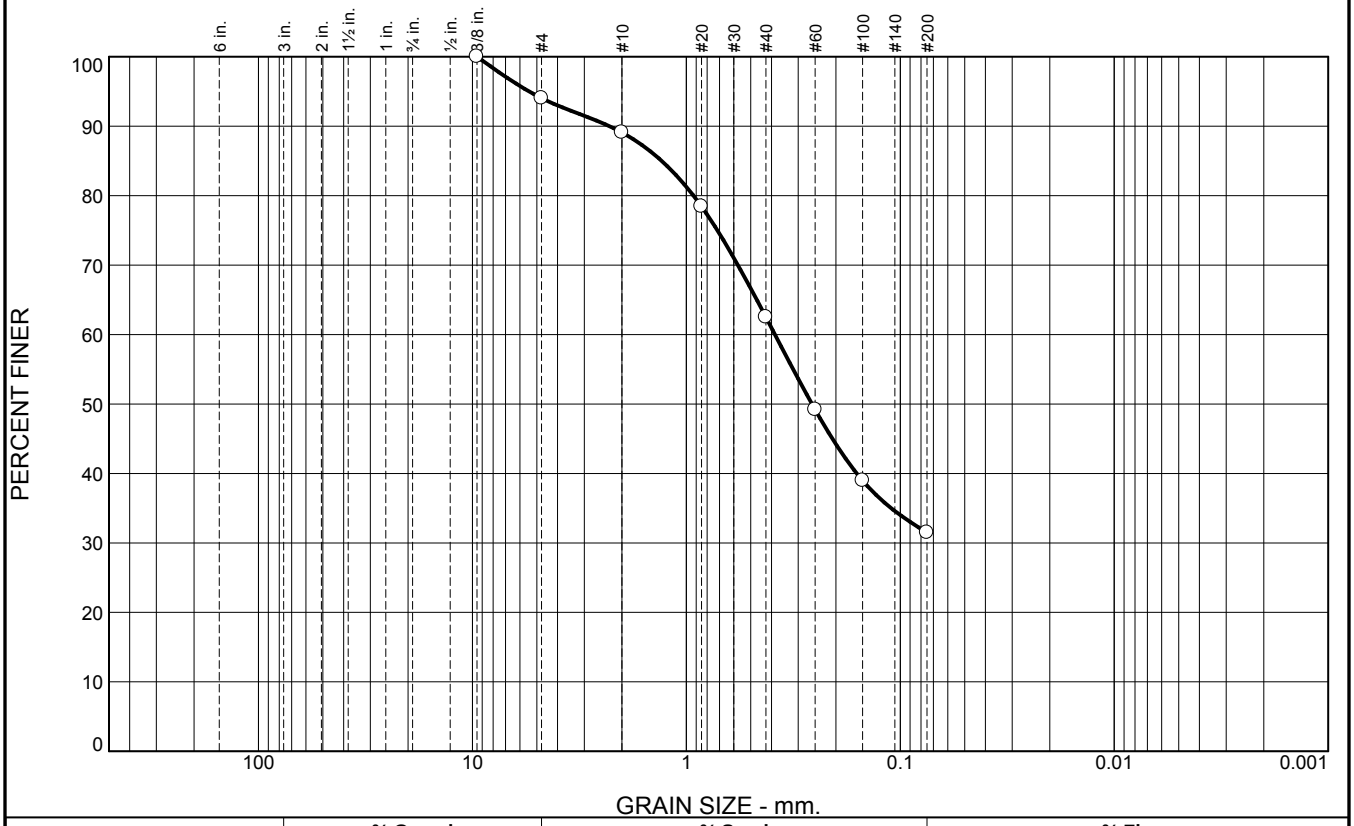
TEST RESULTS
Maximum dry density = 115.6 pcf
Optimum moisture = 14.1 %



Figure

Geotechnical and Environmental Consultants

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	6.0	4.9	26.6	31.0	31.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/8"	100.0		
#4	94.0		
#10	89.1		
#20	78.4		
#40	62.5		
#60	49.2		
#100	39.0		
#200	31.5		

* (no specification provided)

Material Description

Brown sitly c-f SAND some clay

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 2.2911 D_{85}= 1.3050 D_{60}= 0.3854
D_{50}= 0.2588 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Sample Number: Proctor #8, 2369

Date: 12/18/15

Geotechnical and Environmental Consultants

Client: Geo-Solutions, Inc.

Project: Macon Former MGP Site Remediation #11-046

Project No: 150678.230 **Figure**

COMPACTION TEST REPORT

Curve No.: 9

Project No.: 150678.230 **Date:** 12/17/15

Project: Macon Former MGP Site Remediation #11-046

Client: Geo-Solutions, Inc.

Sample Number: Proctor #9, 2372

Remarks:

MATERIAL DESCRIPTION

Description: Orange brown silty c-f SAND some clay

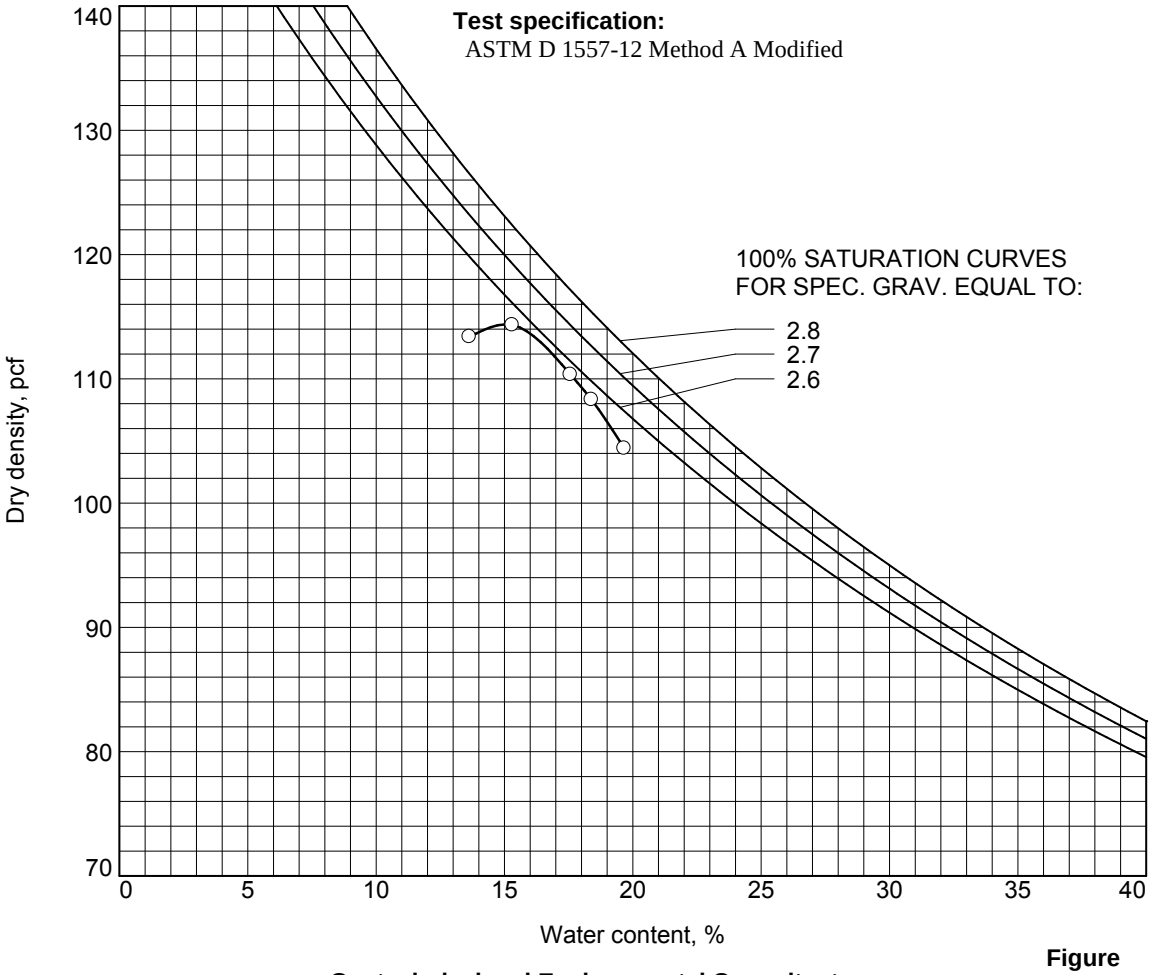
Classifications - **USCS:** SM **AASHTO:**

Nat. Moist. = **Sp.G. =**

Liquid Limit = **Plasticity Index =**

% < No.200 = 29.4 %

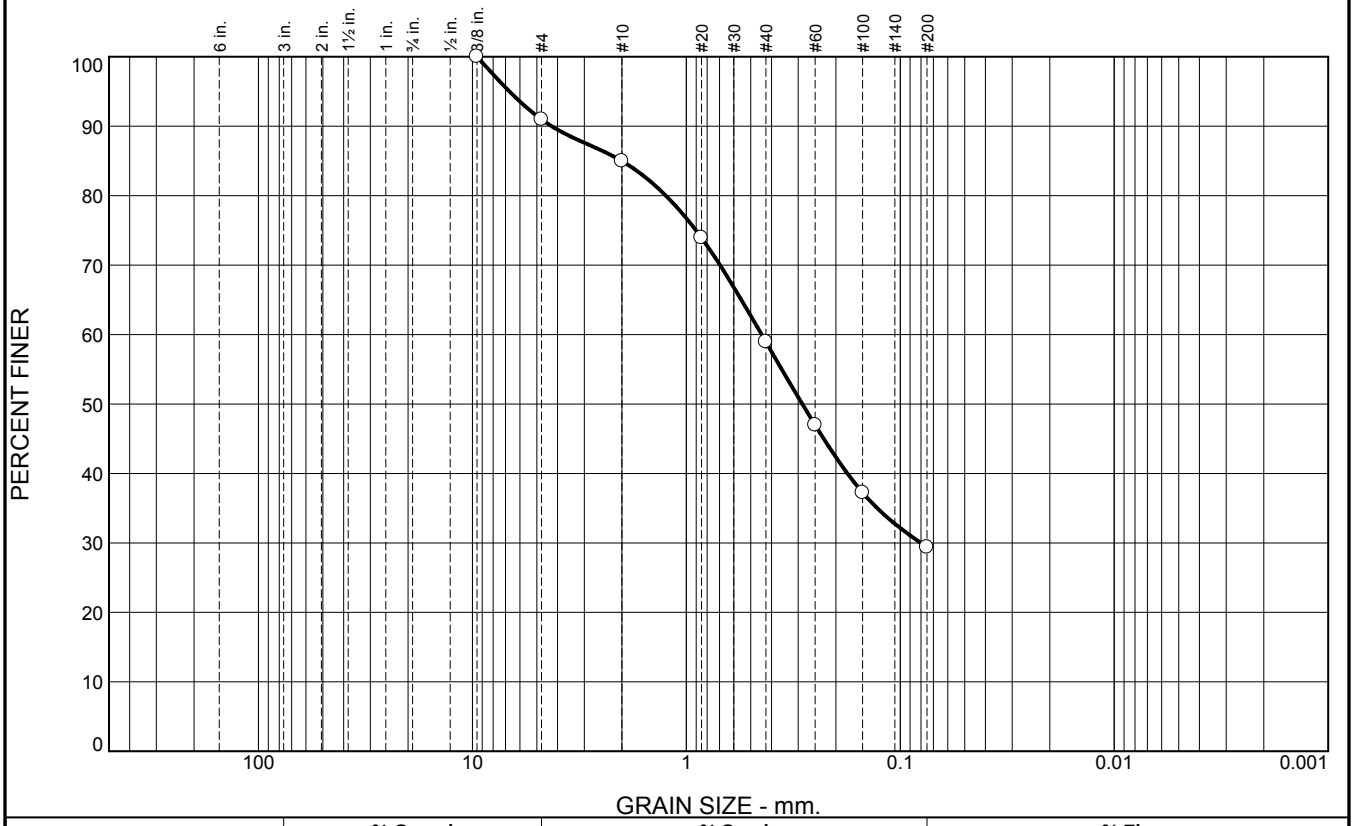
TEST RESULTS
Maximum dry density = 114.4 pcf
Optimum moisture = 15.1 %



Figure

Geotechnical and Environmental Consultants

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	9.1	5.9	26.1	29.5	29.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/8"	100.0		
#4	90.9		
#10	85.0		
#20	73.9		
#40	58.9		
#60	47.0		
#100	37.2		
#200	29.4		

* (no specification provided)

Material Description

Orange brown silty c-f SAND some clay

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 4.2697 D_{85}= 2.0069 D_{60}= 0.4449
D_{50}= 0.2873 D_{30}= 0.0802 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Sample Number: Proctor #9, 2372

Date: 12/18/15

Geotechnical and Environmental Consultants

Client: Geo-Solutions, Inc.

Project: Macon Former MGP Site Remediation #11-046

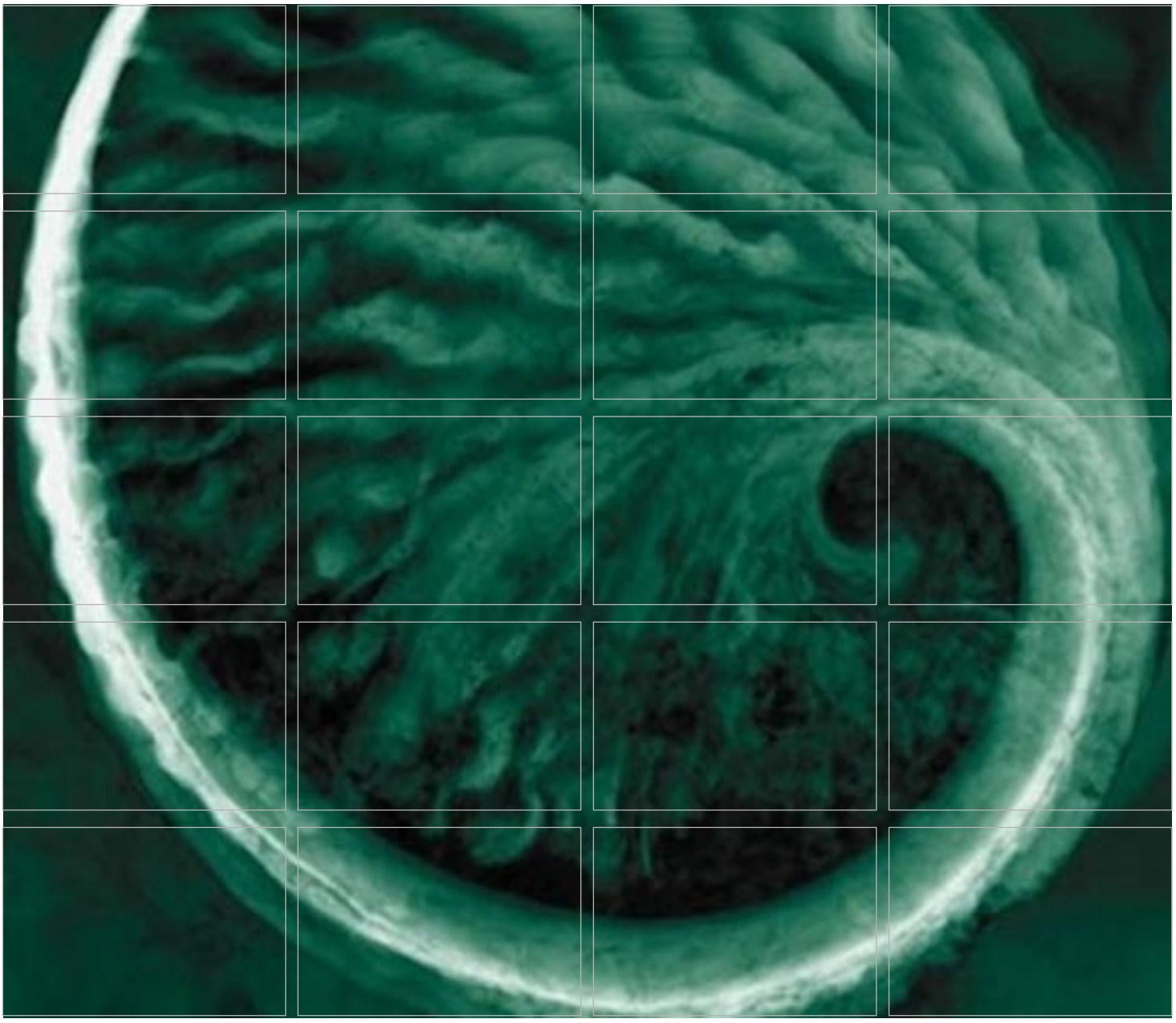
Project No: 150678.230 **Figure**

Groundwater Monitoring Report: April 2016 Event

Appendix B

Project No. 0176740
Atlanta Gas Light Company

Environmental Resources Management
3200 Windy Hill Road SE, Suite 1500W
Atlanta, Georgia 30339
(678) 486-2700



Groundwater Monitoring Report: April 2016 Sampling Event

Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia HSI #10511

May 21, 2016

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PROFESSIONAL CERTIFICATION PAGE

GROUNDWATER MONITORING REPORT:
APRIL 2016 SAMPLING EVENT
ATLANTA GAS LIGHT COMPANY
FORMER MANUFACTURED GAS PLANT SITE
MACON, GEORGIA
HSI NO. 10511

I certify that I am a qualified ground-water scientist who has received a baccalaureate or post-graduate degree in the natural sciences or engineering, and have sufficient training and experience in groundwater hydrology and related fields, as demonstrated by state registration and completion of accredited university courses, that enable me to make sound professional judgments regarding groundwater monitoring and contaminant fate and transport. I further certify that this report was prepared by me or by a subordinate working under my direction.



Adria L. Reimer, P.G. #002004

May 21, 2016

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ACRONYMS AND ABBREVIATIONS

AGLC	Atlanta Gas Light Company
AGMWP	Alluvial Groundwater Monitoring Work Plan
BGMP	Bedrock Groundwater Monitoring Plan
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
CAP	Corrective Action Plan
CAP Addendum	Corrective Action Plan Addendum
COI	Constituents of Interest
CSM	Conceptual Site Model
CSR	Compliance Status Report
DNAPL	Dense Non-Aqueous Phase Liquid
EPD	Environmental Protection Division
ERM	Environmental Resources Management
ft	Feet or Foot
ft/day	Feet per Day
ISS	In-Situ Stabilization
K	Hydraulic Conductivity
MGP	Manufactured Gas Plant
MUDA	Macon Urban Development Authority
NAPL	Non-Aqueous Phase Liquid
NTU	Nephelometric Turbidity Units
RRS	Risk Reduction Standards.
ROW	Right-of-Way
SVOCs	Semi-Volatile Organic Compounds
USEPA	United States Environmental Protection Agency
VIRP	Voluntary Investigation and Remediation Plan
VEFR	Vacuum Enhanced Fluid Recovery
VOCs	Volatile Organic Compounds
VRP	Voluntary Remediation Program
µg/L	Micrograms per Liter

1.0 INTRODUCTION

Environmental Resources Management (ERM) has prepared this semiannual groundwater monitoring report on behalf of Atlanta Gas Light Company (AGLC). This report summarizes results of the semiannual groundwater-monitoring event for bedrock wells and select alluvium wells conducted in April 2016 at the former manufactured gas plant (MGP) site in Macon, Georgia (Site). The Site includes property formerly owned by AGLC and previously used for MGP operations, property formerly owned by AGLC but not used for MGP operations, surrounding and nearby parcels not owned by AGLC, and city right-of-way (ROW). The Site is divided between "on-site" areas for the former AGLC property where historical MGP operations were located and "off-site" areas for properties that were not part of the former MGP operations. The Site location map (Figure B1-1) shows the setting of the AGLC property within the City of Macon, Bibb County, Georgia and the Site layout map (Figure B1-2) shows the locations of groundwater monitoring wells and other Site features.

The volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) on the Constituents of Interest (COI) list (Table B1-1) were updated based on correspondence received from the EPD dated January 17, 2012 to include the list of constituents listed in Table 2-1 of the January 2004 Compliance Status Report (CSR). The January 17, 2012 correspondence also requested that the COI list be followed until COI delineation to background and certification of the Western Portion to the applicable risk-reduction standard (RRS) is completed and documented by submittal of an updated CSR, at which time a revised COI list may be established.

An interim groundwater level-gauging event was performed on March 3, 2016 to monitor for changes in groundwater elevations, gradients, or apparent flow directions immediately following corrective actions in the Western Portion (Figure B1-2). The April 2016 monitoring event for bedrock groundwater was conducted in accordance with the *Bedrock Groundwater Monitoring Plan* (BGMP) [Appendix I of the *Voluntary Investigation Remediation Plan* (VIRP)] submitted to the Georgia Environmental Protection Division (EPD) on October 14, 2014 and the schedule included as Table 3-1 in the *1st Semiannual Progress Report* submitted to EPD in November 2015.

As discussed in AGLC's August 13, 2013 letter and agreed to by EPD in a comment letter dated August 22, 2013 (correspondence included as Appendix B1), sampling of alluvium groundwater wells was discontinued until the completion of remedial activities in the Western Portion of the

Site, with the exception of three alluvium wells (MW-15, MW-101, and MW-102) to monitor the plume on the Macon Urban Development Authority (MUDA) Type 5 parcel. . The Western Portion corrective action activities were initiated in May 2015 in accordance with the *Western Portion and MW-101 Area Groundwater Corrective Action Plan Addendum* (Appendix C of the 2014 VIRP).

At the time of the April 2016 sampling event, corrective actions in the Western Portion of the Site were in the final stages, with final restoration activities in progress across the Site. Due to ongoing Site restoration, activities and the expectation that the aquifer had not yet reached stable conditions following disturbances associated with the corrective actions a limited sampling event was conducted for alluvium wells in April 2016:

- Three alluvium monitoring wells (MW-15, MW-101, and MW-102) were sampled to monitor the plume on the MUDA Type 5 parcel;
- Five alluvium wells (MW-08, MW-10, MW-105, MW-107, and MW-400) were sampled downgradient of the corrective actions performed on the Western Portion to monitor initial changes from pre-corrective action conditions; and
- Five alluvium wells (MW-12R, MW-14I, MW-21, MW-28, and MW-104) were sampled in the Eastern Portion downgradient of the original in situ solidification (ISS) mass to assess whether alluvium groundwater in the area remains below detection limits for benzene and naphthalene.

A return to the complete proposed alluvium-monitoring program is planned for August 2016 (Table B1-2). Bedrock groundwater monitoring will be conducted in August 2016 in accordance with Table B1-3).

2.0 BACKGROUND

Historical investigations and corrective actions have been detailed in Corrective Action Plan (CAP) and CAP Addendum documents, site investigation and characterization reports, feasibility study reports, remedial action completion reports and semiannual groundwater monitoring reports previously submitted to EPD. In addition, a comprehensive summary of significant activities was provided in the 2014 VIRP.

2.1 GROUNDWATER MONITORING AND EVALUATION STUDIES

The annual bedrock groundwater monitoring and evaluation event was conducted in April 2016 in general accordance with the 2014 BGMP. A limited alluvium groundwater-sampling event was conducted in April 2016 in general accordance with the *Alluvial Groundwater Monitoring Work Plan* (AGMWP) [Appendix H of the *Western Portion and MW-101 Area Groundwater Corrective Action Plan Addendum*] submitted to EPD on October 14, 2014 as Appendix C of the VIRP. This section of the report describes procedures used for groundwater sampling, analytical analyses, quality assurance/quality control (QA/QC), and management of investigation-derived wastes. Groundwater samples were collected either using the low-flow/low-volume method with a peristaltic or bladder pump.

2.2 SCOPE OF WORK

The March 2016 groundwater level gauging event and the April 2016 annual monitoring events included the following tasks:

2.2.1 Field Tasks

- Groundwater level gauging;
- Monitoring for the presence of non-aqueous phase liquid (NAPL);
- Groundwater sampling (April 2016 annual monitoring event only); and
- Waste management.

2.2.2 Reporting Tasks

- Tabulation of groundwater elevations;
- Tabulation of laboratory analytical results for COI (April 2016 annual monitoring event only);

- Preparation of alluvium groundwater elevation maps and bedrock groundwater flow potential maps;
- Evaluation of groundwater flow in the alluvium and bedrock aquifers;
- Evaluation of analytical results relative to Type 2 and Type 4 RRS (April 2016 annual monitoring event only); and
- Preparation of isoconcentration maps for benzene and naphthalene (April 2016 annual monitoring event only).

2.3 GROUNDWATER MONITORING NETWORK

The network of monitoring wells was developed over a series of investigations to determine on-site and off-site groundwater impacts. The annual event (February) represents the event with the greater number of wells to be sampled and the semiannual event (August) includes a subset of these wells. The above schedule differs from the initial proposed schedule in the AGMWP but is consistent with historical events. The schedule was altered from the proposed schedule in the AGMWP due to changes in the final corrective action schedule. The alluvium groundwater monitoring well network is included as Table B1-2, the bedrock groundwater-monitoring network is included as Table B1-3, and locations of existing monitoring wells are shown on Figure B1-2.

Monitoring of the full alluvium well sampling list provided in Table B1-2 has been suspended until completion of the Western Portion remedy (monitoring of MW-15, MW-101 and MW-102 has continued during remedy implementation to evaluate conditions on the MUDA property), however, groundwater samples were collected from additional alluvium wells during the April 2016 sampling event to document conditions near completion of the remedy implementation.

The select alluvium wells chosen to be sampled during the April 2016 sampling event were based on their location relative to the corrective action, location along MUDA property boundary, and downgradient of site near off-site bedrock impacts. Thirteen alluvium wells were selected:

MW-08	MW-10	MW-12R	MW-14I
MW-15	MW-21	MW-28	MW-101
MW-102	MW-104	MW-105	MW-107
MW-400			

It was determined that analytical data for these locations could be useful to monitor conditions at the conclusion of the Western Portion remedy implementation. Final restoration activities were still in progress at the

time of sampling, and it is likely that conditions at the Site may not have yet reached post-remediation equilibrium.

Alluvium monitoring wells MW-21, MW-26, and MW-28 were proposed to be decommissioned in the AGMWP; however, these wells have been updated in Table B1-2 to gauge only. All wells will be assessed for decommissioning following modelling, and once selection of point of demonstration (POD) wells have been approved.

2.4 GROUNDWATER SAMPLING AND ANALYSIS

During the initial groundwater-gauging task performed during each semiannual sampling event, the condition of each well was noted, including the concrete surface seal, outer casing, inner expandable well cap, and lock. Any well caps or locks that were damaged or missing were noted and catalogued to be replaced by ERM. All wells were gauged with an oil-water interface meter to assess whether NAPL was present. Measurable DNAPL was detected in monitoring well MW-111D and MW-309D, while DNAPL blebs were observed in sediment attached to the probe tip in MW-302D in April 2016. A summary of DNAPL monitoring activities is included in Section 4.2.2.

Before collection of groundwater samples, each well was purged using low-flow/low-volume techniques conducted in accordance with ERM's standard operating procedures, which are based on technical guidelines from U.S. Environmental Protection Agency (USEPA) Region 4 Science and Ecosystem Support Division Operating Procedures March 2013 (SESD Operating Procedures), *Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures* (Puls and Barcelona, 1995), and *Ground-Water Sampling Guidelines for Superfund and RCRA Project Managers* (Yeskis and Zavala, 2002). The purpose of purging the well is to draw fresh formation water into the well so that the samples are representative of the portion of the aquifer surrounding the well. In wells where excessive drawdown occurred (> 0.3 feet), the method of purging the well was switched to a minimum of three well volumes at which point the well was sampled upon stabilization, or following removal of a maximum of five well volumes, unless well volume was over 10 gallons. Wells with greater than 10 gallons of purge volume, which also exhibit drawdown of greater than 0.3 feet were still purged using low-flow/low-volume techniques due to the excessive amount of volume needed to purge by switching methods.

Field documentation of groundwater quality measurements included pH, conductivity, temperature, dissolved oxygen (DO), oxidation-reduction potential (ORP), and turbidity. Field parameter values and corresponding purge volumes were recorded on groundwater sampling forms. Copies of

these forms for the April 2016 sampling event are included in Appendix B-2.

Groundwater samples from the April 2016 event were analyzed for all COI (Table B1-1). Analytical Environmental Services (Georgia Certification ID 800) performed the analyses.

2.5 *QUALITY CONTROL/QUALITY ASSURANCE SAMPLES*

Field quality control (QC) samples were collected and analyzed to document the accuracy and precision of the laboratory. QC samples included:

- Trip Blanks. One trip blank accompanied each cooler containing VOC samples sent to the laboratory. Trip blanks were analyzed to determine if any contaminants were introduced while samples were stored or while in transit to the laboratory. Trip blanks were analyzed for VOCs on the COI list only.
- Field Duplicates. Two alluvium well field duplicates (MW-15 and MW-101) and three bedrock well field duplicates (MW-110D, MW-204D, and MW-304D) were collected during the April 2016 sampling event. Duplicates were collected to determine the precision of groundwater sample analysis and the variability of collection procedures.
- Matrix Spikes and Matrix Spike Duplicates. Matrix Spike and Matrix Spike Duplicate (MS/MSD) sample sets were collected from MW-102 (alluvium) and MW-300D (bedrock) during the April 2016 sampling event, as part of the laboratory analytical batch QC.

2.6 *MANAGEMENT OF INVESTIGATION DERIVED WASTE*

All liquid wastes generated from sampling activities (i.e., purge water and decontamination water) were placed in on-site labeled high-density polyethylene (HDPE) storage tanks for storage prior to proper disposal. Personal protective equipment and other trash was placed in bags, and deposited in solid waste containers.

3.0 GROUNDWATER MONITORING RESULTS

This section summarizes results from the April 2016 sampling event, including alluvium and bedrock groundwater flow and elevations, groundwater analytical results, quality control/quality assurance, and data validation. An initial groundwater-gauging event was conducted on March 3, 2016 to monitor changes to groundwater flow following corrective actions, and determine the conditions of monitoring wells after remediation activities. Results, including alluvium and bedrock groundwater flow and elevations, are summarized below.

3.1 GROUNDWATER FLOW AND ELEVATIONS

Groundwater elevation data derived from water level measurements collected on March 3 and April 4, 2016 for the alluvium and bedrock wells are presented in Tables B3-1 and B3-2, respectively. Alluvium groundwater elevation maps for March 3 and April 4, 2016 are presented on Figure B3-1 and Figure B3-2, respectively. Hydraulic potential in shallow bedrock maps for March 3 and April 4, 2016 are presented on Figure B3-3 and Figure B3-4, respectively.

During the March 3, 2016 gauging event and the April 2016 sampling event, all alluvium groundwater wells were inspected and the groundwater levels and total depths were gauged and recorded, with the following exceptions:

Alluvium wells within the footprint of ISS mass that were abandoned[i]

AMW-3	AMW-4	AMW-5	AMW-7
AMW-8	AMW-10	MW-9	MW-201
MW-202	MW-204	MW-206	MW-207

Alluvium wells within the footprint of completed corrective actions that were destroyed

- AMW-1 was fully excavated during removal of the holder
- AMW-9 was destroyed during restoration activities while final Site grading was performed.

[i] All alluvium wells within the footprint of the ISS mass were abandoned during ISS installation. The entire casing and screen intervals were over drilled and grouted as part of the installation of the ISS column.

Alluvium wells that were covered by debris from excavation and could not be located

AMW-2 (March)	MW-07	MW-08 (March)	MW-25
MW-205 (March)	MW-108		

Additional alluvium wells that could not be located

- MW-23 – covered with gravel and located in low lying area often under standing water following rainfall events;
- MW-26 – located in area overgrown with vegetation, and potentially covered with soil

Since the April 2016 sampling event, all alluvium wells not located during the event have been uncovered and located, or are in process of being repaired, except for MW-25. MW-25 is located in the shallow excavation footprint (expanded during remediation) and potentially covered by debris. AGLC will attempt to uncover MW-25 and repair as necessary prior to the August 2016 sampling event.

Groundwater elevation data derived from water level measurements collected on March 3 and April 4, 2016 for the alluvium wells is presented in Table B3-1. No NAPL was detected in any of the alluvium wells during either event.

Prior to soil remediation and ISS, groundwater flow in the alluvial aquifer was generally in an easterly direction. Based on the March and April 2016 data, alluvium groundwater continues to flow in an easterly direction toward the Ocmulgee River, but around the ISS mass (Figure B3-1 and Figure B3-2, respectively). Seepage velocity in the alluvial aquifer was estimated from the product of hydraulic conductivity and horizontal hydraulic gradient (calculations in Appendix B-3) divided by effective porosity. The hydraulic conductivity and effective porosity from the GW CAP-A were used to estimate the seepage velocity. Based on these parameters, the alluvial seepage velocity is approximately 0.42 ft/day in March and 0.64 ft/day in April 2016 in the Western Portion and approximately 0.30 ft/day in March and 0.26 ft/day in April 2016 in the Eastern Portion (see Table B3-3 for calculations).

During the March 3, 2016 gauging event and April 2016 sampling event, all bedrock groundwater wells were inspected and the groundwater levels were gauged and recorded, with the following exceptions:

- MW-09D, MW-115D, and MW-303D were located in the ISS footprint and were abandoned prior to initiation of corrective actions;

- MW-25D was located within the shallow excavation footprint (expanded during remediation) and was covered by debris;

- MW-26D could not be located during the March 2016 event due to overgrown vegetation in the area; however, the well was located during the April 2016 event; and

- MW-301D was not gauged during the March 2016 event.

AGLC will attempt to recover MW-25D and repair as necessary prior to the August 2016 sampling event.

DNAPL thickness was also recorded where detected. Groundwater elevation data and DNAPL thickness derived from water level measurements collected on March 3, 2016 and April 4, 2016 for the bedrock wells is presented in Table B3-2.

Accessible groundwater in bedrock such as that underlying the Macon MGP Site is limited to fractures and groundwater flow and dissolved constituent transport is typically dominated by the orientation of the primary fracture system. Geophysical investigations have demonstrated primary fractures in bedrock at the Site are oriented to the east and southeast. The inferred (or apparent) bedrock groundwater flow directions for data collected in March and April 2016 are presented on Figure B3-3 and Figure B3-4, respectively. The hydraulic potential measured in shallow bedrock wells decreases toward the east and southeast, as shown on Figures B3-3 and B3-4. Groundwater gradients calculated based on the hydraulic potential indicate groundwater movement in bedrock is generally parallel to the fracture orientations.

Since fractured bedrock aquifers are inherently anisotropic and heterogeneous, calculation of seepage, velocity may not be representative using bulk porosity estimates. However, a range of porosity estimates may provide bounds on the expected seepage velocity of the bedrock aquifer. Multiple seepage velocities were calculated using porosity estimates from the literature and by solving three three-point problems for different areas of the Site. The seepage velocities are presented in Table B3-3. The calculated range of seepage velocity in the bedrock aquifer at the Western Portion of the Site was between 0.041 and 3.2 ft/day and at the Eastern Portion of the Site between 0.044 and 3.5 ft/day in March 2016. The calculated range of seepage velocity in the bedrock aquifer at the Western Portion of the Site was between 0.035 and 2.8 ft/day and at the

Eastern Portion of the Site between 0.042 and 3.4 ft/day in April 2016 (sees Table B3-3 for seepage velocity calculations and Appendix B-3 for 3-point gradient calculations).

3.2 *GROUNDWATER ANALYTICAL RESULTS*

Analytical results for alluvium and bedrock monitoring wells sampled in April 2016 are summarized in Tables B3-4 and B3-5, respectively. These results were compared to Type 4 RRS for monitoring wells in the City ROW, on-site, or in an industrial use area and Type 2 RRS for wells offsite and/or in a residential use area. Concentrations from monitoring wells MW-21, MW-28, MW-24D, MW-26D, and MW-112D are compared to Type 2 RRS. Detected concentrations of benzene and naphthalene exceeding the Type 4 RRS are shaded on Tables B3-4 and B3-5.

The spatial distribution of benzene and naphthalene is shown in Figure B3-5 for alluvium wells sampled in April 2016. Only benzene contours are included on Figure B3-5 as no naphthalene concentrations were detected above Type 4 RRS during the April 2016 sampling event. The spatial distribution of benzene and naphthalene in bedrock in April 2016 is shown on Figures B3-6 and B3-7, respectively.

Sampling forms are included in Appendix B-2, bedrock hydraulic potential calculation figures are included in Appendix B-3, copies of the laboratory analytical reports are provided in Appendix B-4, and data validation reports are attached in Appendix B-5. A complete summary of historical analytical data collected for the groundwater-monitoring program (since 2001) is provided in Appendix B-6. Benzene and naphthalene concentration and groundwater elevation trend graphs for bedrock monitoring wells are provided in Appendix B-7.

3.2.1 *Alluvium Groundwater Analytical Results*

Analytical results for groundwater samples collected from alluvium monitoring wells were compared to applicable RRS, and are presented in Table B3-4. The interim groundwater sampling event was performed in April 2016 to monitor for any potential plume migration off the Type 5 property (MW-15, MW-101, and MW-102), to assess initial results downgradient of the footprint of corrective actions at the Western Portion MGP (MW-08, MW-10, MW-105, MW-107, and MW-400), and to assess whether alluvium groundwater concentrations are still below detection limits downgradient of the Eastern Portion ISS mass (MW-12R, MW-14I, MW-21, MW-28, and MW-104). Thirteen alluvium monitoring wells were sampled during the post-remediation April 2016 sampling event, as noted above, this was a reduced list from the annual alluvial monitoring normally scheduled in February. Alluvium groundwater sampling events

will resume in August 2016 with the prior schedule (semiannual sampling events in August and annual events in February).

3.2.1.1 *Volatile Organic Compound Results*

The distribution of benzene in alluvial monitoring wells sampled in April 2016 is displayed in Figure B3-5. Benzene was detected at concentrations above the Type 4 RRS (nine µg/L) in groundwater samples collected from only one alluvium monitoring well (MW-400) in the April 2016 sampling event. Detected benzene concentrations ranged from 6.5 µg/L (MW-101) to 11 µg/L (MW-400). Both alluvial monitoring wells with benzene detections are located on MUDA property; therefore, the detected concentrations of individual VOCs are compared only to Type 4 RRS.

3.2.1.2 *Semi-Volatile Organic Compound Results*

Naphthalene concentrations in alluvium groundwater during the April 2016 sampling event ranged from 0.79 µg/L (MW-107) to 14 µg/L (MW-101). Naphthalene was not detected at a concentration above the Type 4 RRS (20 µg/L) in groundwater samples collected from any alluvium monitoring well during the April 2016 sampling event. The distribution of naphthalene in alluvial monitoring wells sampled in April 2016 is displayed in Figure B3-5. Each alluvial monitoring well with SVOC detections is located in the City ROW or on-site; therefore, the detected concentrations of individual SVOCs are compared only to Type 4 RRS.

3.2.1.3 *Inorganic Compound Results*

Unfiltered alluvial groundwater samples were analyzed for inorganic COI (Table B1-1). No inorganic COI concentrations were detected in excess of the applicable Type 4 RRS in samples collected during the April 2016, or August 2015 groundwater sampling events (Table B3-4).

3.2.2 ***Bedrock Groundwater Analytical Results***

Analytical results for groundwater samples collected from bedrock monitoring wells were compared to applicable Type 2 and 4 RRS, and are presented in Table B3-5.

Twenty-six bedrock monitoring wells were sampled during the annual April 2016 sampling event. MW-111D and MW-309D were not sampled due to detections of 1.4 feet and 1.5 feet of DNAPL, respectively during the April 2016 groundwater level gauging. A summary of DNAPL

monitoring and recovery efforts at MW-111D and MW-309D completed during this reporting period are included in Section 2.3 of the *2nd Semiannual Progress Report*.

3.2.2.1 *Volatile Organic Compound Results*

During the April 2016 sampling event, benzene was detected in groundwater above the applicable RRS in samples collected from 11 bedrock monitoring wells:

Type 2 RRS (5 µg/L)
- MW-24D

Type 4 RRS (9 µg/L)
- MW-12DRR
- MW-12DD
- MW-110D
- MW-200DR
- MW-204D
- MW-205D
- MW-302DD
- MW-305D
- MW-306D
- MW-308D

Benzene concentrations ranged from 15 µg/L (MW-12DD) to 14,000 µg/L (MW-305D) in April 2016. The distribution of benzene in bedrock wells sampled in April 2016 is shown on Figure B3-6. Benzene was the only BTEX analyte detected above its respective RRS in bedrock groundwater samples collected during the April 2016 sampling event, with the exception of toluene, which was detected at MW-305D (6,900 µg/L) above the Type 4 RRS (1,100 µg/L).

3.2.2.2 *Semi-Volatile Organic Compound Results*

Naphthalene was detected above the applicable Type 4 RRS of 20 µg/L in samples collected from eight bedrock monitoring wells during the April 2016 sampling event:

- MW-12DRR
- MW-110D
- MW-204D
- MW-205D
- MW-301D
- MW-302DD
- MW-305D
- MW-306D

Naphthalene was detected in MW-205DD, MW-307D, and MW-308D at concentrations below Type 4 RRS. Naphthalene concentrations ranged from 0.87 µg/L (MW-308D) to 4,900 µg/L (MW-205D) in April 2016. The distribution of naphthalene in bedrock wells sampled in April 2016 is shown on Figure B3-7. No other SVOCs were detected above their respective RRS in bedrock groundwater samples collected during the April 2016 sampling events.

3.2.2.3 *Inorganic Compound Results*

Unfiltered bedrock groundwater samples were analyzed for inorganic COI (Table E1-1). All inorganic COI were below applicable RRS during the April 2016 sampling event, except for cadmium (0.0521 mg/L) in MW-300D which was above the applicable Type 4 RRS of 0.051 mg/L. (Table B3-5).

3.4 *QUALITY ASSURANCE, QUALITY CONTROL, AND DATA VALIDATION*

All field QA/QC data, and at least 10 percent of the VOC, SVOC, and inorganic data presented in the analytical reports were reviewed by ERM's data validation expert. Laboratory analytical reports for all samples are provided in Appendix B-4, and the data validation reports for VOC, SVOC, and inorganic data are included in Appendix B-5. These data were reviewed in accordance with the USEPA Contract Laboratory Program National Functional Guidelines for Organic/Inorganic Data Review, Level 2 Evaluation [2008, 2011].

As shown in Appendix B-5, ERM performed a data validation review of sample order numbers 1604559 and 1604772 for the April 2016 alluvium-sampling event, which included the following parent and duplicate samples:

DUP-01-20160406-01	MW-15-20160406-01
DUP-02-20160407-01	MW-101-20160407-01

ERM performed a data validation review of sample order numbers 1604558, 1604772, and 1604944 for the April 2016 bedrock-sampling event, which included the following parent and duplicate samples:

DUP-01-20160407-01	MW-110D-20160407-01
DUP-02-20160406-01	MW-304D-20160406-01
DUP-03-20160407-01	MW-204D-20160407-01

The following items were included in the data validation review:

- Surrogate recoveries
- Relative percentage difference of primary/field duplicate samples
- Field and laboratory blank contamination
- Holding times, sample receipt conditions, dilution factors, chains of custody
- Trip blanks
- Sample duplicates

Two alluvium and three bedrock field duplicates were collected during the April 2016 sampling event (see above) to determine the precision of

the groundwater sample analysis and collection. As shown in Appendix B-5, the duplicate sample results received from the laboratory correlated well with those from parent samples with the following exceptions:

- MW-110: chrysene and naphthalene
- MW-204D: naphthalene

All other relative percent difference (RPD) calculations showed differences of less than 30% between parent and duplicate sample.

Due to poor naphthalene correlation by method 8260 SIM in primary/duplicate sample sets for bedrock wells, naphthalene results were reported by methods 8270 SIM and GC/MS (Appendix B-5). The higher of the concentration values from the 8270 methods are included in the Table B3-5 and in the report.

Two MS/MSD sample sets were collected in April 2016 as part of the laboratory analytical batch QC. The MS/MSD samples were collected to assess matrix interference and reliability of the analytical processes and equipment. The samples were collected from MW-102 and MW-300D in April 2016. All results for the MS/MSD QC samples were within the laboratory-established limits.

4.0 DISCUSSION OF GROUNDWATER SAMPLING OBJECTIVES

This section provides an evaluation of the results of the groundwater sampling events conducted in the context of variability and concentration trends over the past four years as they relate to the monitoring objectives defined in the BGMP and interim alluvium objectives prior to and during active remedy implementation

4.1 ALLUVIUM GROUNDWATER

4.1.1 Document that the Plume is not Migrating off the MUDA Type 5 Property

Results from monitoring wells MW-15, MW-101, and MW-102 were used to assess whether the alluvium groundwater plume may be migrating off the MUDA Type 5 property located at 137 Mulberry Street.

- MW-101 is located adjacent former ISS mass on the MUDA property and historically has had impacts. Both benzene and naphthalene concentration were below Type 4 RRS during the April 2016 sampling event.

- MW-15 and MW-102 are located hydraulically downgradient of MW-101 along the property boundary. Both wells have historically had concentrations below detection limits for organic COI. No organic COI were detected in either well during the April 2016 sampling event.

Results from April 2016 sampling event do not indicate that the alluvium groundwater plume on the MUDA property is currently migrating off the Type 5 property.

4.1.2 Collect Data Downgradient of the Footprint of Corrective Actions at the Western Portion MGP to Monitor Changes

Results from monitoring wells MW-08, MW-10, MW-105, MW-107, and MW-400 sampled in April 2016 were used to assess groundwater concentrations in wells downgradient of the newly completed ISS footprint (final restoration activities still in progress). Concentrations of VOCs were below detection limits in four of the five wells. Concentrations of benzene were detected in MW-400 (see Table B3-4) at a concentration slightly above Type 4 RRS (9 ug/l) at 11 µg/L compared to below detection limits in the baseline event conducted in April 2015. MW-400 is located southeast of the new ISS footprint along the southwestern boundary of the MUDA property along Mulberry Street. No SVOCs were detected above Type 4 RRS in any of the five wells. AGLC will continue to

monitor MW-400 to evaluate groundwater quality conditions in this well in future events.

4.1.3 Monitor Alluvium Groundwater Data Hydraulically Downgradient of the Eastern Portion ISS Mass to Assess Whether Concentrations Remain Below RRS

MW-12R, MW-14I, MW-21, MW-28, and MW-104 were sampled during the April 2016 sampling event to assess whether alluvium groundwater downgradient of the Eastern Portion ISS mass remains below Type 2 / Type 4 RRS. No COI in any of the five wells were detected at concentrations exceeding their respective RRS during the April 2016 sampling event. Furthermore, no organic COI have exceeded applicable RRS in any of the above alluvium monitoring wells since MW-12R had a naphthalene concentration detected above the Type 4 RRS in February 2010.

4.1.4 Detect Changes in Environmental Conditions

The groundwater flow directions and seepage velocities for the March 2016 gauging event and the April 2016 monitoring event were compared with previous reports to identify any changes. The flow direction in the alluvium aquifer has historically been to the east. Alluvium groundwater flow during the March and April 2016 events were predominantly towards the east. The calculated horizontal hydraulic gradient for the alluvium was 0.0220 ft/ft at the Western Portion of the Site and 0.0159 ft/ft at the Eastern Portion of the Site during the March 2016 gauging event. The calculated horizontal hydraulic gradient for the alluvium was 0.0339 ft/ft at the Western Portion of the Site and 0.0138 ft/ft at the Eastern Portion of the Site during the April 2016 event.

During the August 2013 event, the calculated hydraulic gradient in the alluvium aquifer at the Site was 0.0309 ft/ft (calculated for the Western Portion and MUDA property. The alluvium groundwater gradients in the Western portion of the site in March and April 2016 were consistent with August 2013 event. Compared to previous events, no significant variations in groundwater flow direction or calculated gradient are noted.

No changes in environmental conditions were detected at the Site based on the evaluation of groundwater flow direction and seepage velocity.

4.2 BEDROCK GROUNDWATER

4.2.1 Perimeter Well Monitoring

Data from perimeters wells (including MW-22D, MW-23D, MW-26D, MW-27D, MW-112D, and MW-113D) were evaluated to assess any changes in the nature and extent of the bedrock groundwater quality. Evaluation of the results from the April 2016 monitoring event showed that there are no concentration trends resulting in values exceeding groundwater standards in previously unimpacted wells.

4.2.2 Monitor for DNAPL accumulation

The first vacuum enhanced fluid recovery (VEFR) event was performed in February 2011 to remove DNAPL in MW-111D. There have been three subsequent events performed in September 2013 (MW-111D and MW-302D), May 2015 (MW-111D), and August 2015 (MW-111D, MW-309D and SW-1).

DNAPL accumulation of greater than 0.5 feet (as stated in the VIRP) in any well will trigger a vacuum enhanced fluid recovery (VEFR) event. Each well is checked for DNAPL as part of the groundwater level gauging activities during groundwater sampling events. Results of monitoring activities at MW-111D, MW-302D, MW-305D, and MW-309D, locations where DNAPL has primarily been observed during previous events for the November 22, 2015 through May 21, 2016 period are summarized below.

MW-302D

MW-302D had trace DNAPL observed in sediment adhering to the probe tip following gauging during the April 2016 sampling event. No DNAPL was observed during the March 2016 gauging event. The monitoring well was not included in any VEFR events in this period.

MW-111D

The following table provides a summary of DNAPL thickness monitoring and DNAPL recovery efforts during this reporting period.

MW-111D		
Date	**Event**	**Observations – DNAPL Thickness**
March 3, 2016	Interim Gauging Event	0.68 ft
April 4, 2016	Semiannual Monitoring	1.4 ft

MW-309D

The following table provides a summary of DNAPL thickness monitoring and DNAPL recovery efforts during this reporting period at MW-309D.

MW-309D		
Date	**Event**	**Observations - DNAPL Thickness**
March 3, 2016	Interim Gauging Event	1.5 - 7 ft
April 4, 2016	Semiannual Monitoring	1.5 - 7 ft

Thickness of DNAPL estimated. Range was difficult to determine due to density, conductivity, and emulsification of the DNAPL in the monitoring well

4.2.3 *Detect Changes in Environmental Conditions*

The groundwater flow directions and seepage velocities for the March 2016 gauging event and the April 2016 monitoring event were compared with previous reports to identify any changes. The flow direction in the bedrock aquifer has historically been to the east. Bedrock groundwater flow during the March and April 2016 events were predominantly towards the east. The calculated horizontal hydraulic gradient for the bedrock was 0.0178 ft/ft at the Western Portion of the Site and 0.0194 ft/ft at the Eastern Portion of the Site during the March 2016 gauging event. The calculated horizontal hydraulic gradient for the bedrock was 0.0152 ft/ft at the Western Portion of the Site and 0.0185 ft/ft at the Eastern Portion of the Site during the April 2016 event.

During the August 2015 event, the calculated hydraulic gradient in the bedrock aquifer at the Western and Eastern Portions of the Site was 0.0352 ft/ft and 0.0211 ft/ft, respectively. The bedrock groundwater gradients in the Western portion of the site in March and April 2016 were lower than the during the August 2015 event. The bedrock groundwater gradient in the Eastern Portion of the site in March and April 2016 were slightly lower than in August 2015. Compared to previous events, no significant variations in groundwater flow direction or calculated gradient are noted in the Eastern Portion. The calculated gradient in the Western Portion appears to be about half that measured during the August 2015 event. AGLC will continue monitoring to assess if the excavation, ISS remediation and Site regrading has affected the groundwater gradient in the bedrock aquifer in the Western Portion.

COI concentrations in bedrock groundwater for the April 2016 event were compared with historical concentrations for consistency. No changes in environmental conditions were detected at the Site based on the evaluation of groundwater flow direction, seepage velocity, and background conditions.

4.2.4 *Detect New Releases (or other sources) of Contaminants to the Environment*

Background monitoring well MW-22D continued to have no detections of organic COI. Background well MW-25D was covered during over-excavation activities during corrective action implementation in the Western Portion, and was not accessible. AGLC will attempt to uncover and rehabilitate the well before the next sampling event.

4.2.5 *Demonstrate the Effectiveness of Institutional Controls*

The qualifying properties associated with the former Macon MGP Site consist of: an AGLC-owned parcel located at 306 Terminal Avenue; parcels owned by Macon Bibb County Urban Development Authority (MUDA) located at 137 Mulberry Street and 122 Walnut Street (and an unnumbered utility parcel on 6th Street); parcels owned by the City of Macon; and parcels owned by Norfolk Southern Railroad (undefined addresses or parcel identifiers). Agreements have been reached with the MUDA, City of Macon and Norfolk Southern and institutional controls will be implemented as needed to conform to VRP rules. In the event additional affected properties are identified through ongoing groundwater investigations, AGLC will notify EPD and revise the VIRP accordingly via semiannual progress reports.

Institutional controls that will be placed on qualifying properties will likely include the restriction of groundwater use. Although controls are not yet in place for all potential qualifying properties, a visual inspection was performed during the April 2016 sampling event for the existence of private wells. No evidence of private wells or shallow groundwater use was observed on any of the neighboring properties.

4.2.6 *Document Attainment of Remediation Objectives*

COI data trends were evaluated to assess whether concentrations were decreasing, increasing or stable and to verify the plume was not expanding. Monitoring wells with COI impacts are discussed below. Historical groundwater monitoring results are summarized in Appendix B-6 and concentration trend graphs for the bedrock wells with COI impacts are included in Appendix B-7.

Well	COI	Observations
MW-12DRR	Benzene, naphthalene	Benzene concentrations have decreased from 460 µg/L in August 2013 to 340 µg/L in August 2014 to 250 µg/L in August 2015 to 96 µg/L in April 2016. The reduction from 2013 to 2016 concentrations represents a reduction of 79%. Naphthalene concentrations have decreased from 1,400 µg/L in August 2013 to 1,000 µg/L in August 2014 to 550 µg/L in August 2015 to 260 µg/L in April 2016. The reduction from 2013 to 2016 concentrations represents a reduction of 81%.
MW-12DD	Benzene, naphthalene	Benzene from the April 2016 sampling event (15 µg/L) decreased from the February 2015 sampling (44 µg/L). Benzene concentrations remain well below the historic high (1,800 µg/L, September 2002). The naphthalene concentration during the sampling event was below detection limits. Overall concentration trends for benzene and naphthalene appear to be decreasing.
MW-24D	Benzene, naphthalene	Benzene concentrations were detected at 100 µg/L in April 2016, after a history of low concentrations to below detection limits. Naphthalene concentrations returned to below detection limits in April 2016, after a couple of detections above Type 2 RRS (August 2014 and August 2015 sampling events). MW-24D will be sampled during the August 2016 semiannual event as scheduled, and the concentration trends will continue to be evaluated. Investigations are planned to assess whether corrective actions or well installation activities performed along the right-of-way of 7th Street may be affecting groundwater concentrations in the well.
MW-110D	Benzene, naphthalene	Benzene concentrations in April 2016 were the lowest since well installation, and naphthalene concentrations have generally been decreasing. The August 2015 naphthalene concentration of 1,600 µg/L represents a 76% reduction from the highest concentration of 6,800 µg/L (August 2010).

Well	COI	Observations
MW-200DR	Benzene, naphthalene	Benzene concentrations in April 2016 (29 µg/L) decreased slightly from the benzene concentration detected in August 2015 (36 µg/L). Naphthalene concentrations had a spike in February 2013 (2,300 µg/L), but have been below detection limits for the last four monitoring events.
MW-205D	Benzene, naphthalene	No observable trends.
MW-206D, MW-207D	Benzene, naphthalene	Concentrations have been below detection limits for five consecutive events at MW-206D and MW-207D.
MW-301D	Benzene, naphthalene	Benzene was below detection limits during the April 2016 sampling event. Benzene concentrations show an overall decreasing trend from the historical high of 270 µg/L in April 2011. Although naphthalene concentrations increased in April 2016 (81 µg/L) compared to the 2015 events (below detection limits), the overall trend appears to be decreasing from the historical high in April 2012 (3,500 µg/L)
MW-302D	Benzene, naphthalene	Benzene and naphthalene concentrations during the April 2016 event were below detection limits and well below the benzene and naphthalene concentration highs of 550 µg/L and 300 µg/L, respectively in February 2014
MW-305D, MW-306D, MW-307D, MW-308D MW-309D	Benzene, naphthalene	Not sampled a sufficient number of times to perform trend analyses. Concentration trends will be evaluated once sufficient data have been collected.

Monitoring of alluvium and bedrock groundwater monitoring wells at the Site will continue in accordance with schedules presented in Tables B2-1 and B2-2, respectively.

5.0 CONCLUSIONS

The following conclusions are derived from the data and analyses presented in this report:

Alluvium

- The alluvium groundwater plume on the MUDA property has not migrated off-site and appears to be stable or decreasing.

- Of the five alluvium wells sampled to assess groundwater downgradient of the new ISS mass, only MW-400 showed an increase from baseline (April 2015) conditions. Benzene in the MW-400 was slightly above Type 4 RRS in April 2016 compared to below detection limits in April 2015. The well will continue to be monitored for trends as groundwater returns to ambient conditions following corrective action completion.

- There were no COI exceedances in the five wells sampled hydraulically downgradient of the Eastern Portion ISS mass. Shallow groundwater remains below RRS downgradient of the MUDA property.

Bedrock

- No organic COI were detected in bedrock wells located at the hydraulically downgradient periphery of the bedrock groundwater monitoring network during the April 2016 sampling event.

- Bedrock groundwater concentration trends appear to be stable or decreasing in bedrock wells, with the exception of MW-24D, where concentrations have recently fluctuated. Continued monitoring and assessment will provide additional data to assess conditions.

- During March and April 2016, DNAPL was measured in MW-111D and MW-309D. DNAPL accumulation of greater than 0.5 feet in both wells triggered a VEFR event, which is scheduled to occur in May or June 2016. DNAPL accumulation monitoring and recovery efforts will continue during the next monitoring period.

- Background monitoring wells MW-22D continues to have no detections for organic COI. Background well MW-25D was covered

during corrective actions and will be reinstalled if it cannot be located and rehabilitated.

General Site Conditions

- The bedrock groundwater gradient in the western portion of the Site was approximately half-historical trends in the March and April gauging events. The hydraulic gradient will continued to monitored to assess where corrective actions performed (ISS and regrading of the Site) in the area have had any effect on the hydraulic gradient. No other changes in environmental conditions were detected at the Site based on the evaluation of groundwater flow direction, seepage velocity, and background conditions.

- No previously undetected, groundwater constituents were observed in alluvium or bedrock wells in April 2016. Detections were consistent with historical results at the Site.

- A visual inspection of the neighboring properties where institutional controls are in place or are anticipated to be implemented in the future was performed during the April 2016 sampling event for the existence of private wells. No evidence of private wells or shallow groundwater use were observed on these properties.

The next sampling event will include the alluvium and bedrock groundwater well network as shown in Table B1-2 and Table B1-3. The next sampling event is scheduled for August 2016 (semiannual groundwater event).

6.0 REFERENCES

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Tables

May 21, 2016
Project No. 0176740
Atlanta Gas Light Company

Environmental Resources Management Southeast, Inc.
3200 Windy Hill Rd. Suite 1500W
Atlanta, GA 30339
(678) 486-2700

Table B1-1
Site-Specific Groundwater Constituents of Interest
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Volatile Organic Compounds	Semivolatile Organic Compounds	Inorganic Compounds
EPA-8260B	**EPA-8270C**	**EPA-6010B**
Benzene Ethylbenzene Toluene Total Xylenes Carbon Disulfide	Acenaphthene Acenaphthylene Anthracene Benzo[a]anthracene Benzo[a]pyrene Benzo[b]fluoranthene Benzo[g,h,i]perylene Benzo[k]fluoranthene Chrysene Dibenz(a,h)anthracene 2,4-Dimehylphenol Fluoranthene Fluorene Indeno[1,2,3-cd]pyrene 2-Methylphenol 3 & 4 Methylphenol Naphthalene Phenanthrene Phenol Pyrene	Antimony Arsenic Barium Beryllium Cadmium Chromium Copper Lead Nickel Zinc **EPA-9012A** Cyanide (Total) **EPA-7470A** Mercury

Table B1-2
Alluvial Well Groundwater Monitoring Network
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Monitoring Well I.D.	Hydrogeologic Unit	Screened Interval ft bgs	Proposed Sampling Schedule
AMW-1	Alluvium	9.7 - 19.7	Completely excavated during holder removal
AMW-2	Alluvium	4.6 - 14.6	Annual Sampling
AMW-3	Alluvium	5.7 - 15.7	Abandoned - Inside ISS Footprint
AMW-4	Alluvium	11.3 - 21.3	Abandoned - Inside ISS Footprint
AMW-5	Alluvium	12.7 - 22.7	Abandoned - Inside ISS Footprint
AMW-6	Alluvium	11 - 21	Semiannual Sampling
AMW-7	Alluvium	8.1 - 18.1	Abandoned - Inside ISS Footprint
AMW-8	Alluvium	8.2 - 18.2	Abandoned - Inside ISS Footprint
AMW-9	Alluvium	8.4 - 18.4	Destroyed During Remedy Implementation
AMW-10	Alluvium	18.4 - 28.4	Abandoned - Inside ISS Footprint
AMW-11	Alluvium	5 - 15	Annual Sampling
AMW-12	Alluvium	10 - 20	Annual Sampling
AMW-13	Alluvium	10 - 20	Annual Sampling
AMW-14	Alluvium	5 - 20	Annual Sampling
AMW-15	Alluvium	6 - 21	Annual Sampling
MW-07	Alluvium	5 - 15.5	Gauge Only
MW-08	Alluvium	9 - 19	Annual Sampling
MW-09	Alluvium	8 - 13	Abandoned - Inside ISS Footprint
MW-10	Alluvium	7.5 - 17.5	Gauge Only
MW-11	Alluvium	5 - 12	Gauge Only
MW-12R	Alluvium	4.5 - 14.5	Annual Sampling
MW-14	Alluvium	3 - 15	Annual Sampling
MW-15	Alluvium	3 - 14.5	Semiannual Sampling
MW-21	Alluvium	3 -10	Annual Sampling
MW-23	Alluvium	5 - 20	Gauge Only
MW-25	Alluvium	10 -25	Gauge Only; Within shallow excavation footprint and covered by debris. Attempt to recover and repair
MW-26	Alluvium	5 - 20	Gauge Only
MW-28	Alluvium	2 - 17	Gauge Only
MW-101	Alluvium	5 - 15	Semiannual Sampling
MW-102	Alluvium	5 - 10	Semiannual Sampling
MW-103	Alluvium	10 - 20	Annual Sampling
MW-104	Alluvium	5 - 20	Annual Sampling
MW-105	Alluvium	15 - 25	Gauge Only
MW-106	Alluvium	9 - 19	Gauge Only
MW-107	Alluvium	8 - 18	Gauge Only
MW-108	Alluvium	10 - 20	Semiannual Sampling
MW-109	Alluvium	13.5 - 23.5	Annual Sampling
MW-201	Alluvium	10 - 20	Abandoned - Inside ISS Footprint
MW-202	Alluvium	10 - 20	Abandoned - Inside ISS Footprint
MW-204	Alluvium	13 - 23	Abandoned - Inside ISS Footprint
MW-205	Alluvium	14 - 29	Semiannual Sampling
MW-206	Alluvium	16 - 31	Abandoned - Inside ISS Footprint
MW-207	Alluvium	15 - 30	Abandoned - Inside ISS Footprint
MW-400	Alluvium	6 - 16	Semiannual Sampling
MW-401	Alluvium	6 - 16	Annual Sampling
MW-12IR	Intermediate	11 - 21	Annual Sampling
MW-14I	Intermediate	19 - 24	Annual Sampling
MW-104I	Intermediate	15 - 20	Gauge Only

Note: Installation of additional alluvium monitoring wells is not proposed at this time. The need for additional wells will be evaluated and modifications to the monitoring well network and/or schedule will be provided in semiannual progress reports

Table B1-3
Bedrock Groundwater Monitoring Network
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Monitoring Well I.D.	Hydrogeologic Unit	Screened Interval ft bgs	Proposed Sampling Schedule
MW-08D	Shallow Bedrock	38 - 53.5	Gauge only
MW-09D	Shallow Bedrock	46.5 - 56.5	Abandoned - Inside ISS Footprint
MW-12DRR	Shallow Bedrock	37 - 52	Semiannual
MW-12DD	Deep Bedrock	87 - 97	Annual
MW-22D	Shallow Bedrock	44 - 66	Annual
MW-23D	Shallow Bedrock	23 - 36	Semiannual
MW-24D	Shallow Bedrock	30.5 - 40.5	Semiannual
MW-25D	Shallow Bedrock	50 - 57.5	Semiannual; Within shallow excavation footprint and covered by debris. Attempt to recover and repair
MW-26D	Shallow Bedrock	31 - 42	Annual
MW-27D	Shallow Bedrock	43.5 - 48.5	Annual
MW-27DD	Deep Bedrock	105 - 115	Gauge only
MW-108D	Shallow Bedrock	48.5 - 58.5	Annual
MW-110D	Shallow Bedrock	28 - 43	Semiannual
MW-111D	Shallow Bedrock	33 - 46.5	Semiannual
MW-112D	Shallow Bedrock	26 - 36	Annual
MW-113D	Shallow Bedrock	29.5 - 39.5	Annual
MW-114D	Shallow Bedrock	45 - 55	Gauge only
MW-115D	Shallow Bedrock	45.5 - 55.5	Abandoned - Inside ISS Footprint
MW-200DR	Shallow Bedrock	29.5 - 39.5	Semiannual
MW-204D	Shallow Bedrock	30.5 - 45.5	Semiannual
MW-205D	Shallow Bedrock	28 - 43	Semiannual
MW-205DD	Deep Bedrock	90 - 100	Semiannual
MW-206D	Shallow Bedrock	31 - 46	Annual
MW-207D	Shallow Bedrock	34 - 46.5	Annual
MW-300D	Shallow Bedrock	33 - 43	Annual
MW-301D	Shallow Bedrock	36 - 46	Semiannual
MW-302D	Shallow Bedrock	35 - 45	Semiannual
MW-302DD	Deep Bedrock	70 - 100	Semiannual
MW-303D	Shallow Bedrock	50 - 60	Abandoned - Inside ISS Footprint
MW-304D	Shallow Bedrock	41 - 61	Annual
MW-305D	Shallow Bedrock	34.5 - 41.5	Semiannual
MW-306D	Shallow Bedrock	32.5 - 51	Semiannual
MW-307D	Shallow Bedrock	34 - 58	Semiannual
MW-308D	Shallow Bedrock	72 - 110	Semiannual
MW-309D	Shallow Bedrock	35 - 45	Semiannual
MW-310D*	Shallow Bedrock	TBD	Semiannual
MW-311D*	Shallow Bedrock	TBD	Semiannual

* Proposed shallow bedrock wells to be installed; no additional bedrock wells are proposed at this time. The need for any additional wells will be evaluated and modifications to the monitoring well network and/or schedule will be provided in semiannual progress reports

Table B3-2
Depths to Water and Groundwater Elevations
Bedrock Monitoring Wells
March 3, 2016 and April 4, 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Monitoring Well	Top of Casing Elevation (ft AMSL)	Depth to Water March 3, 2016 (ft BTOC)	Groundwater Elevation March 3, 2016 (ft AMSL)	NAPL Thickness (Description) (ft)	Total Depth March 3, 2016 (ft BTOC)	Depth to Water April 4, 2016 (ft BTOC)	Groundwater Elevation April 4, 2016 (ft AMSL)	NAPL Thickness (Description) (ft)	Total Depth April 4, 2016 (ft BTOC)
MW-08D	307.52	11.30	296.22	--	48.51	10.35	297.17	--	48.70
MW-09D	312.94	Abandoned - in ISS area							
MW-12DRR	299.71	9.20	290.51	--	52.32	7.57	292.14	--	52.30
MW-12DD	297.02	11.65	285.37	--	98.85	11.11	285.91	--	98.70
MW-22D	296.74	11.22	285.52	--	45.48	9.98	286.76	--	45.53
MW-23D	292.13	9.96	282.17	--	23.40	8.80	283.33	--	34.33
MW-24D	292.30	4.74	287.56	--	30.45	3.81	288.49	--	40.35
MW-25D	320.07	CNL	NM	--	NM	CNL	NM	--	NM
MW-26D	287.57	CNL	NM	--	NM	1.30*	286.27	--	39.60
MW-27D	288.48	5.53	282.95	--	48.09	3.64	284.84	--	48.09
MW-27DD	288.65	5.74	282.91	--	113.40	3.82	284.83	--	114.64
MW-108D	318.30	12.31	305.99	--	58.10	12.80	305.50	--	58.20
MW-110D	295.97	6.98	288.99	--	33.91	4.87	291.10	--	33.90
MW-111D	295.78	6.72	289.06	0.68	46.35	4.78	291.00	1.4 ft	46.00
MW-112D	289.70	4.35	285.35	--	35.28	3.12	286.58	--	35.74
MW-113D	293.80	7.56	286.24	--	39.48	5.28	288.52	--	39.55
MW-114D	298.10	6.12	291.98	--	55.46	6.15	291.95	--	45.33
MW-115D	314.00	Abandoned - in ISS area							
MW-200DR	295.27	5.40	289.87	--	37.80	3.89	291.38	--	38.81
MW-204D	296.30	7.20	289.10	--	45.20	5.12	291.18	--	45.16
MW-205D	295.40	6.39	289.01	--	41.34	4.57	290.83	--	41.60
MW-205DD	294.58	11.23	283.35	--	99.04	11.30	283.28	--	101.82
MW-206D	295.70	6.51	289.19	--	43.47	4.63	291.07	--	43.42
MW-207D	296.10	6.41	289.69	--	46.29	4.23	291.87	--	46.35
MW-300D	301.02	4.11	296.91	--	42.78	3.50	297.52	--	42.78
MW-301D	305.76	NM	NM	--	NM	11.09	294.67	--	49.85
MW-302D	301.93	13.10	288.83	--	47.42	11.97	289.96	Trace on probe tip	47.43
MW-302DD	301.79	19.30	282.49	--	104.50	17.41	284.38	--	106.10
MW-303D	326.13	Abandoned - in ISS area							
MW-304D	303.55	14.70	288.85	--	59.00	14.23	289.32	--	59.30
MW-305D	297.22	16.46	280.76	--	43.05	15.35	281.87	--	34.75
MW-306D	293.93	5.74	288.19	--	50.24	5.63	288.30	--	50.23
MW-307D	295.15	7.03	288.12	--	57.70	7.28	287.87	--	57.75
MW-308D	324.70	18.54	306.16	--	107.00	19.04	305.66	--	106.94
MW-309D	298.04	9.24	288.80	1.5 - 7 ft	NM	8.98	289.06	1.5 - 7 ft	37.35

Notes:

Created By: EKY

Checked By: ALR

AMSL - Above Mean Sea Level

BTOC - Below Top of Casing

All depths to water are listed in feet below top of casing (BTOC).

All casing and groundwater elevations are listed in feet above mean sea level (AMSL).

NS - Not surveyed

CNL - Could not locate

NM - Not Measured

* MW-26D was gauged on April 11, 2016

Table B3-1
Depths to Water and Groundwater Elevations
Alluvium Monitoring Wells
March 3, 2016 and April 4, 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Monitoring Well	Top of Casing Elevation (ft AMSL)	Depth to Water March 3, 2016 (ft BTOC)	Groundwater Elevation March 3, 2016 (ft AMSL)	NAPL Thickness (Description) (ft)	Total Depth March 3, 2016 (ft BTOC)	Depth to Water April 4, 2016 (ft BTOC)	Groundwater Elevation April 4, 2016 (ft AMSL)	NAPL Thickness (Description) (ft)	Total Depth April 4, 2016 (ft BTOC)
AMW-1	323.99	Abandoned - completely excavated							
AMW-2	320.80	CNL	NM	--	NM	5.25	315.55	--	14.58
AMW-3	322.79	Abandoned - in ISS area							
AMW-4	326.16	Abandoned - in ISS area							
AMW-5	324.50	Abandoned - in ISS area							
AMW-6	326.42	12.39	314.03	--	21.01	11.86	314.56	--	12.02
AMW-7	325.35	Abandoned - in ISS area							
AMW-8	321.51	Abandoned - in ISS area							
AMW-9	314.31	Destroyed							
AMW-10	327.00	Abandoned - in ISS area							
AMW-11	324.10	8.98	315.12	--	19.02	6.47	317.63	--	19.07
AMW-12	322.56	10.78	311.78	--	19.86	9.43	313.13	--	19.90
AMW-13	328.65	13.51	315.14	--	19.99	11.75	316.90	--	20.00
AMW-14	326.28	10.16	316.12	--	23.05	7.13	319.15	--	23.03
AMW-15	325.42	9.97	315.45	--	24.59	7.80	317.62	--	24.42
MW-07	303.22	CNL	NM	--	NM	CNL	NM	--	--
MW-08	307.43	CNL	NM	--	NM	7.43	300.00	--	24.00
MW-09	314.14	Abandoned - in ISS area							
MW-10	306.57	CNL	NM	--	NM	7.52	299.05	--	16.98
MW-11	299.45	3.35	296.10	--	11.77	2.94	296.51	--	11.76
MW-12R	297.11	3.53	293.58	--	15.10	2.67	294.44	--	15.20
MW-12IR	297.08	9.01	288.07	--	21.04	5.56	291.52	--	21.60
MW-14	295.28	3.90	291.38	--	15.11	3.19*	292.09	--	15.18
MW-14I	295.04	6.43	288.61	--	23.90	5.11	289.93	--	23.96
MW-15	300.31	6.34	293.97	--	14.68	5.81	294.50	--	14.69
MW-21	293.79	1.80	291.99	--	9.40	0.91	292.88	--	9.45
MW-23	292.54	CNL	NM	--	NM	CNL	NM	--	--
MW-25	320.09	CNL	NM	--	NM	CNL	NM	--	--
MW-26	287.53	CNL	NM	--	NM	CNL	NM	--	--
MW-28	288.07	1.72	286.35	--	16.85	1.21	286.86	--	16.86
MW-101	307.10	9.85	297.25	--	19.10	10.24	296.86	--	19.42
MW-102	301.52	7.72	293.80	--	13.80	6.89	294.63	--	13.85
MW-103	312.91	14.40	298.51	--	24.08	13.75	299.16	--	24.09
MW-104	295.78	5.60	290.18	--	11.70	3.44	292.34	--	11.69
MW-104I	295.72	5.62	290.10	--	11.63	4.36	291.36	--	15.58
MW-105	302.73	5.10	297.63	--	20.34	4.43	298.30	--	20.32
MW-106	310.95	12.71	298.24	--	21.80	11.94	299.01	--	21.81
MW-107	307.16	6.11	301.05	--	21.60	8.40	298.76	--	21.61
MW-108	318.25	7.67	310.58	--	NM	CNL	NM	--	--
MW-109	314.07	6.77	307.30	--	23.50	6.70	307.37	--	23.24
MW-201	311.82	Abandoned - in ISS area							
MW-202	311.83	Abandoned - in ISS area							
MW-203	313.08	Abandoned - in ISS area							
MW-204	309.93	Abandoned - in ISS area							
MW-205	321.32	CNL	NM	--	NM	4.83	316.49	--	28.25
MW-206	321.20	Abandoned - in ISS area							
MW-207	321.20	Abandoned - in ISS area							
MW-400	307.99	13.60	294.39	--	20.20	13.18	294.81	--	20.23
MW-401	306.48	12.50	293.98	--	20.20	12.04	294.44	--	20.19

Notes:

Created By: EKY

Checked By: NGV

AMSL - Above Mean Sea Level

BTOC - Below Top of Casing

All depths to water are listed in feet below top of casing (BTOC).

All casing and groundwater elevations are listed in feet above mean sea level (AMSL).

CNL - Could not locate

NM - Not Measured

* - Groundwater level measured on April 8, 2016

** - Groundwater level measured on April 11, 2016

Table B3-3
Seepage Velocity Calculations
Atlanta Gas Light Company
Former Manufactured Gas Plant Site

Hydrogeologic Unit	Portion of Site	Hydraulic Conductivity (ft/day)	Porosity (unitless)	March 3, 2016 Gradient	March 3, 2016 Velocity (ft/day)	Monitoring wells used for gradient calculation
Alluvium*	Western	4.75	2.50E-01	2.20E-02	4.18E-01	AMW-11 and MW-109
Alluvium*	Eastern	4.75	2.50E-01	1.59E-02	3.02E-01	MW-101 and MW-28
Hydrogeologic Unit	**Portion of Site**	**Hydraulic Conductivity (ft/day)**	**Porosity (unitless)**	**April 4, 2016 Gradient**	**April 4, 2016 Velocity (ft/day)**	**Monitoring wells used for gradient calculation**
Alluvium*	Western	4.75	2.50E-01	2.89E-02	5.49E-01	AMW-11 and MW-109
Alluvium*	Western	4.75	2.50E-01	3.88E-02	7.37E-01	Contour 312 and MW-106
Alluvium*	**Western**	**4.75**	**2.50E-01**	**3.39E-02**	**6.43E-01**	**Average**
Alluvium*	Eastern	4.75	2.50E-01	1.46E-02	2.77E-01	MW-101 and MW-28
Alluvium*	Eastern	4.75	2.50E-01	1.30E-02	2.47E-01	MW-10 and MW-104
Alluvium*	**Eastern**	**4.75**	**2.50E-01**	**1.38E-02**	**2.62E-01**	**Average**

*Alluvium hydraulic conductivity and effective porosity from the GW CAP-A

Vs=Ki/n
where:
Vs=seepage velocity (Velocity)
K=hydraulic conductivity
i=horizontal hydraulic gradient (Gradient)
n=porosity

Table B3-3
Seepage Velocity Calculations
Atlanta Gas Light Company
Former Manufactured Gas Plant Site

Hydrogeologic Unit	Portion of Site	Hydraulic Conductivity (ft/day)	Porosity (unitless)	March 2016 Gradient	March 2016 Velocity (ft/day)	Monitoring wells used for gradient calculation
Bedrock*	Western	1.37	1.42E-02	1.87E-02	1.81E+00	MW-08D; MW-300D; and MW-308D
Bedrock*	Western	1.37	6.00E-01	1.87E-02	4.28E-02	MW-08D; MW-300D; and MW-308D
Bedrock*	Western	2.58	1.42E-02	1.87E-02	3.39E+00	MW-08D; MW-300D; and MW-308D
Bedrock*	Western	2.58	6.00E-01	1.87E-02	8.03E-02	MW-08D; MW-300D; and MW-308D
Bedrock*	Eastern	1.37	1.42E-02	2.01E-02	1.94E+00	MW-08D; MW-112D; MW-300D
Bedrock*	Eastern	1.37	6.00E-01	2.01E-02	4.60E-02	MW-08D; MW-112D; MW-300D
Bedrock*	Eastern	2.58	1.42E-02	2.01E-02	3.64E+00	MW-08D; MW-112D; MW-300D
Bedrock*	Eastern	2.58	6.00E-01	2.01E-02	8.63E-02	MW-08D; MW-112D; MW-300D
Hydrogeologic Unit		**Hydraulic Conductivity (ft/day)**	**Porosity (unitless)**	**April 2016 Gradient**	**April 2016 Velocity (ft/day)**	**Monitoring wells used for gradient calculation**
Bedrock*	Western	1.37	1.42E-02	1.58E-02	1.53E+00	MW-25D; MW-308D; and MW-301D
Bedrock*	Western	1.37	6.00E-01	1.58E-02	3.62E-02	MW-25D; MW-308D; and MW-301D
Bedrock*	Western	2.58	1.42E-02	1.58E-02	2.87E+00	MW-25D; MW-308D; and MW-301D
Bedrock*	Western	2.58	6.00E-01	1.58E-02	6.78E-02	MW-25D; MW-308D; and MW-301D
Bedrock*	Eastern	1.37	1.42E-02	1.89E-02	1.83E+00	MW-08D; MW-112D; MW-300D
Bedrock*	Eastern	1.37	6.00E-01	1.89E-02	4.33E-02	MW-08D; MW-112D; MW-300D
Bedrock*	Eastern	2.58	1.42E-02	1.89E-02	3.43E+00	MW-08D; MW-112D; MW-300D
Bedrock*	Eastern	2.58	6.00E-01	1.89E-02	8.11E-02	MW-08D; MW-112D; MW-300D

*Bedrock porosity range taken from Applied Hydrogeology 4th Ed.
Multiple bedrock gradients are presented from different areas of the site.

Vs=Ki/n
where:
Vs=seepage velocity (Velocity)
K=hydraulic conductivity
i=horizontal hydraulic gradient (Gradient)
n=porosity

Table B3-4
Alluvium Groundwater Analytical Results
April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-08	MW-10	MW-12R	MW-14I	MW-15		MW-21	MW-28	MW-101		MW-102	MW-104	MW-105	MW-107	MW-400
				04/05/16	04/07/16	04/04/16	04/05/16	04/06/16	DUP-01	04/06/16	04/05/16	04/07/16	DUP-02	04/06/16	04/05/16	04/07/16	04/04/16	04/06/16
Groundwater Elevation	ft. AMSL	--	--	300.00	299.05	294.44	292.09	294.50	294.50	292.88	286.86	296.86	296.86	294.63	292.34	298.30	298.76	294.81
Field Groundwater Quality Parameters																		
pH	SU	--	--	6.29	6.06	3.86	6.52	5.45		5.92	6.30	6.10		5.95	6.53	5.56	6.16	5.54
Specific Conductance	mMhos	--	--	0.300	0.200	0.688	0.40	0.400		0.096	0.148	0.400		0.300	0.300	0.607	0.303	1.000
Temperature	°Celsius	--	--	20.84	19.02	21.55	19.77	20.45		17.35	21.42	21.77		16.08	21.37	19.95	21.23	21.48
Dissolved Oxygen (YSI)	mg/L	--	--	5.56	1.87	0.25	0.21	0.33		0.19	2.16	0.16		0.26	4.83	1.08	0.19	0.24
Oxidation-Reduction Potential (ORP)	mV	--	--	73.5	80.0	291.7	4.9	116.5		5.7	42.1	17.3		59.0	65.8	88.7	51.6	119.7
Turbidity	NTU	--	--	7.76	23.9	6.91	24.9	11.1		6.80	48.4	23.0		9.22	3.95	8.43	31.7	4.37
Organic Constituents																		
Volatile Organic Compounds																		
Benzene	µg/L	5*	9	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**6.5**	**6.3**	< 5.0	< 5.0	< 5.0	< 5.0	**11**
Carbon Disulfide	µg/L	4,000*	4,000*	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds																		
Acenaphthene	µg/L	2,000*	6,100	< 0.50	< 0.50	< 0.50	**4.4**	< 0.50	< 0.50	< 0.50	< 0.50	**3.7**	**3.9**	< 0.50	< 0.50	< 0.50	**1.3**	**1.0**
Acenaphthylene	µg/L	470	3,100	< 1.0	< 1.0	< 1.0	**3.3**	< 1.0	< 1.0	< 1.0	< 1.0	**1.3**	**1.3**	< 1.0	< 1.0	< 1.0	< 1.0	**1.3**
Anthracene	µg/L	4,700	31,000	< 0.050	< 0.050	**0.066**	**0.056**	< 0.050	< 0.050	< 0.050	< 0.050	**0.25**	**0.25**	< 0.050	< 0.050	< 0.050	**0.082**	**0.15**
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	**0.070**	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	**0.11**	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	**0.085**	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Chrysene	µg/L	117	392	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	**0.054**	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	**0.16**	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 0.10	< 0.10	< 0.10	**0.11**	< 0.10	< 0.10	< 0.10	< 0.10	**0.31**	**0.30**	< 0.10	< 0.10	< 0.10	< 0.10	**0.11**
Fluorene	µg/L	1,000*	4,100	< 0.10	< 0.10	< 0.10	**1.6**	< 0.10	< 0.10	< 0.10	< 0.10	**2.7**	**2.8**	< 0.10	< 0.10	< 0.10	**0.41**	**0.28**
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	**0.10**	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	**0.11**	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	**12**	**14**	< 0.50	< 0.50	< 0.50	**0.79**	**1.7**
Phenanthrene	µg/L	470	3,100	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	**0.35**	**0.35**	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 0.050	< 0.050	**0.17**	**0.27**	< 0.050	< 0.050	< 0.050	< 0.050	**0.21**	**0.22**	< 0.050	< 0.050	< 0.050	**0.36**	**0.14**
Inorganic Constituents																		
Antimony	mg/L	0.0063	0.4	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200
Arsenic	mg/L	0.05*	0.05*	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Barium	mg/L	2	7.2	**0.0486**	**0.0861**	< 0.0200	**0.129**	**0.0315**	**0.0326**	**0.0968**	**0.0649**	**0.0861**	**0.0886**	**0.058**	**0.109**	**0.0491**	**0.0491**	**0.0676**
Beryllium	mg/L	0.031	0.2	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100
Cadmium	mg/L	0.0078	0.051	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	**0.0403**	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Chromium	mg/L	0.1	0.31	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100
Copper	mg/L	0.63	4.1	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100
Lead	mg/L	0.015*	0.015*	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100
Nickel	mg/L	0.1	2	< 0.0200	< 0.0200	**0.0389**	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	**0.0408**	< 0.0200	< 0.0200	< 0.0200	< 0.0200
Zinc	mg/L	4.7	31	< 0.0200	< 0.0200	**0.121**	**0.0209**	**0.050**	**0.051**	**0.165**	< 0.0200	< 0.0200	< 0.0200	**0.532**	< 0.0200	< 0.0200	< 0.0200	**0.0887**
Mercury	mg/L	0.002	0.002	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
Total Cyanide	mg/L	0.31	2	< 0.010	< 0.010	< 0.010	< 0.010	**0.014**	**0.012**	< 0.010	< 0.010	**0.013**	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	**0.160**

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical

Table B3-5
Bedrock Groundwater Analytical Results
April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-12DRR	MW-12DD	MW-22D	MW-23D	MW-24D	MW-26D	MW-27D	MW-108D	MW-110D		MW-112D	MW-113D	MW-200DR	MW-204D	
				04/05/16	04/06/16	04/05/16	04/05/16	04/05/16	04/11/16	04/05/16	04/08/16	04/07/16	DUP-01	04/05/16	04/05/16	04/07/16	04/07/16	DUP-03
Groundwater Elevation	ft. AMSL	--	--	292.14	285.91	286.76	283.33	288.49	286.27	284.84	305.50	291.00		286.58	288.52	291.38	291.18	
Field Groundwater Quality Parameters																		
pH	SU	--	--	6.48	7.37	9.07	6.17	6.33	11.89	6.52	7.04	6.43		9.70	5.90	6.77	6.41	
Specific Conductance	mMhos	--	--	0.538	0.200	0.300	0.400	0.046	2.17	0.200	0.200	0.500		0.301	0.348	0.590	0.050	
Temperature	°Celsius	--	--	22.43	23.01	22.98	23.34	17.78	16.60	19.73	20.92	20.39		21.24	23.34	24.09	21.69	
Dissolved Oxygen (YSI)	mg/L	--	--	0.37	0.85	3.83	0.26	4.46	2.22	0.42	0.54	0.19		5.41	0.20	0.36	0.39	
Oxidation-Reduction Potential (ORP)	mV	--	--	-108.9	-94.8	106.5	121.5	78.4	13.3	-3.0	-66.4	-60.2		34.9	68.3	-866.7	-27.8	
Turbidity	NTU	--	--	1.84	1.16	1.78	1.42	22.6	4.36	8.77	13.9	8.3		6.21	2.54	4.38	4.36	
Organic Constituents																		
Volatile Organic Compounds																		
Benzene	µg/L	5*	9	**96**	**15**	< 5.0	< 5.0	**100**	< 5.0	< 5.0	< 5.0	**96**	**94**	< 5.0	< 5.0	**29**	**450**	**430**
Carbon Disulfide	µg/L	4,000*	4,000*	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/L	700*	2,300	**36**	< 5.0	< 5.0	< 5.0	**44**	< 5.0	< 5.0	< 5.0	**290**	**280**	< 5.0	< 5.0	**20**	**330**	**290**
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	**8.6**	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	**22**	< 5.0	< 5.0	< 5.0	**8.3**	< 5.0	< 5.0	< 5.0	**7.0**	**6.8**	< 5.0	< 5.0	< 5.0	**35**	**31**
Semivolatile Organic Compounds																		
Acenaphthene	µg/L	2,000*	6,100	**27**	**0.73**	< 0.50	< 0.50	< 0.50	NA	< 0.50	< 0.50	**76**	**60**	< 0.50	< 0.50	**1.5**	**60**	**58**
Acenaphthylene	µg/L	470	3,100	**8.9**	< 1.0	< 1.0	< 1.0	< 1.0	NA	< 1.0	< 1.0	**2.8**	< 1.0	< 1.0	< 1.0	< 1.0	**3.1**	**2.4**
Anthracene	µg/L	4,700	31,000	**1.7**	< 0.050	< 0.050	< 0.050	**0.27**	NA	< 0.050	< 0.050	**7.1**	**6.3**	< 0.050	< 0.050	**0.069**	**3.5**	**3.3**
Benzo[a]anthracene	µg/L	1.17	3.92	**0.14**	< 0.050	< 0.050	< 0.050	< 0.050	NA	< 0.050	< 0.050	**0.20**	**0.15**	< 0.050	< 0.050	< 0.050	**0.073**	**0.071**
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.050	< 0.050	**0.053**	NA	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.10	< 0.10	**0.14**	NA	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	NA	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 0.050	< 0.050	< 0.050	**0.074**	NA	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Chrysene	µg/L	117	392	**0.12**	< 0.050	< 0.050	< 0.050	**0.077**	NA	< 0.050	< 0.050	**0.18**	**0.13**	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	NA	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	**4.6**	< 0.10	< 0.10	< 0.10	< 0.10	NA	< 0.10	< 0.10	**4.4**	**4.0**	< 0.10	< 0.10	**0.65**	**3.2**	**3.1**
Fluorene	µg/L	1,000*	4,100	**31**	**0.32**	< 0.10	< 0.10	< 0.10	NA	< 0.10	< 0.10	**21**	**19**	< 0.10	< 0.10	**1.4**	**19**	**19**
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	**0.064**	NA	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	**260**	< 0.50	< 0.50	< 0.50	< 0.50	< 5.0	< 0.50	< 0.50	**1,600**	**1,300 E**	< 0.50	< 0.50	< 0.50	**1,700**	**150 E**
Phenanthrene	µg/L	470	3,100	**7.6**	**0.10**	< 0.050	< 0.050	< 0.050	NA	< 0.050	< 0.050	**40**	**33**	< 0.050	< 0.050	**0.055**	**19**	**20**
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	**5.2**	< 0.050	< 0.050	< 0.050	**0.075**	NA	< 0.050	< 0.050	**5.9**	**5.2**	< 0.050	< 0.050	**0.45**	**3.8**	**3.6**
Inorganic Constituents																		
Antimony	mg/L	0.0063	0.4	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200
Arsenic	mg/L	0.05*	0.05*	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Barium	mg/L	2	7.2	**1.39**	**0.0936**	**0.469**	**0.0575**	**1.25**	**1.74**	**0.961**	**0.783**	**2.51**	**2.49**	**0.179**	**0.0723**	**1.19**	**4.71**	**4.70**
Beryllium	mg/L	0.031	0.2	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100
Cadmium	mg/L	0.0078	0.051	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Chromium	mg/L	0.1	0.31	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100
Copper	mg/L	0.63	4.1	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	**0.0129**	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100
Lead	mg/L	0.015*	0.015*	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100
Nickel	mg/L	0.1	2	**0.0421**	**0.0260**	< 0.0200	< 0.0200	< 0.0200	< 0.0200	**0.0230**	**0.0443**	**0.177**	**0.181**	< 0.0200	**0.0292**	**0.0373**	**0.0885**	**0.0854**
Zinc	mg/L	4.7	31	< 0.0200	**0.0224**	< 0.0200	< 0.0200	**0.0584**	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	**0.0254**	< 0.0200	< 0.0200	< 0.0200
Mercury	mg/L	0.002	0.002	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
Total Cyanide	mg/L	0.31	2	**0.023**	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	**0.020**	< 0.010	< 0.010	**0.016**	< 0.010	< 0.010

Notes:

Analyte was detected above laboratory detection limit

Analyte concentration exceeds the Type 4 RRS

Analyte concentration exceeds the Type 2 RRS

*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical

E - Estimated value reported by method GC/MS

Table B3-5
Bedrock Groundwater Analytical Results
April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-205D	MW-205DD	MW-206D	MW-207D	MW-300D	MW-301D	MW-302D	MW-302DD	MW-304D		MW-305D	MW-306D	MW-307D	MW-308D
				04/08/16	04/06/16	04/06/16	04/06/16	04/06/16	04/07/16	04/07/16	04/07/16	04/06/16	DUP-02	04/07/16	04/07/16	04/06/16	04/05/16
Groundwater Elevation	ft. AMSL	--	--	290.83	283.28	291.07	291.87	297.52	294.67	289.96	284.38	289.32		281.87	288.30	287.87	305.66
Field Groundwater Quality Parameters																	
pH	SU	--	--	6.71	9.31	6.13	7.01	6.13	6.07	5.72	7.50	6.81		12.13	12.03	12.46	12.25
Specific Conductance	mMhos	--	--	0.580	0.300	0.530	0.500	0.292	0.842	1.202	0.732	1.076		5.247	2.670	9.983	3.898
Temperature	°Celsius	--	--	18.30	20.84	22.36	18.23	17.77	17.10	24.69	21.98	19.95		23.92	22.10	22.80	19.99
Dissolved Oxygen (YSI)	mg/L	--	--	0.42	1.06	0.35	0.78	0.79	0.29	0.20	0.16	0.24		4.63	4.89	1.92	4.24
Oxidation-Reduction Potential (ORP)	mV	--	--	-65.2	50.8	18.1	-67.9	66.1	-82.9	-113.3	-240.1	14.3		-44.3	10.1	-18.6	55.8
Turbidity	NTU	--	--	0.88	6.89	5.10	9.40	0.83	3.24	5.22	2.96	189		2.89	0.79	3.12	236
Organic Constituents																	
Volatile Organic Compounds																	
Benzene	µg/L	5*	9	**5,100**	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**20**	< 5.0	< 5.0	**14,000**	**440**	< 5.0	**24**
Carbon Disulfide	µg/L	4,000*	4,000*	< 50	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/L	700*	2,300	**990**	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**48**	< 5.0	< 5.0	**290**	**87**	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 50	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**6,900**	**18**	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	**620**	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**6.8**	**5.4**	< 5.0	< 5.0	**1,100**	**61**	< 5.0	< 5.0
Semivolatile Organic Compounds																	
Acenaphthene	µg/L	2,000*	6,100	**140**	**0.83**	**3.3**	**1.4**	< 0.50	**0.58**	**0.75**	**1.1**	< 0.50	< 0.50	**2.5**	**10**	**2.1**	< 0.50
Acenaphthylene	µg/L	470	3,100	**1.7**	< 1.0	**4.3**	< 1.0	< 1.0	< 1.0	**1.5**	< 1.0	< 1.0	< 1.0	**51**	< 1.0	< 1.0	< 1.0
Anthracene	µg/L	4,700	31,000	**4.5**	< 0.050	**0.097**	**0.055**	< 0.050	**0.17**	< 0.050	**0.057**	< 0.050	< 0.050	**9.1**	**0.31**	**0.26**	**0.051**
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	**0.11**	**0.21**	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	**0.14**	< 0.050	< 0.050	**0.087**
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.050	**0.29**	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	**0.077**	< 0.050	< 0.050	**0.12**
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.10	**0.30**	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	**0.16**	< 0.10	< 0.10	**0.15**
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 0.10	< 0.10	**0.43**	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 1.0	< 0.10	< 0.10	**0.21**
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 0.050	< 0.050	**0.38**	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	**0.15**
Chrysene	µg/L	117	392	< 0.050	< 0.050	**0.084**	**0.23**	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	**0.11**	< 0.050	< 0.050	**0.091**
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	**0.35**	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 1.0	< 0.10	< 0.10	**0.16**
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 50	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	**0.97**	< 0.10	**0.54**	**0.68**	< 0.10	< 0.10	**0.20**	< 0.10	< 0.10	< 0.10	**1.1**	**0.19**	**0.25**	< 0.10
Fluorene	µg/L	1,000*	4,100	**29**	< 0.10	**1.9**	**0.28**	< 0.10	**2.7**	**0.11**	**0.55**	< 0.10	< 0.10	**7.2**	**2.5**	**0.61**	< 0.10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	**0.38**	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	**0.19**
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 50	< 10	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 50	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	**4,900**	**1.1**	< 0.50	< 0.50	< 0.50	**81**	< 0.50	**73**	< 0.50	< 0.50	**3,600**	**63**	**3.5**	**0.87**
Phenanthrene	µg/L	470	3,100	**30**	< 0.050	**0.059**	**0.061**	< 0.050	**0.87**	**0.058**	**0.19**	< 0.050	< 0.050	**9.8**	**2.3**	**3.2**	**0.058**
Phenol	µg/L	9,390	61,000	**18**	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	**16**	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	**1.1**	< 0.050	**3.6**	**1.1**	< 0.050	**0.070**	**0.39**	**0.066**	< 0.050	< 0.050	**1.5**	**0.25**	**0.28**	< 0.050
Inorganic Constituents																	
Antimony	mg/L	0.0063	0.4	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200
Arsenic	mg/L	0.05*	0.05*	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Barium	mg/L	2	7.2	**3.08**	**0.0448**	**0.0490**	**2.45**	**1.27**	**0.264**	**0.0553**	**0.865**	**4.50**	**4.53**	**0.450**	**0.170**	**1.14**	**0.189**
Beryllium	mg/L	0.031	0.2	< 0.0100	< 0.0100	< 0.0100	< 0.0100	**0.0120**	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100
Cadmium	mg/L	0.0078	0.051	< 0.0050	< 0.0050	< 0.0050	< 0.0050	**0.0521**	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Chromium	mg/L	0.1	0.31	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	**0.0278**	**0.0684**	**0.0314**
Copper	mg/L	0.63	4.1	< 0.0100	**0.0119**	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	**0.0116**	**0.0288**	**0.0141**	< 0.0100
Lead	mg/L	0.015*	0.015*	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100
Nickel	mg/L	0.1	2	**0.0434**	< 0.0200	< 0.0200	**0.0540**	**0.0558**	**0.0434**	**0.0371**	**0.0358**	**0.0465**	**0.0397**	< 0.0200	**0.0219**	< 0.0200	< 0.0200
Zinc	mg/L	4.7	31	< 0.0200	< 0.0200	< 0.0200	< 0.0200	**0.770**	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	**0.0377**
Mercury	mg/L	0.002	0.002	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
Total Cyanide	mg/L	0.31	2	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	**0.121**	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010

Notes:

Analyte was detected above laboratory detection limit

Analyte concentration exceeds the Type 4 RRS

Analyte concentration exceeds the Type 2 RRS

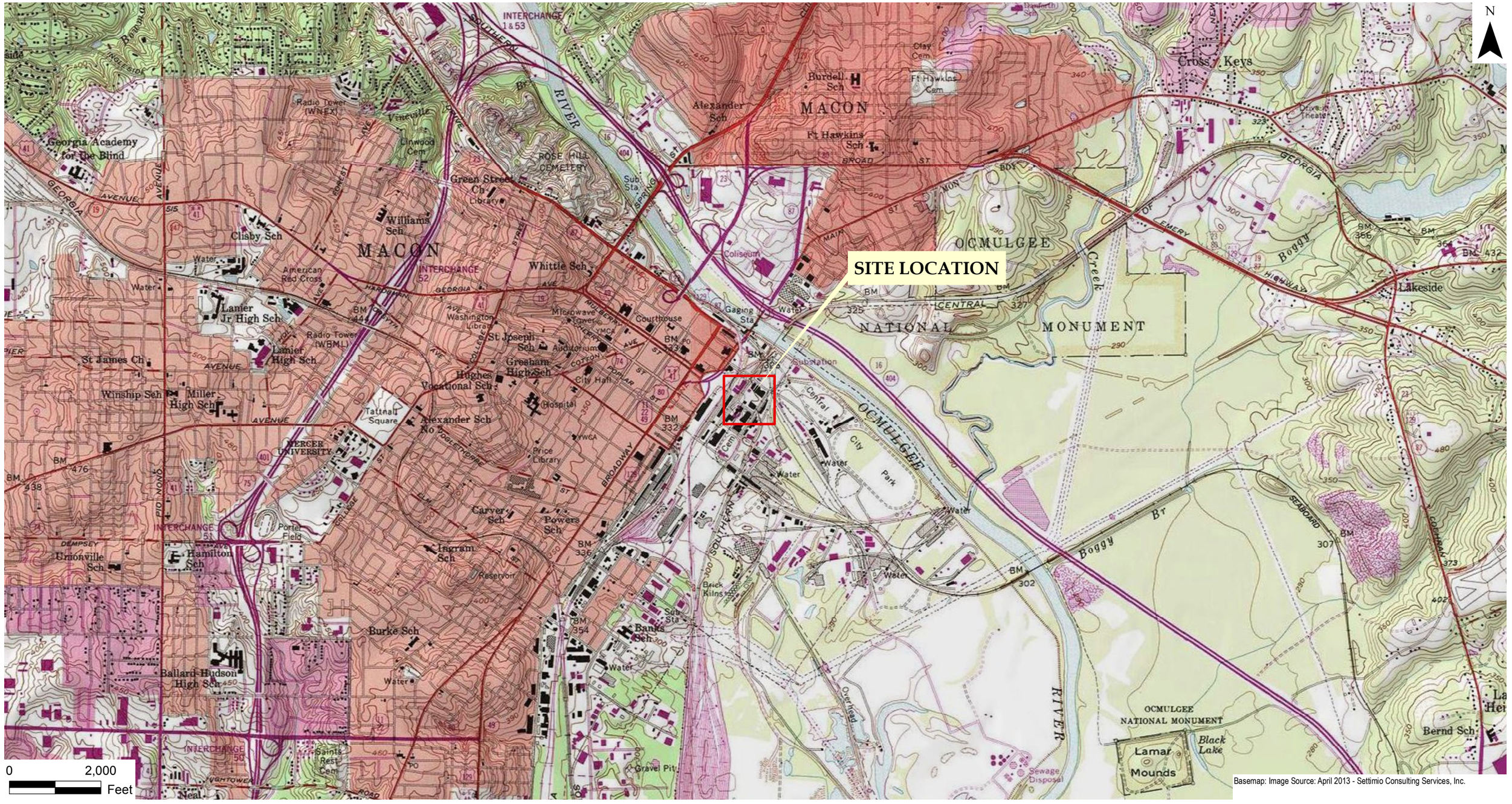
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type

E - Estimated value reported by method GC/MS

Figures

May 21, 2016
Project No. 0176740
Atlanta Gas Light Company

Environmental Resources Management Southeast, Inc.
3200 Windy Hill Rd. Suite 1500W
Atlanta, GA 30339
(678) 486-2700



Basemap: Image Source: April 2013 - Settimio Consulting Services, Inc.

ERM

Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	5/3/2016	SCALE:	AS SHOWN	REVISION:	0
FILE:	D:\AGL_Macon\MXD\2016 04 2ndSAPrgRpt\AppxB GWRpt\AGLMcn_B1-1_Topo.mxd				

CONTOUR INTERVAL 10 FEET
DOTTED LINES REPRESENT 5-FOOT CONTOURS
NATIONAL GEODETIC VERTICAL DATUM OF 1929

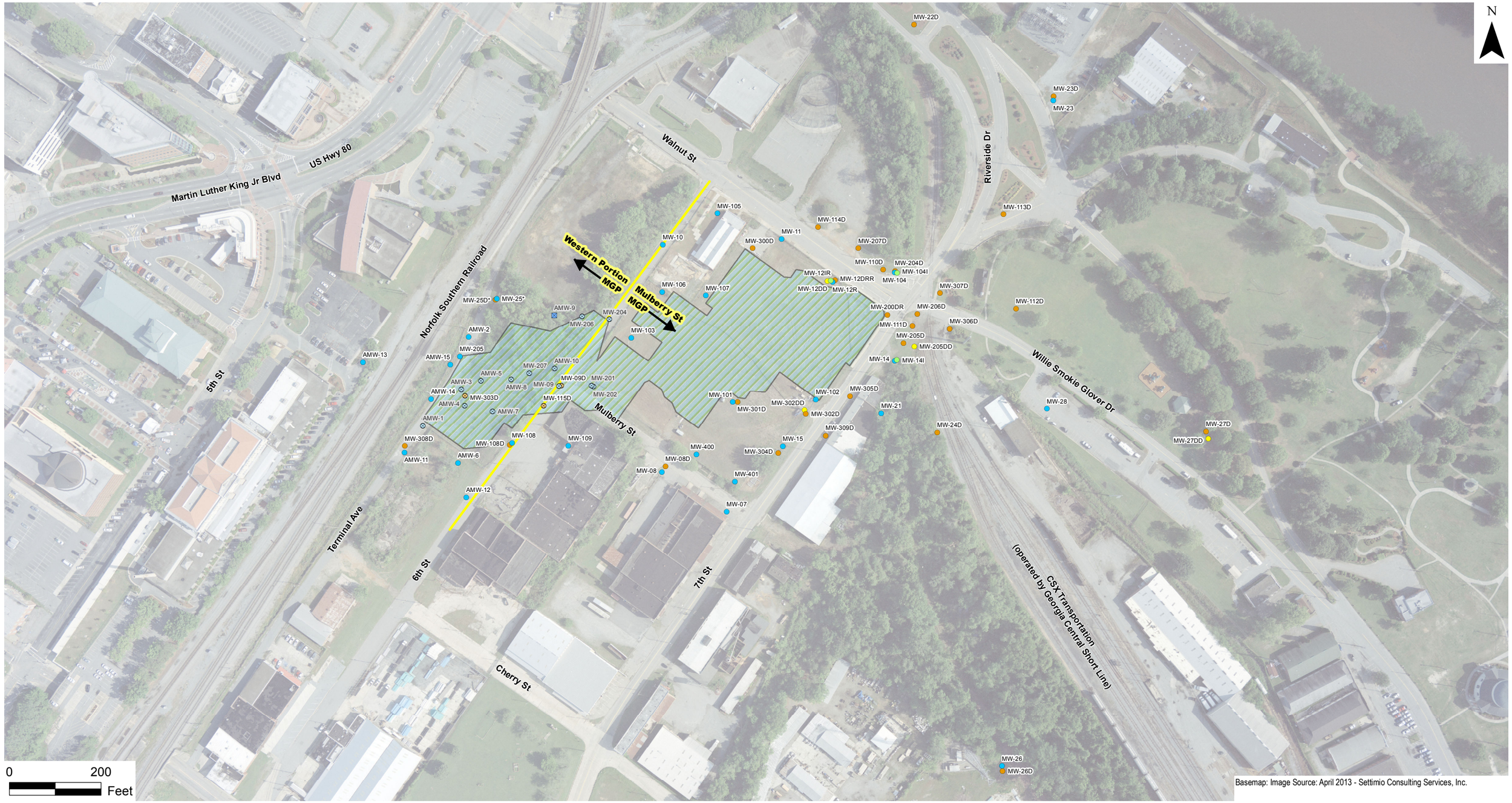


FIGURE B1-1 - TOPOGRAPHIC SITE LOCATION MAP

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



Environmental Resources Management

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DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	5/18/2016	SCALE:	AS SHOWN	REVISION:	0

FILE: S:\0176740 - Macon Remediation\Figures\AGL_Macon\MXD\2016 04 2ndSAPrgRpt\AppxB GWRpt\AGLMcn_B1-2_Site&WellMap.mxd

- Shallow Well
- Abandoned Shallow Well
- Destroyed Shallow Well
- Intermediate Well
- Shallow Bedrock Well
- Abandoned Shallow Bedrock Well
- Deep Bedrock Well

ISS Mass

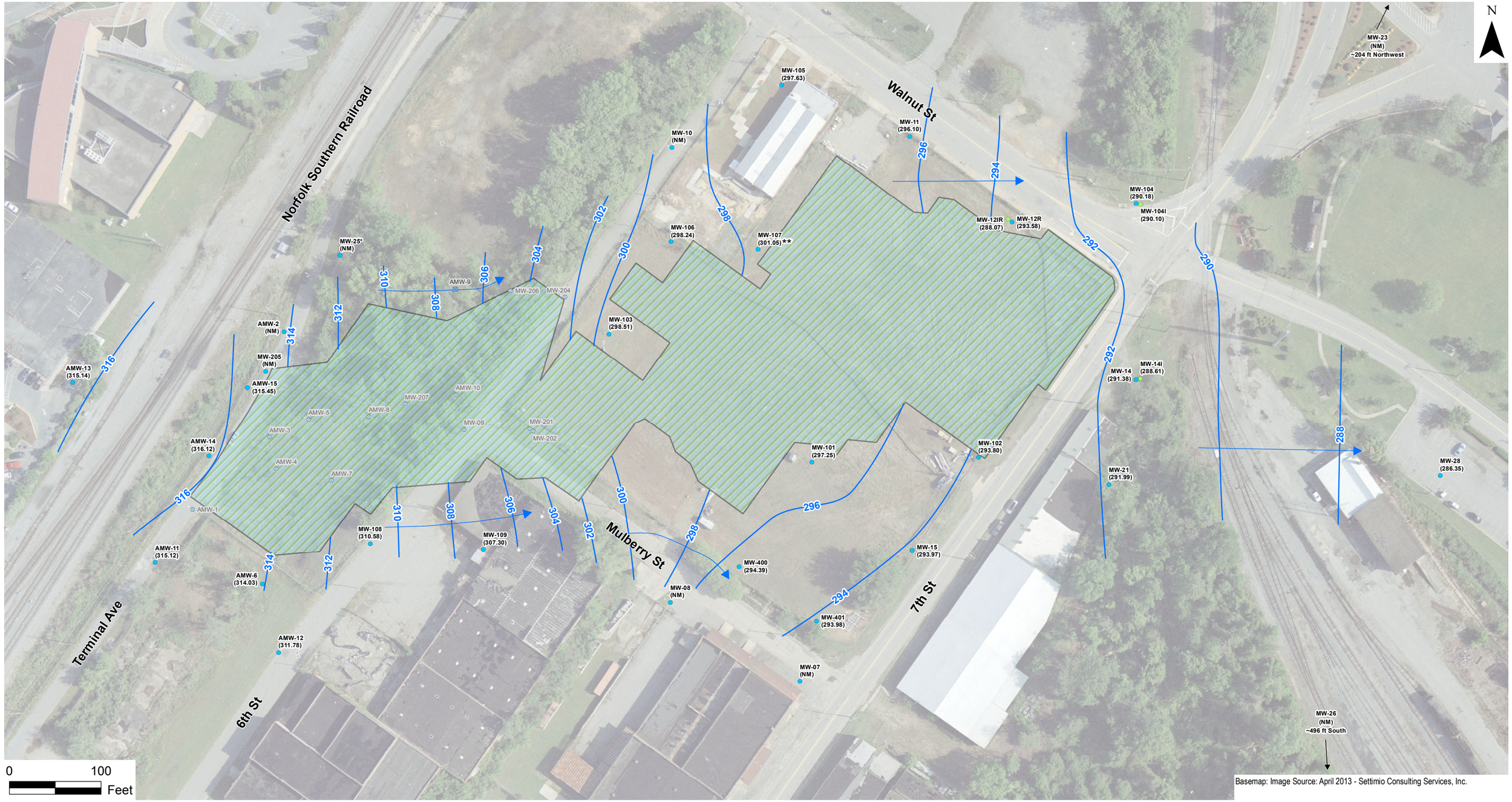
NOTE: * MW-25 & MW-25D were within the shallow excavation footprint & were covered by debris.

FIGURE B1-2 - SITE LAYOUT & GROUNDWATER MONITORING WELL NETWORK

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



ERM

Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	5/19/2016	SCALE:	AS SHOWN	REVISION:	0
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- Shallow Well
- Abandoned Shallow Well
- Destroyed Shallow Well
- Intermediate Well
- Groundwater Elevation Contours (ft AMSL)
- Groundwater Flow Direction
- ISS Mass

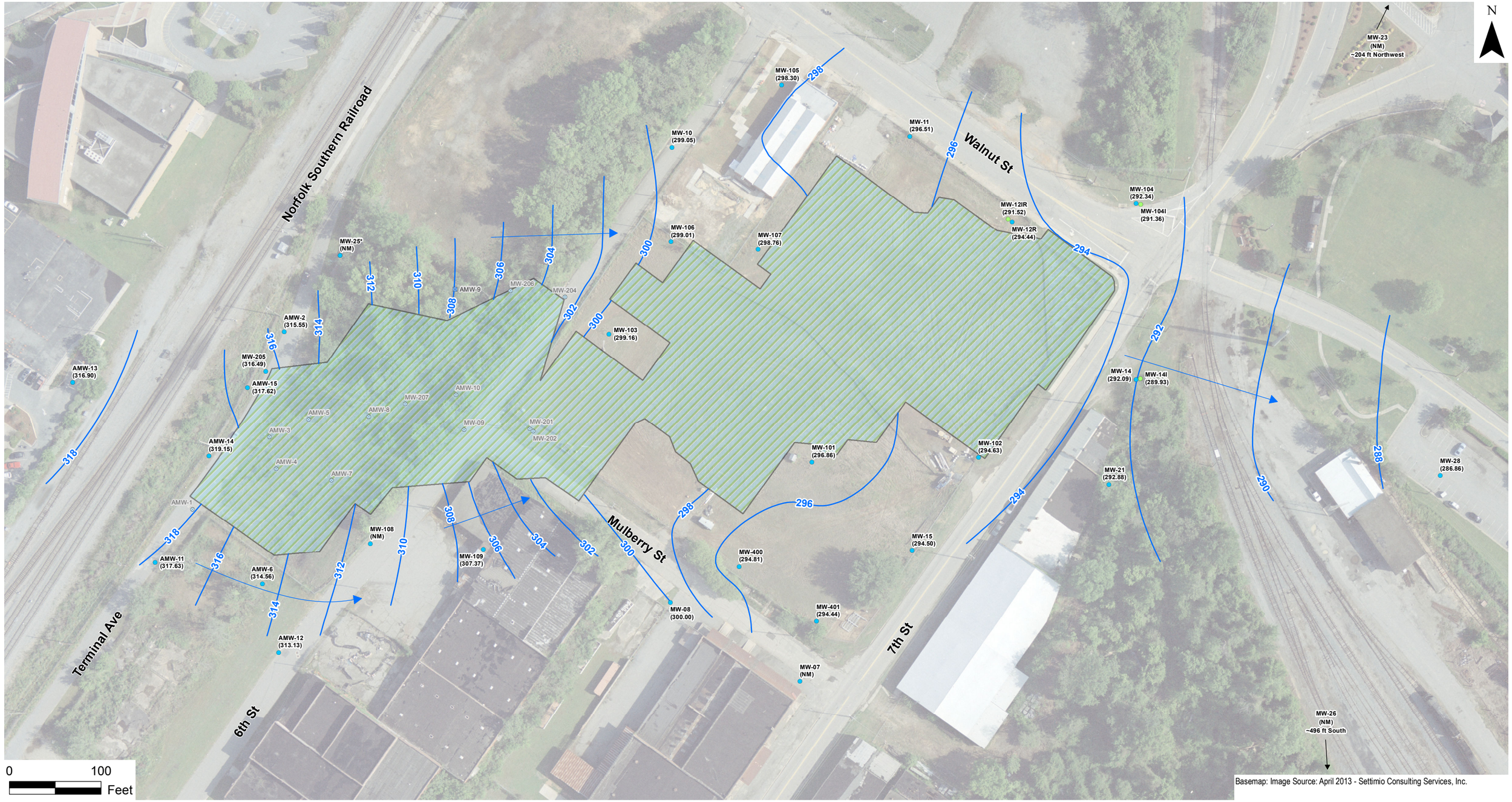
NOTES:
(293.98) = GW Elevation (ft, AMSL)
(NM) = Not Measured
* = MW-25 was within the shallow excavation footprint & was covered by debris.
** = Anamolous Elevation, Not Used in Contouring
AMSL = Above Mean Sea Level
Intermediate Wells Not Used in Contouring

FIGURE B3-1 - ALLUVIUM GROUNDWATER ELEVATION MAP - MARCH 3, 2016

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



ERM

Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	5/19/2016	SCALE:	AS SHOWN	REVISION:	0
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- Shallow Well
- Abandoned Shallow Well
- Destroyed Shallow Well
- Intermediate Well
- Groundwater Elevation Contours (ft AMSL)
- Groundwater Flow Direction
- ISS Mass

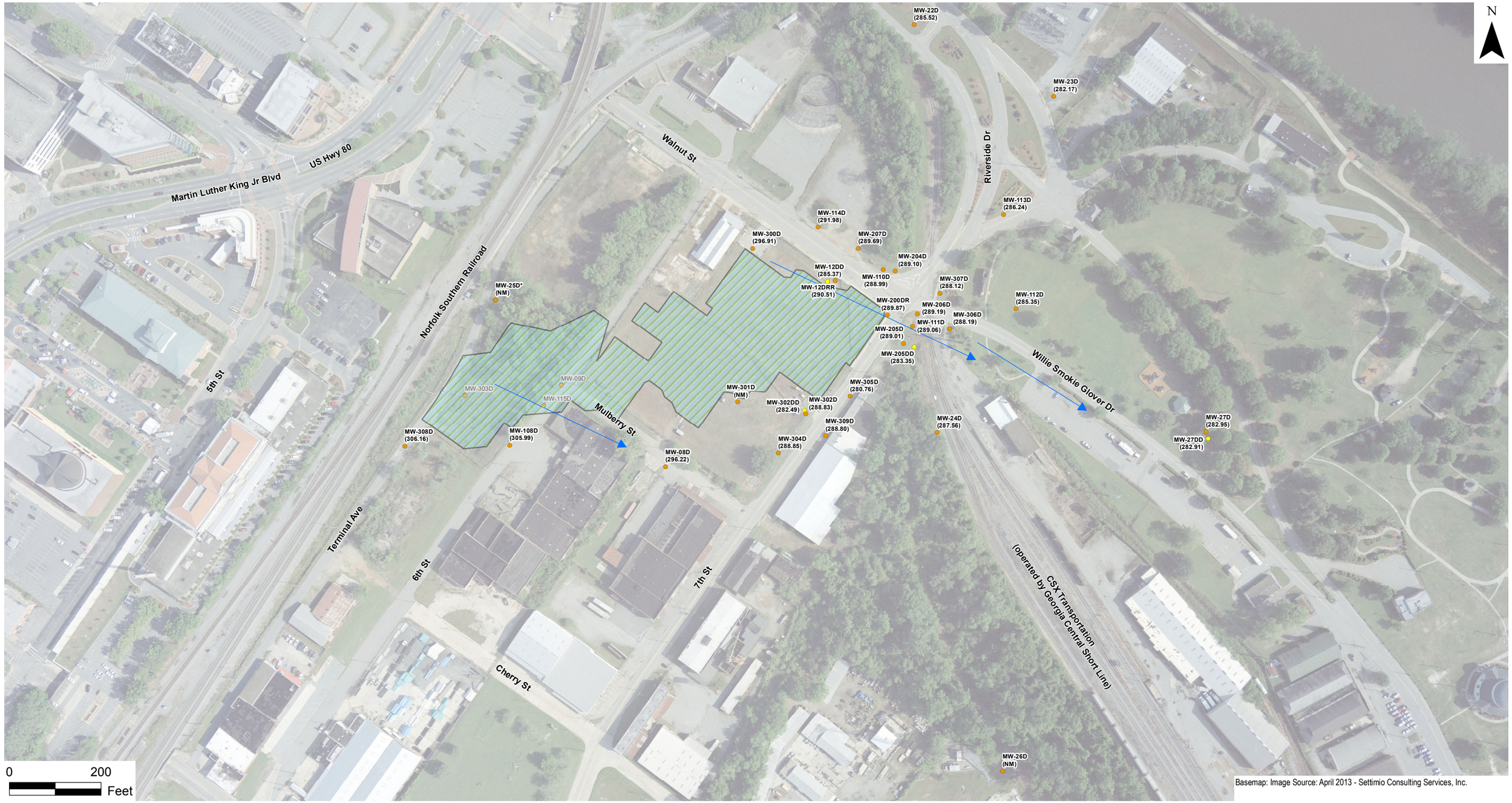
NOTES:
(293.98) = GW Elevation (ft, AMSL)
(NM) = Not Measured
* = MW-25 was within the shallow excavation footprint & was covered by debris.
** = Anamolous Elevation, Not Used in Contouring
AMSL = Above Mean Sea Level
Intermediate Wells Not Used in Contouring

FIGURE B3-2 - ALLUVIUM GROUNDWATER ELEVATION MAP - APRIL 4, 2016

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



ERM

Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	5/19/2016	SCALE:	AS SHOWN	REVISION:	0
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- Shallow Bedrock Well
- Abandoned Shallow Bedrock Well
- Deep Bedrock Well
- Apparent Groundwater Flow Direction
- ISS Mass

NOTES:

(287.56) = Groundwater Elevation (Ft, AMSL)

(NM) = Not Measured

Deep Bedrock Wells Not Used in Flow Direction Calculations

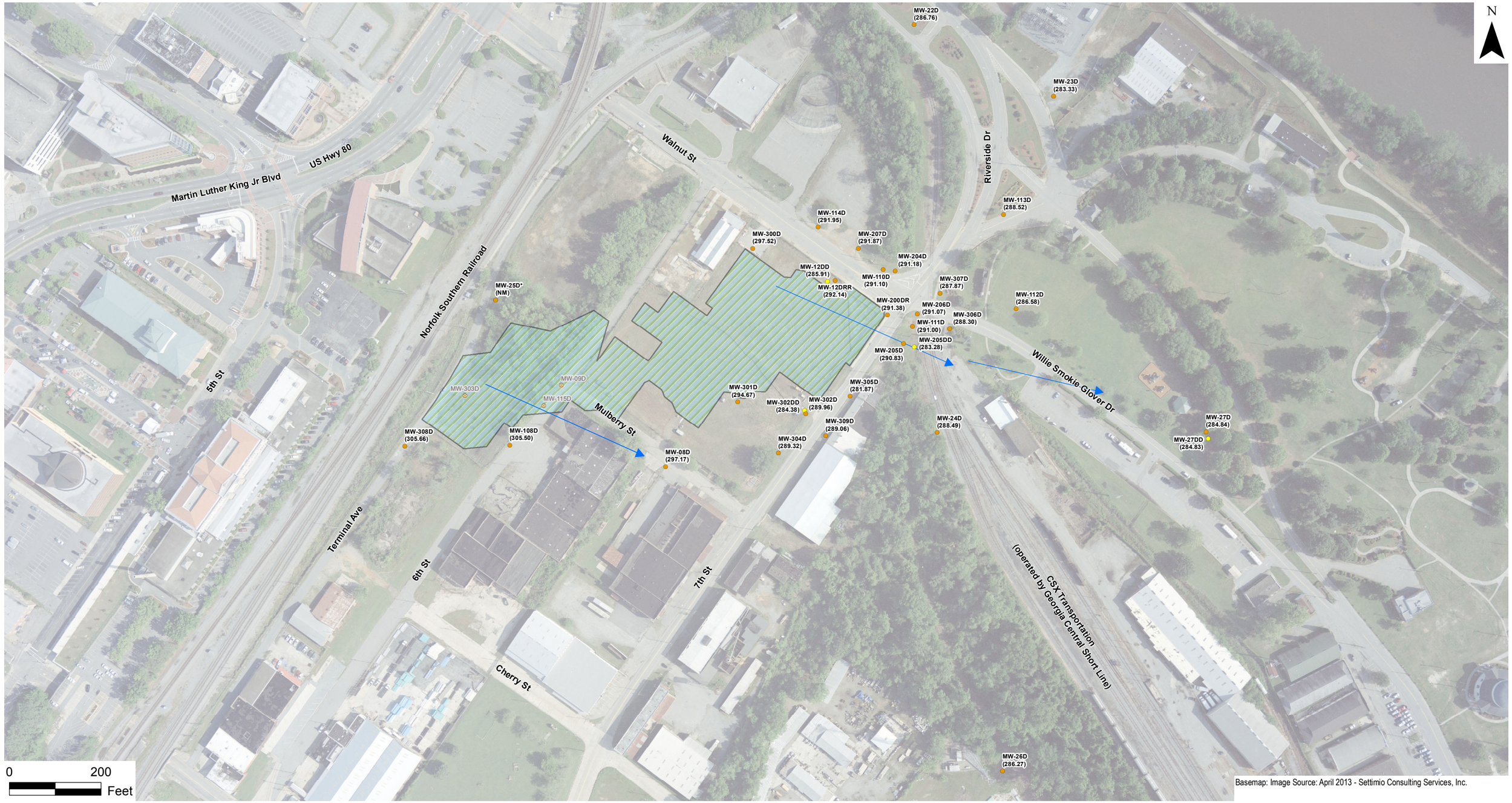
* MW-25D was within the shallow excavation footprint & was covered by debris.

FIGURE B3-3 - HYDRAULIC POTENTIAL IN SHALLOW BEDROCK WELLS - MARCH 3, 2016

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



ERM

Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	5/19/2016	SCALE:	AS SHOWN	REVISION:	0
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- Shallow Bedrock Well
- Abandoned Shallow Bedrock Well
- Deep Bedrock Well
- Apparent Groundwater Flow Direction
- ISS Mass

NOTES:

(288.49) = Groundwater Elevation (Ft, AMSL)

(NM) = Not Measured

Deep Bedrock Wells Not Used in Flow Direction Calculations

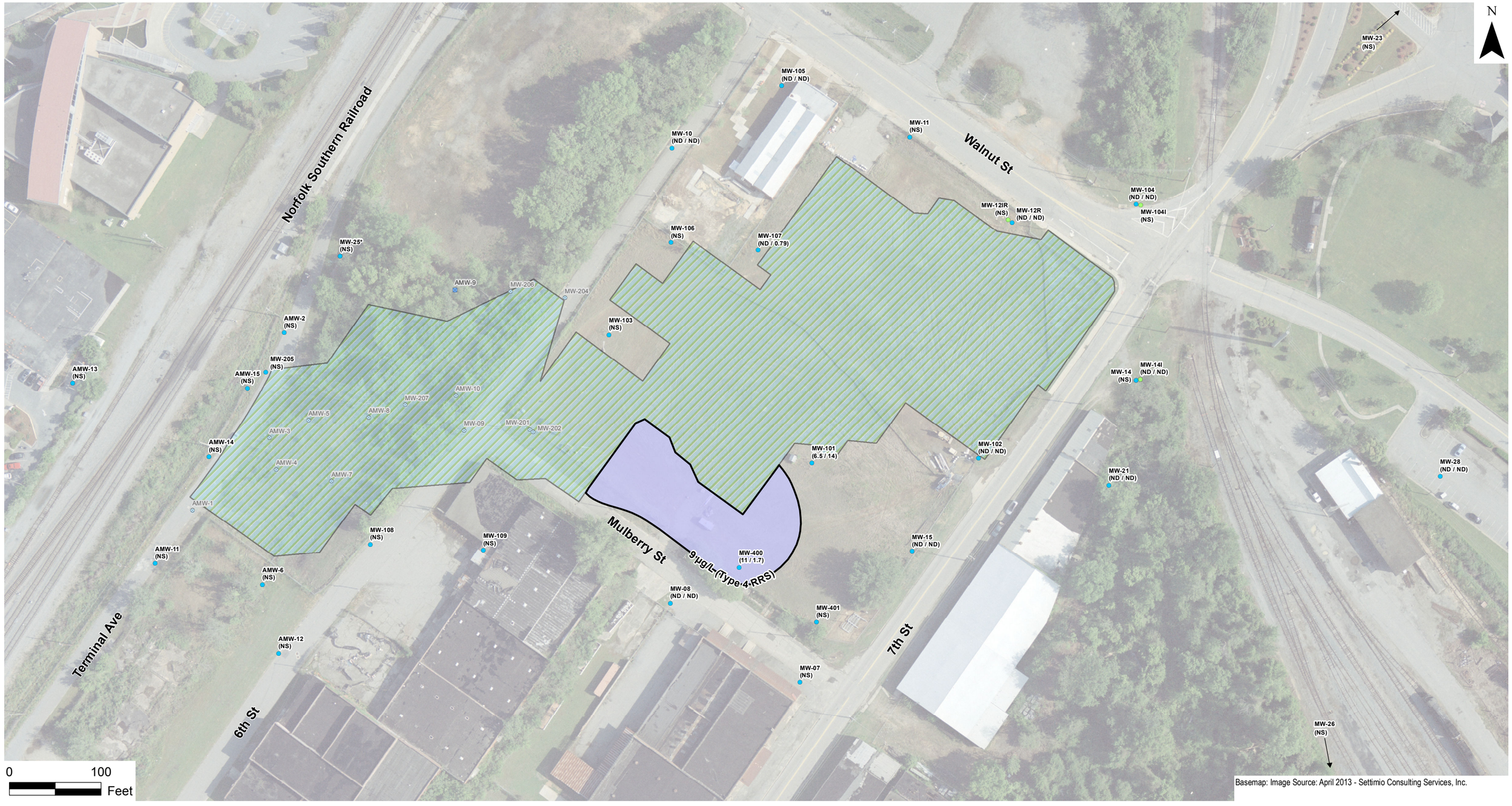
* MW-25D was within the shallow excavation footprint & was covered by debris.

FIGURE B3-4 - HYDRAULIC POTENTIAL IN SHALLOW BEDROCK WELLS - APRIL 4, 2016

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



Basemap: Image Source: April 2013 - Settimio Consulting Services, Inc.

ERM

Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	5/19/2016	SCALE:	AS SHOWN	REVISION:	0

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- Shallow Well
- Abandoned Shallow Well
- Destroyed Shallow Well
- Intermediate Well

Benzene Concentration Contour

- >9 µg/L (Type 4 RRS), <100 µg/L
- ISS Mass

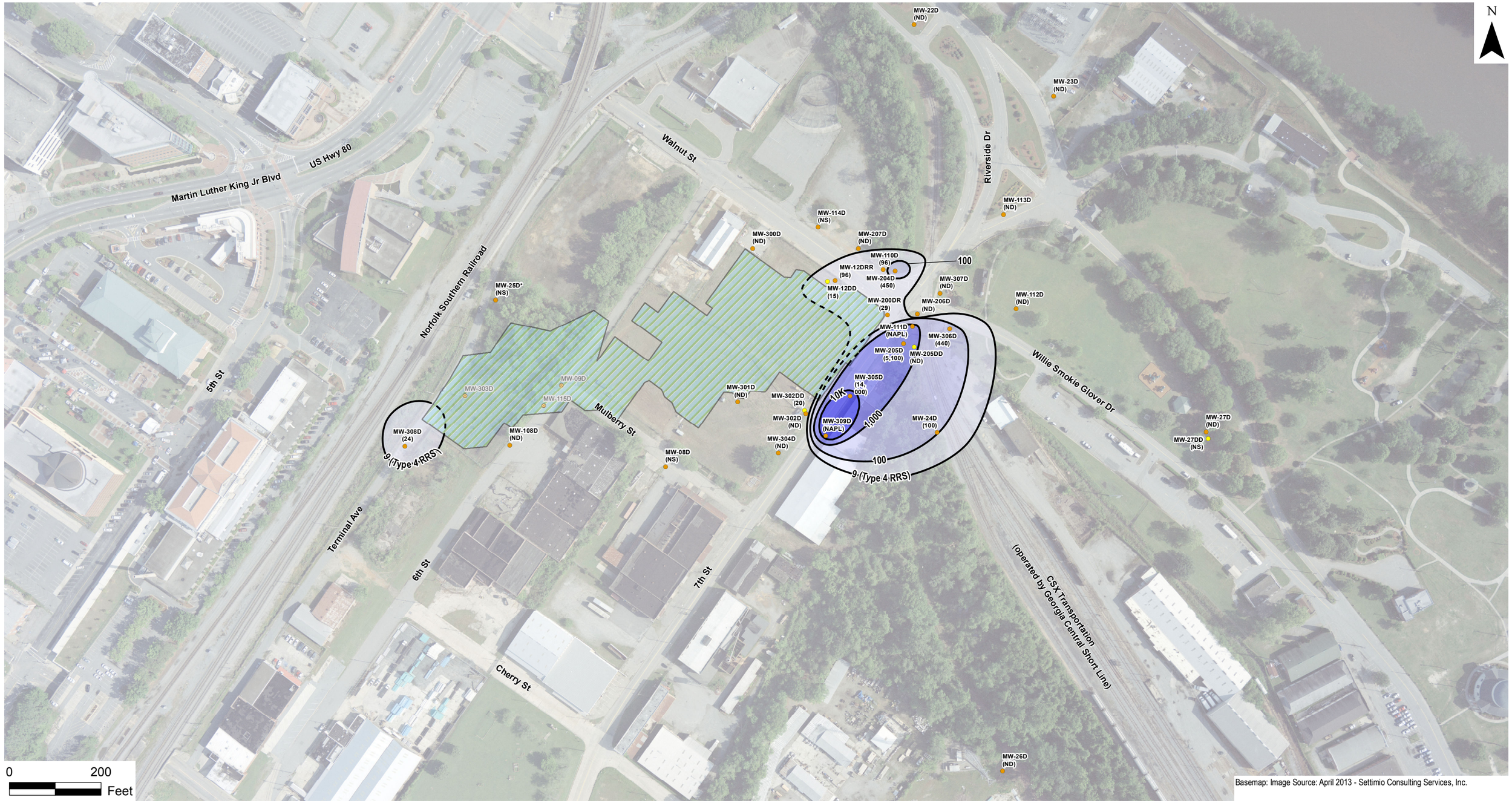
(ND / ND) Benzene Concentration / Naphthalene Concentration
(ND) Non Detect
(NS) Not Sampled
* = MW-25 was within the shallow excavation footprint & was covered by debris.

FIGURE B3-5 - APRIL 2016 BENZENE / NAPHTHALENE IN ALLUVIAL GROUNDWATER

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



ERM

Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	5/19/2016	SCALE:	AS SHOWN	REVISION:	0
FILE:	S:\0176740 - Macon Remediation\Figures\AGL_Macon\MXD\2016.04 2ndSAPrgRpt\AppxB GWRpt\AGLMcn_B3-6_BdrkBenz_042016.mxd				

- Shallow Bedrock Well
- Abandoned Shallow Bedrock Well
- Deep Bedrock Well
- ISS Mass

Benzene Concentration Contours

- >9 µg/L (Type 4 RRS), <100 µg/L
- >100 µg/L, <1,000 µg/L
- >1,000 µg/L, <10,000 µg/L
- >10,000 µg/L

(ND) Non Detect
(NS) Not Sampled
(NA) Not Analyzed

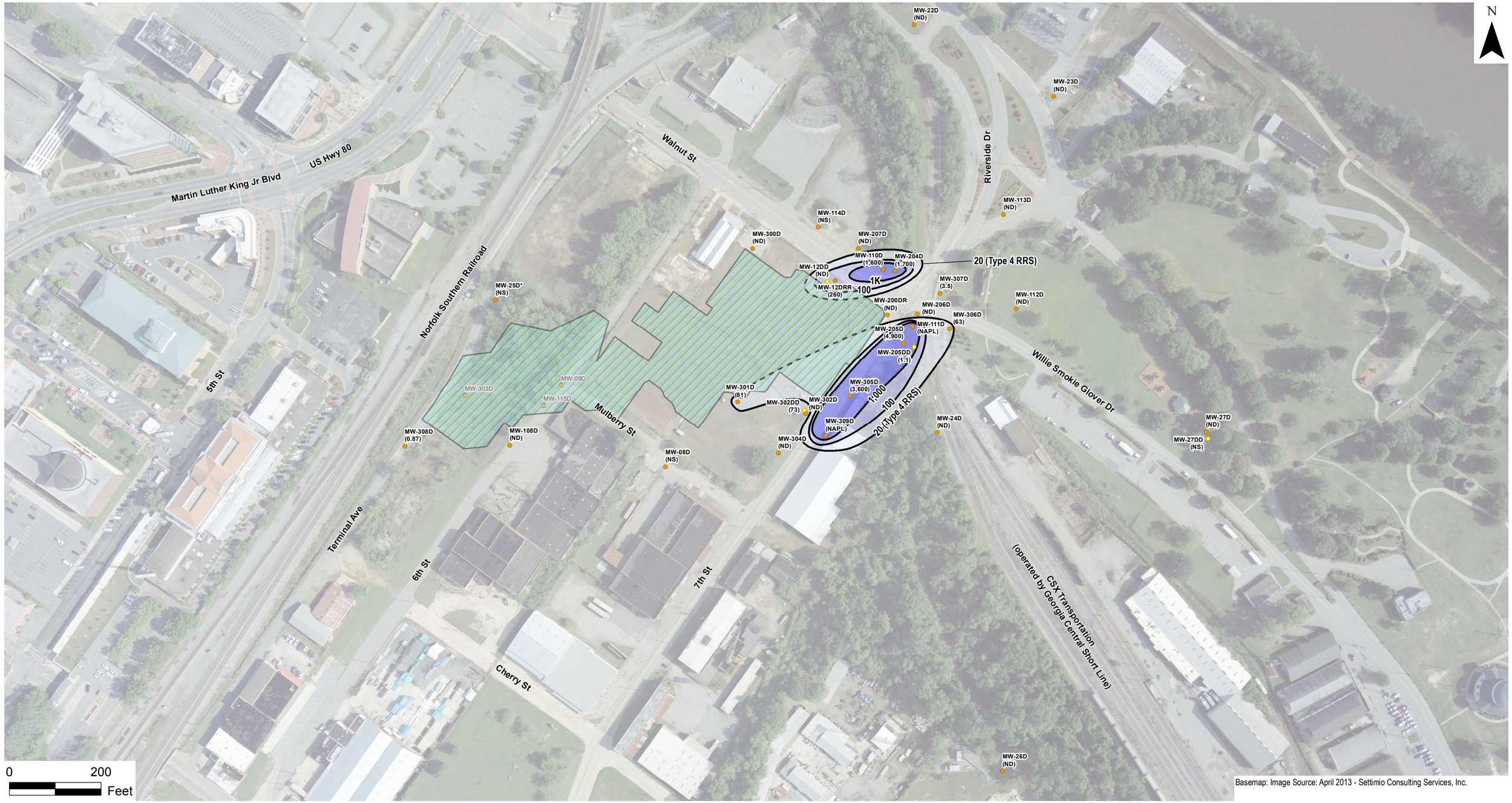
Notes:
Deep bedrock wells not used in contouring.
MW-309D & MW-111D were not sampled due to the presence of DNAPL.
* MW-25D was within the shallow excavation

FIGURE B3-6 - BENZENE IN BEDROCK GROUNDWATER APRIL 2016

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	5/19/2016	SCALE:	AS SHOWN	REVISION:	0
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- Shallow Bedrock Well
- Abandoned Shallow Bedrock Well
- Deep Bedrock Well
- ISS Mass

Naphthalene Concentration Contours

- >20 µg/L (Type 4 RRS), <100 µg/L
- >100 µg/L, <1,000 µg/L
- >1,000 µg/L

(ND) Non Detect
(NS) Not Sampled
(NA) Not Analyzed

Notes:
Deep bedrock wells not used in contouring.
MW-309D & MW-111D were not sampled due to the presence of DNAPL.
* MW-25D was within the shallow excavation footprint & was covered by debris.

FIGURE B3-7 - NAPHTHALENE IN BEDROCK GROUNDWATER APRIL 2016

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia

Correspondence

Appendix B-1

May 21, 2016
Project No. 0176740
Atlanta Gas Light Company

Environmental Resources Management Southeast, Inc.
3200 Windy Hill Rd. Suite 1500W
Atlanta, GA 30339
(678) 486-2700

AGL Resources™

Ten Peachtree Place
Atlanta, GA 30309

404 584 4000 phone
www.aglresources.com

August 13, 2013

Mr. David Brownlee
Georgia Environmental Protection Division (EPD)
Response and Remediation Program
2 Martin Luther King, Jr. Drive, SE
Suite 1462, East Tower
Atlanta, GA 30334-9000

RE: Proposed Corrective Action Plan (CAP) Schedule Modifications
Former Macon MGP Site, HSI # 10511
Macon, Bibb County, Georgia

Dear Mr. Brownlee,

Atlanta Gas Light Company (AGL) and Georgia Power Company (GPC) appreciate meeting with you and Mr. Kevin Collins on July 8, 2013, regarding the above-referenced site. This letter is intended to summarize the meeting, AGL and EPD agreements, and provide specifics regarding the upcoming deliverables and work activities planned at the site.

In the meeting, GPC and AGL presented data collected at the site needed for the CAP/Basis of Design Work Plan (BDWP). Those data were to be used for the CAP submittal targeted for submission to EPD by August 16, 2013. However, due to additional data needs, identification and ongoing negotiations with property owners who are stakeholders for the CAP remedy selection and implementation, AGL provided the justification in the meeting for additional time needed to prepare the CAP/BDWP.

Additionally, due to the complexities of the groundwater units (specifically the bedrock groundwater), AGL requested and EPD agreed to separate the bedrock groundwater from the soil, source material, and Alluvium groundwater. Thus, two separate CAPs will be submitted for this site: (1) Soil, Source Material, and Alluvium Groundwater CAP; and (2) Bedrock Groundwater CAP.

Based on the discussions described above in this letter , AGL requested and EPD agreed to an extension for submittal of the Soil, Source Material, and Alluvium Groundwater CAP (hereinafter the "Alluvium Groundwater CAP") and the Bedrock Groundwater CAP which are now due February 18, 2014 and October 14, 2014, respectively. Further details on schedule and deliverables are provided within this letter and attachments.

Third Party Access

As we discussed in the meeting, access to third party owned property has been an ongoing effort. To resolve access to the largest piece of property to be addressed in the Alluvium Groundwater CAP, AGL purchased the former General Steel property located along Terminal Avenue. The contact negotiations for this parcel took quite a while for a 2.83 acre vacant piece of property, but as of July 31, 2013, AGL is now the owner. Also, several parcels along Terminal Avenue and Mulberry Street were sold to a new owner in July 2013. Thus, we had been dealing for many years with one owner only to be handed off to start anew with another owner. This new owner has been cooperative; however, he needed time and discussion to familiarize himself with the situation. AGL is engaged with the other stakeholders (City of Macon, Norfolk Southern Railroad, and Macon Urban Development Authority) regarding access in order to complete the data gaps that exist based on the investigation completed in the last six months. The estimated extent of proposed remedial actions and the relationship to adjacent landowners is set forth on Figure 1. Once the additional investigations needed to prepare the corrective action plans are completed, AGL will meet with each of these landowners to discuss and obtain approval of the applicable corrective action for their property.

Site Activities - Completed and Planned

During the months of December 2012 through February 2013, AGL obtained access agreements with the various landowners mentioned above to conduct further soil and groundwater investigation. As we discussed in our meeting, and which will be presented in detail in the CAP, after three rounds of soil sampling which took place from March 2013 through June 2013, and after a total of 93 soil sample locations, additional soil sampling is still needed to complete the delineation of the MGP impacts. Data gaps remain regarding the extent of source material and dissolved phase impacts along the fringe areas of the contaminant plume and the MW-101 area. Figure 2 presents the schedule of the historical efforts that have been completed and proposed activities to be completed. AGL is proceeding with collecting the additionally needed data (See Figure 3 for sample locations) from these areas in order to capture these impacts within the Corrective Action Plan.

During the last six months, two temporary and three permanent shallow ground water wells were installed to complete delineation in the Alluvium. However, after the most recent groundwater monitoring event, additional temporary wells are planned on the property located on Sixth Street and Mulberry Street along Sixth Street.

Bedrock Groundwater

During the July 2013 meeting, AGL and GPC provided data and information to show the complexity of the bedrock groundwater characterization due to fractured flow hydrogeology. In order to obtain the necessary data to address EPD comments and to have sufficient data to evaluate and develop a bedrock groundwater strategy, a phased approach to bedrock groundwater data collection has been developed. AGL's responses to EPD's comments dated January 17, 2012 (EPD Comments to the FFS and Groundwater Monitoring Reports) and April 4, 2013 (EPD Comments to 2012 Groundwater Monitoring Reports), have been presented in Table 1.

During the Bedrock Groundwater *Phase 1*, three (3) bedrock wells were installed to facilitate bedrock characterization, and one (1) bedrock well, MW-23D, was located and therefore not replaced (See Figure 4). Additionally, groundwater levels in eleven (11) wells were monitored continuously for a period of 41 days at the site. This effort assists with understanding water level responses to rainfall. The 11 wells monitored included four (4) shallow and seven (7) bedrock wells to determine the interaction between these two units. These data were used to define well location selection for Phase 2 wells.

For the Bedrock Groundwater *Phase 2*, six (6) additional bedrock monitoring wells will be installed to address both the technical needs of the project and outstanding EPD comments. Locations of these proposed bedrock wells are shown in Figure 4, with rationale associated with each provided in Table 2. The proposed schedule of these activities is presented in Figure 5.

Based on our current understanding, AGL is considering the installation of bedrock pilot test wells in conjunction with the Phase 2 bedrock wells. The bedrock pilot test is intended to evaluate an applicable technology. Details will be provided to EPD under separate cover, along with a UIC permit application. AGL also plans to further evaluate the value and need for a pilot test at this time, and will communicate with EPD if there is any change to the proposed activities. A schedule of the proposed pilot test activities is presented in Figure 5. Additional long term data logging information also will be collected during this phase of the project. Once the pilot test has been completed and the Phase 2 bedrock wells have been installed and sampled, AGL will develop a long term bedrock groundwater strategy that will be presented in the CAP.

OM&M Program

Finally, as recommended by EPD in the July 2013 meeting, AGL has reviewed the current OM&M program which was designed to monitor the previous Remedial Action MNA. Due to the ongoing bedrock evaluations and the additional remedial actions planned in the Western portion of the MGP site, AGL proposes to revise the current OM&M program to better meet the existing and future data needs. An overview of proposed changes to the groundwater monitoring program is set forth on Table 3. Briefly, the semi-annual event scheduled for August will continue as planned and will include ten (10) new alluvium wells proposed for semi-annual sampling in the future. Following

completion of the semi-annual sampling event, a semi-annual groundwater monitoring report will be submitted in October 2013 as currently scheduled.

AGL proposes that additional sampling of alluvial wells be postponed until after the ISS/excavation remedy has been completed at the site. Samples will be collected semi-annually as shown on Table 3 and the results will be submitted in annual Corrective Action Effectiveness Reports. AGL will continue its bedrock groundwater sampling program as needed to support pilot test effectiveness evaluation and bedrock CAP data needs. In order to optimize reporting efforts, bedrock groundwater results will be submitted in the bedrock CAP.

If you have any questions, please call me at (404) 584-3719. Thank you for your assistance.

Sincerely,

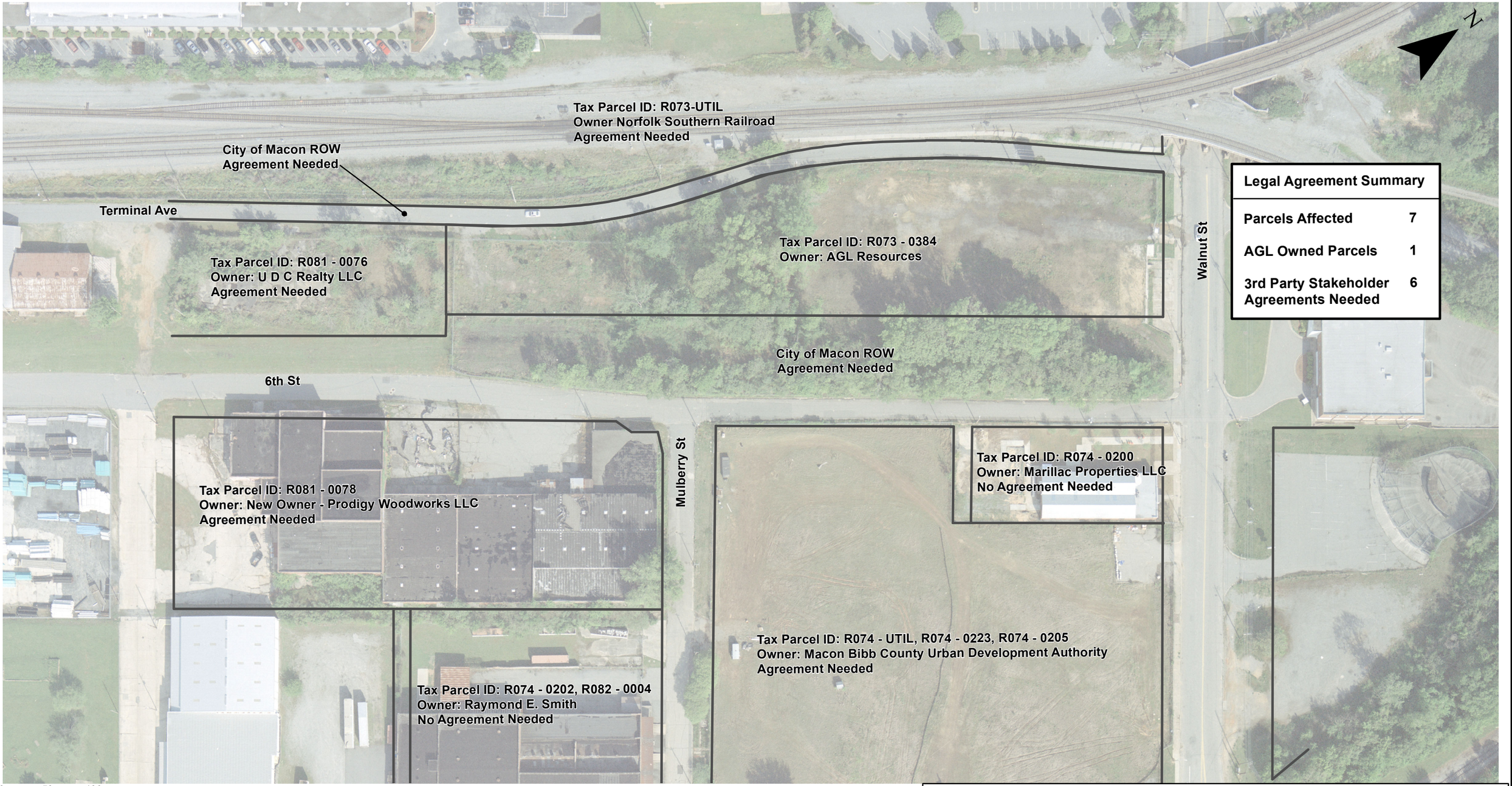
Greg Corbett, P.E.
Director, Environmental Services

cc: Mr. Kevin Collins, GA EPD
Mr. Herb Ernst, ECM
Ms. Carol Geiger, KMCL
Ms. Hollister Hill, TS
Mr. Erik Rolle, Georgia Power
Mr. Hunter Sartain, ERM

Attachments:

Figures
Figure 1 – Western Portion MGP Site Stakeholders, Macon, GA
Figure 2 – Soil, Source Material, and Alluvium Groundwater CAP Activities Schedule
Figure 3 – Source Material Remedial Action Diagram and Planned Data Gap Investigation
Figure 4 – Bedrock Groundwater Investigation Phases
Figure 5 – Bedrock Groundwater CAP Activities Schedule

Tables
Table 1 – EPD Comments and Responses
Table 2 – Groundwater Monitor Well Installation Rationale
Table 3 – Optimization of Groundwater Monitoring Well Network



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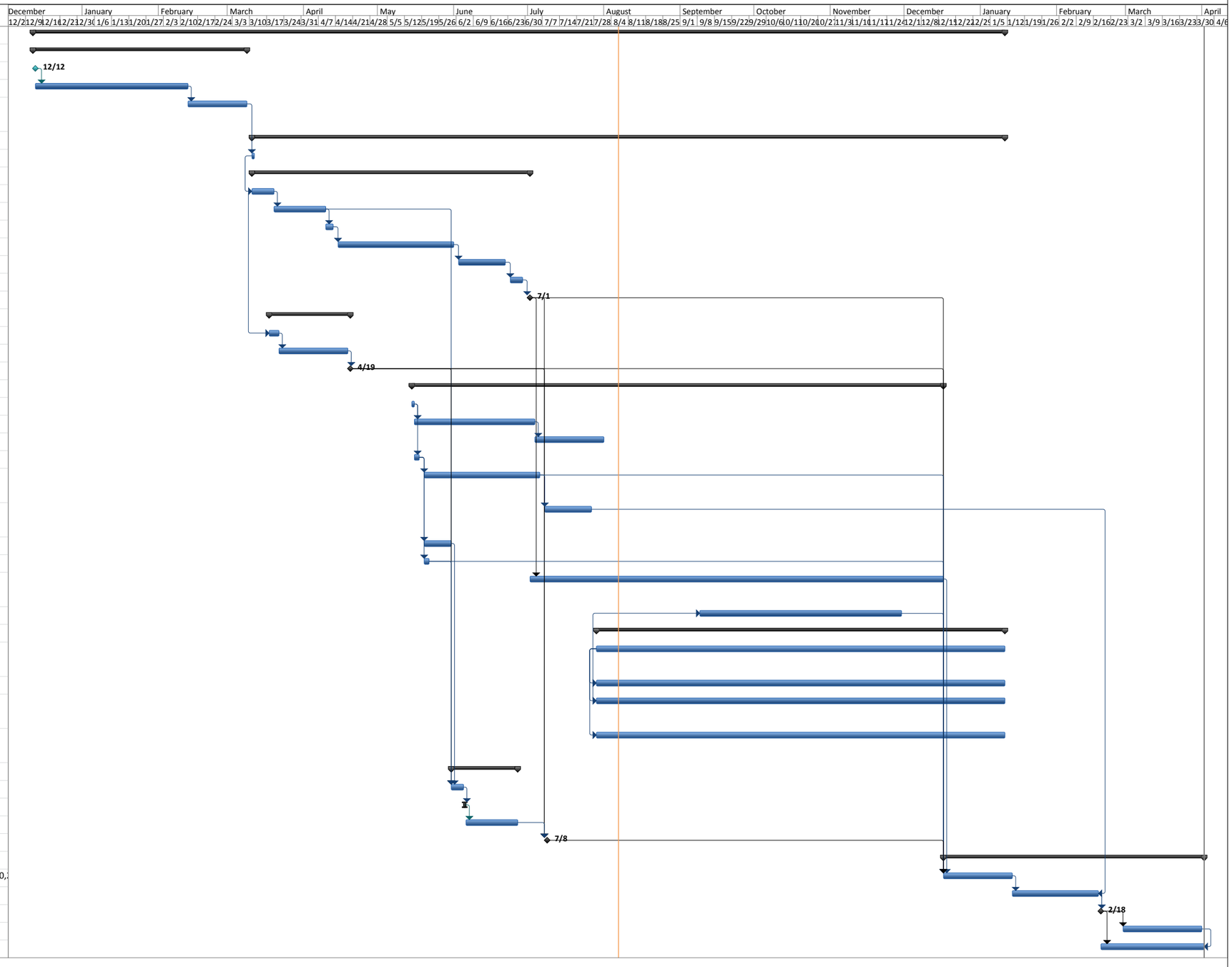
FIGURE 1
WESTERN PORTION MGP SITE STAKEHOLDERS
Atlanta Gas Light Company
Former Manufactured Gas Plant
Macon, Bibb County, Georgia

Property Line

ERM

Figure 2
Soil, Source Material, and Alluvium Groundwater CAP Schedule
AGL Macon MGP Site
Macon, GA

ID	Task Name	Duration	Start	Finish	Predecessors
1	**Soil Activities**	**283 days**	**Wed 12/12/...**	**Fri 1/10/14**	
2	**General Activities**	**63 days**	**Wed 12/12/...**	**Fri 3/8/13**	
3	EPD Update Meeting	1 day	Wed 12/12/12	Wed 12/12/12	
4	Obtain Site Access Agreements	44 days	Thu 12/13/12	Tue 2/12/13	3
5	Coordinate and Subcontract Investigation Subcontractors	18 days	Wed 2/13/13	Fri 3/8/13	4
6	**Soil Investigations**	**220 days**	**Mon 3/11/13**	**Fri 1/10/14**	
7	Mobilization	1 day	Mon 3/11/13	Mon 3/11/13	5
8	**Delineation**	**81 days**	**Mon 3/11/13**	**Mon 7/1/13**	
9	Install Initial Delineation Borings	7 days	Mon 3/11/13	Tue 3/19/13	7SS
10	Analytical Data-Initial Borings	15 days	Wed 3/20/13	Tue 4/9/13	9
11	Install Second Round Delineation Borings	3 days	Wed 4/10/13	Fri 4/12/13	10
12	Analytical Data-Second Round Borings	35 days	Mon 4/15/13	Fri 5/31/13	11
13	Install Third Round Delineation Borings	15 days	Mon 6/3/13	Fri 6/21/13	12
14	Obtain Final Analytical Data	5 days	Mon 6/24/13	Fri 6/28/13	13
15	Delineation Complete	1 day	Mon 7/1/13	Mon 7/1/13	14
16	**Soil Reuse-BDWP**	**25 days**	**Mon 3/18/13**	**Fri 4/19/13**	
17	Install 36 Soil Reuse RRS Borings	4 days	Mon 3/18/13	Thu 3/21/13	9SS+5 days
18	Analytical Data from Soil Reuse Borings	20 days	Fri 3/22/13	Thu 4/18/13	17
19	Soil RRS Definition Complete	1 day	Fri 4/19/13	Fri 4/19/13	18
20	**Other Design Related Information**	**154 days**	**Wed 5/15/13**	**Mon 12/16/13**	
21	Geotechnical Data Sample Collection	1 day	Wed 5/15/13	Wed 5/15/13	
22	Geotechnical Lab Data	35 days	Thu 5/16/13	Wed 7/3/13	21
23	Final Geotech Lab Report	20 days	Thu 7/4/13	Wed 7/31/13	22
24	Confirmation Treatability Sample Collection	2 days	Thu 5/16/13	Fri 5/17/13	21
25	Confirmation Treatability Testing - UCS and Perm	35 days	Mon 5/20/13	Fri 7/5/13	24
26	Confirmation Treatability Testing - Wet/Dry Durability	15 days	Mon 7/8/13	Fri 7/26/13	25
27	Additional Visual Inspection Borings	9 days	Mon 5/20/13	Thu 5/30/13	24
28	ISCO Confirmation Borings	2 days	Mon 5/20/13	Tue 5/21/13	24
29	Additional Source Material and Dissolved Phase Investigation	120 days	Tue 7/2/13	Mon 12/16/13	15
30	Geotech Design - Lateral Earth Support	60 days	Mon 9/9/13	Fri 11/29/13	34SS+30 days
31	**Stakeholders**	**120 days**	**Mon 7/29/13**	**Fri 1/10/14**	
32	City of Macon Discussion/Negotiations/Agreements	120 days	Mon 7/29/13	Fri 1/10/14	
33	MUDA Discussions/Negotiations/Agreements	120 days	Mon 7/29/13	Fri 1/10/14	32SS
34	Norfolk Southern Discussion/Negotiations/Agreements	120 days	Mon 7/29/13	Fri 1/10/14	32SS
35	UDC Property/Discussion/Negotiations/Agreements	120 days	Mon 7/29/13	Fri 1/10/14	32SS
36	**Remedial Action**	**19 days**	**Fri 5/31/13**	**Wed 6/26/13**	
37	Refine CSM	3 days	Fri 5/31/13	Tue 6/4/13	10,19,27,28
38	Internal Review Meeting	1 day	Wed 6/5/13	Wed 6/5/13	37
39	Update Remedial Action Costing	15 days	Thu 6/6/13	Wed 6/26/13	38
40	**EPD Update Meeting**	1 day	Mon 7/8/13	Mon 7/8/13	15,19,39
41	**CAP Delivery**	**76 days**	**Tue 12/17/13**	**Tue 4/1/14**	
42	Draft for Client Review	20 days	Tue 12/17/13	Mon 1/13/14	28,25,19,15,40,
43	Prepare Final Document	25 days	Tue 1/14/14	Mon 2/17/14	42,26FF
44	EPD CAP Submittal	1 day	Tue 2/18/14	Tue 2/18/14	43
45	Notice in Legal Organ-Public Comment	22 days	Fri 2/28/14	Mon 3/31/14	44FS+7 days
46	EPD CAP Review and Response	30 days	Wed 2/19/14	Tue 4/1/14	44,45FF



Project: Graphic 6 - Groundwater
Date: Wed 8/7/13

Task — Milestone — Project Summary — External Milestone — Inactive Milestone — Manual Task — Manual Summary Rollup — Start-only — Deadline
Split — Summary — External Tasks — Inactive Task — Inactive Summary — Duration-only — Manual Summary — Finish-only — Progress

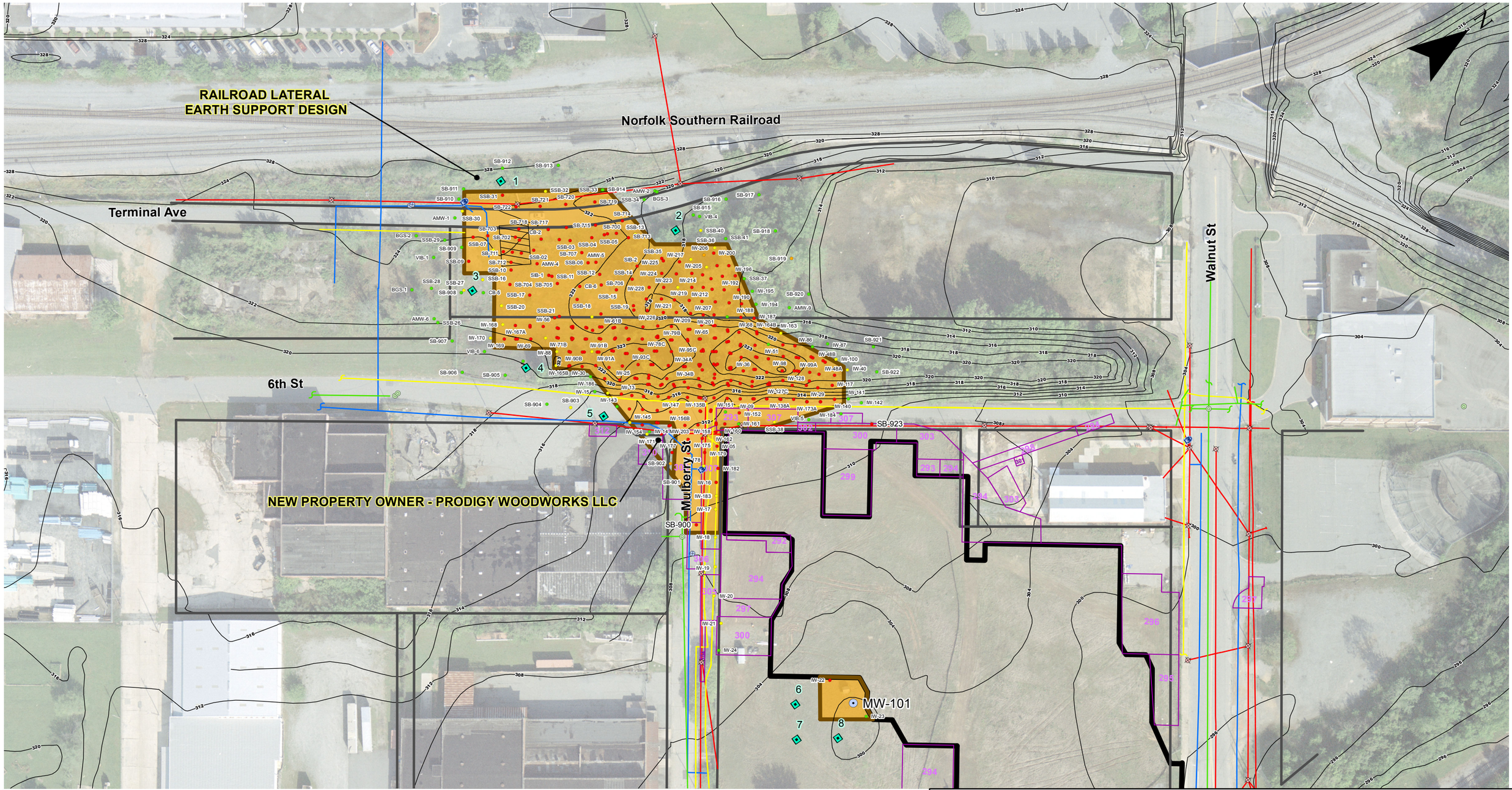


Image Source: April 2013 - Settimio Consulting Services, Inc.

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FIGURE 3
SOURCE MATERIAL REMEDIAL ACTION DIAGRAM AND PLANNED DATA GAP INVESTIGATION
Atlanta Gas Light Company
Former Manufactured Gas Plant

- Additional Investigation - Data Gap
- MW-101 (Shallow Well)
- Soil Boring (Residual Impacts)
- Soil Boring (Weathered Residual Impacts)
- Soil Boring (Staining)
- Soil Boring (No Visual Impacts)
- Water Valve
- Man Hole
- Fire Hydrant
- Power Pole
- Excavation Areas - 2002
- 312 Base Elevation of Excavation Area (Ft. MSL)
- Existing Sanitary Sewer
- Existing Gas Line
- Existing Water Line
- Existing Power Line
- Property Line
- Elevation Contour
- Remediation Limits
- Existing ISS Area
- ISS in Place
- Former Underground Structure

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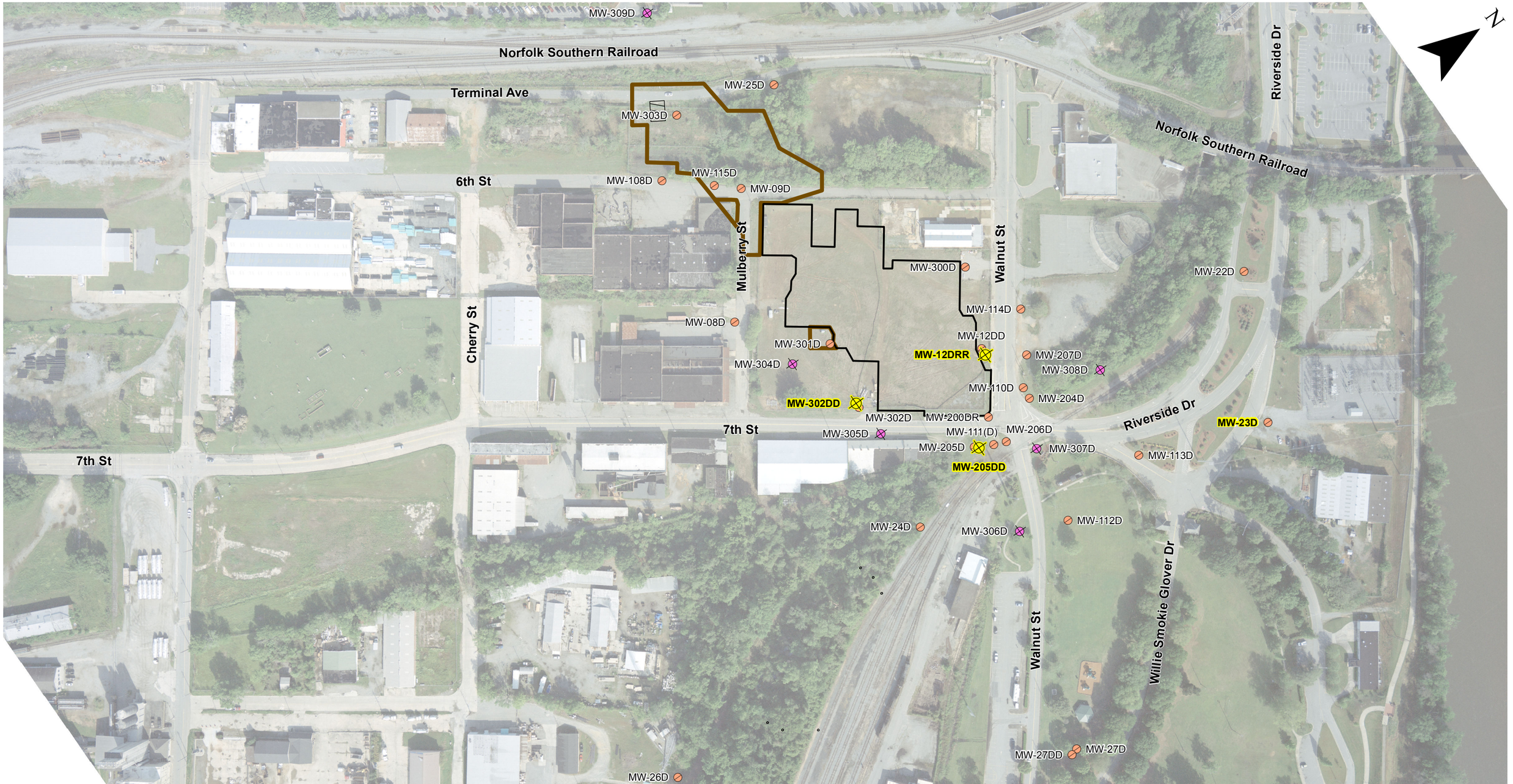


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FIGURE 4
BEDROCK GROUNDWATER INVESTIGATION PHASES
Atlanta Gas Light Company
Former Manufactured Gas Plant
Macon, Bibb County, Georgia

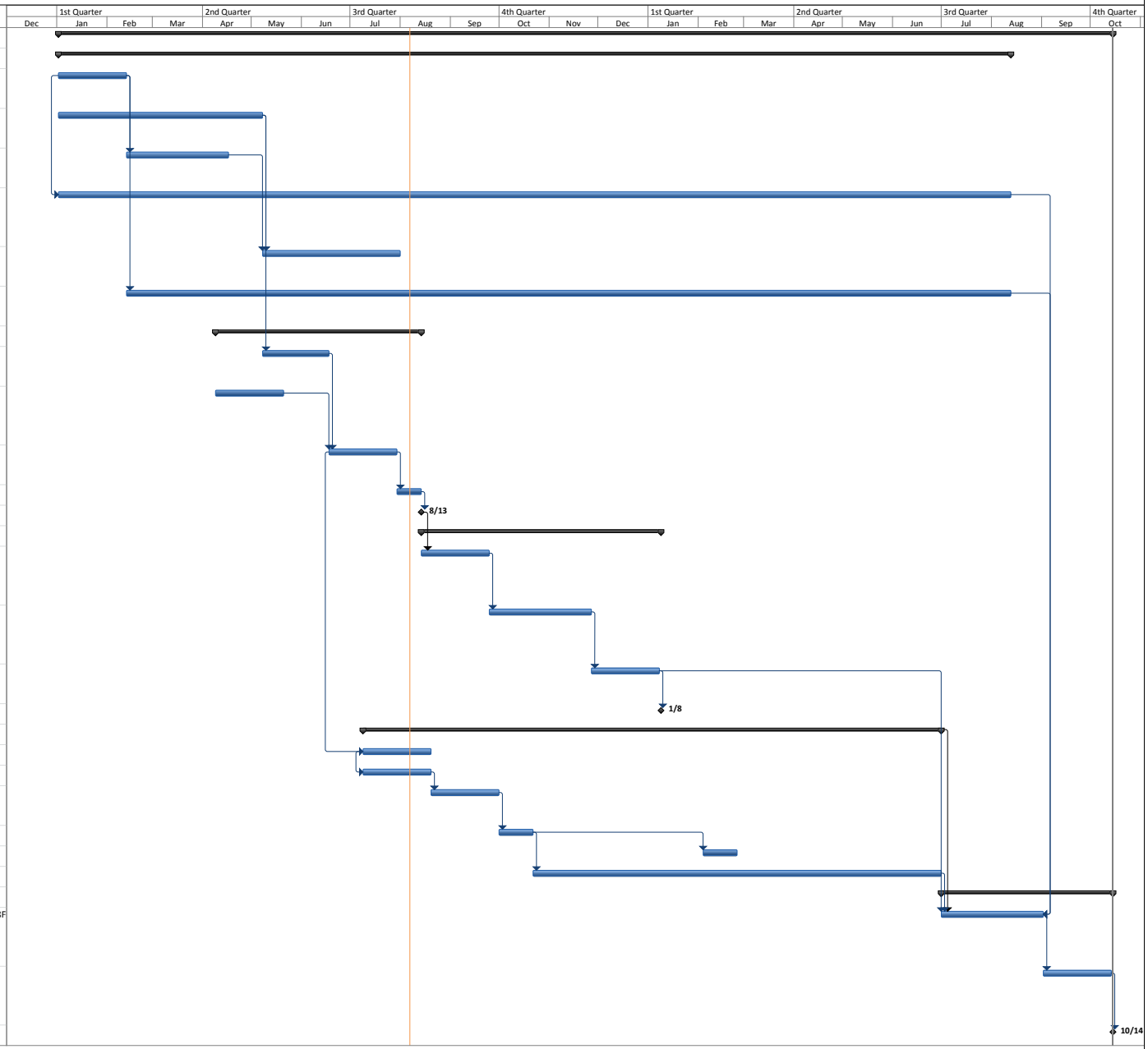
- Initial Phase - Installed Bedrock Well
- Secondary Phase - Proposed Bedrock Well
- Existing Bedrock Wells
- Existing ISS Area
- Remediation Limits
- Former Underground Structure

Notes: Wells within footprint of remediation limits will be abandoned
Post remediation wells TBD
MW-12DR was abandoned and replaced by MW-12DRR

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Figure 5
Bedrock Groundwater CAP Activities Schedule
AGL Macon MGP Site
Macon, GA

ID	Task Name	Duration	Start	Finish	Predecessors
1	**Groundwater Actvities**	**465 days**	**Wed 1/2/13**	**Tue 10/14/14**	
2	**General Activities**	**420 days**	**Wed 1/2/13**	**Tue 8/12/14**	
3	Obtain Site Access Agreements	30 days	Wed 1/2/13	Tue 2/12/13	
4	Validate Sampling Plan against 2004 CSR	90 days	Wed 1/2/13	Tue 5/7/13	
5	Evaluate Groundwater Remedies- FS Screening	45 days	Wed 2/13/13	Tue 4/16/13	3
6	Continue OM&M Program and Incorporate Data into GW Remedy	420 days	Wed 1/2/13	Tue 8/12/14	3SS
7	Expand Dewatering Program-Design Data	61 days	Wed 5/8/13	Wed 7/31/13	4,5
8	Conduct VEFR Events, as needed	390 days	Wed 2/13/13	Tue 8/12/14	3
9	**Phase 1 Groundwater**	**91 days**	**Tue 4/9/13**	**Tue 8/13/13**	
10	Phase 1 GW Well Installation and Sampling	29 days	Wed 5/8/13	Mon 6/17/13	4
11	Install Data Loggers and Collect Phase 1 Data Logger Information	30 days	Tue 4/9/13	Mon 5/20/13	
12	Evaluate DL and Analytical Data from Phase 1	30 days	Tue 6/18/13	Mon 7/29/13	11,10
13	Recommend Phase 2 Wells	11 days	Tue 7/30/13	Tue 8/13/13	12
14	Phase 1 GW Complete	0 days	Tue 8/13/13	Tue 8/13/13	13
15	**Phase 2 Groundwater**	**106 days**	**Wed 8/14/13**	**Wed 1/8/14**	
16	Phase 2 GW Well Installation and Sampling	30 days	Wed 8/14/13	Tue 9/24/13	14
17	Install Data Loggers and Collect Phase 2 Data Logger Information	45 days	Wed 9/25/13	Tue 11/26/13	16
18	Evaluate DL and Analytical Data from Phase 2	30 days	Wed 11/27/13	Tue 1/7/14	17
19	Phase 2 GW Complete	1 day	Wed 1/8/14	Wed 1/8/14	18
20	**Pilot Test**	**255 days**	**Tue 7/9/13**	**Mon 6/30/14**	
21	Prepare Pilot Work Plan	30 days	Tue 7/9/13	Mon 8/19/13	12SS+15 days
22	Prepare UIC Permit	30 days	Tue 7/9/13	Mon 8/19/13	21SS
23	Install Pilot Injection Wells	30 days	Tue 8/20/13	Mon 9/30/13	22
24	Conduct Pilot Injections-1	15 days	Tue 10/1/13	Mon 10/21/13	23
25	Conduct Pilot Injections-2	15 days	Tue 2/4/14	Mon 2/24/14	24FS+75 days
26	Monitor Pilot Test Wells	180 days	Tue 10/22/13	Mon 6/30/14	24
27	**Reporting Activities**	**76 days**	**Tue 7/1/14**	**Tue 10/14/14**	
28	Prepare CAP-A for Groundwater Submittal to EPD	45 days	Tue 7/1/14	Mon 9/1/14	18,20,26,6FF,8F
29	Submit and Obtain Property Owner Acceptance	30 days	Tue 9/2/14	Mon 10/13/14	28
30	Submit CAP-A to EPD	1 day	Tue 10/14/14	Tue 10/14/14	29



Project: Graphic 6 - Groundwater
Date: Wed 8/7/13

Task | Split | Milestone | Summary | Project Summary | External Tasks | External Milestone | Inactive Task | Inactive Milestone | Inactive Summary | Manual Task | Duration-only | Manual Summary Rollup | Manual Summary | Start-only | Finish-only | Deadline | Progress

Table 1
Summary of EPD Comments and Responses
AGL Resources Former MGP Site
Macon, Georgia

April 4, 2013 EPD Correspondence	
Comment	***Response***
1. The Type 1-4 risk reduction standards provided within the October 31, 2012 cover letter are acceptable for use at the above-referenced site	Agreed. The approved RRS will be incorporated for future use.
2. Please include the results for the following wells in Appendix D, Historical Data Summary: MW-8D, MW-21, MW-206, and MW-207	Agreed. These data were provided in the most recent Semi-Annual GW Report, dated April 30, 2013.
3. Please provide an explanation for the elevated pH levels currently or formerly identified at monitoring well locations MW-112D, MW-115D, MW-12DD, and MW-12DR.	AGL is continuing to evaluate the potential cause of the elevated pH in these wells. AGL contends at this time that the sporadic elevated pH in 4 wells, compared to the number of wells present onsite does not or should not be a technical roadblock to the submission of the CAPs planned for the site.
4. According to the Quality Control/Assurance Section of the groundwater monitoring reports, multiple disparities have been noted among the analytical results for the duplicate samples. Please provide an explanation for the continued identification of these sampling and analysis disparities, and/or provide documentation of any assessment and modification measures that have been or are to be completed to resolve identified problems with the sampling and analysis procedures.	Sampling has been performed using low-flow/low-volume purging techniques based on guidelines from the Field Branches Quality System and Technical Procedures, US-EPA, Region 4, SESD (USEPA, 2013). A new analytical laboratory has been retained and any on-going discrepancies will be evaluated and explained in future reports.
January 17, 2010 EPD Correspondence	
Comment	***Response***
1) EPD concurs with the planned groundwater and soil delineation activities to be conducted during the implementation of the corrective action for the Western Portion area onto the Norfolk-Southern property. However, as noted in AGLC's 2011 FFS cover letter, more specific details associated with the delineation sample locations must be included in the CAP Addendum. Please ensure to include groundwater horizontal delineation activities to the west/southwest of AMW-1, and vertical delineation activities in the areas of MW-303D, MW-302D, and MW-205D as part of the planned investigation and corrective action activities. In addition, please ensure that the confirmation samples for soil delineation are analyzed with detection limits set at or below the established risk reduction standards (RRS). Should access to the Western Portion investigation area not be granted prior to the planned date of implementing the investigation and corrective action activities, please provide EPD with documentation of all efforts made to gain access in accordance with the Consent Orde EPD- HSR-227.	AGL has completed delineation activities for alluvium groundwater, as presented in Figure 7 of this correspondence (data to be provided in CAP). The request to install wells to complete vertical delineation at MW-205D and MW-302D was conducted, as shown in Figure 8 of this correspondence. Soil has been delineated with current COI list, using adequate detection limits to confirm compliance with RRS. numerous ongoing stakeholder negotiations are being conducted and documented by Kazmarek Mowrey Cloud Laseter LLP (KMCL).
2) Please include additional figures, or revise the existing figures, to illustrate the lateral and vertical extent of compliance with the applicable RRS concentratio for each constituents of interest (COI), including specific soil and groundwater concentrations at all monitoring points. In addition, this figure(s) should clearly illustrate the distinction between the established Type 5 RRS areas and the Type 1-4 RRS areas for the established site and the surrounding parcels, including any right-of-ways and streets.	Agreed. The CAP will provide figures requested, as needed.
3) According to Section 7.2 of the April 2011 FFS, the corrective action for groundwater for the Western Portion and remaining MW-101 area for the Eastern Portion will consist of the removal or ISS of the source materials in soil and continued assessment through groundwater monitoring. EPD recommends that AGLC temporarily expand the dewatering, treatment and disposal activities associated with the excavation activities in an effort to further reduce the concentrations of Coifs in the alluvial and bedrock groundwater. Please include the design details associated with this additional component of the groundwater corrective action in the CAP Addendum.	AGL is evaluating the cost/benefit of conducting the dewatering efforts during the remedial action and will incorporate the approach if sufficient benefits warrant the use of expanded dewatering.
4) According to the April 2011 FFS, the COIs for soil were based on the April 2006 [Groundwater] Corrective Action Plan Addendum. Considering that the area designated as the "Western Portion" investigation area was related to a separate, older manufactured gas plant, please revise this COI list for both soil and groundwater to include, at a minimum, the constituents listed in Table 2-1 of the January 2004 Compliance Status Report (CSR). A revised COI list may be established once the delineation to background and certification to the applicable risk reduction standards (RRS), listed in Tables 9-2 through 9-4 of the January 2004 CSR, has been completed and documented by the submittal of an updated CSR.	Agreed. All new investigation data has utilized the Table 2-1 January 2004 CSR COIs.
5) According to the existing groundwater CAP for the area downgradient of the ISS mass, now termed the "Eastern Portion", AGLC was to implement a 2-year post ISS monitoring period for the bedrock groundwater contamination area, which began in April of 2010. Based on the results of the above referenced groundwater monitoring reports, concentrations of COIs in the bedrock groundwater still remain well above the established RRS and there is now confirmed source materials (DNAPL) in two wells in this area. Therefore, EPD requests that AGLC utilize the data gathered from this post ISS groundwater monitoring to develop the remedy for the bedrock groundwater impacts in the area downgradient of the ISS mass and include the necessary groundwater CAP modifications in the scheduled CAP Addendum submittal.	AGL presents its technical approach for Bedrock Groundwater, based on recent information, in this correspondence.

6) According to the April 2011 Report, Enhanced Fluid Recovery (EFR) was completed at monitoring well location MW-111(D) as an interim corrective measure to address the presence of dense non-aqueous-phase liquid (DNAPL) identified at this monitoring location. While a subsequent gauging of this monitoring location soon after the EFR event did not detect DNAPL, the more recent results from the October 2011 Report have indicated that DNAPL has once again been detected at this monitoring location and MW-302D as well. As noted in Comment #5 above, additional corrective measures will be needed to address the remnant source material and associated dissolved phase bedrock groundwater plume in this area. The CAP Addendum should include a proposed schedule of activities to characterize and delineate the extent of the DNAPL plume and associated groundwater impacts.	AGL continues to monitor the DNAPL in MW-111(D) routinely and deploys EFR once the product thickness reaches 0.5 feet. Phase 2 Bedrock wells (see Bedrock Groundwater Schedule and Figure 8 Bedrock Well locations) are planned to complete DNAPL delineation and associated Groundwater impacts.
7) Previous comments requested confirmation of the presence of the DNAPL detected in monitoring well MW-23D as indicated by the October 2009 Pre-ISS Baseline Report. However, according to the above referenced Semiannual Groundwater Monitoring Reports, monitoring well MW-23D could not be located during the 2010 and 2011 monitoring events and the presence of DNAPL at this monitoring location could not be confirmed. Should monitorin well MW-23D not be located and sampled during the next scheduled monitoring event(s), additional groundwater assessment activities may be required.	MW-23D has been located, inpsected, integrity evaluated, redeveloped, and sampled. DNAPL is not present and dissolved phase COIs are below background. The historical "indication" that DNAPL was present in this well is in error. AGL intends to continue to collect data and monitor this well semi-annually (See Table 3).
8) Please ensure that the following technical and clerical issues are addressed during future report submittals: a. Please include the results for the following wells in Appendix D, Historical Data Summary: MW-8D, MW-21, MW-206, MW-206D, and MW-207. b. Please provide an explanation for the elevated pH levels consistently identified at monitoring locations MW-112D, MW-115D, MW-12DD, and MW-12DR. c. Please ensure that monitoring well MW-206D is added to the quarterly monitoring schedule in Table 2-1. d. Please revise the naphthalene concentration for soil boring CB-4 to (17,000) for Figure 4 in Appendix A of the April 2011 FFS. In addition, please note that according to the RRS listed in Tables 9-2 through 9-4 of the January 2004 CSR, the Type 4 RRS for total xylenes in soil 0-2' was indicated as 1,600 mg/kg, and the Type 4 RRS for lead in groundwater was indicated as 0.015 mg/L. e. Please include the measured NAPL thickness detected in the monitoring wells either in Table 3-2, or a separate table. f. Please note that according to the sampling logs for almost all of the new shallow assessment monitoring wells (AMW) from the August 2011 groundwater sampling event, the wells were purged dry and appear to have retained a high turbidity prior to sampling. EPD recommends that during the next sampling event, for wells that continue to retain a high turbidity (>10 NTUs) and poor recharge prior to sampling that these monitoring wells be redeveloped prior to the next monitoring event. g. Please note that groundwater monitoring well MW-12DR has not had a sufficient enough recharge to allow for sampling during the past four quarterly monitoring events. Please include recommendations for the future use of this well as it factors into the proposed modifications to the groundwater corrective action for this area. h. According to the Quality Control/Assurance section of both 2011 groundwater monitoring reports, multiple disparities have been noted among the analytical results for the duplicate samples. Should these disparities continue to be noted for future monitoring reports, evaluation and modification of current sampling procedures may be required.	a. Agreed. See comment 2 of April 2013 Correspondence above. b. See comment 3 response of April 2013 correspondence above. c. Agreed. Completed. d. Agreed. These data will be accurately reflected in the CAP. e. Agreed and completed in the Semi-Annual Reports. f. Agreed. Completed. g. Agreed. Well has been abandoned and reinstalled. h. Agreed. See comment 4 of April 2013 Correspondence above.

Table 2
Groundwater Monitor Well Installation Rationale
Atlanta Gas Light Company
Former Manufactured Gas Plant
Macon, GA

Well ID	Hydraulic Unit Monitored	Estimated Target Drilling Depth (feet)	Well Type	Estimated Screened Depth (feet)	Well Purpose/Function					EPD Comment
					Horizontal Delineation to Background	Vertical Delineation to Background	Delineate DNAPL	Post-Remediation Performance Monitoring	Replacement Well	
Initial Phase										
AMW-11[1]	Alluvial Aquifer	18	Type II	8 to 18	X					Addresses EPD Comment 1 in the 01/17/12 letter to include groundwater horizontal delineation activities to the west/southwest of alluvial well AMW-1.
AMW-12	Alluvial Aquifer	18	Type II	8 to 18	X					Addresses groundwater horizontal delineation to background to the west/southwest of alluvial well AMW-6.
AMW-13[1] (Background)	Alluvial Aquifer	18	Type II	8 to 18	X					Addresses groundwater horizontal delineation to background to the northwest of alluvial well AMW-1, AMW-2 and MW-205.
MW-12DRR	Bedrock Water bearing Fractures	49	Type III	42 to 49			X	X	X	Addresses EPD Comment 8g in the 01/17/12 letter to include recommendations for future use of MW-12DR (which had not had groundwater recharge for >1yr.) as it factors into the proposed modifications to the groundwater corrective action for this area.
MW-23DR	Bedrock Water bearing Fractures	36	Type III or Open Corehole	23 to 36					X	MW-23DR will not be installed. ERM has located MW-23D and validated the well integrity.
MW-205DD	Deep Bedrock Water-bearing Fractures	100	Type III or Open Corehole	90 to 100		X				Addresses EPD Comment 1 in the 01/17/12 letter to include groundwater vertical delineation activities in the area of bedrock well MW-205D.
MW-302DD	Deep Bedrock Water-bearing Fractures	100	Type III or Open Corehole	90 to 100		X				Addresses EPD Comment 1 in the 01/17/12 letter to include groundwater vertical delineation activities in the area of bedrock well MW-302D.
Secondary Phase (Tentative Well Locations)										
MW-304D	Bedrock Water bearing Fractures	70	Type III or Open Corehole	50 to 70			X	X		Addresses EPD Comment 6 in the 01/17/12 letter to characterize and delineate the extent of the DNAPL plume. MW-304D will replace MW-301D expected to be destroyed during remediation.
MW-305D	Bedrock Water bearing Fractures	70	Type III or Open Corehole	50 to 70			X			Addresses EPD Comment 6 in the 01/17/12 letter to characterize and delineate the extent of the DNAPL plume.
MW-306D	Bedrock Water bearing Fractures	60	Type III or Open Corehole	40 to 60	X		X			Bedrock delineation well located on the City Park right-of-way southeast of the ISS area, which fills in data gap between MW-24D and MW-112D. Addresses EPD Comment 6 in the 01/17/12 letter to characterize and delineate the extent of the DNAPL plume.
MW-307D	Bedrock Water bearing Fractures	50	Type III or Open Corehole	30 to 50			X			Addresses EPD Comment 6 in the 01/17/12 letter to characterize and delineate the extent of the DNAPL plume.
MW-308D	Bedrock Water bearing Fractures	50	Type III or Open Corehole	30 to 50	X					Bedrock delineation well located on the City right-of-way east of the ISS area and hydraulically downgradient of MW-310D along a secondary-fracture orientation.
MW-309D[2] (Background)	Bedrock Water bearing Fractures	70	Type III or Open Corehole	50 to 70	X					Bedrock delineation well located on the north side of the railroad upgradient of ISS mass to be installed in the Western portion of the Site.
Post Remediation										
MW-310D	Bedrock Water bearing Fractures	70	Type III or Open Corehole	50 to 70				X		Bedrock well to be installed as part of a nested pair downgradient of the ISS mass to be installed in the Western Portion of the Site and upgradient of the ISS mass on the Eastern portion. Will replace MW-09D.
MW-310DD[3]	Deep Bedrock Water-bearing Fractures	100	Type III or Open Corehole	90 to 100		X				Addresses EPD Comment 1 in the 01/17/12 letter to include groundwater vertical delineation activities in the area of bedrock well MW-303D.
MW-07D[4] (Tentative)	Bedrock Water bearing Fractures	70	Type III or Open Corehole	50 to 70	X					Bedrock delineation well located near intersection of 7th St. and Mulberry Ave. as part of a nested pair with MW-07.

Notes:

[1]AMW-11 and AMW-13 (along with MW-25) will serve as hydraulically upgradient alluvial background wells

[2]MW-309D (along with MW-25D) will serve as hydraulically upgradient bedrock background wells

[3]EPD requested vertical delineation in the area of MW-303D; however, the location is within the ISS footprint. MW-310DD will provide vertical delineation in the Western portion of the Site immediately downgradient of the ISS mass.

[4]Installation of MW-07D dependent on sample results from MW-304D. If MW-304D concentration results are below Type 4 RRS, MW-07D will not be installed.

Type II = Single cased monitor well.

Type III = Double cased monitor well.

Table 3
Optimization of Groundwater Monitoring Network
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Monitoring Well I.D.	Hydrogeologic Unit	Screened Interval ft bgs	Existing Program	Proposed Program	Rationale
AMW-1	Alluvium	9.7 - 19.7	Semi-annual Sampling	Semi-annual Sampling	Establishes Background to WSW
AMW-2	Alluvium	4.6 - 14.6	Semi-annual Sampling	Semi-annual Sampling	Establishes Background to North
AMW-3	Alluvium	5.7 - 15.7	Semi-annual Sampling	Abandon	Well is within planned remediation footprint.
AMW-4	Alluvium	11.3 - 21.3	Semi-annual Sampling	Abandon	Well is within planned remediation footprint.
AMW-5	Alluvium	12.7 - 22.7	Semi-annual Sampling	Abandon	Well is within planned remediation footprint.
AMW-6	Alluvium	11 - 21	Semi-annual Sampling	Semi-annual Sampling	Establishes Background to S and SW
AMW-7	Alluvium	8.1 - 18.1	Semi-annual Sampling	Abandon	Well is within planned remediation footprint.
AMW-8	Alluvium	8.2 - 18.2	Semi-annual Sampling	Abandon	Well is within planned remediation footprint.
AMW-9	Alluvium	8.4 - 18.4	Semi-annual Sampling	Semi-annual Sampling	RRS compliance to N and NNE
AMW-10	Alluvium	18.4 - 28.4	Semi-annual Sampling	Abandon	Well is within planned remediation footprint.
AMW-11	Alluvium	5 - 15	New Well	Semi-annual Sampling	Establishes Background to WSW of remediation footprint
AMW-12	Alluvium	10 - 20	New Well	Semi-annual Sampling	Establishes Background to SSW of remediation footprint
AMW-13	Alluvium	10 - 20	New Well	Semi-annual Sampling	Establishes Background to West of remediation footprint
MW-07	Alluvium	5 - 15.5	Gauge Only	Semi-annual Sampling	RRS compliance to south of MW-101
MW-08	Alluvium	9 - 19	Gauge Only	Semi-annual Sampling	RRS compliance to SW of MW-101 and ESE of remediation footprint
MW-09	Alluvium	8 - 13	Semi-annual Sampling	Abandon	Well is within planned remediation footprint.
MW-10	Alluvium	7.5 - 17.5	Gauge Only	Gauge Only	Other wells define background in this direction
MW-11	Alluvium	5 - 12	Annual Sampling	Annual Sampling	Establishes background North of ISS mass and NE of Western Portion
MW-12R	Alluvium	4.5 - 14.5	Annual Sampling	Annual Sampling	Establishes background NW of ADGISSM
MW-14	Alluvium	3 - 15	Annual Sampling	Annual Sampling	Establishes background to East
MW-15	Alluvium	3 - 14.5	Annual Sampling	Annual Sampling	Establishes background to SE of MW-101
MW-21	Alluvium	3 -10	Gauge Only	Abandon	Other wells (MW-14) define background in this direction
MW-23	Alluvium	5 - 20	Annual Sampling	Gauge Only	Other wells (MW-104) define background in this direction
MW-25	Alluvium	10 -25	Annual Sampling	Annual Sampling	Establishes Background to North of remediation footprint
MW-26	Alluvium	5 - 20	Gauge Only	Abandon	Other wells define background in this direction
MW-28	Alluvium	2 - 17	Gauge Only	Abandon	Other wells define background in this direction
MW-101	Alluvium	5 - 15	Semi-annual Sampling	Abandon	Well is within planned remediation footprint.
MW-102	Alluvium	5 - 10	Semi-annual Sampling	Annual Sampling	Establishes background to East of MW-101
MW-103	Alluvium	10 - 20	Annual Sampling	Annual Sampling	Establishes background to NE of remediation footprint
MW-104	Alluvium	5 - 20	Annual Sampling	Gauge Only	No shallow impacts in this area of the site
MW-105	Alluvium	15 - 25	Gauge Only	Gauge Only	No shallow impacts in this area of the site
MW-106	Alluvium	9 - 19	Gauge Only	Gauge Only	Other wells (MW-11) define background in this direction
MW-107	Alluvium	8 - 18	Gauge Only	Gauge Only	Other wells (MW-11) define background in this direction
MW-108	Alluvium	10 - 20	Annual Sampling	Annual Sampling	Monitor COI concentrations south of planned remediation footprint
MW-109	Alluvium	13.5 - 23.5	Annual Sampling	Semi-annual Sampling	Monitor COI concentrations south of planned remediation footprint
MW-201	Alluvium	10 - 20	Semi-annual Sampling	Abandon	Well is within planned remediation footprint.
MW-202	Alluvium	10 - 20	Gauge Only	Abandon	Well is within planned remediation footprint.
MW-203	Alluvium	10 - 20	Semi-annual Sampling	Well Destroyed	Well Destroyed and was located within planned remediation footprint
MW-204	Alluvium	13 - 23	Semi-annual Sampling	Annual Sampling	Establishes background to NNE of remediation footprint
MW-205	Alluvium	14 - 29	Semi-annual Sampling	Semi-annual Sampling	RRS compliance to NW - replace if destroyed during remedy
MW-206	Alluvium	16 - 31	Gauge Only	Gauge Only	Other wells (AMW-9 and MW-204) define background in this direction
MW-207	Alluvium	15 - 30	Gauge Only	Abandon	Well is within planned remediation footprint.
MW-12IR	Intermediate	11 - 21	Semi-annual Sampling	Annual Sampling	Establishes Background in Intermediate Zone
MW-14I	Intermediate	19 - 24	Annual Sampling	Annual Sampling	Establishes background to East in intermediate zone
MW-104I	Intermediate	15 - 20	Annual Sampling	Gauge Only	No shallow impacts in this area of the site
MW-08D*	Bedrock	38 - 53	Gauge Only	Annual Sampling	Establishes background SSW of MW-301D.
MW-09D*	Bedrock	46.5 - 56.5	Semi-annual Sampling	Abandon	Well is within planned remediation footprint.
MW-12DRR	Bedrock	42 - 52	New Well	Semi-annual Sampling	Monitor COI concentration trends for pilot test effectiveness
MW-22D*	Bedrock	44 - 66	Gauge Only	Gauge Only	No historical exceedances of background
MW-23D*	Bedrock	23 - 35.8	Recently Located	Semi-annual Sampling	Establishes Background to NNE of ADGISSM
MW-24D*	Bedrock	30.5 - 40.5	Annual Sampling	Annual Sampling	Establishes Background to SSE of ADGISSM and East of MW-302D
MW-25D*	Bedrock	50 - 57.5	Semi-annual Sampling	Gauge Only	No historical exceedances of background
MW-26D*	Bedrock	31 - 42	Gauge Only	Gauge Only	Other wells define background in this direction
MW-27D*	Bedrock	43.5 - 48.5	Gauge Only	Gauge Only	Other wells define background in this direction
MW-108D*	Bedrock	48.5 - 58.5	Annual Sampling	Annual Sampling	Establishes Background in Bedrock south of remediation footprint and ESE of MW-303D
MW-110D*	Bedrock	28 - 33	Semi-annual Sampling	Semi-annual Sampling	Monitor COI concentration trends for pilot test effectiveness
MW-111D*	Bedrock	32.8 - 46.5	Semi-annual Sampling	Semi-annual Sampling	Monitor DNAPL and COI concentration trends for pilot test effectiveness
MW-112D*	Bedrock	25.7 - 35.2	Semi-annual Sampling	Annual Sampling	Establishes background to east of ADGISSM
MW-113D*	Bedrock	29.5 - 39.5	Semi-annual Sampling	Annual Sampling	Establishes Background to ENE of ADGISSM
MW-114D*	Bedrock	45 - 55.3	Gauge Only	Gauge Only	Other wells define background in this direction
MW-115D*	Bedrock	45.5 - 55.5	Semi-annual Sampling	Abandon	Well is within planned remediation footprint.
MW-200DR*	Bedrock	27.5 - 41.5	Semi-annual Sampling	Semi-annual Sampling	Monitor COI concentration trends for pilot test effectiveness
MW-204D*	Bedrock	30.5 - 47.5	Gauge Only	Gauge Only	Other wells will evaluate pilot test effectiveness in this area
MW-205D*	Bedrock	28 - 43	Semi-annual Sampling	Semi-annual Sampling	Monitor COI concentration trends for pilot test effectiveness
MW-206D*	Bedrock	30.95 - 45.95	Semi-annual Sampling	Semi-annual Sampling	RRS compliance to east of ADGISSM
MW-207D*	Bedrock	31.6 - 46.6	Semi-annual Sampling	Annual Sampling	RRS compliance to NW of MW-110D
MW-300D	Bedrock	33 - 42.5	New Well	Annual Sampling	Establishes background to NW of main bedrock plume
MW-301D	Bedrock	36-46	New Well	Semi-annual Sampling	Monitor COI concentrations in Bedrock near MW-101
MW-302D	Bedrock	35-45	New Well	Semi-annual Sampling	Monitor COI concentrations in Bedrock east of MW-101
MW-303D	Bedrock	54-64	New Well	Semi-annual Sampling	Monitor COI concentrations in Bedrock until well is destroyed during remedy
MW-304D	Bedrock	TBD	Proposed Well	Semi-annual Sampling	Future inclusion tbd based upon laboratory analytical results
MW-305D	Bedrock	TBD	Proposed Well	Semi-annual Sampling	Future inclusion tbd based upon laboratory analytical results
MW-306D	Bedrock	TBD	Proposed Well	Semi-annual Sampling	Future inclusion tbd based upon laboratory analytical results
MW-307D	Bedrock	TBD	Proposed Well	Semi-annual Sampling	Future inclusion tbd based upon laboratory analytical results
MW-308D	Bedrock	TBD	Proposed Well	Semi-annual Sampling	Future inclusion tbd based upon laboratory analytical results
MW-309D	Bedrock	TBD	Proposed Well	Semi-annual Sampling	Future inclusion tbd based upon laboratory analytical results
MW-12DD	Deep Bedrock	92.5 - 97.5	Semi-annual Sampling	Semi-annual Sampling	Vertical delineation of deep bedrock/monitor pilot test effectiveness
MW-27DD*	Deep Bedrock	105 - 115	Gauge Only	Gauge Only	No impacts in bedrock in this area based on historical results of MW-27D and MW-27DD
MW-205DD	Deep Bedrock	90-100	New Well	Semi-annual Sampling	Vertical delineation of deep bedrock near MW-205
MW-302DD	Deep Bedrock	70-100	New Well	Semi-annual Sampling	Vertical RRS compliance near MW-302D

Existing Program	**Proposed Program (includes 10 new wells)**
20 semi-annual	24 semi-annual (existing wells)
24 annual	18-annual
	6 - Second Phase Wells are proposed for Semiannual Sampling for 1 year following installation

Reply To:
Response and Remediation Program
2 Martin Luther King, Jr. Drive, S.E.
Suite 1054, East Tower
Atlanta, Georgia 30334-9000
Office 404/657-8600 Fax 404-657-0807

Georgia Department of Natural Resources
Environmental Protection Division
2 Martin Luther King, Jr. Dr., S.E., Suite 1066 East, Atlanta, Georgia 30334
Judson H. Turner, Director
Phone: 404/656-7802 FAX: 404/651-9425

August 22, 2013

Atlanta Gas Light Company
c/o Mr. Greg Corbett
Ten Peachtree Place
Atlanta, Georgia 30309

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Re: 2013 Groundwater Monitoring Report
Former Macon MGP Site, HSI # 10511
Macon, Bibb County, Georgia

Dear Mr. Corbett:

The Georgia Environmental Protection Division (EPD) has received Atlanta Gas Light Company's (AGLC) August 13, 2013, "Proposed Corrective Action Plan Schedule Modifications" correspondence, and the April 30, 2013, Semi-Annual Groundwater Monitoring Report, prepared by ERM, on behalf of AGLC for the above referenced site. After completing a review of the above referenced documents, EPD has prepared the following comments:

- According to the August 2013 correspondence (Table 3), a number of wells have been proposed for abandonment as part of the revisions to the site related OM&M Plan. EPD does not have any objections to the recommended modifications to the groundwater monitoring schedule at this time. However, EPD does not concur with the recommendation to abandon any monitoring wells until we have had the opportunity to review the revised Corrective Action Plan(s) (CAP) and Basis of Design Work Plan.

EPD concurs with the proposed CAP Schedule Modifications, and will defer further soil and groundwater compliance comments for the site until the receipt of the above referenced CAP documents and the Basis of Design Work Plan, which are scheduled to be submitted by no later than February 18, 2014, for the Soil, Source Material, and Alluvium Groundwater CAP, and October 14, 2014 for the Bedrock Groundwater CAP. In accordance with Conditions 7-10 of Consent Order EPD-HSR-227, EPD hereby incorporates the above referenced compliance schedule and associated submittal dates as part of the Order. Please note that the above referenced April 2013 Report will be placed in the HSI #10511 facility file for public review. If you have any questions, please contact Mr. Kevin Collins at (404) 463-0530.

Sincerely,

David Brownlee
Unit Coordinator
Response and Remediation Program

c: Jim Morrison, ERM
Brett Mitchell, Georgia Power Company
File: HSI 10511
C:\EPD Docs\Temp Docs\10511-2013 GW Report Comments.docx

Groundwater Sampling Log Sheets (CD ONLY)

Appendix B-2

May 21, 2016
Project No. 0176740
Atlanta Gas Light Company

Environmental Resources Management Southeast, Inc.
3200 Windy Hill Rd. Suite 1500W
Atlanta, GA 30339
(678) 486-2700

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0176740 | Sampling Date: 4/5/16

Site/Location: Macon, GA | Sampler's Name: K. Speracek

Well ID: MW-08 | Pump Type/Model: Bierstalkc | Sample Collection Time: 1750

Total Depth (ft)[1]: 18.91' | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: 0.1

Depth to Water (ft): 12.51' | Pump Intake Depth (ft): 14' | Sample ID: MW-08-20160405-01

Well Diameter (in): 2" | Start/Stop Purge Time: 1712/1737 | QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: | Purge Rate (L/min)[2]: 0.1 | QA/QC I.D.:

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 2.5 | Laboratory Analyses:

Well Condition: Good | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1717	21.10	0.30	6.19	6.40	79.80	13.6	0.5	12.51	
1722	21.02	0.30	5.99	6.36	76.90	11.4	1.0	12.51	
1727	20.95	0.30	5.92	6.35	76.60	10.1	1.5	12.51	
1732	20.87	0.30	5.72	6.32	76.30	8.97	2.0	12.51	
1737	20.84	0.30	5.56	6.24	73.50	7.76	2.5	12.51	- Stable
									Sampled at 1750
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[6]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL | Project No.: 0176740 | Sampling Date: 4/5/16

Site/Location: Macon, GA | Sampler's Name: K Spevak

Well ID: MW-10 | Pump Type/Model: peristaltic | Sample Collection Time: 0915

Total Depth (ft)[1]: 19.7 | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: 0.1

Depth to Water (ft): 7.60 | Pump Intake Depth (ft): 15' | Sample ID: MW-10-20160407-01

Well Diameter (in): 2" | Start/Stop Purge Time: 0824 / 0904 | QA/QC Collected? No

Well Volume (gal) = 0.041d²h: | Purge Rate (L/min)[2]: 0.1 | QA/QC I.D. NO

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 4.5 | Laboratory Analyses: COI

Well Condition: Good | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
0829	15.23	0.20	6.68	6.19	179.80	16.8	0.5	7.60	
0834	16.74	0.20	2.46	6.08	120.6	26.5	1.0	7.60	
0839	17.45	0.20	2.36	6.07	100.20	33.3	2.0	7.60	
0844	17.81	0.20	2.17	6.07	92.00	31.0	2.5	7.60	
0849	18.30	0.20	2.06	6.07	87.90	27.2	3.0	7.60	
0854	18.65	0.20	1.99	6.06	84.80	23.6	3.5	7.60	
0859	18.88	0.20	1.94	6.06	82.70	24.2	4.0	7.60	
0904	19.02	0.20	1.87	6.06	80.0	23.9	4.5	7.60	Stable
									Sampled @ 0915
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[9]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(9) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL | Project No.: 0176740 | Sampling Date: 4/4/16

Site/Location: Macon, GA | Sampler's Name: M Crow

Well ID: MW-12R | Pump Type/Model: Alexis - Peristaltic | Sample Collection Time: 18.17

Total Depth (ft)[1]: 15.20 | Tubing Material: LDPE | Sample Purge Rate (L/min)[2]: 0.1L

Depth to Water (ft): 2.56 | Pump Intake Depth (ft): 9 | Sample ID: MW-12R-20160404-01

Well Diameter (in): 2 | Start/Stop Purge Time: 16.59 start - stop 1729 | QA/QC Collected? No

Well Volume (gal) = 0.041d²h: | Purge Rate (L/min)[2]: 0.1 L | QA/QC I.D. NA

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 2.4 L | Laboratory Analyses: VOC's / SVOC's / CN- / Metals

Well Condition: Good

Sampling Method (check all that apply): ☐ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (inorganics including cyanide) ☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1704	21.5	691.5	0.78	3.89	284	11.0	0.7	2.72	
1709	22.9	691.5	0.78	3.89	288	16.5	0.5	2.76	Reduce purge Rate
1714	21.6	710.8	0.38	3.86	289	6.80	0.3	2.74	Clear - NO odor
1719	21.7	707	0.32	3.87	290	6.04	0.3	2.73	" " "
1724	21.5	705	0.26	3.85	292	6.85	0.3	2.74	" " "
1729	21.5	688	0.25	3.86	292	6.91	0.3	2.74	" " "
1817	—	MW 12R collected			—		2		Vials for VOC's
							2 -	1000 mL	for SVOC's
							1 -	0.5 L	for CN-
							1 -	0.3 L	for Metals
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0176740 | Sampling Date: 4/5/16

Site/Location: Macon, GA | Sampler's Name: K. Sperarek

Well ID: MW-14 | Pump Type/Model: Peristaltic | Sample Collection Time: 1625

Total Depth (ft)[1]: 14.93 | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: 0.1

Depth to Water (ft): 5.30 | Pump Intake Depth (ft): 10' | Sample ID: MW-14-20160405-01

Well Diameter (in): 2" | Start/Stop Purge Time: 1538/1613 | QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: | Purge Rate (L/min)[2]: 0.1 | QA/QC I.D.

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 3.5 | Laboratory Analyses:

Well Condition: Good | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (Inorganics including cyanide) ☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
~~1538~~ 1543	19.86	0.40	0.31	6.54	24.20	29.3	0.5	5.41	
1548	19.86	0.40	0.26	6.53	19.30	31.5	1.0	5.41	
1553	19.86	0.40	0.30	6.53	20.10	27.2	1.5	5.41	
1558	19.95	0.40	0.27	6.50	15.9	22.2	2.0	5.41	
1603	19.86	0.40	0.24	6.52	10.90	25.7	2.5	5.41	
1608	19.81	0.40	0.22	6.52	11.10	26.0	3.0	5.41	
1613	19.77	0.40	0.21	6.52	4.90	24.9	3.5	5.41	- Stable
									Sample @ 1625
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0176740 | Sampling Date: 4/6/16

Site/Location: Macon, GA | Sampler's Name: K. Sparacek

Well ID: MW-15 | Pump Type/Model: Peristaltic | Sample Collection Time: 1155

Total Depth (ft)[1]: 14.46 | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: 0.1

Depth to Water (ft): 6.05' | Pump Intake Depth (ft): 11' | Sample ID: MW-15-20160406-01

Well Diameter (in): 2" | Start/Stop Purge Time: 1117 / 1142 | QA/QC Collected? Yes

Well Volume (gal) = 0.041d²h: | Purge Rate (L/min)[2]: 0.1 | QA/QC I.D. Dup-01-20160406-01

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 2.5 | Laboratory Analyses: CO I

Well Condition: Good | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1122	19.01	0.80	0.35	5.51	102.4	13.5	0.5	6.07	
1127	19.22	0.60	0.28	5.50	117.6	12.8	1.0	6.07	
1132	19.9	0.40	0.27	5.44	131	11.8	1.5	6.07	
1137	20.52	0.40	0.27	5.44	125.3	11.5	2.0	6.07	
1142	20.45	0.40	0.33	5.45	116.5	11.1	2.5	6.07	Stable Sample @ 1155
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[6]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL | Project No.: 0176740 | Sampling Date: 4/6/16

Site/Location: Macon, GA | Sampler's Name: K. Speracek

Well ID: MW-21 | Pump Type/Model: Peristaltic | Sample Collection Time: 1720

Total Depth (ft)[1]: 10' | Tubing Material: LDPE | Sample Purge Rate (L/min)[2]: 0.1

Depth to Water (ft): 1.20 | Pump Intake Depth (ft): 7' | Sample ID: MW-21-20160406-D

Well Diameter (in): 2" | Start/Stop Purge Time: 1619/1709 | QA/QC Collected? No

Well Volume (gal) = 0.041d²h: | Purge Rate (L/min)[2]: 0.1 | QA/QC I.D. —

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 5.0 | Laboratory Analyses: COI

Well Condition: Good

Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (µS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1629	18.07	92.40	0.18	6.03	-0.30	50.6	0.5	1.26	
1634	17.76	92.90	0.35	6.02	-2.40	44.7	1.0	1.31	
1639	17.66	97.90	0.32	6.01	-2.50	37.1	1.5	1.32	
1644	17.57	102.30	0.26	6.00	-1.50	38.0	2.0	1.33	
1649	17.45	99.10	0.25	5.95	3.30	15.7	2.5	1.33	
1654	17.44	98.0	0.24	5.93	5.40	12.9	3.0	1.33	
1659	17.45	97.70	0.21	5.94	3.50	11.2	3.5	1.33	
1704	17.36	96.20	0.20	5.92	6.00	10.3	4.0	1.33	
1709	17.32	96.40	0.20	5.91	6.10	6.67	4.5	1.33	
	17.35	95.90	0.19	5.92	5.70	6.80	5.0	1.33	-Stable
									Sampled @ 1720
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0176740 | Sampling Date: 4/5/16

Site/Location: Macon, GA | Sampler's Name: K. Spevacek

Well ID: MW-28 | Pump Type/Model: ~~SS~~ Peristaltic | Sample Collection Time: 1205

Total Depth (ft)[1]: 17.0 | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: 0.1

Depth to Water (ft): 1.37' | Pump Intake Depth (ft): 12' | Sample ID: MW-28-20160405-0

Well Diameter (in): 2" | Start/Stop Purge Time: 1105 / | QA/QC Collected? NO

Well Volume (gal) = 0.041d[2]h: | Purge Rate (L/min)[2]: 0.1 | QA/QC I.D.:

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 5.0 | Laboratory Analyses:

Well Condition: Good | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1110	20.59	192.10	0.49	6.15	25.30	82.7	0.5	1.37	
1115	20.67	190.20	0.51	6.17	25.70	75.0	1.0	1.37	
1120	20.79	190.90	0.45	6.17	23.70	72.0	1.5	1.37	
1125	20.83	191.60	0.43	6.18	20.70	73.6	2.0	1.37	
1130	21.02	185.20	0.57	6.19	25.90	60.7	2.5	1.38	
1135	21.03	167.70	1.03	6.21	33.40	55.1	3.0	1.38	
1140	21.10	166.8	1.25	6.22	46.50	49.5	3.5	1.38	
1145	21.37	149.7	1.75	6.27	59.6	49.0	4.0	1.37	
1150	21.46	148.7	1.90	6.27	60.1	46.8	4.5	1.37	
1155	21.42	1483	2.16	6.30	42.10	48.4	5.0	1.38	- Stable
									- Sampled @ 1205
Stabilizing Criteria[4]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[5]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL | Project No.: 0176740 | Sampling Date: 4/7/16

Site/Location: Macon, GA | Sampler's Name:

Well ID: MW-101 | Pump Type/Model: Peristaltic | Sample Collection Time: 1700

Total Depth (ft)[1]: 19.15 | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: 0.1

Depth to Water (ft): 10.1' | Pump Intake Depth (ft): 13' | Sample ID: MW-101-20160407-01

Well Diameter (in): 2" | Start/Stop Purge Time: 1243 | QA/QC Collected? Yes

Well Volume (gal) = 0.041d²h: | Purge Rate (L/min)[2]: 0.1 | QA/QC I.D. DUP-02-20160407-01

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 24.5 | Laboratory Analyses: COI

Well Condition: Good | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☑ vacuum jug (SVOCs) ☑ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1248	20.38	0.20	0.44	6.04	53.70	140	0.5	10.21	
1253	20.55	0.20	0.34	6.03	49.90	129	1.0	10.22	
1258	20.84	0.20	0.29	6.02	47.90	123	1.5	10.23	
1303	20.92	0.20	0.32	6.02	48.10	124	2.0	10.25	
1308	21.19	0.20	0.27	6.00	47.20	111	2.5	10.25	
1313	21.32	0.20	0.27	6.00	46.00	102	3.0	10.25	
1318	21.09	0.20	0.24	5.99	44.70	101	3.5	10.25	
1323	21.37	0.20	0.24	6.02	45.00	92.9	4.0	10.25	
1328	21.14	0.20	0.60	6.01	44.60	92.3	4.5	10.25	
1333	21.81	0.20	0.33	6.00	40.70	88.3	5.0	10.25	
1338	22.04	0.20	0.27	5.99	40.20	84.7	5.5	10.25	
1343	21.64	0.30	0.25	5.99	38.90	80.9	6.0	10.25	- PM directs continue pumping to lower turbidity
1348	22.35	0.30	0.44	6.00	38.10	78.5	6.5	10.25	
1353	22.11	0.30	0.27	6.00	36.30	74.0	7.0	10.25	
1358	22.27	0.30	0.24	6.00	34.50	69.2	7.5	10.25	
1403	22.72	0.30	0.22	6.00	33.90	63.1	8.0	10.29	
1408	22.92	0.30	0.22	6.01	31.20	58.5	8.5	10.25	
1413	22.70	0.30	0.20	6.01	33.20	58.0	9.0	10.25	
1418	22.85	0.30	0.19	6.01	32.40	56.5	9.5	10.25	
1423	22.56	0.30	0.19	6.02	31.30	52.0	10.0	10.25	
1428	22.82	0.30	0.19	6.02	30.00	53.1	10.5	10.25	
1433	22.80	0.30	0.18	6.02	31.70	50.5	11.0	10.25	
Stabilizing Criteria[5]	**+/- 1°C**	**+/- 3%**	**+/- 10% (see note below)[7]**	**+/- 0.1 unit**	**+/- 10 mV (see note below)[8]**	**+/- 10% or <10 NTUs**	**(see note below)[4]**	**(see note below)[6]**	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL | Project No.: 0176740 | Sampling Date: 4/7/16

Site/Location: Macon, GA | Sampler's Name: K. Spencer

Well ID: MW-101 | Pump Type/Model: Peristaltic | Sample Collection Time: 1700

Total Depth (ft)[1]: 19.5' | Tubing Material: LDPE | Sample Purge Rate (L/min)[2]: 0.1

Depth to Water (ft): 10.1' | Pump Intake Depth (ft): 13' | Sample ID: MW-101-20160407-01

Well Diameter (in): 2" | Start/Stop Purge Time: 1243/1648 | QA/QC Collected? Yes

Well Volume (gal) = 0.041d²h: 5.8 L | Purge Rate (L/min)[2]: 0.1 | QA/QC I.D. Dup-02-20160407-01

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 24.5 | Laboratory Analyses: COI

Well Condition: Good

Sampling Method (check all that apply): ☒ soda straw (VOCs) ☒ vacuum jug (SVOCs) ☒ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1438	22.89	0.30	0.18	6.02	29.70	47.6	11.5	10.25	
1443	22.62	0.30	0.18	6.03	30.70	47.4	12.0	10.25	
1448	22.34	0.30	0.18	6.03	31.60	49.7	12.5	10.25	
1453	22.37	0.30	0.18	6.03	30.30	47.1	13.0	10.25	
1458	22.04	0.30	0.17	6.03	30.00	45.8	13.5	10.25	- PM directs continue pumping to lower turbidity
1503	22.11	0.30	0.17	6.04	28.00	45.3	14.0	10.25	
1508	22.18	0.30	0.18	6.04	27.30	44.5	14.5	10.25	
1513	22.19	0.30	0.18	6.05	27.20	42.1	15.0	10.25	
1518	22.25	0.30	0.17	6.06	23.30	39.4	15.5	10.25	
1523	22.13	0.30	0.17	6.06	24.90	38.9	16.5	10.25	- Switch to Readings every 10 min
1528	22.67	0.30	0.15	6.07	21.10	35.2	17.5	10.25	
1533	22.53	0.30	0.15	6.07	20.90	35.7	18.5	10.25	
1538	22.54	0.30	0.16	6.08	19.90	31.4	19.5	10.25	
1608	22.38	0.40	0.15	6.09	19.50	30.1	~~19.5~~	10.25	20.5 volume
1618	22.44	0.40	0.16	6.09	19.90	28.7	~~19.5~~	10.25	21.5 volume
1628	22.45	0.40	0.16	6.10	18.90	27.6	~~19.5~~	10.25	22.5 volume
1638	22.09	0.40	0.16	6.10	17.00	22.8	23.5	10.25	23.5 volume
1648	21.77	0.40	0.16	6.10	17.20	23.0	24.5	10.25	- Directed to sample due to turbidity - Time constraints reducing
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/-10% (see note below)[7]	+/- 0.1 unit	+/-10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0176740 | Sampling Date: 4/6/16

Site/Location: Macon, GA | Sampler's Name: K. Sevacek

Well ID: MW-102 | Pump Type/Model: Peristaltic | Sample Collection Time: 0915

Total Depth (ft)[1]: 13.80' | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: 0.1

Depth to Water (ft): 7.19' | Pump Intake Depth (ft): 8.5 | Sample ID: MW-102-20160406-01

Well Diameter (in): 2" | Start/Stop Purge Time: 818/0903 | QA/QC Collected? Yes

Well Volume (gal) = 0.041d²h: | Purge Rate (L/min)[3]: 0.1 | QA/QC I.D. MW-102MS-20160406-01, MW-102MSD-20160406-01

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 4.5 | Laboratory Analyses: COI

Well Condition: Good

Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
0823	14.20	0.40	0.54	5.95	132.6	19.0	0.5	7.29	
0828	14.76	0.30	0.48	5.95	98.7	15.6	1.0	7.31	
0833	15.30	0.30	0.41	5.95	87.1	13.1	1.5	7.33	
0838	15.61	0.30	0.36	5.94	78.20	12.7	2.0	7.36	
0843	15.71	0.30	0.32	5.95	72.80	13.4	2.5	7.37	
0848	15.83	0.30	0.30	5.93	68.40	11.3	3.0	7.37	
0853	15.88	0.30	0.28	5.95	63.50	9.71	3.5	7.37	
0858	15.93	0.30	0.26	5.97	60.90	9.82	4.0	7.38	
0903	16.08	0.30	0.26	5.95	59.00	9.22	4.5	7.38	-Stable Sampled @ 0915
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[6]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL | Project No.: 0176740 | Sampling Date: 4/5/16

Site/Location: Macon, GA | Sampler's Name: K. Sperbeck

Well ID: MW-104 | Pump Type/Model: Peristaltic | Sample Collection Time: 1410

Total Depth (ft)[1]: 11.35 | Tubing Material: LDPE | Sample Purge Rate (L/min)[2]: 0.1

Depth to Water (ft): 3.63 | Pump Intake Depth (ft): 8' | Sample ID: MW-104-20160405-01

Well Diameter (in): 2 | Start/Stop Purge Time: 1333 / 1358 | QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: | Purge Rate (L/min)[2]: 0.1 | QA/QC I.D. —

d = well diameter (inches), h = length of water column (feet) | Total Purge Volume (L): 2.5 | Laboratory Analyses:

Well Condition: Good | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1338	21.68	0.30	5.01	6.56	72.50	6.59	0.5	3.82	
1343	21.13	0.30	4.82	6.54	71.60	4.12	1.0	3.84	
1348	21.11	0.30	4.74	6.52	69.20	5.18	1.5	3.84	
1353	21.28	0.30	4.77	6.52	68.50	4.67	2.0	3.84	
1358	21.37	0.30	4.83	6.53	65.80	3.95	2.5	3.84	- Stable
									Sampler @ 1410
Stabilizing Criteria[3]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[4]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL | Project No.: 0176740 | Sampling Date: 4/7/16

Site/Location: Macon, GA | Sampler's Name: K. Sperwek

Well ID: MW-103 | Pump Type/Model: Peristaltic | Sample Collection Time: 1058

Total Depth (ft)[1]: ~~20.35~~ 20' | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: 0.1

Depth to Water (ft): 4.52' | Pump Intake Depth (ft): 17' | Sample ID: MW-103-20160407-01

Well Diameter (in): 2" | Start/Stop Purge Time: 1018 / 1048 | QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: | Purge Rate (L/min)[3]: 0.1 | QA/QC I.D.: —

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 3.0 | Laboratory Analyses: COI

Well Condition: Good | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. ~~(mS/cm)~~ µS/cm	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1023	19.63	618.70	3.68	5.58	116.50	17.6	0.5	4.52'	
1028	19.39	617.30	1.41	5.57	102.00	12.2	1.0	4.53	
1033	19.7	613.10	1.29	5.57	95.40	11.2	1.5	4.53	
1038	19.86	613.70	1.21	5.57	92.40	9.9	2.0	4.53	
1043	19.92	606.90	1.16	5.57	90.20	8.95	2.5	4.53	
1048	19.95	607.20	1.08	5.56	88.70	8.43	3.0	4.53	- Stable
									Sample @ 1058
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[6]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0176740 | Sampling Date: 9/4/16

Site/Location: Macon, GA | Sampler's Name: K. Sperczak

Well ID: MW-107 | Pump Type/Model: ALEXIS PERISTALTIC | Sample Collection Time: 1755

Total Depth (ft)[1]: 21.5' | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: 0.1

Depth to Water (ft): 8.31 | Pump Intake Depth (ft): 17' | Sample ID: MW-107-20160904-01

Well Diameter (in): 2" | Start/Stop Purge Time: 1658 Stop@ 1748 | QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: | Purge Rate (L/min)[2]: 0.1 | QA/QC I.D.

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 5.0 | Laboratory Analyses: COI (see COC)

Well Condition: Good | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☒ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. µS/cm	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1703	24.8	233.1	2.82	6.00	99.5	60.9	0.5	8.32	
1708	22.27	246.3	0.47	5.98	91.3	53.4	1.0	9.33	
1713	21.70	251.6	0.35	6.00	87.2	60.7	1.5	8.33	
1718	21.51	263.10	0.29	6.02	80.30	47.3	2.0	9.33	
1723	21.46	268.10	0.25	6.05	75.60	45.8	2.5	8.33	
1728	21.37	280.10	0.24	6.02	68.00	43.3	3.0	8.33	
1733	21.28	283.9	0.21	6.11	62.70	37.2	3.5	8.34	
1738	21.28	294.9	0.21	6.13	58.0	34.5	4.0	8.34	
1743	21.12	297.8	0.18	6.15	56.8	36.1	4.5	8.33	
1748	21.23	303.10	0.19	6.16	51.6	31.7	5.0	8.34	- Stable
1755	Collected Sample								
Stabilizing Criteria[5]	+/- 1°C	9.0 +/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0176740 | Sampling Date: 4/6/16

Site/Location: Macon, GA | Sampler's Name: K. Spevacek

Well ID: MW-400 | Pump Type/Model: Peristaltic | Sample Collection Time: 1530

Total Depth (ft)[1]: 20.20 | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: 0.1

Depth to Water (ft): 13.17 | Pump Intake Depth (ft): 17.00 | Sample ID: MW-400-20160406-01

Well Diameter (in): 1" | Start/Stop Purge Time: 1434/ | QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: | Purge Rate (L/min)[2]: 0.1 | QA/QC I.D. —

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): | Laboratory Analyses: COI

Well Condition: Good | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1439	23.00	0.90	0.55	5.57	118.20	141	0.5	13.24	
1444	22.22	0.90	0.35	5.57	106.9	33.8	1.0	13.26	
1449	21.95	0.90	0.31	5.58	103.40	37.7	1.5	13.26	
1454	21.99	0.90	0.30	5.56	106.20	12.1	2.0	13.26	
1459	21.95	0.90	0.27	5.56	108.0	7.49	2.5	13.26	
1504	21.91	0.90	0.26	5.53	115.00	4.58	3.0	13.26	
1509	21.93	1.00	0.26	5.54	116.50	5.51	3.5	13.26	
1514	21.48	1.00	0.24	5.54	119.70	4.37	4.0	13.26	Stable
									Sampled @ 1530
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0176740 | Sampling Date: 4/5/16

Site/Location: Macon, GA | Sampler's Name: ML

Well ID: MW 12D RR | Pump Type/Model: Alexis PP | Sample Collection Time: 1320

Total Depth (ft)[1]: ~~7.72~~ 52 | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: 0.06

Depth to Water (ft): 52 | Pump Intake Depth (ft): 45 | Sample ID: MW 12D RR - 20160405 - 01

Well Diameter (in): 2" | Start/Stop Purge Time: @1147 – stop @1227 | QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: | Purge Rate (L/min)[2]: 0.06 | QA/QC I.D. NA

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): ~2L with Flow cell | Laboratory Analyses: VOC / SVOC's / CN - / Total Metals

Well Condition: OK | Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1152	23.06	515.4	2.37	6.64	-45.6	2.40	0.2	7.73	Clear – Organic odor
1157	21.66	538.4	0.95	6.49	-89.4	1.84	0.25	7.73	Clear – org odor
1202	21.60	540.70	0.59	6.49	-102.5	1.44	0.25	7.73	Clear org odor
1207	21.76	541.70	0.47	6.49	-108.8	2.29	0.25	7.73	" " "
1212	21.95	541.40	0.45	6.49	-111.3	1.75	0.25	7.73	" " "
1217	21.86	539.0	0.39	6.48	-106	1.80	0.25	7.73	" " "
1222	22.18	539.1	0.39	6.48	-107	2.56	0.25	7.73	" " "
1227	22.43	538.3	0.37	6.48	-108.9	1.84	0.25	7.73	" " "
1230	Start to sample								
1320	MW 12D RR collected.								
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[6]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL
Project No.: 0176740
Site/Location: Macon, GA

Sampling Date: 4/6/16
Sampler's Name: MR

Well ID: MW-12DD
Total Depth (ft)[1]: 98.70
Depth to Water (ft): 16.79
Well Diameter (in): 2
Well Volume (gal) = 0.041d²h: 14.4 gal / 54.5 L

Pump Type/Model: Alexa Peristaltic
Tubing Material: LDPE
Pump Intake Depth (ft): 93
Start/Stop Purge Time: 1541 / 1521
Purge Rate (L/min)[2]: ~1
Total Purge Volume (L): 3.50

Sample Collection Time: 1626
Sample Purge Rate (L/min)[3]: ~1
Sample ID: MW-12DD-20160406-01
QA/QC Collected? No
QA/QC I.D. —
Laboratory Analyses: VOC, SVOC, Metals, Cyanide

d = well diameter (inches) h = length of water column (feet)

Well Condition: Good

Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (Inorganics including cyanide)
☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1546	23.54	0.20	4.44	7.15	+15.20	1.98	.5	11.28	
1551	21.98	0.20	1.84	7.34	-86.50	1.38	1.0	11.78	Excessive drawdown but not purging 3WV 1/2 of large volumes, will sample at stabilization
1558	21.85	0.20	0.88	7.37	-91.30	1.15	1.5	12.14	
1601	21.82	0.20	0.71	7.37	-93.80	1.17	2.0	12.52	
1606	21.80	0.20	0.61	7.37	-93.0	1.14	2.5	12.90	
1611	21.73	0.20	0.58	7.37	-92.9	1.30	3.0	13.28	Lower purge rate to .05, trying to allow well to fit recharge
1616	22.02	0.20	0.63	7.37	-93.10	1.15	3.25	13.44	
1621	23.01	0.20	0.85	7.37	-94.80	1.16	3.50	13.60	
Parameters Stable, Well Can Be Sampled									Sampling @ 1626
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL | Project No.: 0176740 | Sampling Date: 4/5/16

Site/Location: Macon, GA | Sampler's Name: MK

Well ID: MW-22D | Pump Type/Model: Alexis Peristaltic | Sample Collection Time: 1455

Total Depth (ft)[1]: 66 | Tubing Material: LDPE | Sample Purge Rate (L/min)[2]: .1

Depth to Water (ft): 10.02 | Pump Intake Depth (ft): 60 | Sample ID: MW-22D-20160405-01

Well Diameter (in): 4 | Start/Stop Purge Time: 1427 / 1452 | QA/QC Collected? No

Well Volume (gal) = 0.041d²h: 7.18gal / 34.7L | Purge Rate (L/min)[2]: .1 | QA/QC I.D. —

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 2.5 | Laboratory Analyses: VOC, SVOC, Metal, Cyanide

Well Condition: Good | Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1452	24.38	0.30	4.58	9.03	-73.40	2.83	.5	10.07	
1457	23.52	0.36	[illegible]	9.05	8520	0.64	1.0	10.09	
1462	23.52	0.30	3.91	9.06	95.50	1.16	1.5	10.11	
1467	23.34	0.30	3.79	9.06	120.0	1.20	2.0	10.11	
1472	22.98	0.30	3.83	9.07	106.5	1.78	2.5	10.12	
Parameters Stable, well can be Sampled									
									Sampling @ 1455
Stabilizing Criteria[3]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

55.98

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0176740 | Sampling Date: 4/5/16

Site/Location: Macon, GA | Sampler's Name: MAE

Well ID: MW-23D | Pump Type/Model: Aquas Peristaltic | Sample Collection Time: 1715

Total Depth (ft)[1]: 36.0 | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: .1

Depth to Water (ft): 8.89 | Pump Intake Depth (ft): 31 | Sample ID: MW-23D-2016-405-01

Well Diameter (in): 4 | Start/Stop Purge Time: 1623 / 1715 | QA/QC Collected? No

Well Volume (gal) = 0.041d²h: ~~6.45~~ 17.98 gal (67.2 L) | Purge Rate (L/min)[2]: .1 | QA/QC I.D. —

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 50 L | Laboratory Analyses: VOC, SVOC, Metal, Cyanide

Well Condition: Good (need well cap) | Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (inorganics including cyanide) ☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1628	27.51	0.30	1.27	6.19	161.4	5.32	.5	8.94	
1633	25.82	0.46	0.62	6.19	148.6	8.15	1.0	8.94	
1638	25.26	0.46	0.42	6.18	144.0	5.41	1.5	8.94	
1643	24.78	0.46	0.36	6.18	139.7	2.86	2.0	8.94	
1648	27.43	0.40	0.43	6.18	137.9	3.12	2.5	8.94	Weird spike in temp
1653	25.02	0.40	0.32	6.18	133.2	2.68	3.0	8.94	
1658	24.75	0.40	0.28	6.17	130.8	2.09	3.5	8.94	
1703	24.52	0.40	0.27	6.17	128.7	1.38	4.0	8.94	
1708	24.17	0.40	0.26	6.17	121.0	1.31	4.5	8.94	
1713	23.34	0.40	0.26	6.17	121.5	1.42	5.0	8.94	
Parameters stable well can be sampled									Sampling @ 1715
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[6]	(see note below)[6]	

(1) - DO not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0176740 | Sampling Date: 4/5/16

Site/Location: Macon, GA | Sampler's Name: M Lion

Well ID: MW-24D | Pump Type/Model: Alexis Peristaltic pump | Sample Collection Time: 1045

Total Depth (ft)[1]: ~41 feet | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: 0.06 L/min

Depth to Water (ft): 3.94 | Pump Intake Depth (ft): 35 feet | Sample ID: MW-24D-20160405-01

Well Diameter (in): 4" | Start/Stop Purge Time: Start @ 848 stop @ 946 | QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: | Purge Rate (L/min)[2]: 0.06 L | QA/QC I.D. NA

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): ~4L with flow cell vol | Laboratory Analyses: VOC's / SVOC's TCN- / total Metals

Well Condition: OK

Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
851	16.13	43.9	5.05	6.38	95.10	47.7	0.3	4.08	Clear - No odor
856	17.14	44	4.75	6.38	80.30	30.3	0.4	4.22	Reduce Purge Rate - close to 0.3
						~~28.7~~	~~0.3~~		Drop -
901	17.6	44.3	4.69	6.38	77.7	28.7	0.3	4.28	Clear - No odor
906	17.81	49.2	4.53	6.34	74.10	27.4	0.3	4.34	Clear - No odor
911	17.93	48.7	4.51	6.34	74.50	27.0	0.3	4.36	Clear - No odor
916	18.04	48.9	4.48	6.33	74.80	23.0	0.3	4.36	Clear - No odor
921	18.01	47.7	4.50	6.36	76.0	23.7	0.3	4.35	Clear - No odor
926	18.11	47.1	4.47	6.34	76.9	22.8	0.3	4.35	Clear - No odor
931	18.12	47.0	4.44	6.34	77.1	23.3	0.3	4.35	Clear - No odor
936	18.22	46.6	4.43	6.34	78.0	22.9	0.3	4.35	
941	18.21	46.3	4.42	6.34	78.4	22.3	0.3	4.35	Will do one more Reading
946	17.78	46.2	4.46	6.33	78.4	22.6	0.3	4.35	For turbidity
950	start	sampling	-						
1045	MW-24D	sample	-						
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0176740 | Sampling Date: 4/11/16

Site/Location: Macon, GA | Sampler's Name: K. Sperlock

Well ID: MW-26D | Pump Type/Model: Peristaltic | Sample Collection Time: 1020

Total Depth (ft)[1]: 39.6' | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: 0.1

Depth to Water (ft): 1.3' | Pump Intake Depth (ft): 36' | Sample ID: MW-26D-20160411-01

Well Diameter (in): 4" | Start/Stop Purge Time: 0951/1011 | QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: | Purge Rate (L/min)[2]: 0.1 | QA/QC I.D.

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 2.0 | Laboratory Analyses: Cat

Well Condition: Good | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☒ vacuum jug (SVOCs) ☒ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
0956	16.2	2.18	2.38	11.83	[illegible]	5.41	0.5	1.41	ORP= 14 mV
1001	16.5	2.18	2.38	11.88	[illegible]	3.53	1.0	1.47	ORP= 12.6 mV
1006	16.65	2.17	2.21	11.87	12.6	3.21	1.5	1.50	
1011	16.66	2.17	2.22	11.89	12.36	4.36	2.0	1.51	-Stable
									Sampled @ 1020
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling," SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling," SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0176740 | Sampling Date: 4/5/16

Site/Location: Macon, GA | Sampler's Name: MR

Well ID: MW27D | Pump Type/Model: Aktiis Prostatic | Sample Collection Time: 1230

Total Depth (ft)[1]: 48.5 | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: .1

Depth to Water (ft): 4.31 | Pump Intake Depth (ft): 43 | Sample ID: MW-27D-20160405-01

Well Diameter (in): 2 | Start/Stop Purge Time: 1150 / 1225 | QA/QC Collected? No

Well Volume (gal) = 0.041d²h: 7.25 gal / 27.4 L | Purge Rate (L/min)[2]: .1 L/min | QA/QC I.D. —

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 3.5 | Laboratory Analyses: VOC, SVOC, Metals, Cyanide

Well Condition: Good | Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1155	19.64	0.20	4.46	6.81	-.60	28.9	.5	4.39	
1200	19.33	0.20	1.16	6.65	-6.00	16.5	1.0	4.40	
1205	19.45	0.20	0.65	6.62	-5.20	14.7	1.5	4.41	Large brown flakes in water. Not affecting turbidity
1210	19.82	0.20	0.63	6.60	-4.70	15.4	2.0	4.42	
1215	19.79	0.20	0.51	6.57	-7.00	12.7	2.5	4.42	
1220	19.94	0.20	0.46	6.54	-4.80	10.9	3.0	4.42	
1225	19.73	0.20	0.42	6.52	-3.60	8.71	3.5	4.42	
Parameters	Stable,		turbidity		< 10 NTU		Well	Can	be sampled
									Begin sampling @ 1230
Stabilizing Criteria[4]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[6]	(see note below)[5]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0176740 | Sampling Date: 4/8/16

Site/Location: Macon, GA | Sampler's Name: K. Spevalek

Well ID: MW-108D | Pump Type/Model: Peristaltic | Sample Collection Time: 1135

Total Depth (ft)[1]: 58.06' | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: 0.1

Depth to Water (ft): 12.75' | Pump Intake Depth (ft): 53' | Sample ID: MW-108D - 2016 0407-01

Well Diameter (in): 4" | Start/Stop Purge Time: 1051 / 1126 | QA/QC Collected? ND

Well Volume (gal) = 0.041d²h: | Purge Rate (L/min)[2]: 0.1 | QA/QC I.D. —

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 3.5 | Laboratory Analyses: COI

Well Condition: Good

Sampling Method (check all that apply): ☒ soda straw (VOCs) ☒ vacuum jug (SVOCs) ☒ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1056	21.71	0.20	2.28	6.99	-42.90	18.3	0.5	12.82	
1101	21.13	0.20	1.01	7.01	-55.00	17.3	1.0	12.83	
1106	20.88	0.20	0.78	7.03	-60.80	14.8	1.5	12.83	
1111	20.88	0.20	0.63	7.06	-74.00	13.7	2.0	12.88	
1116	20.88	0.20	0.59	7.05	-72.20	13.6	2.5	12.90	
1121	20.84	0.20	0.57	7.04	-68.50	14.5	3.0	12.90	
1126	20.92	0.20	0.54	7.04	-66.40	13.9	3.5	12.90	- Stable
									Sample @ 1135
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[6]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0176740 | Sampling Date: 4/7/16

Site/Location: Macon, GA | Sampler's Name: MR

Well ID: MW-110D | Pump Type/Model: Alexis Peristaltic | Sample Collection Time: 0954

Total Depth (ft)[1]: 53.90 | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: .2

Depth to Water (ft): 5.45 | Pump Intake Depth (ft): 31 | Sample ID: MW-110D 20160407-01

Well Diameter (in): 4 | Start/Stop Purge Time: 0918/ | QA/QC Collected? ☒ Yes

Well Volume (gal) = 0.041d²h: 18.6gal / 70.5L | Purge Rate (L/min)[2]: .1 L/min | QA/QC I.D. DUP-01-20160407-01

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 4.5 | Laboratory Analyses: VOC, SVOC, Metals, Cyanide

Well Condition: Good | Sampling Method (check all that apply): ☐ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
0923	19.94	0.30	1.75	6.44	-56.70	8.73	.5	5.48	Odor
0928	20.22	0.56	0.60	6.43	-60.80	8.69	1.0	5.48	
0933	20.20	0.50	0.50	6.43	-59.90	7.16	1.5	5.48	
0938	20.27	0.50	0.43	6.43	-59.40	7.44	2.0	5.48	
0943	20.35	0.50	0.40	6.43	-58.30	7.57	2.5	5.48	Raised purge rate to .2 L/min
0948	20.35	0.50	0.21	6.43	-60.0	9.32	3.5	5.49	
0953	20.39	0.50	0.19	6.43	-62.2	8.3	4.5	5.49	
Parameters Stable			Well can be Sampled						Sampling @ 0954 at .2 L/min
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.

(2) - Purge rate to be 0.5 lpm or less.

(3) - Sampling rate to be 0.25 lpm or less.

(4) - Field parameter measurements to be recorded every 3 to 5 minutes.

(5) - Stabilization criteria based on three most recent consecutive measurements.

(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.

(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

28.43

28.43

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL | Project No.: 0176740 | Sampling Date: 4/5/16

Site/Location: Macon, GA | Sampler's Name: M Leon

Well ID: MW-112D | Pump Type/Model: Alexis QP | Sample Collection Time: 18:27

Total Depth (ft)[1]: 36 | Tubing Material: LDPE | Sample Purge Rate (L/min)[2]: 0.07 L/min

Depth to Water (ft): 3.16 | Pump Intake Depth (ft): 31 foot | Sample ID: MW-112D-20160405-01

Well Diameter (in): 4" | Start/Stop Purge Time: @ 1556 Stop @ 1701 | QA/QC Collected? No

Well Volume (gal) = 0.041d²h: | Purge Rate (L/min)[2]: 0.07 | QA/QC I.D. NA

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 4.30 Liter | Laboratory Analyses: VOC's | SVOC's | CN⁻ | total Metals

Well Condition: OK | Sampling Method (check all that apply): ☒ Soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1601	22.72	291.70	5.44	9.67	25.70	41.1	0.4	3.37	turbid – No odor
1606	21.20	291.70	5.36	9.69	32.70	15.7	0.4	3.48	Clear – No odor
1611	20.84	301.50	5.36	9.69	34.20	12.4	0.4	3.63	Clear – No Odor
1616	20.92	301.50	5.43	9.69	34.60	9.08	0.4	3.68	Clear – No odor
1621	21.20	300.6	5.41	9.69	34.80	6.72	0.3	3.76	Clear – No odor – Reduce purge Rate
1626	21.32	301.8	5.43	9.69	34.60	7.42	0.3	3.83	Clear – No odor
1631	21.48	302.20	5.45	9.69	34.70	6.46	0.3	3.89	Clear – No odor
1636	21.42	299.8	5.43	9.69	35.0	5.15	0.3	3.96	Clear – No odor
1641	21.15	302.9	5.45	9.70	35.5	4.73	0.3	402	" " "
1646	21.20	301.40	5.43	9.70	35.0	5.74	0.3	4.06	" " "
1651	21.15	301.50	5.42	9.70	34.9	7.22	0.3	4.10	" " "
1656	21.06	301.90	5.42	9.70	34.9	6.78	0.3	4.16	" " "
1701	21.04	301.00	5.41	9.70	34.90	6.21	0.3	4.20	" " "
1705	— Start to sample MW-112D – The purge Rate was below 0.1 L/min –								
	And GW well id 4" Diameter								
	Because 3 well volumes is not practical – It will be time consuming –								
	Will proceed to sample								
1827	— MW-112D collected –								
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0176740 | Sampling Date: 4/5/16

Site/Location: Macon, GA | Sampler's Name: M Lee

Well ID: MW-113D | Pump Type/Model: Alexis QP | Sample Collection Time: 1530

Total Depth (ft)[1]: 39.5 | Tubing Material: LDPE | Sample Purge Rate (L/min)[2]: 0.08

Depth to Water (ft): 5.45 | Pump Intake Depth (ft): 34' | Sample ID: MW113D - 20160405-01

Well Diameter (in): 4" | Start/Stop Purge Time: 0419 - Stop @ 1454 | QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: | Purge Rate (L/min)[2]: 0.08 L/min | QA/QC I.D. NA

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 2.8 L | Laboratory Analyses: VOC's / SVOC's / CN^- / Total Metals

Well Condition: OK | Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1429	23.44	348	0.39	5.90	79.70	0.86	0.8	550	No odor - clear
1434	23.09	348.4	0.29	5.90	75.90	2.54	0.4	5.51	No odor - clear
1439	23.12	350.0	0.24	5.90	73.20	1.20	0.4	5.50	No odor clear
1444	23.21	349.50	0.22	5.90	70.80	1.63	0.4	5.51	" " "
1449	23.25	349.20	0.21	5.90	69.40	1.40	0.4	5.51	" " "
1454	23.34	347.70	0.20	5.90	68.30	2.54	0.4	5.57	" " "
1455	—	Start	to	sample	MW	-	113D	—	
1530	—	MW	113D	collected		—			
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0176740 | Sampling Date: 4/7/16

Site/Location: Macon, GA | Sampler's Name: MR

Well ID: MW-204D | Pump Type/Model: Alexis Peristaltic | Sample Collection Time: 1158

Total Depth (ft)[1]: 45.16 | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: .1 L/min

Depth to Water (ft): 5.65 | Pump Intake Depth (ft): 38 | Sample ID: MW-204D-20160407-01

Well Diameter (in): 4 | Start/Stop Purge Time: 1126 | QA/QC Collected? ~~No~~ Yes

Well Volume (gal) = 0.041d²h: 25.4gal / 97.9L | Purge Rate (L/min)[2]: .1 L/min | QA/QC I.D. DUP-03 - 20160407-01

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 3.0 | Laboratory Analyses: VOC, SVOC, Cyanide, Metals

Well Condition: Good | Sampling Method (check all that apply): ☐ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1131	22.58	0.90	2.01	6.42	-26.30	2.23	.5	5.71	Odor
1136	21.74	0.50	0.59	6.41	-27.16	2.94	1.0	5.74	
1141	21.64	0.50	0.48	6.41	-27.20	2.86	1.5	5.74	
1146	21.80	0.50	0.41	6.41	-28.29	3.18	2.0	5.99	
1151	21.86	0.50	0.40	6.41	-28.10	6.21	2.5	5.74	
1156	21.69	0.50	0.39	6.41	-27.77	4.36	3.0	5.74	
Parameters		Stable	Well	Can	be	Sampled			Samples @ 1158
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

39.51 30.3.455

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL | Project No.: 0176740 | Sampling Date: 4/7/16

Site/Location: Macon, GA | Sampler's Name: MK

Well ID: MW-200DR | Pump Type/Model: Alexis Peristaltic | Sample Collection Time: 1506

Total Depth (ft)[1]: 38.81 | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: .1

Depth to Water (ft): ~~4.36~~ 4.36 | Pump Intake Depth (ft): 34 | Sample ID: MW-200DR-20160407-01

Well Diameter (in): 3 | Start/Stop Purge Time: 1428 | QA/QC Collected? No

Well Volume (gal) = 0.041d²h: 5.6gal / 21.4 L | Purge Rate (L/min)[2]: .1 | QA/QC I.D. —

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 3.5 | Laboratory Analyses: VOC, SVOC, Cyanide, Metals

Well Condition: Good | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☒ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
~~1433~~	24.91	0.60	2.30	6.78	-80.80	7.53	0.5	4.41	
1438	23.43	0.60	0.67	6.78	-84.60	2.07	1.0	4.55	
1443	23.43	0.60	0.50	6.78	-84.90	6.68	1.5	4.58	
1448	23.97	0.60	0.46	6.77	-86.60	3.20	2.0	4.60	
1453	24.19	0.60	0.43	6.78	-86.60	1.05	2.5	4.57	
~~1458~~	23.93	0.60	0.40	6.77	-86.60	3.77	3.0	4.59	
1503	24.09	0.59	0.36	6.77	-86.67	4.38	3.5	4.60	
Parameters Stable Well Can Be Sampled									
									Sampling @
Stabilizing Criteria[5]	**+/- 1°C**	**+/- 3%**	**+/- 10% (see note below)[7]**	**+/- 0.1 unit**	**+/- 10 mV (see note below)[8]**	**+/- 10% or <10 NTUs**	**(see note below)[4]**	**(see note below)[6]**	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

29.5-35.5

34.43

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0176740 | Sampling Date: 4/8/16

Site/Location: Macon, GA | Sampler's Name: MR

Well ID: MW-205D | Pump Type/Model: Alexis Peristaltic | Sample Collection Time: 0931

Total Depth (ft)[1]: ~41.60 | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: ~.1 L/min

Depth to Water (ft): 5.28 | Pump Intake Depth (ft): 36 | Sample ID: MW-205D-20160408-01

Well Diameter (in): 4 | Start/Stop Purge Time: 0859 | QA/QC Collected? No

Well Volume (gal) = 0.041d²h: 23.8gal / 90.1L | Purge Rate (L/min)[2]: ~.1 L/min | QA/QC I.D.: —

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 30 | Laboratory Analyses: VOC, SVOC, Cyanide, Metals

Well Condition: Good | Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
0904	17.12	0.60	1.14	6.71	-71.0	2.52	.5	5.32	ORP #'s Can't be trusted. The smartwell would not Calibrate ORP
0909	17.77	0.60	0.55	6.71	-71.0	2.73	1.0	5.34	
0914	17.90	0.60	0.44	6.71	-68.9	1.86	1.5	5.35	
0919	18.08	0.60	0.38	6.71	~67.30	1.41	2.0	5.35	
0924	18.16	0.58	0.35	6.71	-65.70	0.97	2.5	5.35	
0929	18.30	0.58	0.42	6.71	-65.20	0.88	3.0	5.35	
Parameters Stable Well Can Be Sampled									
									Sampling @ 0931
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[6]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

36.32

28-43

3

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL | Project No.: 0176740 | Sampling Date: 4/6/16

Site/Location: Macon, GA | Sampler's Name: MJR

Well ID: MW-205DD | Pump Type/Model: Alexis Peristaltic | Sample Collection Time: 1133

Total Depth (ft)[1]: 161.82 | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: .1

Depth to Water (ft): 10.95 | Pump Intake Depth (ft): 96 | Sample ID: MW-205DD-20160406-01

Well Diameter (in): 4 | Start/Stop Purge Time: 1105 / | QA/QC Collected? No

Well Volume (gal) = 0.041d²h: 59.6gal / 225.3L | Purge Rate (L/min)[2]: .1 | QA/QC I.D.

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): | Laboratory Analyses: VOC, SVOC, Metals, Cyanide

Well Condition: Good | Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1110	20.37	0.30	4.73	9.301	51.0	14.9	.5	11.10	
1115	20.41	0.30	2.21	9.32	-17.10	13.0	1.0	11.24	
1120	20.59	0.30	1.35	9.32	-44.40	11.2	1.5	11.40	Excessive drawdown. Not doing 3WV b/c large volumes. Will sample after stabilization
1125	20.18	0.30	1.11	9.32	-15.00	9.91	2.0	11.50	
1130	20.84	0.30	1.06	9.31	50.80	6.89	2.5	11.60	
Parameters Stable Well Can Be Sampled									Sampling @ 1133
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

90.37

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0176740 | Sampling Date: 4/6/16

Site/Location: Macon, GA | Sampler's Name: JJR

Well ID: MW206-D | Pump Type/Model: Alexis peristaltic | Sample Collection Time: 1402

Total Depth (ft)[1]: 43.42 | Tubing Material: LDPE | Sample Purge Rate (L/min)[2]: ~1

Depth to Water (ft): 5.61 | Pump Intake Depth (ft): 38 | Sample ID: MW-206D-20160406-01

Well Diameter (in): 4 | Start/Stop Purge Time: 1330 / | QA/QC Collected? N

Well Volume (gal) = 0.041d²h: 23.42gal / 95.2L | Purge Rate (L/min)[2]: ~1 | QA/QC I.D.: —

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 3.2 | Laboratory Analyses: VOC, SVOC, Metals, Cyanide

Well Condition: Good | Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1335	23.16	0.53	1.55	6.14	6.9	10.5	.5	5.05	
1340	22.54	0.53	0.73	6.13	11.70	15.5	1.0	5.05	
1345	22.36	0.53	0.54	6.12	14.70	12.1	1.5	5.05	
1350	22.32	0.53	0.45	6.12	16.70	9.69	2.0	5.05	
1355	22.27	0.52	0.4	6.12	17.80	6.26	2.5	5.05	
1400	22.36	0.53	0.35	6.13	18.06	5.10	3.0	5.05	
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[5]	(see note below)[5]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0176740 | Sampling Date: 4/6/15

Site/Location: Macon, GA | Sampler's Name: MR

Well ID: MW-207D | Pump Type/Model: Alexis Peristaltic | Sample Collection Time: 0945

Total Depth (ft)[1]: 46.35 | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: .1

Depth to Water (ft): 4.70 | Pump Intake Depth (ft): 41 | Sample ID: MW-207D-20160406-01

Well Diameter (in): 4 | Start/Stop Purge Time: 0904 / 0942 | QA/QC Collected? No

Well Volume (gal) = 0.041d²h: 27.3 gal / 103.28 L | Purge Rate (L/min)[2]: .1 L/min | QA/QC I.D.: —

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): ~~3.8~~ 4.2 | Laboratory Analyses: VOC, SVOC, Metals, Cyanide

Well Condition: Good | Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
0909	17.36	0.50	1.05	7.01	-53.60	15.6	.5	4.78	
0914	18.09	0.50	1.02	7.02	-66.10	25.6	1.0	4.83	
0919	18.30	0.50	0.97	7.01	-64.10	16.6	1.5	4.85	
0924	18.05	0.50	0.97	7.01	-63.6	13.8	2.0	4.86	
0929	18.05	0.50	0.96	7.01	-64.50	12.3	2.5	4.87	
0934	18.17	0.50	0.96	7.01	-66.10	15.2	3.0	4.88	
0939	18.25	0.50	0.78	7.01	-67.90	9.4	3.5	4.89	
Parameters	Stable	Well	Can	Be	Sampled				Sampled @ 0945
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

41.65

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0176740 | Sampling Date: 4/6/16

Site/Location: Macon, GA | Sampler's Name: M. Low

Well ID: MW-300D | Pump Type/Model: Alexis PP | Sample Collection Time: 1235

Total Depth (ft)[1]: 43 | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: 0.04 Liters/min

Depth to Water (ft): 3.69 | Pump Intake Depth (ft): 39 feet | Sample ID: MW-300D-20160406-01

Well Diameter (in): 2" | Start/Stop Purge Time: Start @ 804 - Stop @ | QA/QC Collected? YES

Well Volume (gal) = 0.041d²h: | Purge Rate (L/min)[2]: 0.04 | QA/QC I.D. MW-300D-MS-20160406-01 + MW-300D-MSD-20160406-01

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 5 L + Flow cell | Laboratory Analyses: VOC's/SVOC's/CO²/Total Metals

Well Condition: OK | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
804	15.28	628.40	1.13	6.80	-57.90	28.2	0.4	3.98	Clear - No odor
814	16.83	607.90	0.44	6.76	-54.80	2.63	0.4	4.44	— Reduce purge Rate.
819	16.77	563.50	0.40	6.64	-45.80	6.39	0.25	4.61	
824	16.75	539.50	0.38	6.54	-38.50	7.38	0.25	4.77	- Reduce purge Rate
829	16.81	516.10	0.38	6.48	-32.20	2.62	0.20	4.83	- Clear — H_2S odor
834	16.68	500.20	0.38	6.42	-23.50	4.80	0.20	4.97	- clear - H_2S odor
839	16.87	489.60	0.35	6.40	-17.80	4.73	0.20	5.02	- clear - H_2S odor
844	16.83	481.40	0.39	6.37	-10.40	3.27	0.20	5.04	- Clear - H_2S odor
849	16.86	496.40	0.37	6.45	-9.40	2.90	0.20	5.06	
854	16.84	483.90	0.37	6.42	-1.90	3.48	0.20	5.09	Clear - H_2S odor
859	17.2	452.40	0.37	6.37	12.20	2.96	0.20	5.12	Clear - H_2S odor
904	17.37	415.10	0.36	6.37	24.70	3.03	0.20	5.16	Clear - H_2S odor -
909	17.76	395.30	0.41	6.34	28.10	3.40	0.20	5.20	Clear - H_2S odor
914	17.93	360.90	0.45	6.36	32.30	2.93	0.20	5.23	Clear - H_2S odor
919	18.12	311.30	0.52	6.33	44.70	2.27	0.20	5.26	Clear - H_2S odor
924	17.77	292.10	0.65	6.27	52.40	1.02	0.20	5.28	Clear - H_2S odor
929	17.94	298.40	0.69	6.26	53.70	1.07	0.20	5.30	Clear - H_2S odor
934	18.11	293.00	0.72	6.22	57.70	1.25	0.20	5.31	Clear - H_2S odor
939	17.95	284.80	0.80	6.17	63.00	0.84	0.20	5.32	Clear - H_2S odor
944	17.81	288.40	0.80	6.15	64.40	0.80	0.20	5.32	Clear - H_2S odor
949	17.99	293.40	0.79	6.13	65.80	0.53	0.20	5.32	Clear - H_2S odor
954	17.77	292.30	0.79	6.13	66.10	0.85	0.20	5.33	Clear - H_2S odor
Stabilizing Criteria[5]	**+/- 1°C**	**+/- 3%**	**+/- 10% (see note below)[7]**	**+/- 0.1 unit**	**+/- 10 mV (see note below)[8]**	**+/- 10% or <10 NTUs**	**(see note below)[4]**	**(see note below)[6]**	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

954 @ Stop purging
956 — @ to sample
1235 — MW 300 D / MW 300 D MS & MW 300 D-MSD collected

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0176740 | Sampling Date: 4/7/16

Site/Location: Macon, GA | Sampler's Name: M. Leon

Well ID: MW-301D | Pump Type/Model: Alexis QP | Sample Collection Time: 10:40

Total Depth (ft)[1]: 46.00 | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: 0.06

Depth to Water (ft): 11.02 | Pump Intake Depth (ft): 41 | Sample ID: MW-301D-20160407-01

Well Diameter (in): 2 | Start/Stop Purge Time: @910 - stop @945 | QA/QC Collected? No

Well Volume (gal) = 0.041d²h: | Purge Rate (L/min)[2]: 0.06 | QA/QC I.D. NA

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 2.2L | Laboratory Analyses: VOC's | SVOC's | CN⁻ | Metals, TOC

Well Condition: Good | Sampling Method (check all that apply): ☑ Soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
915	15.69	912.8	1.15 ~~-44.0~~	6.14	-44.0	1.53	0.2	11.27	Clear - H_2S odor
920	16.64	912.80	0.46	6.14	-44.0	2.50	0.4	11.36	Clear - org odor (Naphthalene)
									Reduce Purge Rate - Turb Start to Increase
925	16.90	865.2	0.34	6.05	-65.0	2.93	0.4	11.42	Clear - org odor (Naph/creosote)
930	17.04	858.3	0.33	6.06	-74.0	3.25	0.3	11.42	Clear - " " " "
935	17.03	853.9	0.32	6.06	-74.2	4.18	0.3	11.44	Clear - org odor - Naph - creosote
940	17.10	851.5	0.30	6.07	-76.8	2.92	0.3	11.46	" " " " " "
									Turb Started to Decrease
									one more Reading & then will
945	17.10	842	0.29	6.07	-82.9	3.24	0.3	11.47	Sample
948 —	Start to	Sample	MW-301D						
1040	MW-301D	Completed							
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[5]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0176740 | Sampling Date: 4/7/16

Site/Location: Macon, GA | Sampler's Name: M Low

Well ID: MW-302D | Pump Type/Model: Alexy PP | Sample Collection Time: 1615

Total Depth (ft)[1]: 45 | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: 0.06

Depth to Water (ft): 12.32 | Pump Intake Depth (ft): 40 | Sample ID: MW-302D - 20160407-01

Well Diameter (in): 2 | Start/Stop Purge Time: @1350 Stop @1505 | QA/QC Collected? No

Well Volume (gal) = 0.041d²h: | Purge Rate (L/min)[2]: 0.06 | QA/QC I.D. NA

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 4.3 L | Laboratory Analyses: VOC's | SVOC's | CN⁻ | Metals total

Well Condition: Good | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
Initial 1355	22.43	1240.4	4.34	5.78	-121.40	12.0	0.05	1269	Clear - H2S odor
1400	22.44	1372.4	0.81	5.68	-118.60	18.6	0.25	1305	Clear - Creosote odor
1405	22.40	1314.2	0.47	5.67	-115.30	14.4	0.30	1348	Clear - creosote odor
1410	22.67	1365.8	0.40	5.67	-113.20	14.6	0.40	1382	Clear - creosote odor
1415	22.95	1370.9	0.35	5.67	-113.20	8.43	0.30	1408	Reduce purge Rate -
1420	23.32	1355.50	0.35	5.67	-113.10	21.90	0.30	1435	Clear - Creosote odor
1425	23.34	1346.70	0.33	5.67	-112.0	24.1	0.30	1452	Clear - Creosote odor
1430	23.12	1337.1	0.30	5.67	-111.50	17.5	0.30	1477	Clear - creosote odor
1435	23.64	1320.7	0.27	5.67	-103.40	33.2	0.30	1495	Clear - creosote odor
1440	24.02	1287.70	0.28	5.68	-113.80	4.74	0.30	1515	
	Purge rate is @ 60 mL/min - And turbidity started to fluctuate								
	Plus Water level continue Dropping -								
	All parameters except for turbidity & DTW = is Not Stable								
1445	— No Readings					9.79	0.30	1530'	— Instrument Is Not Recording
1450	24.47	1234.4	0.25	5.70	-116.4	4.18	0.30	1547	Begin to take Readings from Live Readings
1455	24.52	1225.4	0.21	5.71	-114.5	5.38	0.30	15 61	
1500	24.84	1208.3	0.19	5.72	-114.9	5.62	0.30	15.70	Call Eastern Solutions - to Get an answer
1505	24.69	1202.4	0.20	5.72	-113.3	5.72	0.30	1578	- Stop purging - See Notes on Field Book
1510	— will begin to Sample								On Live Readings the turbidity is between the 3's -
1615	— MW-302D collected -								
	SVOC's Had a sheen (Slight sheen)								
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

Note = After Removing the tubing to do the Reverse flow It was Noted that the End of the tubing was Stained with free product at least 0.5 Inche of Black tar-

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL | Project No.: 0176740 | Sampling Date: 4/7/16

Site/Location: Macon, GA | Sampler's Name: M Lucas

Well ID: MW-302DD | Pump Type/Model: Alexis - BP | Sample Collection Time: 1320

Total Depth (ft)[1]: 100 | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: 0.06

Depth to Water (ft): 18.65 | Pump Intake Depth (ft): 85 | Sample ID: MW-302DD-20160401-01

Well Diameter (in): 2 | Start/Stop Purge Time: @ 11:19 - Stop @ 1234 | QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: | Purge Rate (L/min)[2]: 0.06 | QA/QC I.D. NA

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 3.6 L | Laboratory Analyses: VOC's / SVOC's / CN⁻ / Metals, total

Well Condition: OK | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1124	—	No	Readings	—	Actual	—			
	19.77	0.0		6.72	99.00		0		
1129	19.95	730.50	1.80	7.48	-164.0	3.51	0.2	18.89	Clear - H2S odor.
1134	20.35	735.10	0.72	7.50	-196.3	5.27	0.2	18.92	Clear - H2S odor.
1139	20.36	729.9	0.46	7.50	-200.9	5.20	0.3	18.93	Clear - H2S odor
1144	20.44	729.70	0.39	7.51	-205.6	3.47	0.3	18.94	Clear - H2S odor
1149	20.65	729.20	0.30	7.50	-210.10	4.46	0.3	18.95	Clear - H2S odor
1154	20.86	731.7	0.29	7.50	-215.7	3.43	0.3	18.96	Clear - H2S odor
1159	21.00	721.30	0.24	7.50	-222.1	5.31	0.3	18.96	Clear - H2S odor
1204	21.17	727.70	0.24	7.50	-227.3	2.82	0.3	18.96	Clear - H2S odor
			Lost pressure			Reset			
1209	No	Readings	—						
1214	21.46	729.40	1.27	7.53	-225.10	3.55	0.2	18.91	Clear - H2S odor
1219	21.42	735.20	0.30	7.50	-229.8	3.26	0.3	18.96	Clear - H2S odor
1224	21.69	730.8	0.22	7.50	-233.5	3.34	0.3	18.96	Clear - H2S odor
1229	21.83	730.9	0.17	7.50	-236.8	3.08	0.3	18.96	Clear - H2S odor
1234	21.98	731.6	0.16	7.50	-240.1	2.96	0.3	18.96	Clear - H2S odor
1236	—	Start to sample MW-302DD							
1320	—	MW-302DD collected							
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0176740 | Sampling Date: 4/6/16

Site/Location: Macon, GA | Sampler's Name: Manual Howard

Well ID: MW-304D | Pump Type/Model: Alexis QP | Sample Collection Time: 1730

Total Depth (ft)[1]: 61 | Tubing Material: LDPE | Sample Purge Rate (L/min)[2]: 0.06 L

Depth to Water (ft): 1446 | Pump Intake Depth (ft): 51 | Sample ID: MW-304D-20160406-01

Well Diameter (in): 6" | Start/Stop Purge Time: 0153 stop @ 1620 | QA/QC Collected? Yes

Well Volume (gal) = 0.041d²h: | Purge Rate (L/min)[2]: 0.06 L | QA/QC I.D. MW-DUP2-20160406-01

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 3 L | Laboratory Analyses:

Well Condition: Good | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1535	21.73	1047.30	2.11	7.47	-28.30	219	0.1	14.50	Light Yellow - No odor -
1540	20.35	1071.50	0.59	6.94	-9.10	193	0.3	1455	Light Yellow - No odor
1545	20.20	1072.1	0.43	6.88	2.30	186	0.6	1457	Light Yellow - No odor
1550	20.13	1073.50	0.37	6.85	6.90	170	0.3	1465	Light Yellow - No odor
1555	20.08	1075.0	0.32	6.83	9.70	169	0.3	1469	Light Yellow - No odor
1600	19.99	1075.2	0.30	6.83	11.50	164	0.3	1473	Light Yellow - No odor
1605	20.01	10743	0.27	6.81	12.60	172	0.3	1478	Light Yellow - No odor
1610	19.95	1075.6	0.26	6.81	13.30	179	0.3	1478	Light Yellow - No odor
1615	19.95	1073.9	0.24	6.80	14.20	135	0.3	1482	Light Yellow - No odor
1620	19.95	1076.4	0.24	6.81	14.30	189	0.3	1483	Light Yellow - No odor
	Turbidity is stable & between 10% - will stop purging & move to Sample -								
1623 -	Start to Sample								
1750 -	MW-304D collected + the Duplicate -								
Stabilizing Criteria[3]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[5]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0176740 | Sampling Date: 4/7/16

Site/Location: Macon, GA | Sampler's Name: M. Leon

Well ID: MW-305D | Pump Type/Model: Alexis QP | Sample Collection Time: 1840

Total Depth (ft)[1]: 41.5 | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: 0.06 L/min

Depth to Water (ft): 15.26 | Pump Intake Depth (ft): 37 | Sample ID: MW-305D-20160407-01

Well Diameter (in): 4" | Start/Stop Purge Time: @ 1656 Stop @ 1744 | QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: | Purge Rate (L/min)[2]: 0.06 | QA/QC I.D. NA

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 2.5 L | Laboratory Analyses: VOC | SVOC | CN | Metals total

Well Condition: Good | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1701	25.62	5030.6	5.35	12.06	-142.60	3.64	0.1	1537	Clear - Organic odor
1706	23.88	5229.90	5.17	12.11	-105.0	3.25	0.4	1553	Clear - Creosote odor
1711	23.45	5245.60	5.03	12.13	-84.10	3.12	0.3	1565	Reduce pump rate - clear - creosote odor
1716	23.43	5265.10	4.97	12.13	-71.60	2.94	0.3	1578	Clear - creosote odor
1721	23.43	5277.90	4.96	12.14	-63.50	2.93	0.3	1589	Clear - creosote odor
1726	23.56	52743	4.81	12.14	-57.00	2.79	0.3	1602	Clear creosote odor
1731	23.61	5273.9	4.60	12.14	-51.50	3.10	0.3	1617	Clear creosote odor
1736	23.94	5285.7	4.71	12.13	-49.10	2.85	0.3	1627	Clear - creosote odor
1741	23.92	5247.3	4.63	12.13	-44.30	2.89	0.3	1642	Clear - creosote odor
1745	—	Start to	sample	MW	305D				
1840	—	MW	305D	collected					
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[6]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL | Project No.: 0176740 | Sampling Date: 4/7/16

Site/Location: Macon, GA | Sampler's Name: MR

Well ID: MW-306D | Pump Type/Model: Alexis Peristaltic | Sample Collection Time: 1726

Total Depth (ft)[1]: 51 | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: .1 L/min

Depth to Water (ft): 5.31 | Pump Intake Depth (ft): 42 | Sample ID: MW-306D-20160407-01

Well Diameter (in): 6 | Start/Stop Purge Time: 1644 / 1724 | QA/QC Collected? No

Well Volume (gal) = 0.041d²h: 67.4gal / 254.7 | Purge Rate (L/min)[2]: .1 L/min | QA/QC I.D. —

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 4.0 | Laboratory Analyses: VOC, SVOC, Metals, Cyanide

Well Condition: Good | Sampling Method (check all that apply): ☐ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1649	23.27	2.90	6.59	12.00	-53.90	4.01	.5	5.33	Odor
1654	22.30	3.00	2.55	12.07	-26.30	3.40	1.0	5.39	
1659	22.09	3.00	2.82	12.07	-11.70	2.39	1.5	5.47	
1704	22.16	2.89	3.21	12.06	-21.10	3.42	2.0	5.54	
1709	22.11	2.85	3.70	12.05	0.60	1.40	2.5	5.60	Everything is stable but SCond will not turn green on smartroll
1714	22.13	2.84	4.70	12.05	4.70	0.88	3.0	5.64	Excessive drawdown not purging 3WV 1/2 of large volumes
1719	22.09	2.73	4.59	12.03	7.40	1.17	3.5	5.70	
1724	22.10	2.67	4.89	12.03	10.11	0.79	4.0	5.73	
Parameters		Stable	Well Can Be Sampled						Sampling @ 1726
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

45.09

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0176740 | Sampling Date: 4/6/16

Site/Location: Macon, GA | Sampler's Name: Manuel Leon

Well ID: MW-307D | Pump Type/Model: Alexis - QP | Sample Collection Time: 14:47

Total Depth (ft)[1]: 58 | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: 0.08 L/min

Depth to Water (ft): 7.17 | Pump Intake Depth (ft): 46 | Sample ID: MW-307D-20160406-01

Well Diameter (in): 6" | Start/Stop Purge Time: Start @ 13:19 Stop @ 1404 | QA/QC Collected? No

Well Volume (gal) = 0.041d²h: | Purge Rate (L/min)[2]: 0.08 | QA/QC I.D.

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 3.0 L with Flow | Laboratory Analyses: VOC's | SVOC's | CN | Total Metals

Well Condition: OK | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1324	23.20	9615.40	4.92	12.34	-66.20	4.71	0.2	7.22	
1329	22.09	9978.10	2.14	12.41	-48.00	5.51	0.5	7.36	Clear No odor - Reduce purge Rate
1334	22.0	9997.20	2.50	12.43	-35.60	3.68	0.8	7.37	Clear - No odor
1339	21.95	9992.70	2.05	12.44	-32.40	5.22	0.4	7.43	Clear - No odor
1344	21.86	9981.20	2.01	12.45	-27.80	2.94	0.4	7.50	Clear - No odor
1349	21.91	9971.40	1.98	12.46	-24.60	2.25	0.4	7.57	Clear - No odor
1354	21.87	9970.30	1.93	12.46	-22.0	2.27	0.4	7.65	Clear - No odor
1359	21.92	10000.1	1.91	12.46	-20.10	2.71	0.4	7.73	Clear - No odor
1404	22.00	9983.7	1.92	12.46	-18.63	3.12	0.4	7.80	Clear - No odor
1406	—	Start to sample			—	At this location extra Readings were taken to check pH & DO - Fluctuation			
1447	—	MW-307D Collected			—				
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

1404 - 966-6349

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL | Project No.: 0176740 | Sampling Date: 4/5/16

Site/Location: Macon, GA | Sampler's Name: M.R

Well ID: MW-308D | Pump Type/Model: Alexis Peristaltic | Sample Collection Time: 0955

Total Depth (ft)[1]: 111.0 | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: .1

Depth to Water (ft): 18.99 | Pump Intake Depth (ft): 105 | Sample ID: MW-308D-20160405-01

Well Diameter (in): 6 | Start/Stop Purge Time: 0842 / 1947 | QA/QC Collected? No

Well Volume (gal) = 0.041d²h: 15.08 gal / 57.0 L | Purge Rate (L/min)[2]: .1 | QA/QC I.D. —

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 6.0 | Laboratory Analyses: VOC SVOC, metal, Cyanide

Well Condition: Good need lid | Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (uS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
0847	Trying to	fix pump,	getting	no	water				
0852	24.00	0.0?	8.12	9.09	44.50	5.21	.5	19.02	
0857	19.45	4080	4.88	12.24	-24.10	411	1.0	19.08	Water got very cloudy / dark brown color
0902	19.68	4002	4.34	12.26	-24.2	OL	1.5	19.14	
0907	19.55	4005	7.99	10.69	9.60	OL	2.0	19.18	
0912	19.37	4078	4.74	12.28	13.80	514	2.5	19.21	
0917	19.34	4057	4.59	12.29	26.60	604	3.0	1925	
0922	19.50	4026	4.45	12.26	34.60	OL	3.5	19.36	Drawdown over limit. Not doing 3 WV ½ of large Volumes. Will Stabalize then sample
0927	19.67	4044	4.37	12.27	40.40	322	4.0	19.35	
0932	19.71	4018	4.27	12.27	46.10	245	4.5	19.38	
0937	19.79	3994	4.33	12.27	50.80	948	5.0	19.4	
0942	19.81	3965	4.27	12.26	54.10	761	5.5	19.41	
0947	19.99	3898.70	4.24	12.25	55.80	236	6.0	19.47	Talked to Adam, she said sample once turbidity under 500 NTU
Parameter Stable, well can be Sampled									
Sampling @ 0955									
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[6]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

92.0

Three-Point Groundwater Gradient Estimation Figures

Appendix B-3

May 21, 2016
Project No. 0176740
Atlanta Gas Light Company

Environmental Resources Management Southeast, Inc.
3200 Windy Hill Rd. Suite 1500W
Atlanta, GA 30339
(678) 486-2700

Western Portion Gradient Calculation				
Well Pair		dh	dL	Gradient
AMW-11	MW-109	7.82	355	0.0220

Eastern Portion Gradient Calculation				
Well Pair		dh	dL	Gradient
MW-101	MW-28	10.90	685	0.0159

N

0 100 Feet

Basemap: Image Source: April 2013 - Settimio Consulting Services, Inc.

Environmental Resources Management

ERM

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	5/3/2016	SCALE:	AS SHOWN	REVISION:	0
FILE:	D:\AGL_Macon\MXD\2016 04 2ndSAPrgRpt\AppxB GWRpt\AppxBGWRpt\APPXB\B-2A_AlluvGWGradEst_030316.mxd				

- Shallow Well
- Abandoned Shallow Well
- Destroyed Shallow Well
- Intermediate Well
- Gradient Estimastion Flow Direction
- Groundwater Elevation Contours (ft AMSL)
- Groundwater Flow Direction
- ISS Mass

NOTES:

(293.98) = GW Elevation (Ft, AMSL)

(NM) = Not Measured

* = Anamolous Elevation, Not Used in Contouring

Intermediate Wells Not Used in Contouring

FIGURE B-3A - GROUNDWATER GRADIENT ESTIMATION MAP MARCH 3, 2016

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia

Western Portion Gradient Calculation				
Well Pair		dh	dL	Gradient
AMW-11	MW-109	10.26	355	0.0289
Contour 312	MW-106	12.99	335	0.0388
				0.0338

Eastern Portion Gradient Calculation				
Well Pair		dh	dL	Gradient
MW-101	MW-28	10.00	685	0.0146
MW-10	MW-104	6.71	515	0.0130
				0.0138

N

0 100 Feet

Basemap: Image Source: April 2013 - Settimio Consulting Services, Inc.

ERM

Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	5/3/2016	SCALE:	AS SHOWN	REVISION:	0
FILE:	D:\AGL_Macon\MXD\2016 04 2ndSAPrgRpt\AppxB GWRpt\AppxBGWRpt\APPXB\B-2B_AlluvGWGradEst_040416.mxd				

- Shallow Well
- Abandoned Shallow Well
- Destroyed Shallow Well
- Intermediate Well
- Gradient Estimastion Flow Direction
- Groundwater Elevation Contours (ft AMSL)
- Groundwater Flow Direction
- ISS Mass

NOTES:

(294.50) = Groundwater Elevation (Ft, AMSL)

(NM) = Not Measured

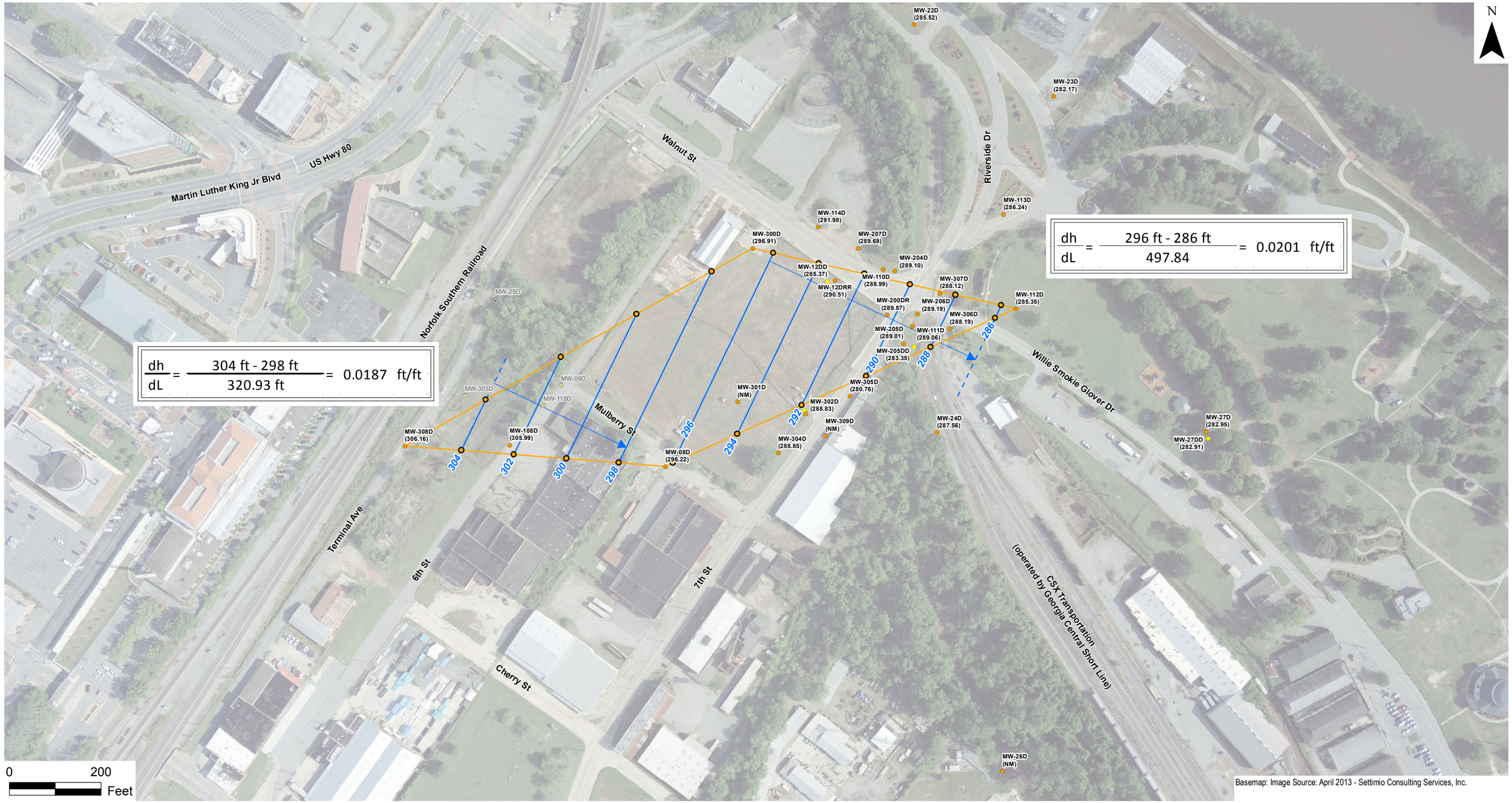
Intermediate Wells Not Used in Contouring

FIGURE B-3B - GROUNDWATER GRADIENT ESTIMATION MAP APRIL 4, 2016

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	5/3/2016	SCALE:	AS SHOWN	REVISION:	0
FILE:	D:\AGL_Macon\MXD\2016.04.2ndSAPrgRpt\AppxB_GWRpt\AppxBGWRptAPPXB\B-2C_BdrkGW3PtGradEst_030316.mxd				

- Shallow Bedrock Well
- Abandoned Shallow Bedrock Well
- Destroyed Shallow Bedrock Well
- Deep Bedrock Well
- Estimated Groundwater Contour
- Estimated Groundwater Flow Direction

NOTES:

(287.56) = Groundwater Elevation (Ft, AMSL)

(NM) = Not Measured

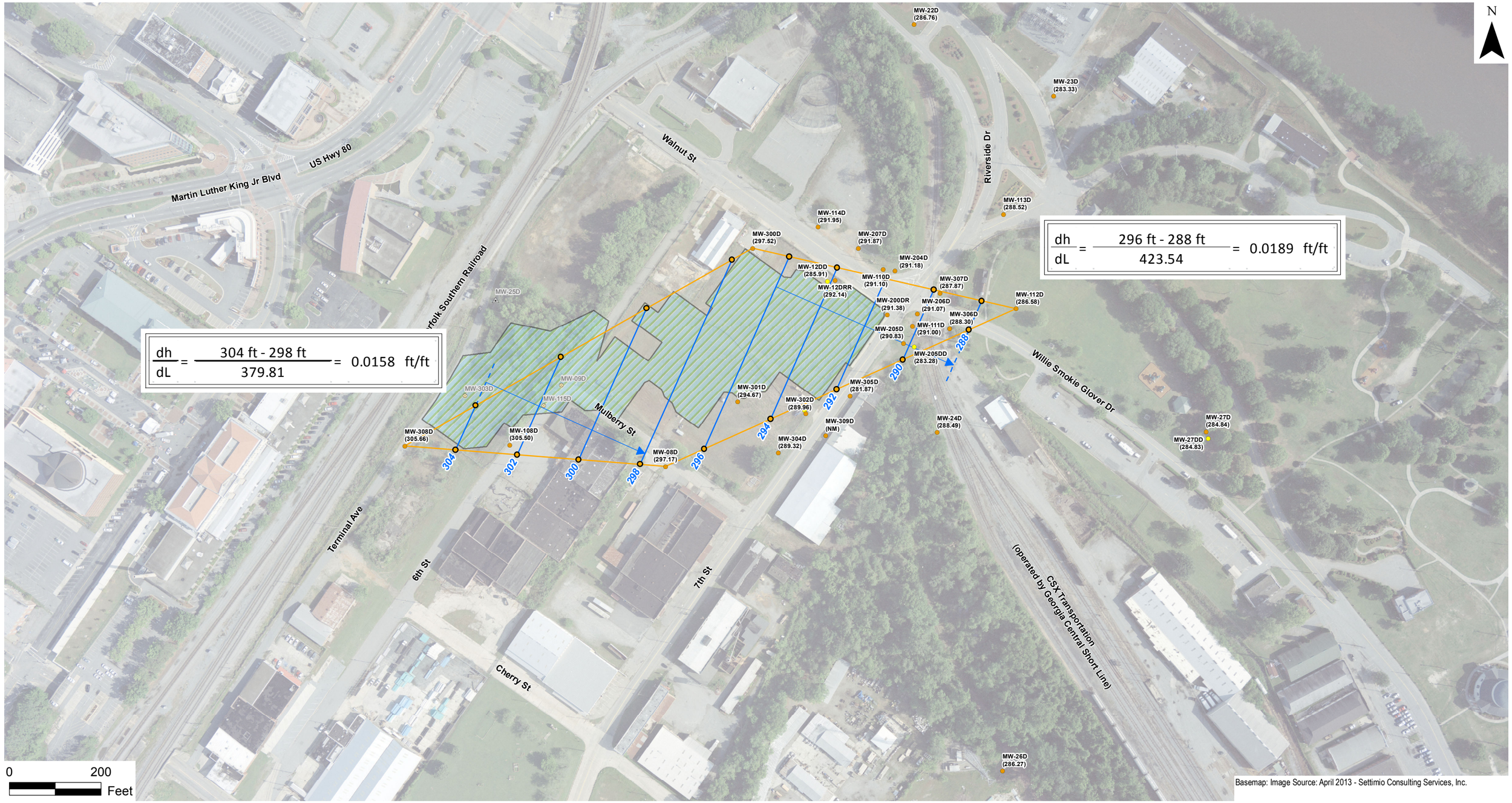
Deep Bedrock Wells Not Used in Flow Direction Calculations

FIGURE B-3C - THREE-POINT GROUNDWATER GRADIENT ESTIMATION - MARCH 3, 2016

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



ERM

Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	5/3/2016	SCALE:	AS SHOWN	REVISION:	0
FILE:	D:\AGL_Macon\MXD\2016.04.2ndSAPrgRpt\AppxB_GWRpt\AppxBGWRptAPPXB\B-2D_BdrkGW3PtGradEst_040416.mxd				

- Shallow Bedrock Well
- Abandoned Shallow Bedrock Well
- Damaged Shallow Bedrock Well
- Deep Bedrock Well
- ISS Mass
- Estimated Groundwater Contour
- Estimated Groundwater Flow Direction

NOTES:

(288.49) = Groundwater Elevation (Ft, AMSL)

(NM) = Not Measured

Deep Bedrock Wells Not Used in Flow Direction Calculations

FIGURE B-3D - HYDRAULIC POTENTIAL IN SHALLOW BEDROCK WELLS - APRIL 4, 2016

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia

Laboratory Analytical Reports (CD ONLY)

Appendix B-4

May 21, 2016
Project No. 0176740
Atlanta Gas Light Company

Environmental Resources Management Southeast, Inc.
3200 Windy Hill Rd. Suite 1500W
Atlanta, GA 30339
(678) 486-2700

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

AES

April 19, 2016

Adria Reimer
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: AGL Macon

Dear Adria Reimer: Order No: 1604558

Analytical Environmental Services, Inc. received 18 samples on April 7, 2016 1:45 pm for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES's accreditations are as follows:
-NELAC/Florida State Laboratory ID E87582 for analysis of Non-Potable Water, Solid & Chemical Materials, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-NELAC/Louisiana Agency Interest No. 100818 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 07/01/15-06/30/16.
-NELAC/Texas Certificate No. T104704509-16-6 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 03/01/16-02/28/17.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1604558

Date: 4/6/16 Page 1 of 2

COMPANY: ERM 3200 Windy Hill Rd - SE Suite 1500W Atlanta - GA - 30339	ADDRESS: 3200 Windy Hill Rd - SE Suite 1500W Atlanta - GA - 30339
PHONE: 678-486-2700	FAX: 678-745-0103
SAMPLED BY: M Leon / K Spevack / M. Rodgers	SIGNATURE:

ANALYSIS REQUESTED

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	EPA-8260 B	EPA-8270 C	EPA-6010B+7470A	EPA-9012A	No # of Containers
	PRESERVATION (See codes)						H+I	I	H2SO4	NaOH	
1	MW-12DRR-20160405-01	4/5/16	1320	X		GW	2	2	-	1	
2	MW-22D-20160405-01	4/5/16	1455	X							
3	MW-23D-20160405-01	4/5/16	1715	X							
4	MW-24D-20160405-01	4/5/16	1045	X							
5	MW-27D-20160405-01	4/5/16	1230	X							
6	MW-112D-20160405-01	4/5/16	1827	X							
7	MW-113D-20160405-01	4/5/16	1530	X							
8	MW-308D-20160405-01	4/5/16	0955	X							
9	MW-12DD-20160406-01	4/6/16	1626	X							
10	MW-205DD-20160406-01	4/6/16	1133	X							
11	MW-206D-20160406-01	4/6/16	1402	X							
12	MW-207D-20160406-01	4/6/16	0945	X							
13	MW-300D-20160406-01	4/6/16	1235	X							
14	MW-304D-20160406-01	4/6/16	1730	X							

For the Analyte List Please call Adriana Reimer

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: Manuel Leon	4/7/16 — 850	1:	4/7/16
2:	4/7/16 1:45	2:	8:50
3:		3:	4/7/16 1:45PM

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
CLIENT FedEx UPS MAIL COURIER
GREYHOUND OTHER

PROJECT INFORMATION
PROJECT NAME: AGL Macon
PROJECT #:
SITE ADDRESS: AGL Macon
SEND REPORT TO: Adria Reimer
INVOICE TO: (IF DIFFERENT FROM ABOVE) Same As Report
QUOTE #: PO#:

RECEIPT
Total # of Containers

Turnaround Time Request
- (●) Standard 5 Business Days
- ( ) 2 Business Day Rush
- ( ) Next Business Day Rush
- ( ) Same Day Rush (auth req.)
- ( ) Other

STATE PROGRAM (if any):
E-mail? Y / N; Fax? Y / N
DATA PACKAGE: I II III IV

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.
SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water
PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

ANALYTICAL ENVIRONMENTAL SERVICES, INC

3080 Presidential Drive, Atlanta GA 30340-3704

AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 160455

Date: 4/6/16 Page 2 of 2

COMPANY: ERM 3200 Windy Hill Rd - SE Suite 1500W Atlanta - GA - 30339	ADDRESS: 3200 Windy Hill Rd - SE Suite 1500W Atlanta - GA - 30339
PHONE: 678-486-2700	FAX: 678-745-0103
SAMPLED BY: M Leon / K Spencer / M Rodgers	SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	ANALYSIS REQUESTED: EPA 8260B	EPA 8270C	EPA 6010B+7470A HWDS	EPA 9012A HADH	PRESERVATION (See codes): HCl	N/HE	HWDS	HADH	REMARKS
1	MW-307D-20160406-01	4/6/16	1447	X		GW	2	2	1	1					
2	MW-300D-MS-20160406-01	4/6/16	1235	X		GW	2	2	1	1					
3	MW-300D-MSD-20160406-01	4/6/16	1235	X		GW	2	2	1	1					
4	Dup-02-20160406-01	4/6/16	—	X		GW	2	2	1	1					
5	Trip Blk	—	—				2								
6															
7															
8															
9															
10															
11															
12															
13															
14															

4/6/16 - 2100

Please see comments Page 1

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

No # of Containers

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: Manuel Leon	4/7/16-850	1:	4/7/16
2:	4/7/16 1:45	2: Melanie Sawyer	8:50
3:		3:	4/7/16 1:45PM

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD

OUT / / VIA:

IN / / VIA:

CLIENT FedEx UPS MAIL COURIER

GREYHOUND OTHER

PROJECT INFORMATION

PROJECT NAME:

PROJECT #:

SITE ADDRESS:

SEND REPORT TO:

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: PO#:

RECEIPT

Total # of Containers

Turnaround Time Request

- (●) Standard 5 Business Days
- ( ) 2 Business Day Rush
- ( ) Next Business Day Rush
- ( ) Same Day Rush **(auth req.)**
- ( ) Other

STATE PROGRAM (if any):

E-mail? Y / N; Fax? Y / N

DATA PACKAGE: I II III IV

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.
SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Client: ERM-Southeast
Project: AGL Macon
Lab ID: 1604558

Case Narrative

Semi-Volatile organics Analysis by Method 8270D:

Percent recovery for the surrogate spiking compound 2-Fluorobiphenyl on QC sample LCS-222389 was outside control limits biased high. All other surrogate recoveries were within control limits.

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-12DRR-20160405-01
Project Name:	AGL Macon	**Collection Date:**	4/5/2016 1:20:00 PM
Lab ID:	1604558-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	96	5.0		ug/L	222476	1	04/12/2016 16:22	AR
Carbon disulfide	BRL	5.0		ug/L	222476	1	04/12/2016 16:22	AR
Ethylbenzene	36	5.0		ug/L	222476	1	04/12/2016 16:22	AR
Toluene	BRL	5.0		ug/L	222476	1	04/12/2016 16:22	AR
Xylenes, Total	22	5.0		ug/L	222476	1	04/12/2016 16:22	AR
Surr: 4-Bromofluorobenzene	101	70.7-125		%REC	222476	1	04/12/2016 16:22	AR
Surr: Dibromofluoromethane	95.2	82.2-120		%REC	222476	1	04/12/2016 16:22	AR
Surr: Toluene-d8	97.9	81.8-120		%REC	222476	1	04/12/2016 16:22	AR
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	260	50		ug/L	222390	100	04/12/2016 16:14	YH
Acenaphthylene	8.9	1.0		ug/L	222390	1	04/11/2016 19:13	YH
Acenaphthene	27	10		ug/L	222390	100	04/12/2016 16:14	YH
Fluorene	31	10		ug/L	222390	100	04/12/2016 16:14	YH
Phenanthrene	7.6	0.050		ug/L	222390	1	04/11/2016 19:13	YH
Anthracene	1.7	0.050		ug/L	222390	1	04/11/2016 19:13	YH
Fluoranthene	4.6	0.10		ug/L	222390	1	04/11/2016 19:13	YH
Pyrene	5.2	0.050		ug/L	222390	1	04/11/2016 19:13	YH
Benz(a)anthracene	0.14	0.050		ug/L	222390	1	04/11/2016 19:13	YH
Chrysene	0.12	0.050		ug/L	222390	1	04/11/2016 19:13	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222390	1	04/11/2016 19:13	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222390	1	04/11/2016 19:13	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222390	1	04/11/2016 19:13	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222390	1	04/11/2016 19:13	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222390	1	04/11/2016 19:13	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222390	1	04/11/2016 19:13	YH
Surr: 4-Terphenyl-d14	196	58.7-134	S	%REC	222390	1	04/11/2016 19:13	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222389	1	04/11/2016 18:24	YH
2-Methylphenol	BRL	10		ug/L	222389	1	04/11/2016 18:24	YH
3,4-Methylphenol	BRL	10		ug/L	222389	1	04/11/2016 18:24	YH
Phenol	BRL	10		ug/L	222389	1	04/11/2016 18:24	YH
Surr: 2,4,6-Tribromophenol	98.4	51.5-141		%REC	222389	1	04/11/2016 18:24	YH
Surr: 2-Fluorobiphenyl	110	50.8-122		%REC	222389	1	04/11/2016 18:24	YH
Surr: 2-Fluorophenol	66.6	28.1-120		%REC	222389	1	04/11/2016 18:24	YH
Surr: 4-Terphenyl-d14	110	47.2-131		%REC	222389	1	04/11/2016 18:24	YH
Surr: Nitrobenzene-d5	98.7	42.1-124		%REC	222389	1	04/11/2016 18:24	YH
Surr: Phenol-d5	50.9	16-120		%REC	222389	1	04/11/2016 18:24	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-12DRR-20160405-01
Project Name:	AGL Macon	**Collection Date:**	4/5/2016 1:20:00 PM
Lab ID:	1604558-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	222478	1	04/12/2016 12:49	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.023	0.010		mg/L	222576	1	04/13/2016 12:50	PF
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	222433	1	04/12/2016 15:55	JL
Arsenic	BRL	0.0500		mg/L	222433	1	04/12/2016 15:55	JL
Barium	1.39	0.0200		mg/L	222433	1	04/12/2016 15:55	JL
Beryllium	BRL	0.0100		mg/L	222433	1	04/12/2016 15:55	JL
Cadmium	BRL	0.0050		mg/L	222433	1	04/12/2016 15:55	JL
Chromium	BRL	0.0100		mg/L	222433	1	04/12/2016 15:55	JL
Copper	BRL	0.0100		mg/L	222433	1	04/12/2016 15:55	JL
Lead	BRL	0.0100		mg/L	222433	1	04/12/2016 15:55	JL
Nickel	0.0421	0.0200		mg/L	222433	1	04/12/2016 20:10	JL
Zinc	BRL	0.0200		mg/L	222433	1	04/12/2016 15:55	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-22D-20160405-01
Project Name:	AGL Macon	**Collection Date:**	4/5/2016 2:55:00 PM
Lab ID:	1604558-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	222476	1	04/12/2016 16:51	AR
Carbon disulfide	BRL	5.0		ug/L	222476	1	04/12/2016 16:51	AR
Ethylbenzene	BRL	5.0		ug/L	222476	1	04/12/2016 16:51	AR
Toluene	BRL	5.0		ug/L	222476	1	04/12/2016 16:51	AR
Xylenes, Total	BRL	5.0		ug/L	222476	1	04/12/2016 16:51	AR
Surr: 4-Bromofluorobenzene	106	70.7-125		%REC	222476	1	04/12/2016 16:51	AR
Surr: Dibromofluoromethane	94.6	82.2-120		%REC	222476	1	04/12/2016 16:51	AR
Surr: Toluene-d8	102	81.8-120		%REC	222476	1	04/12/2016 16:51	AR
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	222390	1	04/11/2016 19:41	YH
Acenaphthylene	BRL	1.0		ug/L	222390	1	04/11/2016 19:41	YH
Acenaphthene	BRL	0.50		ug/L	222390	1	04/11/2016 19:41	YH
Fluorene	BRL	0.10		ug/L	222390	1	04/11/2016 19:41	YH
Phenanthrene	BRL	0.050		ug/L	222390	1	04/11/2016 19:41	YH
Anthracene	BRL	0.050		ug/L	222390	1	04/11/2016 19:41	YH
Fluoranthene	BRL	0.10		ug/L	222390	1	04/11/2016 19:41	YH
Pyrene	BRL	0.050		ug/L	222390	1	04/11/2016 19:41	YH
Benz(a)anthracene	BRL	0.050		ug/L	222390	1	04/11/2016 19:41	YH
Chrysene	BRL	0.050		ug/L	222390	1	04/11/2016 19:41	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222390	1	04/11/2016 19:41	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222390	1	04/11/2016 19:41	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222390	1	04/11/2016 19:41	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222390	1	04/11/2016 19:41	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222390	1	04/11/2016 19:41	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222390	1	04/11/2016 19:41	YH
Surr: 4-Terphenyl-d14	105	58.7-134		%REC	222390	1	04/11/2016 19:41	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222389	1	04/11/2016 18:50	YH
2-Methylphenol	BRL	10		ug/L	222389	1	04/11/2016 18:50	YH
3,4-Methylphenol	BRL	10		ug/L	222389	1	04/11/2016 18:50	YH
Phenol	BRL	10		ug/L	222389	1	04/11/2016 18:50	YH
Surr: 2,4,6-Tribromophenol	92.5	51.5-141		%REC	222389	1	04/11/2016 18:50	YH
Surr: 2-Fluorobiphenyl	106	50.8-122		%REC	222389	1	04/11/2016 18:50	YH
Surr: 2-Fluorophenol	66.4	28.1-120		%REC	222389	1	04/11/2016 18:50	YH
Surr: 4-Terphenyl-d14	124	47.2-131		%REC	222389	1	04/11/2016 18:50	YH
Surr: Nitrobenzene-d5	94.1	42.1-124		%REC	222389	1	04/11/2016 18:50	YH
Surr: Phenol-d5	56	16-120		%REC	222389	1	04/11/2016 18:50	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-22D-20160405-01
Project Name:	AGL Macon	**Collection Date:**	4/5/2016 2:55:00 PM
Lab ID:	1604558-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	222478	1	04/12/2016 12:55	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	222576	1	04/13/2016 12:50	PF
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	222433	1	04/12/2016 15:58	JL
Arsenic	BRL	0.0500		mg/L	222433	1	04/12/2016 15:58	JL
Barium	0.469	0.0200		mg/L	222433	1	04/12/2016 15:58	JL
Beryllium	BRL	0.0100		mg/L	222433	1	04/12/2016 15:58	JL
Cadmium	BRL	0.0050		mg/L	222433	1	04/12/2016 15:58	JL
Chromium	BRL	0.0100		mg/L	222433	1	04/12/2016 15:58	JL
Copper	BRL	0.0100		mg/L	222433	1	04/12/2016 15:58	JL
Lead	BRL	0.0100		mg/L	222433	1	04/12/2016 15:58	JL
Nickel	BRL	0.0200		mg/L	222433	1	04/12/2016 15:58	JL
Zinc	BRL	0.0200		mg/L	222433	1	04/12/2016 15:58	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-23D-20160405-01
Project Name:	AGL Macon	**Collection Date:**	4/5/2016 5:15:00 PM
Lab ID:	1604558-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	222476	1	04/12/2016 17:19	AR
Carbon disulfide	BRL	5.0		ug/L	222476	1	04/12/2016 17:19	AR
Ethylbenzene	BRL	5.0		ug/L	222476	1	04/12/2016 17:19	AR
Toluene	BRL	5.0		ug/L	222476	1	04/12/2016 17:19	AR
Xylenes, Total	BRL	5.0		ug/L	222476	1	04/12/2016 17:19	AR
Surr: 4-Bromofluorobenzene	105	70.7-125		%REC	222476	1	04/12/2016 17:19	AR
Surr: Dibromofluoromethane	96.1	82.2-120		%REC	222476	1	04/12/2016 17:19	AR
Surr: Toluene-d8	97.3	81.8-120		%REC	222476	1	04/12/2016 17:19	AR
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	222390	1	04/11/2016 20:08	YH
Acenaphthylene	BRL	1.0		ug/L	222390	1	04/11/2016 20:08	YH
Acenaphthene	BRL	0.50		ug/L	222390	1	04/11/2016 20:08	YH
Fluorene	BRL	0.10		ug/L	222390	1	04/11/2016 20:08	YH
Phenanthrene	BRL	0.050		ug/L	222390	1	04/11/2016 20:08	YH
Anthracene	BRL	0.050		ug/L	222390	1	04/11/2016 20:08	YH
Fluoranthene	BRL	0.10		ug/L	222390	1	04/11/2016 20:08	YH
Pyrene	BRL	0.050		ug/L	222390	1	04/11/2016 20:08	YH
Benz(a)anthracene	BRL	0.050		ug/L	222390	1	04/11/2016 20:08	YH
Chrysene	BRL	0.050		ug/L	222390	1	04/11/2016 20:08	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222390	1	04/11/2016 20:08	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222390	1	04/11/2016 20:08	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222390	1	04/11/2016 20:08	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222390	1	04/11/2016 20:08	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222390	1	04/11/2016 20:08	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222390	1	04/11/2016 20:08	YH
Surr: 4-Terphenyl-d14	101	58.7-134		%REC	222390	1	04/11/2016 20:08	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222389	1	04/11/2016 20:37	YH
2-Methylphenol	BRL	10		ug/L	222389	1	04/11/2016 20:37	YH
3,4-Methylphenol	BRL	10		ug/L	222389	1	04/11/2016 20:37	YH
Phenol	BRL	10		ug/L	222389	1	04/11/2016 20:37	YH
Surr: 2,4,6-Tribromophenol	72	51.5-141		%REC	222389	1	04/11/2016 20:37	YH
Surr: 2-Fluorobiphenyl	90.7	50.8-122		%REC	222389	1	04/11/2016 20:37	YH
Surr: 2-Fluorophenol	53.2	28.1-120		%REC	222389	1	04/11/2016 20:37	YH
Surr: 4-Terphenyl-d14	97.7	47.2-131		%REC	222389	1	04/11/2016 20:37	YH
Surr: Nitrobenzene-d5	86.6	42.1-124		%REC	222389	1	04/11/2016 20:37	YH
Surr: Phenol-d5	43.9	16-120		%REC	222389	1	04/11/2016 20:37	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-23D-20160405-01
Project Name:	AGL Macon	**Collection Date:**	4/5/2016 5:15:00 PM
Lab ID:	1604558-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	222478	1	04/12/2016 12:57	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	222576	1	04/13/2016 12:50	PF
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	222433	1	04/12/2016 16:01	JL
Arsenic	BRL	0.0500		mg/L	222433	1	04/12/2016 16:01	JL
Barium	0.0575	0.0200		mg/L	222433	1	04/12/2016 16:01	JL
Beryllium	BRL	0.0100		mg/L	222433	1	04/12/2016 16:01	JL
Cadmium	BRL	0.0050		mg/L	222433	1	04/12/2016 16:01	JL
Chromium	BRL	0.0100		mg/L	222433	1	04/12/2016 16:01	JL
Copper	BRL	0.0100		mg/L	222433	1	04/12/2016 16:01	JL
Lead	BRL	0.0100		mg/L	222433	1	04/12/2016 16:01	JL
Nickel	BRL	0.0200		mg/L	222433	1	04/12/2016 16:01	JL
Zinc	BRL	0.0200		mg/L	222433	1	04/12/2016 16:01	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-24D-20160405-01
Project Name:	AGL Macon	**Collection Date:**	4/5/2016 10:45:00 AM
Lab ID:	1604558-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	100	5.0		ug/L	222476	1	04/12/2016 17:48	AR
Carbon disulfide	BRL	5.0		ug/L	222476	1	04/12/2016 17:48	AR
Ethylbenzene	44	5.0		ug/L	222476	1	04/12/2016 17:48	AR
Toluene	8.6	5.0		ug/L	222476	1	04/12/2016 17:48	AR
Xylenes, Total	8.3	5.0		ug/L	222476	1	04/12/2016 17:48	AR
Surr: 4-Bromofluorobenzene	99.7	70.7-125		%REC	222476	1	04/12/2016 17:48	AR
Surr: Dibromofluoromethane	94.5	82.2-120		%REC	222476	1	04/12/2016 17:48	AR
Surr: Toluene-d8	99.8	81.8-120		%REC	222476	1	04/12/2016 17:48	AR
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	222390	1	04/11/2016 20:36	YH
Acenaphthylene	BRL	1.0		ug/L	222390	1	04/11/2016 20:36	YH
Acenaphthene	BRL	0.50		ug/L	222390	1	04/11/2016 20:36	YH
Fluorene	BRL	0.10		ug/L	222390	1	04/11/2016 20:36	YH
Phenanthrene	BRL	0.050		ug/L	222390	1	04/11/2016 20:36	YH
Anthracene	0.27	0.050		ug/L	222390	1	04/11/2016 20:36	YH
Fluoranthene	BRL	0.10		ug/L	222390	1	04/11/2016 20:36	YH
Pyrene	0.075	0.050		ug/L	222390	1	04/11/2016 20:36	YH
Benz(a)anthracene	BRL	0.050		ug/L	222390	1	04/11/2016 20:36	YH
Chrysene	0.077	0.050		ug/L	222390	1	04/11/2016 20:36	YH
Benzo(b)fluoranthene	0.14	0.10		ug/L	222390	1	04/11/2016 20:36	YH
Benzo(k)fluoranthene	0.074	0.050		ug/L	222390	1	04/11/2016 20:36	YH
Benzo(a)pyrene	0.053	0.050		ug/L	222390	1	04/11/2016 20:36	YH
Indeno(1,2,3-cd)pyrene	0.064	0.050		ug/L	222390	1	04/11/2016 20:36	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222390	1	04/11/2016 20:36	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222390	1	04/11/2016 20:36	YH
Surr: 4-Terphenyl-d14	110	58.7-134		%REC	222390	1	04/11/2016 20:36	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222389	1	04/11/2016 21:04	YH
2-Methylphenol	BRL	10		ug/L	222389	1	04/11/2016 21:04	YH
3,4-Methylphenol	BRL	10		ug/L	222389	1	04/11/2016 21:04	YH
Phenol	BRL	10		ug/L	222389	1	04/11/2016 21:04	YH
Surr: 2,4,6-Tribromophenol	75.5	51.5-141		%REC	222389	1	04/11/2016 21:04	YH
Surr: 2-Fluorobiphenyl	88.7	50.8-122		%REC	222389	1	04/11/2016 21:04	YH
Surr: 2-Fluorophenol	59.6	28.1-120		%REC	222389	1	04/11/2016 21:04	YH
Surr: 4-Terphenyl-d14	93.3	47.2-131		%REC	222389	1	04/11/2016 21:04	YH
Surr: Nitrobenzene-d5	81.1	42.1-124		%REC	222389	1	04/11/2016 21:04	YH
Surr: Phenol-d5	48.1	16-120		%REC	222389	1	04/11/2016 21:04	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-24D-20160405-01
Project Name:	AGL Macon	**Collection Date:**	4/5/2016 10:45:00 AM
Lab ID:	1604558-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	222478	1	04/12/2016 12:59	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	222576	1	04/13/2016 12:50	PF
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	222433	1	04/12/2016 16:04	JL
Arsenic	BRL	0.0500		mg/L	222433	1	04/12/2016 16:04	JL
Barium	1.25	0.0200		mg/L	222433	1	04/12/2016 16:04	JL
Beryllium	BRL	0.0100		mg/L	222433	1	04/12/2016 16:04	JL
Cadmium	BRL	0.0050		mg/L	222433	1	04/12/2016 16:04	JL
Chromium	BRL	0.0100		mg/L	222433	1	04/12/2016 16:04	JL
Copper	BRL	0.0100		mg/L	222433	1	04/12/2016 16:04	JL
Lead	BRL	0.0100		mg/L	222433	1	04/12/2016 16:04	JL
Nickel	BRL	0.0200		mg/L	222433	1	04/12/2016 16:04	JL
Zinc	0.0584	0.0200		mg/L	222433	1	04/12/2016 16:04	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-27D-20160405-01
Project Name:	AGL Macon	**Collection Date:**	4/5/2016 12:30:00 PM
Lab ID:	1604558-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	222476	1	04/12/2016 18:16	AR
Carbon disulfide	BRL	5.0		ug/L	222476	1	04/12/2016 18:16	AR
Ethylbenzene	BRL	5.0		ug/L	222476	1	04/12/2016 18:16	AR
Toluene	BRL	5.0		ug/L	222476	1	04/12/2016 18:16	AR
Xylenes, Total	BRL	5.0		ug/L	222476	1	04/12/2016 18:16	AR
Surr: 4-Bromofluorobenzene	95.9	70.7-125		%REC	222476	1	04/12/2016 18:16	AR
Surr: Dibromofluoromethane	88.6	82.2-120		%REC	222476	1	04/12/2016 18:16	AR
Surr: Toluene-d8	98.7	81.8-120		%REC	222476	1	04/12/2016 18:16	AR
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	222390	1	04/11/2016 21:04	YH
Acenaphthylene	BRL	1.0		ug/L	222390	1	04/11/2016 21:04	YH
Acenaphthene	BRL	0.50		ug/L	222390	1	04/11/2016 21:04	YH
Fluorene	BRL	0.10		ug/L	222390	1	04/11/2016 21:04	YH
Phenanthrene	BRL	0.050		ug/L	222390	1	04/11/2016 21:04	YH
Anthracene	BRL	0.050		ug/L	222390	1	04/11/2016 21:04	YH
Fluoranthene	BRL	0.10		ug/L	222390	1	04/11/2016 21:04	YH
Pyrene	BRL	0.050		ug/L	222390	1	04/11/2016 21:04	YH
Benz(a)anthracene	BRL	0.050		ug/L	222390	1	04/11/2016 21:04	YH
Chrysene	BRL	0.050		ug/L	222390	1	04/11/2016 21:04	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222390	1	04/11/2016 21:04	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222390	1	04/11/2016 21:04	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222390	1	04/11/2016 21:04	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222390	1	04/11/2016 21:04	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222390	1	04/11/2016 21:04	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222390	1	04/11/2016 21:04	YH
Surr: 4-Terphenyl-d14	99.5	58.7-134		%REC	222390	1	04/11/2016 21:04	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222389	1	04/11/2016 21:29	YH
2-Methylphenol	BRL	10		ug/L	222389	1	04/11/2016 21:29	YH
3,4-Methylphenol	BRL	10		ug/L	222389	1	04/11/2016 21:29	YH
Phenol	BRL	10		ug/L	222389	1	04/11/2016 21:29	YH
Surr: 2,4,6-Tribromophenol	68.9	51.5-141		%REC	222389	1	04/11/2016 21:29	YH
Surr: 2-Fluorobiphenyl	81.5	50.8-122		%REC	222389	1	04/11/2016 21:29	YH
Surr: 2-Fluorophenol	55.9	28.1-120		%REC	222389	1	04/11/2016 21:29	YH
Surr: 4-Terphenyl-d14	83.6	47.2-131		%REC	222389	1	04/11/2016 21:29	YH
Surr: Nitrobenzene-d5	76.4	42.1-124		%REC	222389	1	04/11/2016 21:29	YH
Surr: Phenol-d5	42.9	16-120		%REC	222389	1	04/11/2016 21:29	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-27D-20160405-01
Project Name:	AGL Macon	**Collection Date:**	4/5/2016 12:30:00 PM
Lab ID:	1604558-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	222478	1	04/12/2016 13:01	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	222576	1	04/13/2016 12:50	PF
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	222433	1	04/12/2016 16:07	JL
Arsenic	BRL	0.0500		mg/L	222433	1	04/12/2016 16:07	JL
Barium	0.961	0.0200		mg/L	222433	1	04/12/2016 16:07	JL
Beryllium	BRL	0.0100		mg/L	222433	1	04/12/2016 16:07	JL
Cadmium	BRL	0.0050		mg/L	222433	1	04/12/2016 16:07	JL
Chromium	BRL	0.0100		mg/L	222433	1	04/12/2016 16:07	JL
Copper	BRL	0.0100		mg/L	222433	1	04/12/2016 16:07	JL
Lead	BRL	0.0100		mg/L	222433	1	04/12/2016 16:07	JL
Nickel	0.0230	0.0200		mg/L	222433	1	04/12/2016 16:07	JL
Zinc	BRL	0.0200		mg/L	222433	1	04/12/2016 16:07	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-112D-20160405-01
Project Name:	AGL Macon	**Collection Date:**	4/5/2016 6:27:00 PM
Lab ID:	1604558-006	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	222476	1	04/12/2016 18:45	AR
Carbon disulfide	BRL	5.0		ug/L	222476	1	04/12/2016 18:45	AR
Ethylbenzene	BRL	5.0		ug/L	222476	1	04/12/2016 18:45	AR
Toluene	BRL	5.0		ug/L	222476	1	04/12/2016 18:45	AR
Xylenes, Total	BRL	5.0		ug/L	222476	1	04/12/2016 18:45	AR
Surr: 4-Bromofluorobenzene	97.9	70.7-125		%REC	222476	1	04/12/2016 18:45	AR
Surr: Dibromofluoromethane	96.6	82.2-120		%REC	222476	1	04/12/2016 18:45	AR
Surr: Toluene-d8	98.3	81.8-120		%REC	222476	1	04/12/2016 18:45	AR
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	222390	1	04/11/2016 21:30	YH
Acenaphthylene	BRL	1.0		ug/L	222390	1	04/11/2016 21:30	YH
Acenaphthene	BRL	0.50		ug/L	222390	1	04/11/2016 21:30	YH
Fluorene	BRL	0.10		ug/L	222390	1	04/11/2016 21:30	YH
Phenanthrene	BRL	0.050		ug/L	222390	1	04/11/2016 21:30	YH
Anthracene	BRL	0.050		ug/L	222390	1	04/11/2016 21:30	YH
Fluoranthene	BRL	0.10		ug/L	222390	1	04/11/2016 21:30	YH
Pyrene	BRL	0.050		ug/L	222390	1	04/11/2016 21:30	YH
Benz(a)anthracene	BRL	0.050		ug/L	222390	1	04/11/2016 21:30	YH
Chrysene	BRL	0.050		ug/L	222390	1	04/11/2016 21:30	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222390	1	04/11/2016 21:30	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222390	1	04/11/2016 21:30	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222390	1	04/11/2016 21:30	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222390	1	04/11/2016 21:30	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222390	1	04/11/2016 21:30	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222390	1	04/11/2016 21:30	YH
Surr: 4-Terphenyl-d14	90	58.7-134		%REC	222390	1	04/11/2016 21:30	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222389	1	04/12/2016 18:23	YH
2-Methylphenol	BRL	10		ug/L	222389	1	04/12/2016 18:23	YH
3,4-Methylphenol	BRL	10		ug/L	222389	1	04/12/2016 18:23	YH
Phenol	BRL	10		ug/L	222389	1	04/12/2016 18:23	YH
Surr: 2,4,6-Tribromophenol	84.8	51.5-141		%REC	222389	1	04/12/2016 18:23	YH
Surr: 2-Fluorobiphenyl	82.5	50.8-122		%REC	222389	1	04/12/2016 18:23	YH
Surr: 2-Fluorophenol	54.1	28.1-120		%REC	222389	1	04/12/2016 18:23	YH
Surr: 4-Terphenyl-d14	127	47.2-131		%REC	222389	1	04/12/2016 18:23	YH
Surr: Nitrobenzene-d5	71.5	42.1-124		%REC	222389	1	04/12/2016 18:23	YH
Surr: Phenol-d5	43	16-120		%REC	222389	1	04/12/2016 18:23	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-112D-20160405-01
Project Name:	AGL Macon	**Collection Date:**	4/5/2016 6:27:00 PM
Lab ID:	1604558-006	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	222478	1	04/12/2016 13:03	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	222576	1	04/13/2016 12:50	PF
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	222433	1	04/12/2016 16:10	JL
Arsenic	BRL	0.0500		mg/L	222433	1	04/12/2016 16:10	JL
Barium	0.179	0.0200		mg/L	222433	1	04/12/2016 16:10	JL
Beryllium	BRL	0.0100		mg/L	222433	1	04/12/2016 16:10	JL
Cadmium	BRL	0.0050		mg/L	222433	1	04/12/2016 16:10	JL
Chromium	BRL	0.0100		mg/L	222433	1	04/12/2016 16:10	JL
Copper	BRL	0.0100		mg/L	222433	1	04/12/2016 16:10	JL
Lead	BRL	0.0100		mg/L	222433	1	04/12/2016 16:10	JL
Nickel	BRL	0.0200		mg/L	222433	1	04/12/2016 16:10	JL
Zinc	BRL	0.0200		mg/L	222433	1	04/12/2016 16:10	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-113D-20160405-01
Project Name:	AGL Macon	**Collection Date:**	4/5/2016 3:30:00 PM
Lab ID:	1604558-007	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	222476	1	04/12/2016 19:14	AR
Carbon disulfide	BRL	5.0		ug/L	222476	1	04/12/2016 19:14	AR
Ethylbenzene	BRL	5.0		ug/L	222476	1	04/12/2016 19:14	AR
Toluene	BRL	5.0		ug/L	222476	1	04/12/2016 19:14	AR
Xylenes, Total	BRL	5.0		ug/L	222476	1	04/12/2016 19:14	AR
Surr: 4-Bromofluorobenzene	97.9	70.7-125		%REC	222476	1	04/12/2016 19:14	AR
Surr: Dibromofluoromethane	95.9	82.2-120		%REC	222476	1	04/12/2016 19:14	AR
Surr: Toluene-d8	103	81.8-120		%REC	222476	1	04/12/2016 19:14	AR
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	222390	1	04/11/2016 21:57	YH
Acenaphthylene	BRL	1.0		ug/L	222390	1	04/11/2016 21:57	YH
Acenaphthene	BRL	0.50		ug/L	222390	1	04/11/2016 21:57	YH
Fluorene	BRL	0.10		ug/L	222390	1	04/11/2016 21:57	YH
Phenanthrene	BRL	0.050		ug/L	222390	1	04/11/2016 21:57	YH
Anthracene	BRL	0.050		ug/L	222390	1	04/11/2016 21:57	YH
Fluoranthene	BRL	0.10		ug/L	222390	1	04/11/2016 21:57	YH
Pyrene	BRL	0.050		ug/L	222390	1	04/11/2016 21:57	YH
Benz(a)anthracene	BRL	0.050		ug/L	222390	1	04/11/2016 21:57	YH
Chrysene	BRL	0.050		ug/L	222390	1	04/11/2016 21:57	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222390	1	04/11/2016 21:57	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222390	1	04/11/2016 21:57	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222390	1	04/11/2016 21:57	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222390	1	04/11/2016 21:57	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222390	1	04/11/2016 21:57	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222390	1	04/11/2016 21:57	YH
Surr: 4-Terphenyl-d14	105	58.7-134		%REC	222390	1	04/11/2016 21:57	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222389	1	04/11/2016 21:56	YH
2-Methylphenol	BRL	10		ug/L	222389	1	04/11/2016 21:56	YH
3,4-Methylphenol	BRL	10		ug/L	222389	1	04/11/2016 21:56	YH
Phenol	BRL	10		ug/L	222389	1	04/11/2016 21:56	YH
Surr: 2,4,6-Tribromophenol	72.6	51.5-141		%REC	222389	1	04/11/2016 21:56	YH
Surr: 2-Fluorobiphenyl	87.7	50.8-122		%REC	222389	1	04/11/2016 21:56	YH
Surr: 2-Fluorophenol	59	28.1-120		%REC	222389	1	04/11/2016 21:56	YH
Surr: 4-Terphenyl-d14	89.8	47.2-131		%REC	222389	1	04/11/2016 21:56	YH
Surr: Nitrobenzene-d5	79.9	42.1-124		%REC	222389	1	04/11/2016 21:56	YH
Surr: Phenol-d5	45.5	16-120		%REC	222389	1	04/11/2016 21:56	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-113D-20160405-01
Project Name:	AGL Macon	**Collection Date:**	4/5/2016 3:30:00 PM
Lab ID:	1604558-007	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	222478	1	04/12/2016 13:05	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	222576	1	04/13/2016 12:50	PF
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	222433	1	04/12/2016 16:13	JL
Arsenic	BRL	0.0500		mg/L	222433	1	04/12/2016 16:13	JL
Barium	0.0723	0.0200		mg/L	222433	1	04/12/2016 16:13	JL
Beryllium	BRL	0.0100		mg/L	222433	1	04/12/2016 16:13	JL
Cadmium	BRL	0.0050		mg/L	222433	1	04/12/2016 16:13	JL
Chromium	BRL	0.0100		mg/L	222433	1	04/12/2016 16:13	JL
Copper	BRL	0.0100		mg/L	222433	1	04/12/2016 16:13	JL
Lead	BRL	0.0100		mg/L	222433	1	04/12/2016 16:13	JL
Nickel	0.0292	0.0200		mg/L	222433	1	04/12/2016 20:13	JL
Zinc	0.0254	0.0200		mg/L	222433	1	04/12/2016 16:13	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-308D-20160405-01
Project Name:	AGL Macon	**Collection Date:**	4/5/2016 9:55:00 AM
Lab ID:	1604558-008	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	24	5.0		ug/L	222476	1	04/12/2016 19:43	AR
Carbon disulfide	BRL	5.0		ug/L	222476	1	04/12/2016 19:43	AR
Ethylbenzene	BRL	5.0		ug/L	222476	1	04/12/2016 19:43	AR
Toluene	BRL	5.0		ug/L	222476	1	04/12/2016 19:43	AR
Xylenes, Total	BRL	5.0		ug/L	222476	1	04/12/2016 19:43	AR
Surr: 4-Bromofluorobenzene	98.1	70.7-125		%REC	222476	1	04/12/2016 19:43	AR
Surr: Dibromofluoromethane	92.1	82.2-120		%REC	222476	1	04/12/2016 19:43	AR
Surr: Toluene-d8	101	81.8-120		%REC	222476	1	04/12/2016 19:43	AR
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	0.87	0.50		ug/L	222390	1	04/11/2016 22:24	YH
Acenaphthylene	BRL	1.0		ug/L	222390	1	04/11/2016 22:24	YH
Acenaphthene	BRL	0.50		ug/L	222390	1	04/11/2016 22:24	YH
Fluorene	BRL	0.10		ug/L	222390	1	04/11/2016 22:24	YH
Phenanthrene	0.058	0.050		ug/L	222390	1	04/11/2016 22:24	YH
Anthracene	0.051	0.050		ug/L	222390	1	04/11/2016 22:24	YH
Fluoranthene	BRL	0.10		ug/L	222390	1	04/11/2016 22:24	YH
Pyrene	BRL	0.050		ug/L	222390	1	04/11/2016 22:24	YH
Benz(a)anthracene	0.087	0.050		ug/L	222390	1	04/11/2016 22:24	YH
Chrysene	0.091	0.050		ug/L	222390	1	04/11/2016 22:24	YH
Benzo(b)fluoranthene	0.15	0.10		ug/L	222390	1	04/11/2016 22:24	YH
Benzo(k)fluoranthene	0.15	0.050		ug/L	222390	1	04/11/2016 22:24	YH
Benzo(a)pyrene	0.12	0.050		ug/L	222390	1	04/11/2016 22:24	YH
Indeno(1,2,3-cd)pyrene	0.19	0.050		ug/L	222390	1	04/11/2016 22:24	YH
Dibenz(a,h)anthracene	0.16	0.10		ug/L	222390	1	04/11/2016 22:24	YH
Benzo(g,h,i)perylene	0.21	0.10		ug/L	222390	1	04/11/2016 22:24	YH
Surr: 4-Terphenyl-d14	102	58.7-134		%REC	222390	1	04/11/2016 22:24	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222389	1	04/11/2016 22:21	YH
2-Methylphenol	BRL	10		ug/L	222389	1	04/11/2016 22:21	YH
3,4-Methylphenol	BRL	10		ug/L	222389	1	04/11/2016 22:21	YH
Phenol	BRL	10		ug/L	222389	1	04/11/2016 22:21	YH
Surr: 2,4,6-Tribromophenol	80.4	51.5-141		%REC	222389	1	04/11/2016 22:21	YH
Surr: 2-Fluorobiphenyl	93.4	50.8-122		%REC	222389	1	04/11/2016 22:21	YH
Surr: 2-Fluorophenol	67.4	28.1-120		%REC	222389	1	04/11/2016 22:21	YH
Surr: 4-Terphenyl-d14	90	47.2-131		%REC	222389	1	04/11/2016 22:21	YH
Surr: Nitrobenzene-d5	89.8	42.1-124		%REC	222389	1	04/11/2016 22:21	YH
Surr: Phenol-d5	57.6	16-120		%REC	222389	1	04/11/2016 22:21	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-308D-20160405-01
Project Name:	AGL Macon	**Collection Date:**	4/5/2016 9:55:00 AM
Lab ID:	1604558-008	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	222478	1	04/12/2016 13:07	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	222576	1	04/13/2016 12:50	PF
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	222433	1	04/12/2016 16:16	JL
Arsenic	BRL	0.0500		mg/L	222433	1	04/12/2016 16:16	JL
Barium	0.189	0.0200		mg/L	222433	1	04/12/2016 16:16	JL
Beryllium	BRL	0.0100		mg/L	222433	1	04/12/2016 16:16	JL
Cadmium	BRL	0.0050		mg/L	222433	1	04/12/2016 16:16	JL
Chromium	0.0314	0.0100		mg/L	222433	1	04/12/2016 16:16	JL
Copper	BRL	0.0100		mg/L	222433	1	04/12/2016 16:16	JL
Lead	BRL	0.0100		mg/L	222433	1	04/12/2016 16:16	JL
Nickel	BRL	0.0200		mg/L	222433	1	04/12/2016 16:16	JL
Zinc	0.0377	0.0200		mg/L	222433	1	04/12/2016 16:16	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-12DD-20160406-01
Project Name:	AGL Macon	**Collection Date:**	4/6/2016 4:26:00 PM
Lab ID:	1604558-009	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	15	5.0		ug/L	222476	1	04/12/2016 20:12	AR
Carbon disulfide	BRL	5.0		ug/L	222476	1	04/12/2016 20:12	AR
Ethylbenzene	BRL	5.0		ug/L	222476	1	04/12/2016 20:12	AR
Toluene	BRL	5.0		ug/L	222476	1	04/12/2016 20:12	AR
Xylenes, Total	BRL	5.0		ug/L	222476	1	04/12/2016 20:12	AR
Surr: 4-Bromofluorobenzene	99.5	70.7-125		%REC	222476	1	04/12/2016 20:12	AR
Surr: Dibromofluoromethane	94.6	82.2-120		%REC	222476	1	04/12/2016 20:12	AR
Surr: Toluene-d8	104	81.8-120		%REC	222476	1	04/12/2016 20:12	AR
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	222390	1	04/11/2016 22:51	YH
Acenaphthylene	BRL	1.0		ug/L	222390	1	04/11/2016 22:51	YH
Acenaphthene	0.73	0.50		ug/L	222390	1	04/11/2016 22:51	YH
Fluorene	0.32	0.10		ug/L	222390	1	04/11/2016 22:51	YH
Phenanthrene	0.10	0.050		ug/L	222390	1	04/11/2016 22:51	YH
Anthracene	BRL	0.050		ug/L	222390	1	04/11/2016 22:51	YH
Fluoranthene	BRL	0.10		ug/L	222390	1	04/11/2016 22:51	YH
Pyrene	BRL	0.050		ug/L	222390	1	04/11/2016 22:51	YH
Benz(a)anthracene	BRL	0.050		ug/L	222390	1	04/11/2016 22:51	YH
Chrysene	BRL	0.050		ug/L	222390	1	04/11/2016 22:51	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222390	1	04/11/2016 22:51	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222390	1	04/11/2016 22:51	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222390	1	04/11/2016 22:51	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222390	1	04/11/2016 22:51	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222390	1	04/11/2016 22:51	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222390	1	04/11/2016 22:51	YH
Surr: 4-Terphenyl-d14	106	58.7-134		%REC	222390	1	04/11/2016 22:51	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222389	1	04/11/2016 22:47	YH
2-Methylphenol	BRL	10		ug/L	222389	1	04/11/2016 22:47	YH
3,4-Methylphenol	BRL	10		ug/L	222389	1	04/11/2016 22:47	YH
Phenol	BRL	10		ug/L	222389	1	04/11/2016 22:47	YH
Surr: 2,4,6-Tribromophenol	78.6	51.5-141		%REC	222389	1	04/11/2016 22:47	YH
Surr: 2-Fluorobiphenyl	90.8	50.8-122		%REC	222389	1	04/11/2016 22:47	YH
Surr: 2-Fluorophenol	64.2	28.1-120		%REC	222389	1	04/11/2016 22:47	YH
Surr: 4-Terphenyl-d14	94	47.2-131		%REC	222389	1	04/11/2016 22:47	YH
Surr: Nitrobenzene-d5	84.9	42.1-124		%REC	222389	1	04/11/2016 22:47	YH
Surr: Phenol-d5	49.9	16-120		%REC	222389	1	04/11/2016 22:47	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-12DD-20160406-01
Project Name:	AGL Macon	**Collection Date:**	4/6/2016 4:26:00 PM
Lab ID:	1604558-009	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	222478	1	04/12/2016 13:09	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	222576	1	04/13/2016 12:50	PF
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	222433	1	04/12/2016 16:19	JL
Arsenic	BRL	0.0500		mg/L	222433	1	04/12/2016 16:19	JL
Barium	0.0936	0.0200		mg/L	222433	1	04/12/2016 16:19	JL
Beryllium	BRL	0.0100		mg/L	222433	1	04/12/2016 16:19	JL
Cadmium	BRL	0.0050		mg/L	222433	1	04/12/2016 16:19	JL
Chromium	BRL	0.0100		mg/L	222433	1	04/12/2016 16:19	JL
Copper	BRL	0.0100		mg/L	222433	1	04/12/2016 16:19	JL
Lead	BRL	0.0100		mg/L	222433	1	04/12/2016 16:19	JL
Nickel	0.0260	0.0200		mg/L	222433	1	04/12/2016 20:16	JL
Zinc	0.0224	0.0200		mg/L	222433	1	04/12/2016 16:19	JL

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-205DD-20160406-01
Project Name:	AGL Macon	**Collection Date:**	4/6/2016 11:33:00 AM
Lab ID:	1604558-010	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	222476	1	04/12/2016 20:41	AR
Carbon disulfide	BRL	5.0		ug/L	222476	1	04/12/2016 20:41	AR
Ethylbenzene	BRL	5.0		ug/L	222476	1	04/12/2016 20:41	AR
Toluene	BRL	5.0		ug/L	222476	1	04/12/2016 20:41	AR
Xylenes, Total	BRL	5.0		ug/L	222476	1	04/12/2016 20:41	AR
Surr: 4-Bromofluorobenzene	98.8	70.7-125		%REC	222476	1	04/12/2016 20:41	AR
Surr: Dibromofluoromethane	94.2	82.2-120		%REC	222476	1	04/12/2016 20:41	AR
Surr: Toluene-d8	100	81.8-120		%REC	222476	1	04/12/2016 20:41	AR
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	1.1	0.50		ug/L	222390	1	04/11/2016 23:17	YH
Acenaphthylene	BRL	1.0		ug/L	222390	1	04/11/2016 23:17	YH
Acenaphthene	0.83	0.50		ug/L	222390	1	04/11/2016 23:17	YH
Fluorene	BRL	0.10		ug/L	222390	1	04/11/2016 23:17	YH
Phenanthrene	BRL	0.050		ug/L	222390	1	04/11/2016 23:17	YH
Anthracene	BRL	0.050		ug/L	222390	1	04/11/2016 23:17	YH
Fluoranthene	BRL	0.10		ug/L	222390	1	04/11/2016 23:17	YH
Pyrene	BRL	0.050		ug/L	222390	1	04/11/2016 23:17	YH
Benz(a)anthracene	BRL	0.050		ug/L	222390	1	04/11/2016 23:17	YH
Chrysene	BRL	0.050		ug/L	222390	1	04/11/2016 23:17	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222390	1	04/11/2016 23:17	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222390	1	04/11/2016 23:17	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222390	1	04/11/2016 23:17	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222390	1	04/11/2016 23:17	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222390	1	04/11/2016 23:17	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222390	1	04/11/2016 23:17	YH
Surr: 4-Terphenyl-d14	92.5	58.7-134		%REC	222390	1	04/11/2016 23:17	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222389	1	04/11/2016 23:13	YH
2-Methylphenol	BRL	10		ug/L	222389	1	04/11/2016 23:13	YH
3,4-Methylphenol	BRL	10		ug/L	222389	1	04/11/2016 23:13	YH
Phenol	BRL	10		ug/L	222389	1	04/11/2016 23:13	YH
Surr: 2,4,6-Tribromophenol	81.8	51.5-141		%REC	222389	1	04/11/2016 23:13	YH
Surr: 2-Fluorobiphenyl	97.5	50.8-122		%REC	222389	1	04/11/2016 23:13	YH
Surr: 2-Fluorophenol	63.5	28.1-120		%REC	222389	1	04/11/2016 23:13	YH
Surr: 4-Terphenyl-d14	95.8	47.2-131		%REC	222389	1	04/11/2016 23:13	YH
Surr: Nitrobenzene-d5	88.9	42.1-124		%REC	222389	1	04/11/2016 23:13	YH
Surr: Phenol-d5	47.7	16-120		%REC	222389	1	04/11/2016 23:13	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-205DD-20160406-01
Project Name:	AGL Macon	**Collection Date:**	4/6/2016 11:33:00 AM
Lab ID:	1604558-010	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	222478	1	04/12/2016 13:10	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	222576	1	04/13/2016 12:50	PF
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	222433	1	04/12/2016 16:27	JL
Arsenic	BRL	0.0500		mg/L	222433	1	04/12/2016 16:27	JL
Barium	0.0448	0.0200		mg/L	222433	1	04/12/2016 16:27	JL
Beryllium	BRL	0.0100		mg/L	222433	1	04/12/2016 16:27	JL
Cadmium	BRL	0.0050		mg/L	222433	1	04/12/2016 16:27	JL
Chromium	BRL	0.0100		mg/L	222433	1	04/12/2016 16:27	JL
Copper	0.0119	0.0100		mg/L	222433	1	04/12/2016 16:27	JL
Lead	BRL	0.0100		mg/L	222433	1	04/12/2016 16:27	JL
Nickel	BRL	0.0200		mg/L	222433	1	04/12/2016 16:27	JL
Zinc	BRL	0.0200		mg/L	222433	1	04/12/2016 16:27	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-206D-20160406-01
Project Name:	AGL Macon	**Collection Date:**	4/6/2016 2:02:00 PM
Lab ID:	1604558-011	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	222476	1	04/13/2016 03:58	NP
Carbon disulfide	BRL	5.0		ug/L	222476	1	04/13/2016 03:58	NP
Ethylbenzene	BRL	5.0		ug/L	222476	1	04/13/2016 03:58	NP
Toluene	BRL	5.0		ug/L	222476	1	04/13/2016 03:58	NP
Xylenes, Total	BRL	5.0		ug/L	222476	1	04/13/2016 03:58	NP
Surr: 4-Bromofluorobenzene	86.3	70.7-125		%REC	222476	1	04/13/2016 03:58	NP
Surr: Dibromofluoromethane	117	82.2-120		%REC	222476	1	04/13/2016 03:58	NP
Surr: Toluene-d8	89.9	81.8-120		%REC	222476	1	04/13/2016 03:58	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	222390	1	04/11/2016 23:44	YH
Acenaphthylene	4.3	1.0		ug/L	222390	1	04/11/2016 23:44	YH
Acenaphthene	3.3	0.50		ug/L	222390	1	04/11/2016 23:44	YH
Fluorene	1.9	0.10		ug/L	222390	1	04/11/2016 23:44	YH
Phenanthrene	0.059	0.050		ug/L	222390	1	04/11/2016 23:44	YH
Anthracene	0.097	0.050		ug/L	222390	1	04/11/2016 23:44	YH
Fluoranthene	0.54	0.10		ug/L	222390	1	04/11/2016 23:44	YH
Pyrene	3.6	0.050		ug/L	222390	1	04/11/2016 23:44	YH
Benz(a)anthracene	0.11	0.050		ug/L	222390	1	04/11/2016 23:44	YH
Chrysene	0.084	0.050		ug/L	222390	1	04/11/2016 23:44	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222390	1	04/11/2016 23:44	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222390	1	04/11/2016 23:44	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222390	1	04/11/2016 23:44	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222390	1	04/11/2016 23:44	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222390	1	04/11/2016 23:44	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222390	1	04/11/2016 23:44	YH
Surr: 4-Terphenyl-d14	102	58.7-134		%REC	222390	1	04/11/2016 23:44	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222389	1	04/11/2016 23:40	YH
2-Methylphenol	BRL	10		ug/L	222389	1	04/11/2016 23:40	YH
3,4-Methylphenol	BRL	10		ug/L	222389	1	04/11/2016 23:40	YH
Phenol	BRL	10		ug/L	222389	1	04/11/2016 23:40	YH
Surr: 2,4,6-Tribromophenol	85.5	51.5-141		%REC	222389	1	04/11/2016 23:40	YH
Surr: 2-Fluorobiphenyl	99.4	50.8-122		%REC	222389	1	04/11/2016 23:40	YH
Surr: 2-Fluorophenol	67.4	28.1-120		%REC	222389	1	04/11/2016 23:40	YH
Surr: 4-Terphenyl-d14	98.6	47.2-131		%REC	222389	1	04/11/2016 23:40	YH
Surr: Nitrobenzene-d5	90.1	42.1-124		%REC	222389	1	04/11/2016 23:40	YH
Surr: Phenol-d5	53.5	16-120		%REC	222389	1	04/11/2016 23:40	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-206D-20160406-01
Project Name:	AGL Macon	**Collection Date:**	4/6/2016 2:02:00 PM
Lab ID:	1604558-011	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	222478	1	04/12/2016 13:12	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	222576	1	04/13/2016 12:50	PF
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	222433	1	04/12/2016 16:30	JL
Arsenic	BRL	0.0500		mg/L	222433	1	04/12/2016 16:30	JL
Barium	0.0490	0.0200		mg/L	222433	1	04/12/2016 16:30	JL
Beryllium	BRL	0.0100		mg/L	222433	1	04/12/2016 16:30	JL
Cadmium	BRL	0.0050		mg/L	222433	1	04/12/2016 16:30	JL
Chromium	BRL	0.0100		mg/L	222433	1	04/12/2016 16:30	JL
Copper	BRL	0.0100		mg/L	222433	1	04/12/2016 16:30	JL
Lead	BRL	0.0100		mg/L	222433	1	04/12/2016 16:30	JL
Nickel	BRL	0.0200		mg/L	222433	1	04/12/2016 16:30	JL
Zinc	BRL	0.0200		mg/L	222433	1	04/12/2016 16:30	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-207D-20160406-01
Project Name:	AGL Macon	**Collection Date:**	4/6/2016 9:45:00 AM
Lab ID:	1604558-012	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	222476	1	04/13/2016 04:45	NP
Carbon disulfide	BRL	5.0		ug/L	222476	1	04/13/2016 04:45	NP
Ethylbenzene	BRL	5.0		ug/L	222476	1	04/13/2016 04:45	NP
Toluene	BRL	5.0		ug/L	222476	1	04/13/2016 04:45	NP
Xylenes, Total	BRL	5.0		ug/L	222476	1	04/13/2016 04:45	NP
Surr: 4-Bromofluorobenzene	84.3	70.7-125		%REC	222476	1	04/13/2016 04:45	NP
Surr: Dibromofluoromethane	108	82.2-120		%REC	222476	1	04/13/2016 04:45	NP
Surr: Toluene-d8	87.9	81.8-120		%REC	222476	1	04/13/2016 04:45	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	222390	1	04/12/2016 00:11	YH
Acenaphthylene	BRL	1.0		ug/L	222390	1	04/12/2016 00:11	YH
Acenaphthene	1.4	0.50		ug/L	222390	1	04/12/2016 00:11	YH
Fluorene	0.28	0.10		ug/L	222390	1	04/12/2016 00:11	YH
Phenanthrene	0.061	0.050		ug/L	222390	1	04/12/2016 00:11	YH
Anthracene	0.055	0.050		ug/L	222390	1	04/12/2016 00:11	YH
Fluoranthene	0.68	0.10		ug/L	222390	1	04/12/2016 00:11	YH
Pyrene	1.1	0.050		ug/L	222390	1	04/12/2016 00:11	YH
Benz(a)anthracene	0.21	0.050		ug/L	222390	1	04/12/2016 00:11	YH
Chrysene	0.23	0.050		ug/L	222390	1	04/12/2016 00:11	YH
Benzo(b)fluoranthene	0.30	0.10		ug/L	222390	1	04/12/2016 00:11	YH
Benzo(k)fluoranthene	0.38	0.050		ug/L	222390	1	04/12/2016 00:11	YH
Benzo(a)pyrene	0.29	0.050		ug/L	222390	1	04/12/2016 00:11	YH
Indeno(1,2,3-cd)pyrene	0.38	0.050		ug/L	222390	1	04/12/2016 00:11	YH
Dibenz(a,h)anthracene	0.35	0.10		ug/L	222390	1	04/12/2016 00:11	YH
Benzo(g,h,i)perylene	0.43	0.10		ug/L	222390	1	04/12/2016 00:11	YH
Surr: 4-Terphenyl-d14	114	58.7-134		%REC	222390	1	04/12/2016 00:11	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222389	1	04/12/2016 02:01	YH
2-Methylphenol	BRL	10		ug/L	222389	1	04/12/2016 02:01	YH
3,4-Methylphenol	BRL	10		ug/L	222389	1	04/12/2016 02:01	YH
Phenol	BRL	10		ug/L	222389	1	04/12/2016 02:01	YH
Surr: 2,4,6-Tribromophenol	104	51.5-141		%REC	222389	1	04/12/2016 02:01	YH
Surr: 2-Fluorobiphenyl	85.9	50.8-122		%REC	222389	1	04/12/2016 02:01	YH
Surr: 2-Fluorophenol	65.3	28.1-120		%REC	222389	1	04/12/2016 02:01	YH
Surr: 4-Terphenyl-d14	89.5	47.2-131		%REC	222389	1	04/12/2016 02:01	YH
Surr: Nitrobenzene-d5	76.3	42.1-124		%REC	222389	1	04/12/2016 02:01	YH
Surr: Phenol-d5	53.7	16-120		%REC	222389	1	04/12/2016 02:01	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-207D-20160406-01
Project Name:	AGL Macon	**Collection Date:**	4/6/2016 9:45:00 AM
Lab ID:	1604558-012	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	222478	1	04/12/2016 16:34	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	222576	1	04/13/2016 12:50	PF
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	222433	1	04/12/2016 16:33	JL
Arsenic	BRL	0.0500		mg/L	222433	1	04/12/2016 16:33	JL
Barium	2.45	0.0200		mg/L	222433	1	04/12/2016 16:33	JL
Beryllium	BRL	0.0100		mg/L	222433	1	04/12/2016 16:33	JL
Cadmium	BRL	0.0050		mg/L	222433	1	04/12/2016 16:33	JL
Chromium	BRL	0.0100		mg/L	222433	1	04/12/2016 16:33	JL
Copper	BRL	0.0100		mg/L	222433	1	04/12/2016 16:33	JL
Lead	BRL	0.0100		mg/L	222433	1	04/12/2016 16:33	JL
Nickel	0.0540	0.0200		mg/L	222433	1	04/12/2016 16:33	JL
Zinc	BRL	0.0200		mg/L	222433	1	04/12/2016 16:33	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-300D-20160406-01
Project Name:	AGL Macon	**Collection Date:**	4/6/2016 12:35:00 PM
Lab ID:	1604558-013	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	222476	1	04/12/2016 13:01	AR
Carbon disulfide	BRL	5.0		ug/L	222476	1	04/12/2016 13:01	AR
Ethylbenzene	BRL	5.0		ug/L	222476	1	04/12/2016 13:01	AR
Toluene	BRL	5.0		ug/L	222476	1	04/12/2016 13:01	AR
Xylenes, Total	BRL	5.0		ug/L	222476	1	04/12/2016 13:01	AR
Surr: 4-Bromofluorobenzene	104	70.7-125		%REC	222476	1	04/12/2016 13:01	AR
Surr: Dibromofluoromethane	102	82.2-120		%REC	222476	1	04/12/2016 13:01	AR
Surr: Toluene-d8	96.5	81.8-120		%REC	222476	1	04/12/2016 13:01	AR
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	222390	1	04/11/2016 17:54	YH
Acenaphthylene	BRL	1.0		ug/L	222390	1	04/11/2016 17:54	YH
Acenaphthene	BRL	0.50		ug/L	222390	1	04/11/2016 17:54	YH
Fluorene	BRL	0.10		ug/L	222390	1	04/11/2016 17:54	YH
Phenanthrene	BRL	0.050		ug/L	222390	1	04/11/2016 17:54	YH
Anthracene	BRL	0.050		ug/L	222390	1	04/11/2016 17:54	YH
Fluoranthene	BRL	0.10		ug/L	222390	1	04/11/2016 17:54	YH
Pyrene	BRL	0.050		ug/L	222390	1	04/11/2016 17:54	YH
Benz(a)anthracene	BRL	0.050		ug/L	222390	1	04/11/2016 17:54	YH
Chrysene	BRL	0.050		ug/L	222390	1	04/11/2016 17:54	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222390	1	04/11/2016 17:54	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222390	1	04/11/2016 17:54	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222390	1	04/11/2016 17:54	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222390	1	04/11/2016 17:54	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222390	1	04/11/2016 17:54	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222390	1	04/11/2016 17:54	YH
Surr: 4-Terphenyl-d14	97	58.7-134		%REC	222390	1	04/11/2016 17:54	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222389	1	04/11/2016 16:11	YH
2-Methylphenol	BRL	10		ug/L	222389	1	04/11/2016 16:11	YH
3,4-Methylphenol	BRL	10		ug/L	222389	1	04/11/2016 16:11	YH
Phenol	BRL	10		ug/L	222389	1	04/11/2016 16:11	YH
Surr: 2,4,6-Tribromophenol	99.1	51.5-141		%REC	222389	1	04/11/2016 16:11	YH
Surr: 2-Fluorobiphenyl	101	50.8-122		%REC	222389	1	04/11/2016 16:11	YH
Surr: 2-Fluorophenol	63.6	28.1-120		%REC	222389	1	04/11/2016 16:11	YH
Surr: 4-Terphenyl-d14	124	47.2-131		%REC	222389	1	04/11/2016 16:11	YH
Surr: Nitrobenzene-d5	90.5	42.1-124		%REC	222389	1	04/11/2016 16:11	YH
Surr: Phenol-d5	48.2	16-120		%REC	222389	1	04/11/2016 16:11	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-300D-20160406-01
Project Name:	AGL Macon	**Collection Date:**	4/6/2016 12:35:00 PM
Lab ID:	1604558-013	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	222478	1	04/12/2016 12:41	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	222576	1	04/13/2016 12:50	PF
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	222433	1	04/12/2016 15:35	JL
Arsenic	BRL	0.0500		mg/L	222433	1	04/12/2016 15:35	JL
Barium	1.27	0.0200		mg/L	222433	1	04/12/2016 15:35	JL
Beryllium	0.0120	0.0100		mg/L	222433	1	04/12/2016 15:35	JL
Cadmium	0.0521	0.0050		mg/L	222433	1	04/12/2016 15:35	JL
Chromium	BRL	0.0100		mg/L	222433	1	04/12/2016 15:35	JL
Copper	BRL	0.0100		mg/L	222433	1	04/12/2016 15:35	JL
Lead	BRL	0.0100		mg/L	222433	1	04/12/2016 15:35	JL
Nickel	0.0558	0.0200		mg/L	222433	1	04/12/2016 15:35	JL
Zinc	0.770	0.0200		mg/L	222433	1	04/12/2016 15:35	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-304D-20160406-01
Project Name:	AGL Macon	**Collection Date:**	4/6/2016 5:30:00 PM
Lab ID:	1604558-014	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	222476	1	04/13/2016 05:09	NP
Carbon disulfide	BRL	5.0		ug/L	222476	1	04/13/2016 05:09	NP
Ethylbenzene	BRL	5.0		ug/L	222476	1	04/13/2016 05:09	NP
Toluene	BRL	5.0		ug/L	222476	1	04/13/2016 05:09	NP
Xylenes, Total	BRL	5.0		ug/L	222476	1	04/13/2016 05:09	NP
Surr: 4-Bromofluorobenzene	82.5	70.7-125		%REC	222476	1	04/13/2016 05:09	NP
Surr: Dibromofluoromethane	116	82.2-120		%REC	222476	1	04/13/2016 05:09	NP
Surr: Toluene-d8	90.4	81.8-120		%REC	222476	1	04/13/2016 05:09	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	222390	1	04/12/2016 00:38	YH
Acenaphthylene	BRL	1.0		ug/L	222390	1	04/12/2016 00:38	YH
Acenaphthene	BRL	0.50		ug/L	222390	1	04/12/2016 00:38	YH
Fluorene	BRL	0.10		ug/L	222390	1	04/12/2016 00:38	YH
Phenanthrene	BRL	0.050		ug/L	222390	1	04/12/2016 00:38	YH
Anthracene	BRL	0.050		ug/L	222390	1	04/12/2016 00:38	YH
Fluoranthene	BRL	0.10		ug/L	222390	1	04/12/2016 00:38	YH
Pyrene	BRL	0.050		ug/L	222390	1	04/12/2016 00:38	YH
Benz(a)anthracene	BRL	0.050		ug/L	222390	1	04/12/2016 00:38	YH
Chrysene	BRL	0.050		ug/L	222390	1	04/12/2016 00:38	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222390	1	04/12/2016 00:38	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222390	1	04/12/2016 00:38	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222390	1	04/12/2016 00:38	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222390	1	04/12/2016 00:38	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222390	1	04/12/2016 00:38	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222390	1	04/12/2016 00:38	YH
Surr: 4-Terphenyl-d14	94.4	58.7-134		%REC	222390	1	04/12/2016 00:38	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222389	1	04/12/2016 02:29	YH
2-Methylphenol	BRL	10		ug/L	222389	1	04/12/2016 02:29	YH
3,4-Methylphenol	BRL	10		ug/L	222389	1	04/12/2016 02:29	YH
Phenol	BRL	10		ug/L	222389	1	04/12/2016 02:29	YH
Surr: 2,4,6-Tribromophenol	116	51.5-141		%REC	222389	1	04/12/2016 02:29	YH
Surr: 2-Fluorobiphenyl	98	50.8-122		%REC	222389	1	04/12/2016 02:29	YH
Surr: 2-Fluorophenol	70.8	28.1-120		%REC	222389	1	04/12/2016 02:29	YH
Surr: 4-Terphenyl-d14	96.4	47.2-131		%REC	222389	1	04/12/2016 02:29	YH
Surr: Nitrobenzene-d5	85.9	42.1-124		%REC	222389	1	04/12/2016 02:29	YH
Surr: Phenol-d5	56.5	16-120		%REC	222389	1	04/12/2016 02:29	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-304D-20160406-01
Project Name:	AGL Macon	**Collection Date:**	4/6/2016 5:30:00 PM
Lab ID:	1604558-014	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	222478	1	04/12/2016 16:37	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	222576	1	04/13/2016 12:50	PF
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	222433	1	04/12/2016 16:36	JL
Arsenic	BRL	0.0500		mg/L	222433	1	04/12/2016 16:36	JL
Barium	4.50	0.0200		mg/L	222433	1	04/12/2016 16:36	JL
Beryllium	BRL	0.0100		mg/L	222433	1	04/12/2016 16:36	JL
Cadmium	BRL	0.0050		mg/L	222433	1	04/12/2016 16:36	JL
Chromium	BRL	0.0100		mg/L	222433	1	04/12/2016 16:36	JL
Copper	BRL	0.0100		mg/L	222433	1	04/12/2016 16:36	JL
Lead	BRL	0.0100		mg/L	222433	1	04/12/2016 16:36	JL
Nickel	0.0465	0.0200		mg/L	222433	1	04/12/2016 16:36	JL
Zinc	BRL	0.0200		mg/L	222433	1	04/12/2016 16:36	JL

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-307D-20160406-01
Project Name:	AGL Macon	**Collection Date:**	4/6/2016 2:47:00 PM
Lab ID:	1604558-015	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	222476	1	04/13/2016 05:55	NP
Carbon disulfide	BRL	5.0		ug/L	222476	1	04/13/2016 05:55	NP
Ethylbenzene	BRL	5.0		ug/L	222476	1	04/13/2016 05:55	NP
Toluene	BRL	5.0		ug/L	222476	1	04/13/2016 05:55	NP
Xylenes, Total	BRL	5.0		ug/L	222476	1	04/13/2016 05:55	NP
Surr: 4-Bromofluorobenzene	86.5	70.7-125		%REC	222476	1	04/13/2016 05:55	NP
Surr: Dibromofluoromethane	113	82.2-120		%REC	222476	1	04/13/2016 05:55	NP
Surr: Toluene-d8	88.8	81.8-120		%REC	222476	1	04/13/2016 05:55	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	3.5	0.50		ug/L	222390	1	04/12/2016 01:04	YH
Acenaphthylene	BRL	1.0		ug/L	222390	1	04/12/2016 01:04	YH
Acenaphthene	2.1	0.50		ug/L	222390	1	04/12/2016 01:04	YH
Fluorene	0.61	0.10		ug/L	222390	1	04/12/2016 01:04	YH
Phenanthrene	3.2	0.050		ug/L	222390	1	04/12/2016 01:04	YH
Anthracene	0.26	0.050		ug/L	222390	1	04/12/2016 01:04	YH
Fluoranthene	0.25	0.10		ug/L	222390	1	04/12/2016 01:04	YH
Pyrene	0.28	0.050		ug/L	222390	1	04/12/2016 01:04	YH
Benz(a)anthracene	BRL	0.050		ug/L	222390	1	04/12/2016 01:04	YH
Chrysene	BRL	0.050		ug/L	222390	1	04/12/2016 01:04	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222390	1	04/12/2016 01:04	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222390	1	04/12/2016 01:04	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222390	1	04/12/2016 01:04	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222390	1	04/12/2016 01:04	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222390	1	04/12/2016 01:04	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222390	1	04/12/2016 01:04	YH
Surr: 4-Terphenyl-d14	101	58.7-134		%REC	222390	1	04/12/2016 01:04	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222389	1	04/12/2016 18:47	YH
2-Methylphenol	BRL	10		ug/L	222389	1	04/12/2016 18:47	YH
3,4-Methylphenol	BRL	10		ug/L	222389	1	04/12/2016 18:47	YH
Phenol	BRL	10		ug/L	222389	1	04/12/2016 18:47	YH
Surr: 2,4,6-Tribromophenol	92.5	51.5-141		%REC	222389	1	04/12/2016 18:47	YH
Surr: 2-Fluorobiphenyl	83.5	50.8-122		%REC	222389	1	04/12/2016 18:47	YH
Surr: 2-Fluorophenol	54.2	28.1-120		%REC	222389	1	04/12/2016 18:47	YH
Surr: 4-Terphenyl-d14	126	47.2-131		%REC	222389	1	04/12/2016 18:47	YH
Surr: Nitrobenzene-d5	68.6	42.1-124		%REC	222389	1	04/12/2016 18:47	YH
Surr: Phenol-d5	45	16-120		%REC	222389	1	04/12/2016 18:47	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-307D-20160406-01
Project Name:	AGL Macon	**Collection Date:**	4/6/2016 2:47:00 PM
Lab ID:	1604558-015	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	222478	1	04/12/2016 16:39	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	222576	1	04/13/2016 12:50	PF
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	222433	1	04/12/2016 16:39	JL
Arsenic	BRL	0.0500		mg/L	222433	1	04/12/2016 16:39	JL
Barium	1.14	0.0200		mg/L	222433	1	04/12/2016 16:39	JL
Beryllium	BRL	0.0100		mg/L	222433	1	04/12/2016 16:39	JL
Cadmium	BRL	0.0050		mg/L	222433	1	04/12/2016 16:39	JL
Chromium	0.0684	0.0100		mg/L	222433	1	04/12/2016 16:39	JL
Copper	0.0141	0.0100		mg/L	222433	1	04/12/2016 16:39	JL
Lead	BRL	0.0100		mg/L	222433	1	04/12/2016 16:39	JL
Nickel	BRL	0.0200		mg/L	222433	1	04/12/2016 16:39	JL
Zinc	BRL	0.0200		mg/L	222433	1	04/12/2016 16:39	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	DUP-02-20160406-01
Project Name:	AGL Macon	**Collection Date:**	4/6/2016
Lab ID:	1604558-016	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	222476	1	04/13/2016 06:19	NP
Carbon disulfide	BRL	5.0		ug/L	222476	1	04/13/2016 06:19	NP
Ethylbenzene	BRL	5.0		ug/L	222476	1	04/13/2016 06:19	NP
Toluene	BRL	5.0		ug/L	222476	1	04/13/2016 06:19	NP
Xylenes, Total	BRL	5.0		ug/L	222476	1	04/13/2016 06:19	NP
Surr: 4-Bromofluorobenzene	79.9	70.7-125		%REC	222476	1	04/13/2016 06:19	NP
Surr: Dibromofluoromethane	115	82.2-120		%REC	222476	1	04/13/2016 06:19	NP
Surr: Toluene-d8	87.9	81.8-120		%REC	222476	1	04/13/2016 06:19	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	222390	1	04/12/2016 01:31	YH
Acenaphthylene	BRL	1.0		ug/L	222390	1	04/12/2016 01:31	YH
Acenaphthene	BRL	0.50		ug/L	222390	1	04/12/2016 01:31	YH
Fluorene	BRL	0.10		ug/L	222390	1	04/12/2016 01:31	YH
Phenanthrene	BRL	0.050		ug/L	222390	1	04/12/2016 01:31	YH
Anthracene	BRL	0.050		ug/L	222390	1	04/12/2016 01:31	YH
Fluoranthene	BRL	0.10		ug/L	222390	1	04/12/2016 01:31	YH
Pyrene	BRL	0.050		ug/L	222390	1	04/12/2016 01:31	YH
Benz(a)anthracene	BRL	0.050		ug/L	222390	1	04/12/2016 01:31	YH
Chrysene	BRL	0.050		ug/L	222390	1	04/12/2016 01:31	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222390	1	04/12/2016 01:31	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222390	1	04/12/2016 01:31	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222390	1	04/12/2016 01:31	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222390	1	04/12/2016 01:31	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222390	1	04/12/2016 01:31	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222390	1	04/12/2016 01:31	YH
Surr: 4-Terphenyl-d14	104	58.7-134		%REC	222390	1	04/12/2016 01:31	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222389	1	04/12/2016 19:12	YH
2-Methylphenol	BRL	10		ug/L	222389	1	04/12/2016 19:12	YH
3,4-Methylphenol	BRL	10		ug/L	222389	1	04/12/2016 19:12	YH
Phenol	BRL	10		ug/L	222389	1	04/12/2016 19:12	YH
Surr: 2,4,6-Tribromophenol	89.7	51.5-141		%REC	222389	1	04/12/2016 19:12	YH
Surr: 2-Fluorobiphenyl	89.2	50.8-122		%REC	222389	1	04/12/2016 19:12	YH
Surr: 2-Fluorophenol	55.6	28.1-120		%REC	222389	1	04/12/2016 19:12	YH
Surr: 4-Terphenyl-d14	126	47.2-131		%REC	222389	1	04/12/2016 19:12	YH
Surr: Nitrobenzene-d5	78.9	42.1-124		%REC	222389	1	04/12/2016 19:12	YH
Surr: Phenol-d5	46.6	16-120		%REC	222389	1	04/12/2016 19:12	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	DUP-02-20160406-01
Project Name:	AGL Macon	**Collection Date:**	4/6/2016
Lab ID:	1604558-016	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	222478	1	04/12/2016 16:41	JR
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	BRL	0.010		mg/L	222576	1	04/13/2016 12:50	PF
METALS, TOTAL SW6010D				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	222433	1	04/12/2016 16:42	JL
Arsenic	BRL	0.0500		mg/L	222433	1	04/12/2016 16:42	JL
Barium	4.53	0.0200		mg/L	222433	1	04/12/2016 16:42	JL
Beryllium	BRL	0.0100		mg/L	222433	1	04/12/2016 16:42	JL
Cadmium	BRL	0.0050		mg/L	222433	1	04/12/2016 16:42	JL
Chromium	BRL	0.0100		mg/L	222433	1	04/12/2016 16:42	JL
Copper	BRL	0.0100		mg/L	222433	1	04/12/2016 16:42	JL
Lead	BRL	0.0100		mg/L	222433	1	04/12/2016 16:42	JL
Nickel	0.0397	0.0200		mg/L	222433	1	04/12/2016 16:42	JL
Zinc	BRL	0.0200		mg/L	222433	1	04/12/2016 16:42	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	TRIP BLANK
Project Name:	AGL Macon	**Collection Date:**	4/7/2016
Lab ID:	1604558-017	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	222476	1	04/11/2016 13:33	NP
Carbon disulfide	BRL	5.0		ug/L	222476	1	04/11/2016 13:33	NP
Ethylbenzene	BRL	5.0		ug/L	222476	1	04/11/2016 13:33	NP
Toluene	BRL	5.0		ug/L	222476	1	04/11/2016 13:33	NP
Xylenes, Total	BRL	5.0		ug/L	222476	1	04/11/2016 13:33	NP
Surr: 4-Bromofluorobenzene	79.4	70.7-125		%REC	222476	1	04/11/2016 13:33	NP
Surr: Dibromofluoromethane	111	82.2-120		%REC	222476	1	04/11/2016 13:33	NP
Surr: Toluene-d8	90.3	81.8-120		%REC	222476	1	04/11/2016 13:33	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	TRIP BLANK 2
Project Name:	AGL Macon	**Collection Date:**	4/7/2016
Lab ID:	1604558-018	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	222476	1	04/11/2016 14:00	NP
Carbon disulfide	BRL	5.0		ug/L	222476	1	04/11/2016 14:00	NP
Ethylbenzene	BRL	5.0		ug/L	222476	1	04/11/2016 14:00	NP
Toluene	BRL	5.0		ug/L	222476	1	04/11/2016 14:00	NP
Xylenes, Total	BRL	5.0		ug/L	222476	1	04/11/2016 14:00	NP
Surr: 4-Bromofluorobenzene	79.1	70.7-125		%REC	222476	1	04/11/2016 14:00	NP
Surr: Dibromofluoromethane	115	82.2-120		%REC	222476	1	04/11/2016 14:00	NP
Surr: Toluene-d8	91.1	81.8-120		%REC	222476	1	04/11/2016 14:00	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ECM-SE Work Order Number 1604558

Checklist completed by Manan Kumar 4/7/2016
Signature Date

Carrier name: FedEx __ UPS __ Courier ✓ Client __ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 1.9° Cooler #2 2.3° Cooler #3 3.1° Cooler #4 4.2° Cooler#5 3.9° Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes ✓ MS 4/7/16 No ✓ Not Applicable __

Adjusted? MS Checked by, MP

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

AES, Inc.
3785 Presidential Pkwy
Atlanta GA 30340

pH Adjustment Sheet

AES Sample ID number	Test Requested	pH as Received	Required pH	Preservative Required	Lot # of Preservative	Amount Added mL or Pellets*	Final pH	Tech's Initials	Date	Time
1604558-008C	8010B_W-T	6	<2	HNO_3	633-84	0.5 mL Pellets	1	AD	4/7/16	6:50
1604558-015C	↓	12	↓	↓	↓	↓ mL Pellets	12	AD	4/7/16	6:50
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
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						mL Pellets				
						mL Pellets				
						mL Pellets				

* Number of Pellets when adding NAOH

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1604558

ANALYTICAL QC SUMMARY REPORT

BatchID: 222389

Sample ID: **MB-222389** Client ID: Units: **ug/L** Prep Date: **04/11/2016** Run No: **314259**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **222389** Analysis Date: **04/11/2016** Seq No: **6763736**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	10									
2-Methylphenol	BRL	10									
3,4-Methylphenol	BRL	10									
Phenol	BRL	10									
Surr: 2,4,6-Tribromophenol	74.38	0	100.0		74.4	51.5	141				
Surr: 2-Fluorobiphenyl	41.59	0	50.00		83.2	50.8	122				
Surr: 2-Fluorophenol	46.96	0	100.0		47.0	28.1	120				
Surr: 4-Terphenyl-d14	49.91	0	50.00		99.8	47.2	131				
Surr: Nitrobenzene-d5	37.95	0	50.00		75.9	42.1	124				
Surr: Phenol-d5	32.18	0	100.0		32.2	16	120				

Sample ID: **LCS-222389** Client ID: Units: **ug/L** Prep Date: **04/11/2016** Run No: **314259**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **222389** Analysis Date: **04/11/2016** Seq No: **6763743**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	60.89	10	100.0		60.9	27	120				
Surr: 2,4,6-Tribromophenol	105.2	0	100.0		105	51.5	141				
Surr: 2-Fluorobiphenyl	62.45	0	50.00		125	50.8	122				S
Surr: 2-Fluorophenol	74.52	0	100.0		74.5	28.1	120				
Surr: 4-Terphenyl-d14	59.41	0	50.00		119	47.2	131				
Surr: Nitrobenzene-d5	54.97	0	50.00		110	42.1	124				
Surr: Phenol-d5	71.71	0	100.0		71.7	16	120				

Sample ID: **1604558-013BMS** Client ID: **MW-300D-20160406-01** Units: **ug/L** Prep Date: **04/11/2016** Run No: **314259**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **222389** Analysis Date: **04/11/2016** Seq No: **6765040**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	44.82	10	100.0		44.8	30.6	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1604558

ANALYTICAL QC SUMMARY REPORT

BatchID: 222389

Sample ID: **1604558-013BMS**	Client ID: **MW-300D-20160406-01**	Units: **ug/L**	Prep Date: **04/11/2016**	Run No: **314259**
SampleType: **MS**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**	BatchID: **222389**	Analysis Date: **04/11/2016**	Seq No: **6765040**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 2,4,6-Tribromophenol	83.50	0	100.0		83.5	51.5	141				
Surr: 2-Fluorobiphenyl	47.13	0	50.00		94.3	50.8	122				
Surr: 2-Fluorophenol	59.60	0	100.0		59.6	28.1	120				
Surr: 4-Terphenyl-d14	50.30	0	50.00		101	47.2	131				
Surr: Nitrobenzene-d5	43.06	0	50.00		86.1	42.1	124				
Surr: Phenol-d5	54.63	0	100.0		54.6	16	120				

Sample ID: **1604558-013BMSD**	Client ID: **MW-300D-20160406-01**	Units: **ug/L**	Prep Date: **04/11/2016**	Run No: **314259**
SampleType: **MSD**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**	BatchID: **222389**	Analysis Date: **04/11/2016**	Seq No: **6765041**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	45.05	10	100.0		45.0	30.6	120	44.82	0.512	36.3	
Surr: 2,4,6-Tribromophenol	93.38	0	100.0		93.4	51.5	141	83.50	0	0	
Surr: 2-Fluorobiphenyl	51.23	0	50.00		102	50.8	122	47.13	0	0	
Surr: 2-Fluorophenol	59.19	0	100.0		59.2	28.1	120	59.60	0	0	
Surr: 4-Terphenyl-d14	54.58	0	50.00		109	47.2	131	50.30	0	0	
Surr: Nitrobenzene-d5	45.97	0	50.00		91.9	42.1	124	43.06	0	0	
Surr: Phenol-d5	53.24	0	100.0		53.2	16	120	54.63	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1604558

ANALYTICAL QC SUMMARY REPORT

BatchID: 222390

Sample ID: **MB-222390** Client ID: Units: **ug/L** Prep Date: **04/11/2016** Run No: **314382**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **222390** Analysis Date: **04/11/2016** Seq No: **6764908**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	0.50									
Acenaphthylene	BRL	1.0									
Anthracene	BRL	0.050									
Benz(a)anthracene	BRL	0.050									
Benzo(a)pyrene	BRL	0.050									
Benzo(b)fluoranthene	BRL	0.10									
Benzo(g,h,i)perylene	BRL	0.10									
Benzo(k)fluoranthene	BRL	0.050									
Chrysene	BRL	0.050									
Dibenz(a,h)anthracene	BRL	0.10									
Fluoranthene	BRL	0.10									
Fluorene	BRL	0.10									
Indeno(1,2,3-cd)pyrene	BRL	0.050									
Naphthalene	BRL	0.50									
Phenanthrene	BRL	0.050									
Pyrene	BRL	0.050									
Surr: 4-Terphenyl-d14	2.197	0	2.000		110	58.7	134				

Sample ID: **LCS-222390** Client ID: Units: **ug/L** Prep Date: **04/11/2016** Run No: **314457**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **222390** Analysis Date: **04/12/2016** Seq No: **6766435**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.771	0.50	2.000		88.5	65.2	121				
Acenaphthylene	1.646	1.0	2.000		82.3	62	120				
Anthracene	1.834	0.050	2.000		91.7	63.8	125				
Benz(a)anthracene	1.593	0.050	2.000		79.6	60	136				
Benzo(a)pyrene	1.741	0.050	2.000		87.0	65.6	128				
Benzo(b)fluoranthene	1.591	0.10	2.000		79.6	61.6	135				

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1604558

ANALYTICAL QC SUMMARY REPORT

BatchID: 222390

Sample ID: **LCS-222390**	Client ID:		Units: **ug/L**	Prep Date: **04/11/2016**	Run No: **314457**
SampleType: **LCS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **222390**	Analysis Date: **04/12/2016**	Seq No: **6766435**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(g,h,i)perylene	1.419	0.10	2.000		71.0	60.6	124				
Benzo(k)fluoranthene	2.204	0.050	2.000		110	66.2	126				
Chrysene	1.985	0.050	2.000		99.2	69.9	134				
Dibenz(a,h)anthracene	1.296	0.10	2.000		64.8	56.6	127				
Fluoranthene	1.788	0.10	2.000		89.4	69.3	130				
Fluorene	1.746	0.10	2.000		87.3	68.4	121				
Indeno(1,2,3-cd)pyrene	1.542	0.050	2.000		77.1	59.2	130				
Naphthalene	1.612	0.50	2.000		80.6	61.4	120				
Phenanthrene	1.691	0.050	2.000		84.6	65.4	123				
Pyrene	1.784	0.050	2.000		89.2	66.4	130				
Surr: 4-Terphenyl-d14	1.962	0	2.000		98.1	58.7	134				

Sample ID: **1604558-013BMS**	Client ID: **MW-300D-20160406-01**		Units: **ug/L**	Prep Date: **04/11/2016**	Run No: **314382**
SampleType: **MS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **222390**	Analysis Date: **04/11/2016**	Seq No: **6764911**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.924	0.50	2.000		96.2	51.2	120				
Acenaphthylene	1.868	1.0	2.000		93.4	53.5	120				
Anthracene	1.938	0.050	2.000		96.9	53.3	120				
Benz(a)anthracene	1.874	0.050	2.000		93.7	50.9	132				
Benzo(a)pyrene	1.819	0.050	2.000		90.9	50.5	120				
Benzo(b)fluoranthene	1.892	0.10	2.000		94.6	55.8	127				
Benzo(g,h,i)perylene	1.624	0.10	2.000		81.2	46.8	120				
Benzo(k)fluoranthene	2.047	0.050	2.000		102	54.5	120				
Chrysene	2.006	0.050	2.000		100	56.9	125				
Dibenz(a,h)anthracene	1.469	0.10	2.000		73.4	44.8	120				
Fluoranthene	1.905	0.10	2.000	0.01771	94.4	61.5	122				
Fluorene	1.942	0.10	2.000		97.1	55.6	118				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1604558

ANALYTICAL QC SUMMARY REPORT

BatchID: 222390

Sample ID: **1604558-013BMS**	Client ID: **MW-300D-20160406-01**				Units: **ug/L**		Prep Date: **04/11/2016**		Run No: **314382**	
SampleType: **MS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**				BatchID: **222390**		Analysis Date: **04/11/2016**		Seq No: **6764911**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Indeno(1,2,3-cd)pyrene	1.630	0.050	2.000		81.5	46.1	120				
Naphthalene	1.721	0.50	2.000	0.1019	81.0	51.7	120				
Phenanthrene	1.830	0.050	2.000		91.5	56.1	120				
Pyrene	1.925	0.050	2.000	0.02372	95.1	56.1	125				
Surr: 4-Terphenyl-d14	1.943	0	2.000		97.2	58.7	134				

Sample ID: **1604558-013BMSD**	Client ID: **MW-300D-20160406-01**				Units: **ug/L**		Prep Date: **04/11/2016**		Run No: **314382**	
SampleType: **MSD**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**				BatchID: **222390**		Analysis Date: **04/11/2016**		Seq No: **6764912**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.747	0.50	2.000		87.3	51.2	120	1.924	9.67	23.9	
Acenaphthylene	1.707	1.0	2.000		85.3	53.5	120	1.868	9.01	24.2	
Anthracene	1.829	0.050	2.000		91.4	53.3	120	1.938	5.79	22.3	
Benz(a)anthracene	1.764	0.050	2.000		88.2	50.9	132	1.874	6.05	27.4	
Benzo(a)pyrene	1.692	0.050	2.000		84.6	50.5	120	1.819	7.23	41.9	
Benzo(b)fluoranthene	1.702	0.10	2.000		85.1	55.8	127	1.892	10.6	26.1	
Benzo(g,h,i)perylene	1.428	0.10	2.000		71.4	46.8	120	1.624	12.9	24.3	
Benzo(k)fluoranthene	1.901	0.050	2.000		95.0	54.5	120	2.047	7.41	24.2	
Chrysene	1.935	0.050	2.000		96.7	56.9	125	2.006	3.61	23.1	
Dibenz(a,h)anthracene	1.320	0.10	2.000		66.0	44.8	120	1.469	10.7	26.1	
Fluoranthene	1.792	0.10	2.000	0.01771	88.7	61.5	122	1.905	6.13	17.7	
Fluorene	1.814	0.10	2.000		90.7	55.6	118	1.942	6.80	27.5	
Indeno(1,2,3-cd)pyrene	1.427	0.050	2.000		71.3	46.1	120	1.630	13.3	26.7	
Naphthalene	1.724	0.50	2.000	0.1019	81.1	51.7	120	1.721	0.135	24.2	
Phenanthrene	1.710	0.050	2.000		85.5	56.1	120	1.830	6.78	23.5	
Pyrene	1.943	0.050	2.000	0.02372	96.0	56.1	125	1.925	0.951	20.9	
Surr: 4-Terphenyl-d14	1.916	0	2.000		95.8	58.7	134	1.943	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1604558

ANALYTICAL QC SUMMARY REPORT

BatchID: 222433

Sample ID: **MB-222433** Client ID: Units: **mg/L** Prep Date: **04/11/2016** Run No: **314478**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010D** BatchID: **222433** Analysis Date: **04/12/2016** Seq No: **6766993**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	0.0200									
Arsenic	BRL	0.0500									
Barium	BRL	0.0200									
Beryllium	BRL	0.0100									
Cadmium	BRL	0.0050									
Chromium	BRL	0.0100									
Copper	BRL	0.0100									
Lead	BRL	0.0100									
Nickel	BRL	0.0200									
Zinc	BRL	0.0200									

Sample ID: **LCS-222433** Client ID: Units: **mg/L** Prep Date: **04/11/2016** Run No: **314478**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010D** BatchID: **222433** Analysis Date: **04/12/2016** Seq No: **6766994**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.046	0.0200	1.000		105	80	120				
Arsenic	1.039	0.0500	1.000	0.007230	103	80	120				
Barium	1.058	0.0200	1.000	0.001700	106	80	120				
Beryllium	1.052	0.0100	1.000		105	80	120				
Cadmium	1.051	0.0050	1.000		105	80	120				
Chromium	1.055	0.0100	1.000		106	80	120				
Copper	1.047	0.0100	1.000		105	80	120				
Lead	1.004	0.0100	1.000		100	80	120				
Nickel	1.056	0.0200	1.000		106	80	120				
Zinc	1.072	0.0200	1.000		107	80	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1604558

ANALYTICAL QC SUMMARY REPORT

BatchID: 222433

Sample ID: **1604558-013CMS** Client ID: **MW-300D-20160406-01** Units: **mg/L** Prep Date: **04/11/2016** Run No: **314478**
SampleType: **MS** TestCode: **METALS, TOTAL SW6010D** BatchID: **222433** Analysis Date: **04/12/2016** Seq No: **6766996**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.009	0.0200	1.000		101	75	125				
Arsenic	1.001	0.0500	1.000	0.007830	99.3	75	125				
Barium	2.277	0.0200	1.000	1.269	101	75	125				
Beryllium	1.042	0.0100	1.000	0.01202	103	75	125				
Cadmium	1.080	0.0050	1.000	0.05208	103	75	125				
Chromium	1.042	0.0100	1.000	0.001090	104	75	125				
Copper	1.037	0.0100	1.000		104	75	125				
Lead	0.9733	0.0100	1.000		97.3	75	125				
Nickel	0.9641	0.0200	1.000	0.05583	90.8	75	125				
Zinc	1.774	0.0200	1.000	0.7696	100	75	125				

Sample ID: **1604558-013CMSD** Client ID: **MW-300D-20160406-01** Units: **mg/L** Prep Date: **04/11/2016** Run No: **314478**
SampleType: **MSD** TestCode: **METALS, TOTAL SW6010D** BatchID: **222433** Analysis Date: **04/12/2016** Seq No: **6766997**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.014	0.0200	1.000		101	75	125	1.009	0.523	20	
Arsenic	0.9989	0.0500	1.000	0.007830	99.1	75	125	1.001	0.194	20	
Barium	2.285	0.0200	1.000	1.269	102	75	125	2.277	0.361	20	
Beryllium	1.054	0.0100	1.000	0.01202	104	75	125	1.042	1.18	20	
Cadmium	1.087	0.0050	1.000	0.05208	104	75	125	1.080	0.672	20	
Chromium	1.048	0.0100	1.000	0.001090	105	75	125	1.042	0.574	20	
Copper	1.042	0.0100	1.000		104	75	125	1.037	0.513	20	
Lead	0.9727	0.0100	1.000		97.3	75	125	0.9733	0.065	20	
Nickel	0.9208	0.0200	1.000	0.05583	86.5	75	125	0.9641	4.60	20	
Zinc	1.781	0.0200	1.000	0.7696	101	75	125	1.774	0.401	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1604558

ANALYTICAL QC SUMMARY REPORT

BatchID: 222476

Sample ID: **MB-222476**	Client ID:		Units: **ug/L**	Prep Date: **04/11/2016**	Run No: **314390**
SampleType: **MBLK**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **222476**	Analysis Date: **04/11/2016**	Seq No: **6764491**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	5.0									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	40.69	0	50.00		81.4	70.7	125				
Surr: Dibromofluoromethane	54.87	0	50.00		110	82.2	120				
Surr: Toluene-d8	44.95	0	50.00		89.9	81.8	120				

Sample ID: **LCS-222476**	Client ID:		Units: **ug/L**	Prep Date: **04/11/2016**	Run No: **314486**
SampleType: **LCS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **222476**	Analysis Date: **04/12/2016**	Seq No: **6766842**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	49.84	5.0	50.00		99.7	74.9	123				
Toluene	50.18	5.0	50.00		100	75	124				
Surr: 4-Bromofluorobenzene	47.58	0	50.00		95.2	70.7	125				
Surr: Dibromofluoromethane	46.90	0	50.00		93.8	82.2	120				
Surr: Toluene-d8	47.98	0	50.00		96.0	81.8	120				

Sample ID: **1604558-013AMS**	Client ID: **MW-300D-20160406-01**		Units: **ug/L**	Prep Date: **04/11/2016**	Run No: **314486**
SampleType: **MS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **222476**	Analysis Date: **04/12/2016**	Seq No: **6766845**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	49.83	5.0	50.00		99.7	70.1	132				
Toluene	50.20	5.0	50.00		100	70.1	133				
Surr: 4-Bromofluorobenzene	50.09	0	50.00		100	70.7	125				
Surr: Dibromofluoromethane	45.42	0	50.00		90.8	82.2	120				
Surr: Toluene-d8	47.76	0	50.00		95.5	81.8	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1604558

ANALYTICAL QC SUMMARY REPORT

BatchID: 222476

Sample ID: **1604558-013AMSD** Client ID: **MW-300D-20160406-01** Units: **ug/L** Prep Date: **04/11/2016** Run No: **314486**
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **222476** Analysis Date: **04/12/2016** Seq No: **6766846**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	48.87	5.0	50.00		97.7	70.1	132	49.83	1.95	20	
Toluene	49.17	5.0	50.00		98.3	70.1	133	50.20	2.07	20	
Surr: 4-Bromofluorobenzene	49.17	0	50.00		98.3	70.7	125	50.09	0	0	
Surr: Dibromofluoromethane	44.87	0	50.00		89.7	82.2	120	45.42	0	0	
Surr: Toluene-d8	49.47	0	50.00		98.9	81.8	120	47.76	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1604558

ANALYTICAL QC SUMMARY REPORT

BatchID: 222478

Sample ID: **MB-222478**	Client ID:			Units: **mg/L**	Prep Date: **04/12/2016**	Run No: **314426**
SampleType: **MBLK**	TestCode: **Mercury, Total SW7470A**			BatchID: **222478**	Analysis Date: **04/12/2016**	Seq No: **6767535**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.00020									

Sample ID: **LCS-222478**	Client ID:			Units: **mg/L**	Prep Date: **04/12/2016**	Run No: **314426**
SampleType: **LCS**	TestCode: **Mercury, Total SW7470A**			BatchID: **222478**	Analysis Date: **04/12/2016**	Seq No: **6767536**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.004794	0.00020	0.0050		95.9	80	120				

Sample ID: **1604558-013CMS**	Client ID: **MW-300D-20160406-01**			Units: **mg/L**	Prep Date: **04/12/2016**	Run No: **314426**
SampleType: **MS**	TestCode: **Mercury, Total SW7470A**			BatchID: **222478**	Analysis Date: **04/12/2016**	Seq No: **6767538**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.004598	0.00020	0.0050		92.0	70	130				

Sample ID: **1604558-013CMSD**	Client ID: **MW-300D-20160406-01**			Units: **mg/L**	Prep Date: **04/12/2016**	Run No: **314426**
SampleType: **MSD**	TestCode: **Mercury, Total SW7470A**			BatchID: **222478**	Analysis Date: **04/12/2016**	Seq No: **6767539**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.004615	0.00020	0.0050		92.3	70	130	0.004598	0.350	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1604558

ANALYTICAL QC SUMMARY REPORT

BatchID: 222576

Sample ID: **MB-222576**	Client ID:				Units: **mg/L**		Prep Date: **04/13/2016**		Run No: **314577**
SampleType: **MBLK**	TestCode: **Cyanide SW9014**				BatchID: **222576**		Analysis Date: **04/13/2016**		Seq No: **6768821**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	0.010									

Sample ID: **LCS-222576**	Client ID:				Units: **mg/L**		Prep Date: **04/13/2016**		Run No: **314577**
SampleType: **LCS**	TestCode: **Cyanide SW9014**				BatchID: **222576**		Analysis Date: **04/13/2016**		Seq No: **6768822**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2389	0.010	0.2500		95.6	85	115				

Sample ID: **1604558-001DMS**	Client ID: **MW-12DRR-20160405-01**				Units: **mg/L**		Prep Date: **04/13/2016**		Run No: **314577**
SampleType: **MS**	TestCode: **Cyanide SW9014**				BatchID: **222576**		Analysis Date: **04/13/2016**		Seq No: **6768841**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2437	0.010	0.2500	0.02310	88.2	70	130				

Sample ID: **1604558-013DMS**	Client ID: **MW-300D-20160406-01**				Units: **mg/L**		Prep Date: **04/13/2016**		Run No: **314577**
SampleType: **MS**	TestCode: **Cyanide SW9014**				BatchID: **222576**		Analysis Date: **04/13/2016**		Seq No: **6768848**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2335	0.010	0.2500		93.4	70	130				

Sample ID: **1604558-001DMSD**	Client ID: **MW-12DRR-20160405-01**				Units: **mg/L**		Prep Date: **04/13/2016**		Run No: **314577**
SampleType: **MSD**	TestCode: **Cyanide SW9014**				BatchID: **222576**		Analysis Date: **04/13/2016**		Seq No: **6768844**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2443	0.010	0.2500	0.02310	88.5	70	130	0.2437	0.246	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1604558

ANALYTICAL QC SUMMARY REPORT

BatchID: 222576

Sample ID: **1604558-013DMSD**	Client ID: **MW-300D-20160406-01**	Units: **mg/L**	Prep Date: **04/13/2016**	Run No: **314577**	
SampleType: **MSD**	TestCode: **Cyanide SW9014**	BatchID: **222576**	Analysis Date: **04/13/2016**	Seq No: **6768849**	

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2320	0.010	0.2500		92.8	70	130	0.2335	0.644	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

AES

April 19, 2016

Adria Reimer
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: AGL - Macon

Dear Adria Reimer: Order No: 1604559

Analytical Environmental Services, Inc. received 17 samples on April 7, 2016 1:45 pm for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES's accreditations are as follows:
-NELAC/Florida State Laboratory ID E87582 for analysis of Non-Potable Water, Solid & Chemical Materials, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-NELAC/Louisiana Agency Interest No. 100818 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 07/01/15-06/30/16.
-NELAC/Texas Certificate No. T104704509-16-6 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 03/01/16-02/28/17.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1604559

Date: 4/6/2016 Page 1 of 1

COMPANY: ERM - 3200 Windy Hill Road, SE - Suite 1500 W Atlanta - GA - 30339	ADDRESS: 3200 Windy Hill Road, SE Suite 1500 W Atlanta - GA - 30339
PHONE: 678 - 486 - 2700	FAX: 678 - 745 - 0103
SAMPLED BY: MLeon / R. Sprague / M. Rodgers	SIGNATURE:

ANALYSIS REQUESTED

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	EPA - 8260B	EPA - 8270C	EPA - 6010B + 7470A	EPA - 9012A	PRESERVATION (See codes) H+	I	N	NaOH	REMARKS	No # of Containers
1	MW-8 - 20160405 - 01	4/5/16	1750	X		GW	2	2	1	1					Please call Adria Reiner for the list of Analytes - & other concerns.	
2	MW-12R - 20160404 - 01	4/4/16	1617	X												
3	MW-14 - 20160405 - 01	4/5/16	1625	X												
4	MW-28 - 20160405 - 01	4/5/16	1205	X												
5	MW-104 - 20160405 - 01	4/5/16	1410	X												
6	MW-107 - 20160404 - 01	4/4/16	1755	X												
7	MW-400 - 20160406 - 01	4/6/16	1530	X												
8	MW-21 - 20160406 - 01	4/6/16	1720	X												
9	MW-15 - 20160406 - 01	4/6/16	1155	X												
10	MW-102 - 20160406 - 01	4/6/16	0915	X												
11	MW-102 - MS - 20160406 - 01	4/6/16	0915	X												
12	MW-102 - MSD - 20160406 - 01	4/6/16	0915	X												
13	Dup-01 - 20160406 - 01	4/6/16	—	X												
14	Trip Blk	—	—	—							2					

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: Manuel Leon	4/7/16 - 850	1:	4/7/16
2:	4/7/16 1:45	2:	8:50
3:		3:	4/7/16 1:45PM

PROJECT INFORMATION

PROJECT NAME: AGL - Macon

PROJECT #:

SITE ADDRESS: AGL - Macon -

SEND REPORT TO: Adria Reiner

INVOICE TO: (IF DIFFERENT FROM ABOVE) Same as Report

QUOTE #: PO#:

RECEIPT

Total # of Containers:

Turnaround Time Request
- (●) Standard 5 Business Days
- ( ) 2 Business Day Rush
- ( ) Next Business Day Rush
- ( ) Same Day Rush (auth req.)
- ( ) Other

STATE PROGRAM (if any):

E-mail? Y / N; Fax? Y / N

DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS:
EPA - 8260B
EPA - 8270C
EPA - 6010B / EPA - 7470A
EPA - 9012A

SHIPMENT METHOD

OUT / / VIA:

IN / / VIA:

CLIENT FedEx UPS MAIL COURIER

GREYHOUND OTHER

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.
SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Client: ERM-Southeast
Project: AGL - Macon
Lab ID: 1604559

Case Narrative

Sample Receiving Nonconformance:

One of the two vials for sample 1604559-003A was received with headspace present as signified by >1/4 inch bubble present. The lab proceeded with analysis using the vial without headspace.

Semi-Volatile organics Analysis by Method 8270D:

Percent recovery for the surrogate spiking compound 2-Fluorobiphenyl on QC sample LCS-222389 was outside control limits biased high. All other surrogate recoveries were within control limits.

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-8-20160405-01
Project Name:	AGL - Macon	**Collection Date:**	4/5/2016 5:50:00 PM
Lab ID:	1604559-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	222429	1	04/11/2016 18:49	NP
Carbon disulfide	BRL	5.0		ug/L	222429	1	04/11/2016 18:49	NP
Ethylbenzene	BRL	5.0		ug/L	222429	1	04/11/2016 18:49	NP
Toluene	BRL	5.0		ug/L	222429	1	04/11/2016 18:49	NP
Xylenes, Total	BRL	5.0		ug/L	222429	1	04/11/2016 18:49	NP
Surr: 4-Bromofluorobenzene	86	70.7-125		%REC	222429	1	04/11/2016 18:49	NP
Surr: Dibromofluoromethane	117	82.2-120		%REC	222429	1	04/11/2016 18:49	NP
Surr: Toluene-d8	91.6	81.8-120		%REC	222429	1	04/11/2016 18:49	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	222390	1	04/12/2016 01:57	YH
Acenaphthylene	BRL	1.0		ug/L	222390	1	04/12/2016 01:57	YH
Acenaphthene	BRL	0.50		ug/L	222390	1	04/12/2016 01:57	YH
Fluorene	BRL	0.10		ug/L	222390	1	04/12/2016 01:57	YH
Phenanthrene	BRL	0.050		ug/L	222390	1	04/12/2016 01:57	YH
Anthracene	BRL	0.050		ug/L	222390	1	04/12/2016 01:57	YH
Fluoranthene	BRL	0.10		ug/L	222390	1	04/12/2016 01:57	YH
Pyrene	BRL	0.050		ug/L	222390	1	04/12/2016 01:57	YH
Benz(a)anthracene	BRL	0.050		ug/L	222390	1	04/12/2016 01:57	YH
Chrysene	BRL	0.050		ug/L	222390	1	04/12/2016 01:57	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222390	1	04/12/2016 01:57	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222390	1	04/12/2016 01:57	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222390	1	04/12/2016 01:57	YH
Indeno(1,2,3-cd)pyrene	0.098	0.050		ug/L	222390	1	04/12/2016 01:57	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222390	1	04/12/2016 01:57	YH
Benzo(g,h,i)perylene	0.10	0.10		ug/L	222390	1	04/12/2016 01:57	YH
Surr: 4-Terphenyl-d14	106	58.7-134		%REC	222390	1	04/12/2016 01:57	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222389	1	04/12/2016 15:20	YH
2-Methylphenol	BRL	10		ug/L	222389	1	04/12/2016 15:20	YH
3,4-Methylphenol	BRL	10		ug/L	222389	1	04/12/2016 15:20	YH
Phenol	BRL	10		ug/L	222389	1	04/12/2016 15:20	YH
Surr: 2,4,6-Tribromophenol	78	51.5-141		%REC	222389	1	04/12/2016 15:20	YH
Surr: 2-Fluorobiphenyl	85.9	50.8-122		%REC	222389	1	04/12/2016 15:20	YH
Surr: 2-Fluorophenol	53.2	28.1-120		%REC	222389	1	04/12/2016 15:20	YH
Surr: 4-Terphenyl-d14	132	47.2-131	S	%REC	222389	1	04/12/2016 15:20	YH
Surr: Nitrobenzene-d5	79.2	42.1-124		%REC	222389	1	04/12/2016 15:20	YH
Surr: Phenol-d5	46.9	16-120		%REC	222389	1	04/12/2016 15:20	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-8-20160405-01
Project Name:	AGL - Macon	**Collection Date:**	4/5/2016 5:50:00 PM
Lab ID:	1604559-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	222405	1	04/11/2016 14:30	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	222576	1	04/13/2016 12:50	PF
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	222546	1	04/14/2016 21:56	JL
Arsenic	BRL	0.0500		mg/L	222546	1	04/14/2016 21:56	JL
Barium	0.0486	0.0200		mg/L	222546	1	04/14/2016 21:56	JL
Beryllium	BRL	0.0100		mg/L	222546	1	04/14/2016 21:56	JL
Cadmium	BRL	0.0050		mg/L	222546	1	04/14/2016 21:56	JL
Chromium	BRL	0.0100		mg/L	222546	1	04/14/2016 21:56	JL
Copper	BRL	0.0100		mg/L	222546	1	04/14/2016 21:56	JL
Iron	0.440	0.100		mg/L	222546	1	04/14/2016 21:56	JL
Lead	BRL	0.0100		mg/L	222546	1	04/14/2016 21:56	JL
Nickel	BRL	0.0200		mg/L	222546	1	04/14/2016 21:56	JL
Zinc	BRL	0.0200		mg/L	222546	1	04/14/2016 21:56	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-12R-20160404-01
Project Name:	AGL - Macon	**Collection Date:**	4/4/2016 6:17:00 PM
Lab ID:	1604559-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	222429	1	04/11/2016 19:13	NP
Carbon disulfide	BRL	5.0		ug/L	222429	1	04/11/2016 19:13	NP
Ethylbenzene	BRL	5.0		ug/L	222429	1	04/11/2016 19:13	NP
Toluene	BRL	5.0		ug/L	222429	1	04/11/2016 19:13	NP
Xylenes, Total	BRL	5.0		ug/L	222429	1	04/11/2016 19:13	NP
Surr: 4-Bromofluorobenzene	82.5	70.7-125		%REC	222429	1	04/11/2016 19:13	NP
Surr: Dibromofluoromethane	119	82.2-120		%REC	222429	1	04/11/2016 19:13	NP
Surr: Toluene-d8	91.9	81.8-120		%REC	222429	1	04/11/2016 19:13	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	222390	1	04/12/2016 02:23	YH
Acenaphthylene	BRL	1.0		ug/L	222390	1	04/12/2016 02:23	YH
Acenaphthene	BRL	0.50		ug/L	222390	1	04/12/2016 02:23	YH
Fluorene	BRL	0.10		ug/L	222390	1	04/12/2016 02:23	YH
Phenanthrene	BRL	0.050		ug/L	222390	1	04/12/2016 02:23	YH
Anthracene	0.066	0.050		ug/L	222390	1	04/12/2016 02:23	YH
Fluoranthene	BRL	0.10		ug/L	222390	1	04/12/2016 02:23	YH
Pyrene	0.17	0.050		ug/L	222390	1	04/12/2016 02:23	YH
Benz(a)anthracene	BRL	0.050		ug/L	222390	1	04/12/2016 02:23	YH
Chrysene	BRL	0.050		ug/L	222390	1	04/12/2016 02:23	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222390	1	04/12/2016 02:23	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222390	1	04/12/2016 02:23	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222390	1	04/12/2016 02:23	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222390	1	04/12/2016 02:23	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222390	1	04/12/2016 02:23	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222390	1	04/12/2016 02:23	YH
Surr: 4-Terphenyl-d14	103	58.7-134		%REC	222390	1	04/12/2016 02:23	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222389	1	04/12/2016 17:05	YH
2-Methylphenol	BRL	10		ug/L	222389	1	04/12/2016 17:05	YH
3,4-Methylphenol	BRL	10		ug/L	222389	1	04/12/2016 17:05	YH
Phenol	BRL	10		ug/L	222389	1	04/12/2016 17:05	YH
Surr: 2,4,6-Tribromophenol	87.6	51.5-141		%REC	222389	1	04/12/2016 17:05	YH
Surr: 2-Fluorobiphenyl	88.5	50.8-122		%REC	222389	1	04/12/2016 17:05	YH
Surr: 2-Fluorophenol	58.5	28.1-120		%REC	222389	1	04/12/2016 17:05	YH
Surr: 4-Terphenyl-d14	119	47.2-131		%REC	222389	1	04/12/2016 17:05	YH
Surr: Nitrobenzene-d5	77.1	42.1-124		%REC	222389	1	04/12/2016 17:05	YH
Surr: Phenol-d5	47.8	16-120		%REC	222389	1	04/12/2016 17:05	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-12R-20160404-01
Project Name:	AGL - Macon	**Collection Date:**	4/4/2016 6:17:00 PM
Lab ID:	1604559-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	222405	1	04/11/2016 14:32	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	222576	1	04/13/2016 12:50	PF
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	222546	1	04/14/2016 21:59	JL
Arsenic	BRL	0.0500		mg/L	222546	1	04/14/2016 21:59	JL
Barium	BRL	0.0200		mg/L	222546	1	04/14/2016 21:59	JL
Beryllium	BRL	0.0100		mg/L	222546	1	04/14/2016 21:59	JL
Cadmium	BRL	0.0050		mg/L	222546	1	04/14/2016 21:59	JL
Chromium	BRL	0.0100		mg/L	222546	1	04/14/2016 21:59	JL
Copper	BRL	0.0100		mg/L	222546	1	04/14/2016 21:59	JL
Lead	BRL	0.0100		mg/L	222546	1	04/14/2016 21:59	JL
Nickel	0.0389	0.0200		mg/L	222546	1	04/15/2016 16:56	JL
Zinc	0.121	0.0200		mg/L	222546	1	04/14/2016 21:59	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-14-20160405-01
Project Name:	AGL - Macon	**Collection Date:**	4/5/2016 4:25:00 PM
Lab ID:	1604559-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	222429	1	04/11/2016 19:36	NP
Carbon disulfide	BRL	5.0		ug/L	222429	1	04/11/2016 19:36	NP
Ethylbenzene	BRL	5.0		ug/L	222429	1	04/11/2016 19:36	NP
Toluene	BRL	5.0		ug/L	222429	1	04/11/2016 19:36	NP
Xylenes, Total	BRL	5.0		ug/L	222429	1	04/11/2016 19:36	NP
Surr: 4-Bromofluorobenzene	84.2	70.7-125		%REC	222429	1	04/11/2016 19:36	NP
Surr: Dibromofluoromethane	115	82.2-120		%REC	222429	1	04/11/2016 19:36	NP
Surr: Toluene-d8	92.3	81.8-120		%REC	222429	1	04/11/2016 19:36	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	222390	1	04/12/2016 02:49	YH
Acenaphthylene	3.3	1.0		ug/L	222390	1	04/12/2016 02:49	YH
Acenaphthene	4.4	0.50		ug/L	222390	1	04/12/2016 02:49	YH
Fluorene	1.6	0.10		ug/L	222390	1	04/12/2016 02:49	YH
Phenanthrene	BRL	0.050		ug/L	222390	1	04/12/2016 02:49	YH
Anthracene	0.056	0.050		ug/L	222390	1	04/12/2016 02:49	YH
Fluoranthene	0.11	0.10		ug/L	222390	1	04/12/2016 02:49	YH
Pyrene	0.27	0.050		ug/L	222390	1	04/12/2016 02:49	YH
Benz(a)anthracene	BRL	0.050		ug/L	222390	1	04/12/2016 02:49	YH
Chrysene	BRL	0.050		ug/L	222390	1	04/12/2016 02:49	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222390	1	04/12/2016 02:49	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222390	1	04/12/2016 02:49	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222390	1	04/12/2016 02:49	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222390	1	04/12/2016 02:49	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222390	1	04/12/2016 02:49	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222390	1	04/12/2016 02:49	YH
Surr: 4-Terphenyl-d14	109	58.7-134		%REC	222390	1	04/12/2016 02:49	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222389	1	04/12/2016 17:31	YH
2-Methylphenol	BRL	10		ug/L	222389	1	04/12/2016 17:31	YH
3,4-Methylphenol	BRL	10		ug/L	222389	1	04/12/2016 17:31	YH
Phenol	BRL	10		ug/L	222389	1	04/12/2016 17:31	YH
Surr: 2,4,6-Tribromophenol	88.6	51.5-141		%REC	222389	1	04/12/2016 17:31	YH
Surr: 2-Fluorobiphenyl	83	50.8-122		%REC	222389	1	04/12/2016 17:31	YH
Surr: 2-Fluorophenol	53.1	28.1-120		%REC	222389	1	04/12/2016 17:31	YH
Surr: 4-Terphenyl-d14	129	47.2-131		%REC	222389	1	04/12/2016 17:31	YH
Surr: Nitrobenzene-d5	74	42.1-124		%REC	222389	1	04/12/2016 17:31	YH
Surr: Phenol-d5	46.1	16-120		%REC	222389	1	04/12/2016 17:31	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-14-20160405-01
Project Name:	AGL - Macon	**Collection Date:**	4/5/2016 4:25:00 PM
Lab ID:	1604559-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	222405	1	04/11/2016 14:37	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	222577	1	04/13/2016 13:45	PF
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	222546	1	04/14/2016 22:02	JL
Arsenic	BRL	0.0500		mg/L	222546	1	04/14/2016 22:02	JL
Barium	0.129	0.0200		mg/L	222546	1	04/14/2016 22:02	JL
Beryllium	BRL	0.0100		mg/L	222546	1	04/14/2016 22:02	JL
Cadmium	BRL	0.0050		mg/L	222546	1	04/14/2016 22:02	JL
Chromium	BRL	0.0100		mg/L	222546	1	04/14/2016 22:02	JL
Copper	BRL	0.0100		mg/L	222546	1	04/14/2016 22:02	JL
Lead	BRL	0.0100		mg/L	222546	1	04/14/2016 22:02	JL
Nickel	BRL	0.0200		mg/L	222546	1	04/14/2016 22:02	JL
Zinc	0.0209	0.0200		mg/L	222546	1	04/14/2016 22:02	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-28-20160405-01
Project Name:	AGL - Macon	**Collection Date:**	4/5/2016 12:05:00 PM
Lab ID:	1604559-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	222429	1	04/11/2016 20:00	NP
Carbon disulfide	BRL	5.0		ug/L	222429	1	04/11/2016 20:00	NP
Ethylbenzene	BRL	5.0		ug/L	222429	1	04/11/2016 20:00	NP
Toluene	BRL	5.0		ug/L	222429	1	04/11/2016 20:00	NP
Xylenes, Total	BRL	5.0		ug/L	222429	1	04/11/2016 20:00	NP
Surr: 4-Bromofluorobenzene	83.7	70.7-125		%REC	222429	1	04/11/2016 20:00	NP
Surr: Dibromofluoromethane	116	82.2-120		%REC	222429	1	04/11/2016 20:00	NP
Surr: Toluene-d8	91.1	81.8-120		%REC	222429	1	04/11/2016 20:00	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	222440	1	04/12/2016 17:59	YH
Acenaphthylene	BRL	1.0		ug/L	222440	1	04/12/2016 17:59	YH
Acenaphthene	BRL	0.50		ug/L	222440	1	04/12/2016 17:59	YH
Fluorene	BRL	0.10		ug/L	222440	1	04/12/2016 17:59	YH
Phenanthrene	BRL	0.050		ug/L	222440	1	04/12/2016 17:59	YH
Anthracene	BRL	0.050		ug/L	222440	1	04/12/2016 17:59	YH
Fluoranthene	BRL	0.10		ug/L	222440	1	04/12/2016 17:59	YH
Pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 17:59	YH
Benz(a)anthracene	BRL	0.050		ug/L	222440	1	04/12/2016 17:59	YH
Chrysene	BRL	0.050		ug/L	222440	1	04/12/2016 17:59	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222440	1	04/12/2016 17:59	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222440	1	04/12/2016 17:59	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 17:59	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 17:59	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222440	1	04/12/2016 17:59	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222440	1	04/12/2016 17:59	YH
Surr: 4-Terphenyl-d14	94.5	58.7-134		%REC	222440	1	04/12/2016 17:59	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222438	1	04/13/2016 13:13	YH
2-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 13:13	YH
3,4-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 13:13	YH
Phenol	BRL	10		ug/L	222438	1	04/13/2016 13:13	YH
Surr: 2,4,6-Tribromophenol	91.6	51.5-141		%REC	222438	1	04/13/2016 13:13	YH
Surr: 2-Fluorobiphenyl	97.4	50.8-122		%REC	222438	1	04/13/2016 13:13	YH
Surr: 2-Fluorophenol	61.9	28.1-120		%REC	222438	1	04/13/2016 13:13	YH
Surr: 4-Terphenyl-d14	93.9	47.2-131		%REC	222438	1	04/13/2016 13:13	YH
Surr: Nitrobenzene-d5	83	42.1-124		%REC	222438	1	04/13/2016 13:13	YH
Surr: Phenol-d5	56.6	16-120		%REC	222438	1	04/13/2016 13:13	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-28-20160405-01
Project Name:	AGL - Macon	**Collection Date:**	4/5/2016 12:05:00 PM
Lab ID:	1604559-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	222405	1	04/11/2016 14:39	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	222577	1	04/13/2016 13:45	PF
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	222546	1	04/14/2016 22:05	JL
Arsenic	BRL	0.0500		mg/L	222546	1	04/14/2016 22:05	JL
Barium	0.0649	0.0200		mg/L	222546	1	04/14/2016 22:05	JL
Beryllium	BRL	0.0100		mg/L	222546	1	04/14/2016 22:05	JL
Cadmium	0.0403	0.0050		mg/L	222546	1	04/14/2016 22:05	JL
Chromium	BRL	0.0100		mg/L	222546	1	04/14/2016 22:05	JL
Copper	BRL	0.0100		mg/L	222546	1	04/14/2016 22:05	JL
Lead	BRL	0.0100		mg/L	222546	1	04/14/2016 22:05	JL
Nickel	BRL	0.0200		mg/L	222546	1	04/14/2016 22:05	JL
Zinc	BRL	0.0200		mg/L	222546	1	04/14/2016 22:05	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-104-20160405-01
Project Name:	AGL - Macon	**Collection Date:**	4/5/2016 2:10:00 PM
Lab ID:	1604559-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	222429	1	04/11/2016 20:24	NP
Carbon disulfide	BRL	5.0		ug/L	222429	1	04/11/2016 20:24	NP
Ethylbenzene	BRL	5.0		ug/L	222429	1	04/11/2016 20:24	NP
Toluene	BRL	5.0		ug/L	222429	1	04/11/2016 20:24	NP
Xylenes, Total	BRL	5.0		ug/L	222429	1	04/11/2016 20:24	NP
Surr: 4-Bromofluorobenzene	84.8	70.7-125		%REC	222429	1	04/11/2016 20:24	NP
Surr: Dibromofluoromethane	114	82.2-120		%REC	222429	1	04/11/2016 20:24	NP
Surr: Toluene-d8	91.2	81.8-120		%REC	222429	1	04/11/2016 20:24	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	222440	1	04/12/2016 18:24	YH
Acenaphthylene	BRL	1.0		ug/L	222440	1	04/12/2016 18:24	YH
Acenaphthene	BRL	0.50		ug/L	222440	1	04/12/2016 18:24	YH
Fluorene	BRL	0.10		ug/L	222440	1	04/12/2016 18:24	YH
Phenanthrene	BRL	0.050		ug/L	222440	1	04/12/2016 18:24	YH
Anthracene	BRL	0.050		ug/L	222440	1	04/12/2016 18:24	YH
Fluoranthene	BRL	0.10		ug/L	222440	1	04/12/2016 18:24	YH
Pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 18:24	YH
Benz(a)anthracene	BRL	0.050		ug/L	222440	1	04/12/2016 18:24	YH
Chrysene	BRL	0.050		ug/L	222440	1	04/12/2016 18:24	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222440	1	04/12/2016 18:24	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222440	1	04/12/2016 18:24	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 18:24	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 18:24	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222440	1	04/12/2016 18:24	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222440	1	04/12/2016 18:24	YH
Surr: 4-Terphenyl-d14	91.6	58.7-134		%REC	222440	1	04/12/2016 18:24	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222438	1	04/13/2016 13:39	YH
2-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 13:39	YH
3,4-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 13:39	YH
Phenol	BRL	10		ug/L	222438	1	04/13/2016 13:39	YH
Surr: 2,4,6-Tribromophenol	91.1	51.5-141		%REC	222438	1	04/13/2016 13:39	YH
Surr: 2-Fluorobiphenyl	95.9	50.8-122		%REC	222438	1	04/13/2016 13:39	YH
Surr: 2-Fluorophenol	61	28.1-120		%REC	222438	1	04/13/2016 13:39	YH
Surr: 4-Terphenyl-d14	102	47.2-131		%REC	222438	1	04/13/2016 13:39	YH
Surr: Nitrobenzene-d5	79.2	42.1-124		%REC	222438	1	04/13/2016 13:39	YH
Surr: Phenol-d5	55.5	16-120		%REC	222438	1	04/13/2016 13:39	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-104-20160405-01
Project Name:	AGL - Macon	**Collection Date:**	4/5/2016 2:10:00 PM
Lab ID:	1604559-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	222405	1	04/11/2016 14:41	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	222577	1	04/13/2016 13:45	PF
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	222546	1	04/14/2016 22:08	JL
Arsenic	BRL	0.0500		mg/L	222546	1	04/14/2016 22:08	JL
Barium	0.109	0.0200		mg/L	222546	1	04/14/2016 22:08	JL
Beryllium	BRL	0.0100		mg/L	222546	1	04/14/2016 22:08	JL
Cadmium	BRL	0.0050		mg/L	222546	1	04/14/2016 22:08	JL
Chromium	BRL	0.0100		mg/L	222546	1	04/14/2016 22:08	JL
Copper	BRL	0.0100		mg/L	222546	1	04/14/2016 22:08	JL
Lead	BRL	0.0100		mg/L	222546	1	04/14/2016 22:08	JL
Nickel	BRL	0.0200		mg/L	222546	1	04/14/2016 22:08	JL
Zinc	BRL	0.0200		mg/L	222546	1	04/14/2016 22:08	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-107-20160404-01
Project Name:	AGL - Macon	**Collection Date:**	4/4/2016 5:55:00 PM
Lab ID:	1604559-006	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	222429	1	04/11/2016 20:47	NP
Carbon disulfide	BRL	5.0		ug/L	222429	1	04/11/2016 20:47	NP
Ethylbenzene	BRL	5.0		ug/L	222429	1	04/11/2016 20:47	NP
Toluene	BRL	5.0		ug/L	222429	1	04/11/2016 20:47	NP
Xylenes, Total	BRL	5.0		ug/L	222429	1	04/11/2016 20:47	NP
Surr: 4-Bromofluorobenzene	85.6	70.7-125		%REC	222429	1	04/11/2016 20:47	NP
Surr: Dibromofluoromethane	114	82.2-120		%REC	222429	1	04/11/2016 20:47	NP
Surr: Toluene-d8	89.6	81.8-120		%REC	222429	1	04/11/2016 20:47	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	0.79	0.50		ug/L	222390	1	04/12/2016 03:16	YH
Acenaphthylene	BRL	1.0		ug/L	222390	1	04/12/2016 03:16	YH
Acenaphthene	1.3	0.50		ug/L	222390	1	04/12/2016 03:16	YH
Fluorene	0.41	0.10		ug/L	222390	1	04/12/2016 03:16	YH
Phenanthrene	BRL	0.050		ug/L	222390	1	04/12/2016 03:16	YH
Anthracene	0.082	0.050		ug/L	222390	1	04/12/2016 03:16	YH
Fluoranthene	BRL	0.10		ug/L	222390	1	04/12/2016 03:16	YH
Pyrene	0.36	0.050		ug/L	222390	1	04/12/2016 03:16	YH
Benz(a)anthracene	BRL	0.050		ug/L	222390	1	04/12/2016 03:16	YH
Chrysene	BRL	0.050		ug/L	222390	1	04/12/2016 03:16	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222390	1	04/12/2016 03:16	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222390	1	04/12/2016 03:16	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222390	1	04/12/2016 03:16	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222390	1	04/12/2016 03:16	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222390	1	04/12/2016 03:16	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222390	1	04/12/2016 03:16	YH
Surr: 4-Terphenyl-d14	105	58.7-134		%REC	222390	1	04/12/2016 03:16	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222389	1	04/12/2016 17:58	YH
2-Methylphenol	BRL	10		ug/L	222389	1	04/12/2016 17:58	YH
3,4-Methylphenol	BRL	10		ug/L	222389	1	04/12/2016 17:58	YH
Phenol	BRL	10		ug/L	222389	1	04/12/2016 17:58	YH
Surr: 2,4,6-Tribromophenol	98.6	51.5-141		%REC	222389	1	04/12/2016 17:58	YH
Surr: 2-Fluorobiphenyl	95.8	50.8-122		%REC	222389	1	04/12/2016 17:58	YH
Surr: 2-Fluorophenol	61.8	28.1-120		%REC	222389	1	04/12/2016 17:58	YH
Surr: 4-Terphenyl-d14	134	47.2-131	S	%REC	222389	1	04/12/2016 17:58	YH
Surr: Nitrobenzene-d5	83.3	42.1-124		%REC	222389	1	04/12/2016 17:58	YH
Surr: Phenol-d5	49.1	16-120		%REC	222389	1	04/12/2016 17:58	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-107-20160404-01
Project Name:	AGL - Macon	**Collection Date:**	4/4/2016 5:55:00 PM
Lab ID:	1604559-006	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	222405	1	04/11/2016 14:43	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	222577	1	04/13/2016 13:45	PF
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	222546	1	04/14/2016 22:11	JL
Arsenic	BRL	0.0500		mg/L	222546	1	04/14/2016 22:11	JL
Barium	0.0491	0.0200		mg/L	222546	1	04/14/2016 22:11	JL
Beryllium	BRL	0.0100		mg/L	222546	1	04/14/2016 22:11	JL
Cadmium	BRL	0.0050		mg/L	222546	1	04/14/2016 22:11	JL
Chromium	BRL	0.0100		mg/L	222546	1	04/14/2016 22:11	JL
Copper	BRL	0.0100		mg/L	222546	1	04/14/2016 22:11	JL
Lead	BRL	0.0100		mg/L	222546	1	04/14/2016 22:11	JL
Nickel	BRL	0.0200		mg/L	222546	1	04/14/2016 22:11	JL
Zinc	BRL	0.0200		mg/L	222546	1	04/14/2016 22:11	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-400-20160406-01
Project Name:	AGL - Macon	**Collection Date:**	4/6/2016 3:30:00 PM
Lab ID:	1604559-007	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	11	5.0		ug/L	222429	1	04/11/2016 21:10	NP
Carbon disulfide	BRL	5.0		ug/L	222429	1	04/11/2016 21:10	NP
Ethylbenzene	BRL	5.0		ug/L	222429	1	04/11/2016 21:10	NP
Toluene	BRL	5.0		ug/L	222429	1	04/11/2016 21:10	NP
Xylenes, Total	BRL	5.0		ug/L	222429	1	04/11/2016 21:10	NP
Surr: 4-Bromofluorobenzene	92.3	70.7-125		%REC	222429	1	04/11/2016 21:10	NP
Surr: Dibromofluoromethane	114	82.2-120		%REC	222429	1	04/11/2016 21:10	NP
Surr: Toluene-d8	90	81.8-120		%REC	222429	1	04/11/2016 21:10	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	1.7	0.50		ug/L	222440	1	04/12/2016 18:51	YH
Acenaphthylene	1.3	1.0		ug/L	222440	1	04/12/2016 18:51	YH
Acenaphthene	1.0	0.50		ug/L	222440	1	04/12/2016 18:51	YH
Fluorene	0.28	0.10		ug/L	222440	1	04/12/2016 18:51	YH
Phenanthrene	BRL	0.050		ug/L	222440	1	04/12/2016 18:51	YH
Anthracene	0.15	0.050		ug/L	222440	1	04/12/2016 18:51	YH
Fluoranthene	0.11	0.10		ug/L	222440	1	04/12/2016 18:51	YH
Pyrene	0.14	0.050		ug/L	222440	1	04/12/2016 18:51	YH
Benz(a)anthracene	BRL	0.050		ug/L	222440	1	04/12/2016 18:51	YH
Chrysene	BRL	0.050		ug/L	222440	1	04/12/2016 18:51	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222440	1	04/12/2016 18:51	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222440	1	04/12/2016 18:51	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 18:51	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 18:51	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222440	1	04/12/2016 18:51	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222440	1	04/12/2016 18:51	YH
Surr: 4-Terphenyl-d14	90.2	58.7-134		%REC	222440	1	04/12/2016 18:51	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222438	1	04/13/2016 14:05	YH
2-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 14:05	YH
3,4-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 14:05	YH
Phenol	BRL	10		ug/L	222438	1	04/13/2016 14:05	YH
Surr: 2,4,6-Tribromophenol	94	51.5-141		%REC	222438	1	04/13/2016 14:05	YH
Surr: 2-Fluorobiphenyl	93.6	50.8-122		%REC	222438	1	04/13/2016 14:05	YH
Surr: 2-Fluorophenol	63.1	28.1-120		%REC	222438	1	04/13/2016 14:05	YH
Surr: 4-Terphenyl-d14	93.1	47.2-131		%REC	222438	1	04/13/2016 14:05	YH
Surr: Nitrobenzene-d5	81.6	42.1-124		%REC	222438	1	04/13/2016 14:05	YH
Surr: Phenol-d5	57.6	16-120		%REC	222438	1	04/13/2016 14:05	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-400-20160406-01
Project Name:	AGL - Macon	**Collection Date:**	4/6/2016 3:30:00 PM
Lab ID:	1604559-007	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	222405	1	04/11/2016 14:45	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.160	0.010		mg/L	222577	1	04/13/2016 13:45	PF
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	222546	1	04/14/2016 22:14	JL
Arsenic	BRL	0.0500		mg/L	222546	1	04/14/2016 22:14	JL
Barium	0.0676	0.0200		mg/L	222546	1	04/14/2016 22:14	JL
Beryllium	BRL	0.0100		mg/L	222546	1	04/14/2016 22:14	JL
Cadmium	BRL	0.0050		mg/L	222546	1	04/14/2016 22:14	JL
Chromium	BRL	0.0100		mg/L	222546	1	04/14/2016 22:14	JL
Copper	BRL	0.0100		mg/L	222546	1	04/14/2016 22:14	JL
Lead	BRL	0.0100		mg/L	222546	1	04/14/2016 22:14	JL
Nickel	BRL	0.0200		mg/L	222546	1	04/14/2016 22:14	JL
Zinc	0.0887	0.0200		mg/L	222546	1	04/14/2016 22:14	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-21-20160406-01
Project Name:	AGL - Macon	**Collection Date:**	4/6/2016 5:20:00 PM
Lab ID:	1604559-008	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	222429	1	04/11/2016 21:34	NP
Carbon disulfide	BRL	5.0		ug/L	222429	1	04/11/2016 21:34	NP
Ethylbenzene	BRL	5.0		ug/L	222429	1	04/11/2016 21:34	NP
Toluene	BRL	5.0		ug/L	222429	1	04/11/2016 21:34	NP
Xylenes, Total	BRL	5.0		ug/L	222429	1	04/11/2016 21:34	NP
Surr: 4-Bromofluorobenzene	86.4	70.7-125		%REC	222429	1	04/11/2016 21:34	NP
Surr: Dibromofluoromethane	115	82.2-120		%REC	222429	1	04/11/2016 21:34	NP
Surr: Toluene-d8	90.7	81.8-120		%REC	222429	1	04/11/2016 21:34	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	222440	1	04/12/2016 19:18	YH
Acenaphthylene	BRL	1.0		ug/L	222440	1	04/12/2016 19:18	YH
Acenaphthene	BRL	0.50		ug/L	222440	1	04/12/2016 19:18	YH
Fluorene	BRL	0.10		ug/L	222440	1	04/12/2016 19:18	YH
Phenanthrene	BRL	0.050		ug/L	222440	1	04/12/2016 19:18	YH
Anthracene	BRL	0.050		ug/L	222440	1	04/12/2016 19:18	YH
Fluoranthene	BRL	0.10		ug/L	222440	1	04/12/2016 19:18	YH
Pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 19:18	YH
Benz(a)anthracene	BRL	0.050		ug/L	222440	1	04/12/2016 19:18	YH
Chrysene	BRL	0.050		ug/L	222440	1	04/12/2016 19:18	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222440	1	04/12/2016 19:18	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222440	1	04/12/2016 19:18	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 19:18	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 19:18	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222440	1	04/12/2016 19:18	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222440	1	04/12/2016 19:18	YH
Surr: 4-Terphenyl-d14	81.9	58.7-134		%REC	222440	1	04/12/2016 19:18	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222438	1	04/13/2016 13:21	YH
2-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 13:21	YH
3,4-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 13:21	YH
Phenol	BRL	10		ug/L	222438	1	04/13/2016 13:21	YH
Surr: 2,4,6-Tribromophenol	106	51.5-141		%REC	222438	1	04/13/2016 13:21	YH
Surr: 2-Fluorobiphenyl	85.1	50.8-122		%REC	222438	1	04/13/2016 13:21	YH
Surr: 2-Fluorophenol	67.2	28.1-120		%REC	222438	1	04/13/2016 13:21	YH
Surr: 4-Terphenyl-d14	90.7	47.2-131		%REC	222438	1	04/13/2016 13:21	YH
Surr: Nitrobenzene-d5	77.8	42.1-124		%REC	222438	1	04/13/2016 13:21	YH
Surr: Phenol-d5	54.4	16-120		%REC	222438	1	04/13/2016 13:21	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-21-20160406-01
Project Name:	AGL - Macon	**Collection Date:**	4/6/2016 5:20:00 PM
Lab ID:	1604559-008	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	222405	1	04/11/2016 14:47	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	222577	1	04/13/2016 13:45	PF
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	222546	1	04/14/2016 22:17	JL
Arsenic	BRL	0.0500		mg/L	222546	1	04/14/2016 22:17	JL
Barium	0.0968	0.0200		mg/L	222546	1	04/14/2016 22:17	JL
Beryllium	BRL	0.0100		mg/L	222546	1	04/14/2016 22:17	JL
Cadmium	BRL	0.0050		mg/L	222546	1	04/14/2016 22:17	JL
Chromium	BRL	0.0100		mg/L	222546	1	04/14/2016 22:17	JL
Copper	BRL	0.0100		mg/L	222546	1	04/14/2016 22:17	JL
Lead	BRL	0.0100		mg/L	222546	1	04/14/2016 22:17	JL
Nickel	BRL	0.0200		mg/L	222546	1	04/14/2016 22:17	JL
Zinc	0.165	0.0200		mg/L	222546	1	04/14/2016 22:17	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-15-20160406-01
Project Name:	AGL - Macon	**Collection Date:**	4/6/2016 11:55:00 AM
Lab ID:	1604559-009	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	222429	1	04/11/2016 21:57	NP
Carbon disulfide	BRL	5.0		ug/L	222429	1	04/11/2016 21:57	NP
Ethylbenzene	BRL	5.0		ug/L	222429	1	04/11/2016 21:57	NP
Toluene	BRL	5.0		ug/L	222429	1	04/11/2016 21:57	NP
Xylenes, Total	BRL	5.0		ug/L	222429	1	04/11/2016 21:57	NP
Surr: 4-Bromofluorobenzene	85.6	70.7-125		%REC	222429	1	04/11/2016 21:57	NP
Surr: Dibromofluoromethane	113	82.2-120		%REC	222429	1	04/11/2016 21:57	NP
Surr: Toluene-d8	91.6	81.8-120		%REC	222429	1	04/11/2016 21:57	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	222440	1	04/12/2016 19:44	YH
Acenaphthylene	BRL	1.0		ug/L	222440	1	04/12/2016 19:44	YH
Acenaphthene	BRL	0.50		ug/L	222440	1	04/12/2016 19:44	YH
Fluorene	BRL	0.10		ug/L	222440	1	04/12/2016 19:44	YH
Phenanthrene	BRL	0.050		ug/L	222440	1	04/12/2016 19:44	YH
Anthracene	BRL	0.050		ug/L	222440	1	04/12/2016 19:44	YH
Fluoranthene	BRL	0.10		ug/L	222440	1	04/12/2016 19:44	YH
Pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 19:44	YH
Benz(a)anthracene	BRL	0.050		ug/L	222440	1	04/12/2016 19:44	YH
Chrysene	BRL	0.050		ug/L	222440	1	04/12/2016 19:44	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222440	1	04/12/2016 19:44	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222440	1	04/12/2016 19:44	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 19:44	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 19:44	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222440	1	04/12/2016 19:44	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222440	1	04/12/2016 19:44	YH
Surr: 4-Terphenyl-d14	90.4	58.7-134		%REC	222440	1	04/12/2016 19:44	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222438	1	04/13/2016 13:49	YH
2-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 13:49	YH
3,4-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 13:49	YH
Phenol	BRL	10		ug/L	222438	1	04/13/2016 13:49	YH
Surr: 2,4,6-Tribromophenol	102	51.5-141		%REC	222438	1	04/13/2016 13:49	YH
Surr: 2-Fluorobiphenyl	87.7	50.8-122		%REC	222438	1	04/13/2016 13:49	YH
Surr: 2-Fluorophenol	69.2	28.1-120		%REC	222438	1	04/13/2016 13:49	YH
Surr: 4-Terphenyl-d14	87.7	47.2-131		%REC	222438	1	04/13/2016 13:49	YH
Surr: Nitrobenzene-d5	80.8	42.1-124		%REC	222438	1	04/13/2016 13:49	YH
Surr: Phenol-d5	58	16-120		%REC	222438	1	04/13/2016 13:49	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-15-20160406-01
Project Name:	AGL - Macon	**Collection Date:**	4/6/2016 11:55:00 AM
Lab ID:	1604559-009	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	222405	1	04/11/2016 14:49	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.014	0.010		mg/L	222577	1	04/13/2016 13:45	PF
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	222546	1	04/14/2016 22:19	JL
Arsenic	BRL	0.0500		mg/L	222546	1	04/14/2016 22:19	JL
Barium	0.0315	0.0200		mg/L	222546	1	04/14/2016 22:19	JL
Beryllium	BRL	0.0100		mg/L	222546	1	04/14/2016 22:19	JL
Cadmium	BRL	0.0050		mg/L	222546	1	04/14/2016 22:19	JL
Chromium	BRL	0.0100		mg/L	222546	1	04/14/2016 22:19	JL
Copper	BRL	0.0100		mg/L	222546	1	04/14/2016 22:19	JL
Lead	BRL	0.0100		mg/L	222546	1	04/14/2016 22:19	JL
Nickel	BRL	0.0200		mg/L	222546	1	04/14/2016 22:19	JL
Zinc	0.0500	0.0200		mg/L	222546	1	04/14/2016 22:19	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-102-20160406-01
Project Name:	AGL - Macon	**Collection Date:**	4/6/2016 9:15:00 AM
Lab ID:	1604559-010	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	222429	1	04/11/2016 17:38	NP
Carbon disulfide	BRL	5.0		ug/L	222429	1	04/11/2016 17:38	NP
Ethylbenzene	BRL	5.0		ug/L	222429	1	04/11/2016 17:38	NP
Toluene	BRL	5.0		ug/L	222429	1	04/11/2016 17:38	NP
Xylenes, Total	BRL	5.0		ug/L	222429	1	04/11/2016 17:38	NP
Surr: 4-Bromofluorobenzene	85.5	70.7-125		%REC	222429	1	04/11/2016 17:38	NP
Surr: Dibromofluoromethane	118	82.2-120		%REC	222429	1	04/11/2016 17:38	NP
Surr: Toluene-d8	92.6	81.8-120		%REC	222429	1	04/11/2016 17:38	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	222440	1	04/12/2016 16:40	YH
Acenaphthylene	BRL	1.0		ug/L	222440	1	04/12/2016 16:40	YH
Acenaphthene	BRL	0.50		ug/L	222440	1	04/12/2016 16:40	YH
Fluorene	BRL	0.10		ug/L	222440	1	04/12/2016 16:40	YH
Phenanthrene	BRL	0.050		ug/L	222440	1	04/12/2016 16:40	YH
Anthracene	BRL	0.050		ug/L	222440	1	04/12/2016 16:40	YH
Fluoranthene	BRL	0.10		ug/L	222440	1	04/12/2016 16:40	YH
Pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 16:40	YH
Benz(a)anthracene	BRL	0.050		ug/L	222440	1	04/12/2016 16:40	YH
Chrysene	BRL	0.050		ug/L	222440	1	04/12/2016 16:40	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222440	1	04/12/2016 16:40	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222440	1	04/12/2016 16:40	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 16:40	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 16:40	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222440	1	04/12/2016 16:40	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222440	1	04/12/2016 16:40	YH
Surr: 4-Terphenyl-d14	92.5	58.7-134		%REC	222440	1	04/12/2016 16:40	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222438	1	04/13/2016 12:46	YH
2-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 12:46	YH
3,4-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 12:46	YH
Phenol	BRL	10		ug/L	222438	1	04/13/2016 12:46	YH
Surr: 2,4,6-Tribromophenol	91.9	51.5-141		%REC	222438	1	04/13/2016 12:46	YH
Surr: 2-Fluorobiphenyl	90.4	50.8-122		%REC	222438	1	04/13/2016 12:46	YH
Surr: 2-Fluorophenol	63.4	28.1-120		%REC	222438	1	04/13/2016 12:46	YH
Surr: 4-Terphenyl-d14	94.9	47.2-131		%REC	222438	1	04/13/2016 12:46	YH
Surr: Nitrobenzene-d5	81.3	42.1-124		%REC	222438	1	04/13/2016 12:46	YH
Surr: Phenol-d5	51.5	16-120		%REC	222438	1	04/13/2016 12:46	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-102-20160406-01
Project Name:	AGL - Macon	**Collection Date:**	4/6/2016 9:15:00 AM
Lab ID:	1604559-010	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	222405	1	04/11/2016 14:22	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	222577	1	04/13/2016 13:45	PF
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	222546	1	04/14/2016 21:35	JL
Arsenic	BRL	0.0500		mg/L	222546	1	04/14/2016 21:35	JL
Barium	0.0584	0.0200		mg/L	222546	1	04/14/2016 21:35	JL
Beryllium	BRL	0.0100		mg/L	222546	1	04/14/2016 21:35	JL
Cadmium	BRL	0.0050		mg/L	222546	1	04/14/2016 21:35	JL
Chromium	BRL	0.0100		mg/L	222546	1	04/14/2016 21:35	JL
Copper	BRL	0.0100		mg/L	222546	1	04/14/2016 21:35	JL
Lead	BRL	0.0100		mg/L	222546	1	04/14/2016 21:35	JL
Nickel	0.0408	0.0200		mg/L	222546	1	04/15/2016 16:03	JL
Zinc	0.532	0.0200		mg/L	222546	1	04/14/2016 21:35	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	DUP-01-20160406-01
Project Name:	AGL - Macon	**Collection Date:**	4/6/2016
Lab ID:	1604559-011	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	222429	1	04/13/2016 03:34	NP
Carbon disulfide	BRL	5.0		ug/L	222429	1	04/13/2016 03:34	NP
Ethylbenzene	BRL	5.0		ug/L	222429	1	04/13/2016 03:34	NP
Toluene	BRL	5.0		ug/L	222429	1	04/13/2016 03:34	NP
Xylenes, Total	BRL	5.0		ug/L	222429	1	04/13/2016 03:34	NP
Surr: 4-Bromofluorobenzene	82.5	70.7-125		%REC	222429	1	04/13/2016 03:34	NP
Surr: Dibromofluoromethane	115	82.2-120		%REC	222429	1	04/13/2016 03:34	NP
Surr: Toluene-d8	87.4	81.8-120		%REC	222429	1	04/13/2016 03:34	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	222440	1	04/12/2016 20:10	YH
Acenaphthylene	BRL	1.0		ug/L	222440	1	04/12/2016 20:10	YH
Acenaphthene	BRL	0.50		ug/L	222440	1	04/12/2016 20:10	YH
Fluorene	BRL	0.10		ug/L	222440	1	04/12/2016 20:10	YH
Phenanthrene	BRL	0.050		ug/L	222440	1	04/12/2016 20:10	YH
Anthracene	BRL	0.050		ug/L	222440	1	04/12/2016 20:10	YH
Fluoranthene	BRL	0.10		ug/L	222440	1	04/12/2016 20:10	YH
Pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 20:10	YH
Benz(a)anthracene	BRL	0.050		ug/L	222440	1	04/12/2016 20:10	YH
Chrysene	BRL	0.050		ug/L	222440	1	04/12/2016 20:10	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222440	1	04/12/2016 20:10	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222440	1	04/12/2016 20:10	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 20:10	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 20:10	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222440	1	04/12/2016 20:10	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222440	1	04/12/2016 20:10	YH
Surr: 4-Terphenyl-d14	96.5	58.7-134		%REC	222440	1	04/12/2016 20:10	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222438	1	04/13/2016 14:45	YH
2-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 14:45	YH
3,4-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 14:45	YH
Phenol	BRL	10		ug/L	222438	1	04/13/2016 14:45	YH
Surr: 2,4,6-Tribromophenol	86.8	51.5-141		%REC	222438	1	04/13/2016 14:45	YH
Surr: 2-Fluorobiphenyl	67.7	50.8-122		%REC	222438	1	04/13/2016 14:45	YH
Surr: 2-Fluorophenol	45.8	28.1-120		%REC	222438	1	04/13/2016 14:45	YH
Surr: 4-Terphenyl-d14	76.3	47.2-131		%REC	222438	1	04/13/2016 14:45	YH
Surr: Nitrobenzene-d5	58.2	42.1-124		%REC	222438	1	04/13/2016 14:45	YH
Surr: Phenol-d5	36.4	16-120		%REC	222438	1	04/13/2016 14:45	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	DUP-01-20160406-01
Project Name:	AGL - Macon	**Collection Date:**	4/6/2016
Lab ID:	1604559-011	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	222405	1	04/11/2016 14:51	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.012	0.010		mg/L	222577	1	04/13/2016 13:45	PF
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	222546	1	04/14/2016 22:28	JL
Arsenic	BRL	0.0500		mg/L	222546	1	04/14/2016 22:28	JL
Barium	0.0326	0.0200		mg/L	222546	1	04/14/2016 22:28	JL
Beryllium	BRL	0.0100		mg/L	222546	1	04/14/2016 22:28	JL
Cadmium	BRL	0.0050		mg/L	222546	1	04/14/2016 22:28	JL
Chromium	BRL	0.0100		mg/L	222546	1	04/14/2016 22:28	JL
Copper	BRL	0.0100		mg/L	222546	1	04/14/2016 22:28	JL
Lead	BRL	0.0100		mg/L	222546	1	04/14/2016 22:28	JL
Nickel	BRL	0.0200		mg/L	222546	1	04/14/2016 22:28	JL
Zinc	0.0506	0.0200		mg/L	222546	1	04/14/2016 22:28	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	TRIP BLANK
Project Name:	AGL - Macon	**Collection Date:**	4/7/2016
Lab ID:	1604559-012	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	222429	1	04/11/2016 15:17	NP
Carbon disulfide	BRL	5.0		ug/L	222429	1	04/11/2016 15:17	NP
Ethylbenzene	BRL	5.0		ug/L	222429	1	04/11/2016 15:17	NP
Toluene	BRL	5.0		ug/L	222429	1	04/11/2016 15:17	NP
Xylenes, Total	BRL	5.0		ug/L	222429	1	04/11/2016 15:17	NP
Surr: 4-Bromofluorobenzene	83.8	70.7-125		%REC	222429	1	04/11/2016 15:17	NP
Surr: Dibromofluoromethane	118	82.2-120		%REC	222429	1	04/11/2016 15:17	NP
Surr: Toluene-d8	89.9	81.8-120		%REC	222429	1	04/11/2016 15:17	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	TRIP BLANK 2
Project Name:	AGL - Macon	**Collection Date:**	4/7/2016
Lab ID:	1604559-013	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	222429	1	04/11/2016 15:40	NP
Carbon disulfide	BRL	5.0		ug/L	222429	1	04/11/2016 15:40	NP
Ethylbenzene	BRL	5.0		ug/L	222429	1	04/11/2016 15:40	NP
Toluene	BRL	5.0		ug/L	222429	1	04/11/2016 15:40	NP
Xylenes, Total	BRL	5.0		ug/L	222429	1	04/11/2016 15:40	NP
Surr: 4-Bromofluorobenzene	85.7	70.7-125		%REC	222429	1	04/11/2016 15:40	NP
Surr: Dibromofluoromethane	119	82.2-120		%REC	222429	1	04/11/2016 15:40	NP
Surr: Toluene-d8	91	81.8-120		%REC	222429	1	04/11/2016 15:40	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	TRIP BLANK 3
Project Name:	AGL - Macon	**Collection Date:**	4/7/2016
Lab ID:	1604559-014	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	222429	1	04/11/2016 16:04	NP
Carbon disulfide	BRL	5.0		ug/L	222429	1	04/11/2016 16:04	NP
Ethylbenzene	BRL	5.0		ug/L	222429	1	04/11/2016 16:04	NP
Toluene	BRL	5.0		ug/L	222429	1	04/11/2016 16:04	NP
Xylenes, Total	BRL	5.0		ug/L	222429	1	04/11/2016 16:04	NP
Surr: 4-Bromofluorobenzene	82.7	70.7-125		%REC	222429	1	04/11/2016 16:04	NP
Surr: Dibromofluoromethane	120	82.2-120		%REC	222429	1	04/11/2016 16:04	NP
Surr: Toluene-d8	92.2	81.8-120		%REC	222429	1	04/11/2016 16:04	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	TRIP BLANK 4
Project Name:	AGL - Macon	**Collection Date:**	4/7/2016
Lab ID:	1604559-015	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	222429	1	04/11/2016 16:28	NP
Carbon disulfide	BRL	5.0		ug/L	222429	1	04/11/2016 16:28	NP
Ethylbenzene	BRL	5.0		ug/L	222429	1	04/11/2016 16:28	NP
Toluene	BRL	5.0		ug/L	222429	1	04/11/2016 16:28	NP
Xylenes, Total	BRL	5.0		ug/L	222429	1	04/11/2016 16:28	NP
Surr: 4-Bromofluorobenzene	84.9	70.7-125		%REC	222429	1	04/11/2016 16:28	NP
Surr: Dibromofluoromethane	118	82.2-120		%REC	222429	1	04/11/2016 16:28	NP
Surr: Toluene-d8	91.2	81.8-120		%REC	222429	1	04/11/2016 16:28	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	TRIP BLANK 5
Project Name:	AGL - Macon	**Collection Date:**	4/7/2016
Lab ID:	1604559-016	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	222429	1	04/11/2016 16:51	NP
Carbon disulfide	BRL	5.0		ug/L	222429	1	04/11/2016 16:51	NP
Ethylbenzene	BRL	5.0		ug/L	222429	1	04/11/2016 16:51	NP
Toluene	BRL	5.0		ug/L	222429	1	04/11/2016 16:51	NP
Xylenes, Total	BRL	5.0		ug/L	222429	1	04/11/2016 16:51	NP
Surr: 4-Bromofluorobenzene	81.9	70.7-125		%REC	222429	1	04/11/2016 16:51	NP
Surr: Dibromofluoromethane	116	82.2-120		%REC	222429	1	04/11/2016 16:51	NP
Surr: Toluene-d8	90.8	81.8-120		%REC	222429	1	04/11/2016 16:51	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	TRIP BLANK 6
Project Name:	AGL - Macon	**Collection Date:**	4/7/2016
Lab ID:	1604559-017	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	222429	1	04/11/2016 17:15	NP
Carbon disulfide	BRL	5.0		ug/L	222429	1	04/11/2016 17:15	NP
Ethylbenzene	BRL	5.0		ug/L	222429	1	04/11/2016 17:15	NP
Toluene	BRL	5.0		ug/L	222429	1	04/11/2016 17:15	NP
Xylenes, Total	BRL	5.0		ug/L	222429	1	04/11/2016 17:15	NP
Surr: 4-Bromofluorobenzene	85.1	70.7-125		%REC	222429	1	04/11/2016 17:15	NP
Surr: Dibromofluoromethane	116	82.2-120		%REC	222429	1	04/11/2016 17:15	NP
Surr: Toluene-d8	91.8	81.8-120		%REC	222429	1	04/11/2016 17:15	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client EPM-Fe Work Order Number 1604559

Checklist completed by Mwami Rawat 4/7/2016
Signature Date

Carrier name: FedEx __ UPS __ Courier ✓ Client __ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 1.9° Cooler #2 2.3° Cooler #3 3.1° Cooler #4 4.2° Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes __ No ✓ (MM 4/7/16)

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by MP

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Client: ERM-Southeast
Project Name: AGL - Macon
Workorder: 1604559

ANALYTICAL QC SUMMARY REPORT

BatchID: 222389

Sample ID: **MB-222389** Client ID: Units: **ug/L** Prep Date: **04/11/2016** Run No: **314259**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **222389** Analysis Date: **04/11/2016** Seq No: **6763736**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	10									
2-Methylphenol	BRL	10									
3,4-Methylphenol	BRL	10									
Phenol	BRL	10									
Surr: 2,4,6-Tribromophenol	74.38	0	100.0		74.4	51.5	141				
Surr: 2-Fluorobiphenyl	41.59	0	50.00		83.2	50.8	122				
Surr: 2-Fluorophenol	46.96	0	100.0		47.0	28.1	120				
Surr: 4-Terphenyl-d14	49.91	0	50.00		99.8	47.2	131				
Surr: Nitrobenzene-d5	37.95	0	50.00		75.9	42.1	124				
Surr: Phenol-d5	32.18	0	100.0		32.2	16	120				

Sample ID: **LCS-222389** Client ID: Units: **ug/L** Prep Date: **04/11/2016** Run No: **314259**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **222389** Analysis Date: **04/11/2016** Seq No: **6763743**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	60.89	10	100.0		60.9	27	120				
Surr: 2,4,6-Tribromophenol	105.2	0	100.0		105	51.5	141				
Surr: 2-Fluorobiphenyl	62.45	0	50.00		125	50.8	122				S
Surr: 2-Fluorophenol	74.52	0	100.0		74.5	28.1	120				
Surr: 4-Terphenyl-d14	59.41	0	50.00		119	47.2	131				
Surr: Nitrobenzene-d5	54.97	0	50.00		110	42.1	124				
Surr: Phenol-d5	71.71	0	100.0		71.7	16	120				

Sample ID: **1604558-013BMS** Client ID: Units: **ug/L** Prep Date: **04/11/2016** Run No: **314259**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **222389** Analysis Date: **04/11/2016** Seq No: **6765040**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	44.82	10	100.0		44.8	30.6	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL - Macon
Workorder: 1604559

ANALYTICAL QC SUMMARY REPORT

BatchID: 222389

Sample ID: **1604558-013BMS** Client ID:
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/L** Prep Date: **04/11/2016** Run No: **314259**
BatchID: **222389** Analysis Date: **04/11/2016** Seq No: **6765040**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 2,4,6-Tribromophenol	83.50	0	100.0		83.5	51.5	141				
Surr: 2-Fluorobiphenyl	47.13	0	50.00		94.3	50.8	122				
Surr: 2-Fluorophenol	59.60	0	100.0		59.6	28.1	120				
Surr: 4-Terphenyl-d14	50.30	0	50.00		101	47.2	131				
Surr: Nitrobenzene-d5	43.06	0	50.00		86.1	42.1	124				
Surr: Phenol-d5	54.63	0	100.0		54.6	16	120				

Sample ID: **1604558-013BMSD** Client ID:
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/L** Prep Date: **04/11/2016** Run No: **314259**
BatchID: **222389** Analysis Date: **04/11/2016** Seq No: **6765041**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	45.05	10	100.0		45.0	30.6	120	44.82	0.512	36.3	
Surr: 2,4,6-Tribromophenol	93.38	0	100.0		93.4	51.5	141	83.50	0	0	
Surr: 2-Fluorobiphenyl	51.23	0	50.00		102	50.8	122	47.13	0	0	
Surr: 2-Fluorophenol	59.19	0	100.0		59.2	28.1	120	59.60	0	0	
Surr: 4-Terphenyl-d14	54.58	0	50.00		109	47.2	131	50.30	0	0	
Surr: Nitrobenzene-d5	45.97	0	50.00		91.9	42.1	124	43.06	0	0	
Surr: Phenol-d5	53.24	0	100.0		53.2	16	120	54.63	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL - Macon
Workorder: 1604559

ANALYTICAL QC SUMMARY REPORT

BatchID: 222390

Sample ID: **MB-222390** Client ID: Units: **ug/L** Prep Date: **04/11/2016** Run No: **314382**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **222390** Analysis Date: **04/11/2016** Seq No: **6764908**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	0.50									
Acenaphthylene	BRL	1.0									
Anthracene	BRL	0.050									
Benz(a)anthracene	BRL	0.050									
Benzo(a)pyrene	BRL	0.050									
Benzo(b)fluoranthene	BRL	0.10									
Benzo(g,h,i)perylene	BRL	0.10									
Benzo(k)fluoranthene	BRL	0.050									
Chrysene	BRL	0.050									
Dibenz(a,h)anthracene	BRL	0.10									
Fluoranthene	BRL	0.10									
Fluorene	BRL	0.10									
Indeno(1,2,3-cd)pyrene	BRL	0.050									
Naphthalene	BRL	0.50									
Phenanthrene	BRL	0.050									
Pyrene	BRL	0.050									
Surr: 4-Terphenyl-d14	2.197	0	2.000		110	58.7	134				

Sample ID: **LCS-222390** Client ID: Units: **ug/L** Prep Date: **04/11/2016** Run No: **314457**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **222390** Analysis Date: **04/12/2016** Seq No: **6766435**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.771	0.50	2.000		88.5	65.2	121				
Acenaphthylene	1.646	1.0	2.000		82.3	62	120				
Anthracene	1.834	0.050	2.000		91.7	63.8	125				
Benz(a)anthracene	1.593	0.050	2.000		79.6	60	136				
Benzo(a)pyrene	1.741	0.050	2.000		87.0	65.6	128				
Benzo(b)fluoranthene	1.591	0.10	2.000		79.6	61.6	135				

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: ERM-Southeast
Project Name: AGL - Macon
Workorder: 1604559

ANALYTICAL QC SUMMARY REPORT

BatchID: 222390

Sample ID: **LCS-222390** Client ID: Units: **ug/L** Prep Date: **04/11/2016** Run No: **314457**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **222390** Analysis Date: **04/12/2016** Seq No: **6766435**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(g,h,i)perylene	1.419	0.10	2.000		71.0	60.6	124				
Benzo(k)fluoranthene	2.204	0.050	2.000		110	66.2	126				
Chrysene	1.985	0.050	2.000		99.2	69.9	134				
Dibenz(a,h)anthracene	1.296	0.10	2.000		64.8	56.6	127				
Fluoranthene	1.788	0.10	2.000		89.4	69.3	130				
Fluorene	1.746	0.10	2.000		87.3	68.4	121				
Indeno(1,2,3-cd)pyrene	1.542	0.050	2.000		77.1	59.2	130				
Naphthalene	1.612	0.50	2.000		80.6	61.4	120				
Phenanthrene	1.691	0.050	2.000		84.6	65.4	123				
Pyrene	1.784	0.050	2.000		89.2	66.4	130				
Surr: 4-Terphenyl-d14	1.962	0	2.000		98.1	58.7	134				

Sample ID: **1604558-013BMS** Client ID: Units: **ug/L** Prep Date: **04/11/2016** Run No: **314382**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **222390** Analysis Date: **04/11/2016** Seq No: **6764911**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.924	0.50	2.000		96.2	51.2	120				
Acenaphthylene	1.868	1.0	2.000		93.4	53.5	120				
Anthracene	1.938	0.050	2.000		96.9	53.3	120				
Benz(a)anthracene	1.874	0.050	2.000		93.7	50.9	132				
Benzo(a)pyrene	1.819	0.050	2.000		90.9	50.5	120				
Benzo(b)fluoranthene	1.892	0.10	2.000		94.6	55.8	127				
Benzo(g,h,i)perylene	1.624	0.10	2.000		81.2	46.8	120				
Benzo(k)fluoranthene	2.047	0.050	2.000		102	54.5	120				
Chrysene	2.006	0.050	2.000		100	56.9	125				
Dibenz(a,h)anthracene	1.469	0.10	2.000		73.4	44.8	120				
Fluoranthene	1.905	0.10	2.000	0.01771	94.4	61.5	122				
Fluorene	1.942	0.10	2.000		97.1	55.6	118				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL - Macon
Workorder: 1604559

ANALYTICAL QC SUMMARY REPORT

BatchID: 222390

Sample ID: **1604558-013BMS**	Client ID:		Units: **ug/L**	Prep Date: **04/11/2016**	Run No: **314382**
SampleType: **MS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **222390**	Analysis Date: **04/11/2016**	Seq No: **6764911**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Indeno(1,2,3-cd)pyrene	1.630	0.050	2.000		81.5	46.1	120				
Naphthalene	1.721	0.50	2.000	0.1019	81.0	51.7	120				
Phenanthrene	1.830	0.050	2.000		91.5	56.1	120				
Pyrene	1.925	0.050	2.000	0.02372	95.1	56.1	125				
Surr: 4-Terphenyl-d14	1.943	0	2.000		97.2	58.7	134				

Sample ID: **1604558-013BMSD**	Client ID:		Units: **ug/L**	Prep Date: **04/11/2016**	Run No: **314382**
SampleType: **MSD**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **222390**	Analysis Date: **04/11/2016**	Seq No: **6764912**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.747	0.50	2.000		87.3	51.2	120	1.924	9.67	23.9	
Acenaphthylene	1.707	1.0	2.000		85.3	53.5	120	1.868	9.01	24.2	
Anthracene	1.829	0.050	2.000		91.4	53.3	120	1.938	5.79	22.3	
Benz(a)anthracene	1.764	0.050	2.000		88.2	50.9	132	1.874	6.05	27.4	
Benzo(a)pyrene	1.692	0.050	2.000		84.6	50.5	120	1.819	7.23	41.9	
Benzo(b)fluoranthene	1.702	0.10	2.000		85.1	55.8	127	1.892	10.6	26.1	
Benzo(g,h,i)perylene	1.428	0.10	2.000		71.4	46.8	120	1.624	12.9	24.3	
Benzo(k)fluoranthene	1.901	0.050	2.000		95.0	54.5	120	2.047	7.41	24.2	
Chrysene	1.935	0.050	2.000		96.7	56.9	125	2.006	3.61	23.1	
Dibenz(a,h)anthracene	1.320	0.10	2.000		66.0	44.8	120	1.469	10.7	26.1	
Fluoranthene	1.792	0.10	2.000	0.01771	88.7	61.5	122	1.905	6.13	17.7	
Fluorene	1.814	0.10	2.000		90.7	55.6	118	1.942	6.80	27.5	
Indeno(1,2,3-cd)pyrene	1.427	0.050	2.000		71.3	46.1	120	1.630	13.3	26.7	
Naphthalene	1.724	0.50	2.000	0.1019	81.1	51.7	120	1.721	0.135	24.2	
Phenanthrene	1.710	0.050	2.000		85.5	56.1	120	1.830	6.78	23.5	
Pyrene	1.943	0.050	2.000	0.02372	96.0	56.1	125	1.925	0.951	20.9	
Surr: 4-Terphenyl-d14	1.916	0	2.000		95.8	58.7	134	1.943	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL - Macon
Workorder: 1604559

ANALYTICAL QC SUMMARY REPORT

BatchID: 222405

Sample ID: **MB-222405**	Client ID:			Units: **mg/L**	Prep Date: **04/11/2016**	Run No: **314323**
SampleType: **MBLK**	TestCode: **Mercury, Total SW7470A**			BatchID: **222405**	Analysis Date: **04/11/2016**	Seq No: **6763785**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.00020									

Sample ID: **LCS-222405**	Client ID:			Units: **mg/L**	Prep Date: **04/11/2016**	Run No: **314323**
SampleType: **LCS**	TestCode: **Mercury, Total SW7470A**			BatchID: **222405**	Analysis Date: **04/11/2016**	Seq No: **6763786**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005034	0.00020	0.0050		101	80	120				

Sample ID: **1604559-010CMS**	Client ID: **MW-102-20160406-01**			Units: **mg/L**	Prep Date: **04/11/2016**	Run No: **314323**
SampleType: **MS**	TestCode: **Mercury, Total SW7470A**			BatchID: **222405**	Analysis Date: **04/11/2016**	Seq No: **6763788**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.004987	0.00020	0.0050		99.7	70	130				

Sample ID: **1604559-010CMSD**	Client ID: **MW-102-20160406-01**			Units: **mg/L**	Prep Date: **04/11/2016**	Run No: **314323**
SampleType: **MSD**	TestCode: **Mercury, Total SW7470A**			BatchID: **222405**	Analysis Date: **04/11/2016**	Seq No: **6763789**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005217	0.00020	0.0050		104	70	130	0.004987	4.53	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL - Macon
Workorder: 1604559

ANALYTICAL QC SUMMARY REPORT

BatchID: 222429

Sample ID: **MB-222429**	Client ID:		Units: **ug/L**	Prep Date: **04/11/2016**	Run No: **314310**
SampleType: **MBLK**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **222429**	Analysis Date: **04/11/2016**	Seq No: **6763115**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	5.0									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	40.95	0	50.00		81.9	70.7	125				
Surr: Dibromofluoromethane	57.42	0	50.00		115	82.2	120				
Surr: Toluene-d8	45.64	0	50.00		91.3	81.8	120				

Sample ID: **LCS-222429**	Client ID:		Units: **ug/L**	Prep Date: **04/11/2016**	Run No: **314310**
SampleType: **LCS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **222429**	Analysis Date: **04/11/2016**	Seq No: **6763016**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	44.37	5.0	50.00		88.7	74.9	123				
Toluene	45.72	5.0	50.00		91.4	75	124				
Surr: 4-Bromofluorobenzene	42.26	0	50.00		84.5	70.7	125				
Surr: Dibromofluoromethane	52.52	0	50.00		105	82.2	120				
Surr: Toluene-d8	43.59	0	50.00		87.2	81.8	120				

Sample ID: **1604559-010AMS**	Client ID: **MW-102-20160406-01**		Units: **ug/L**	Prep Date: **04/11/2016**	Run No: **314310**
SampleType: **MS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **222429**	Analysis Date: **04/11/2016**	Seq No: **6764519**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	52.01	5.0	50.00		104	70.1	132				
Toluene	53.58	5.0	50.00		107	70.1	133				
Surr: 4-Bromofluorobenzene	42.25	0	50.00		84.5	70.7	125				
Surr: Dibromofluoromethane	55.60	0	50.00		111	82.2	120				
Surr: Toluene-d8	44.35	0	50.00		88.7	81.8	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL - Macon
Workorder: 1604559

ANALYTICAL QC SUMMARY REPORT

BatchID: 222429

Sample ID: **1604559-010AMSD** Client ID: **MW-102-20160406-01** Units: **ug/L** Prep Date: **04/11/2016** Run No: **314310**
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **222429** Analysis Date: **04/11/2016** Seq No: **6764520**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	50.76	5.0	50.00		102	70.1	132	52.01	2.43	20	
Toluene	53.39	5.0	50.00		107	70.1	133	53.58	0.355	20	
Surr: 4-Bromofluorobenzene	42.60	0	50.00		85.2	70.7	125	42.25	0	0	
Surr: Dibromofluoromethane	55.36	0	50.00		111	82.2	120	55.60	0	0	
Surr: Toluene-d8	43.93	0	50.00		87.9	81.8	120	44.35	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL - Macon
Workorder: 1604559

ANALYTICAL QC SUMMARY REPORT

BatchID: 222438

Sample ID: **MB-222438**	Client ID:		Units: **ug/L**	Prep Date: **04/12/2016**	Run No: **314551**
SampleType: **MBLK**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **222438**	Analysis Date: **04/13/2016**	Seq No: **6768350**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	10									
2-Methylphenol	BRL	10									
3,4-Methylphenol	BRL	10									
Phenol	BRL	10									
Surr: 2,4,6-Tribromophenol	84.46	0	100.0		84.5	51.5	141				
Surr: 2-Fluorobiphenyl	43.05	0	50.00		86.1	50.8	122				
Surr: 2-Fluorophenol	50.80	0	100.0		50.8	28.1	120				
Surr: 4-Terphenyl-d14	46.17	0	50.00		92.3	47.2	131				
Surr: Nitrobenzene-d5	39.88	0	50.00		79.8	42.1	124				
Surr: Phenol-d5	35.81	0	100.0		35.8	16	120				

Sample ID: **LCS-222438**	Client ID:		Units: **ug/L**	Prep Date: **04/12/2016**	Run No: **314551**
SampleType: **LCS**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **222438**	Analysis Date: **04/13/2016**	Seq No: **6768351**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	37.29	10	100.0		37.3	27	120				
Surr: 2,4,6-Tribromophenol	100.0	0	100.0		100	51.5	141				
Surr: 2-Fluorobiphenyl	50.46	0	50.00		101	50.8	122				
Surr: 2-Fluorophenol	53.56	0	100.0		53.6	28.1	120				
Surr: 4-Terphenyl-d14	51.37	0	50.00		103	47.2	131				
Surr: Nitrobenzene-d5	44.23	0	50.00		88.5	42.1	124				
Surr: Phenol-d5	44.67	0	100.0		44.7	16	120				

Sample ID: **1604559-010BMS**	Client ID: **MW-102-20160406-01**		Units: **ug/L**	Prep Date: **04/12/2016**	Run No: **314551**
SampleType: **MS**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **222438**	Analysis Date: **04/13/2016**	Seq No: **6769585**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	59.91	10	100.0		59.9	30.6	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL - Macon
Workorder: 1604559

ANALYTICAL QC SUMMARY REPORT

BatchID: 222438

Sample ID: **1604559-010BMS**	Client ID: **MW-102-20160406-01**	Units: **ug/L**	Prep Date: **04/12/2016**	Run No: **314551**
SampleType: **MS**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**	BatchID: **222438**	Analysis Date: **04/13/2016**	Seq No: **6769585**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 2,4,6-Tribromophenol	94.07	0	100.0		94.1	51.5	141				
Surr: 2-Fluorobiphenyl	46.50	0	50.00		93.0	50.8	122				
Surr: 2-Fluorophenol	67.59	0	100.0		67.6	28.1	120				
Surr: 4-Terphenyl-d14	46.13	0	50.00		92.3	47.2	131				
Surr: Nitrobenzene-d5	44.57	0	50.00		89.1	42.1	124				
Surr: Phenol-d5	66.28	0	100.0		66.3	16	120				

Sample ID: **1604559-010BMSD**	Client ID: **MW-102-20160406-01**	Units: **ug/L**	Prep Date: **04/12/2016**	Run No: **314551**
SampleType: **MSD**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**	BatchID: **222438**	Analysis Date: **04/13/2016**	Seq No: **6769586**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	52.22	10	100.0		52.2	30.6	120	59.91	13.7	36.3	
Surr: 2,4,6-Tribromophenol	93.19	0	100.0		93.2	51.5	141	94.07	0	0	
Surr: 2-Fluorobiphenyl	48.97	0	50.00		97.9	50.8	122	46.50	0	0	
Surr: 2-Fluorophenol	64.87	0	100.0		64.9	28.1	120	67.59	0	0	
Surr: 4-Terphenyl-d14	46.96	0	50.00		93.9	47.2	131	46.13	0	0	
Surr: Nitrobenzene-d5	43.98	0	50.00		88.0	42.1	124	44.57	0	0	
Surr: Phenol-d5	60.15	0	100.0		60.2	16	120	66.28	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL - Macon
Workorder: 1604559

ANALYTICAL QC SUMMARY REPORT

BatchID: 222440

Sample ID: **MB-222440** Client ID: Units: **ug/L** Prep Date: **04/12/2016** Run No: **314457**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **222440** Analysis Date: **04/12/2016** Seq No: **6766190**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	0.50									
Acenaphthylene	BRL	1.0									
Anthracene	BRL	0.050									
Benz(a)anthracene	BRL	0.050									
Benzo(a)pyrene	BRL	0.050									
Benzo(b)fluoranthene	BRL	0.10									
Benzo(g,h,i)perylene	BRL	0.10									
Benzo(k)fluoranthene	BRL	0.050									
Chrysene	BRL	0.050									
Dibenz(a,h)anthracene	BRL	0.10									
Fluoranthene	BRL	0.10									
Fluorene	BRL	0.10									
Indeno(1,2,3-cd)pyrene	BRL	0.050									
Naphthalene	BRL	0.50									
Phenanthrene	BRL	0.050									
Pyrene	BRL	0.050									
Surr: 4-Terphenyl-d14	1.964	0	2.000		98.2	58.7	134				

Sample ID: **LCS-222440** Client ID: Units: **ug/L** Prep Date: **04/12/2016** Run No: **314457**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **222440** Analysis Date: **04/12/2016** Seq No: **6766303**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.698	0.50	2.000		84.9	65.2	121				
Acenaphthylene	1.644	1.0	2.000		82.2	62	120				
Anthracene	1.776	0.050	2.000		88.8	63.8	125				
Benz(a)anthracene	1.675	0.050	2.000		83.7	60	136				
Benzo(a)pyrene	1.826	0.050	2.000		91.3	65.6	128				
Benzo(b)fluoranthene	1.713	0.10	2.000		85.7	61.6	135				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL - Macon
Workorder: 1604559

ANALYTICAL QC SUMMARY REPORT

BatchID: 222440

Sample ID: **LCS-222440** Client ID: Units: **ug/L** Prep Date: **04/12/2016** Run No: **314457**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **222440** Analysis Date: **04/12/2016** Seq No: **6766303**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(g,h,i)perylene	1.698	0.10	2.000		84.9	60.6	124				
Benzo(k)fluoranthene	2.256	0.050	2.000		113	66.2	126				
Chrysene	2.018	0.050	2.000		101	69.9	134				
Dibenz(a,h)anthracene	1.470	0.10	2.000		73.5	56.6	127				
Fluoranthene	1.783	0.10	2.000		89.1	69.3	130				
Fluorene	1.717	0.10	2.000		85.9	68.4	121				
Indeno(1,2,3-cd)pyrene	1.674	0.050	2.000		83.7	59.2	130				
Naphthalene	1.647	0.50	2.000		82.4	61.4	120				
Phenanthrene	1.653	0.050	2.000		82.7	65.4	123				
Pyrene	1.836	0.050	2.000		91.8	66.4	130				
Surr: 4-Terphenyl-d14	1.920	0	2.000		96.0	58.7	134				

Sample ID: **1604559-010BMS** Client ID: **MW-102-20160406-01** Units: **ug/L** Prep Date: **04/12/2016** Run No: **314457**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **222440** Analysis Date: **04/12/2016** Seq No: **6767681**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.675	0.50	2.000		83.7	51.2	120				
Acenaphthylene	1.594	1.0	2.000		79.7	53.5	120				
Anthracene	1.731	0.050	2.000		86.6	53.3	120				
Benz(a)anthracene	1.579	0.050	2.000		79.0	50.9	132				
Benzo(a)pyrene	1.548	0.050	2.000		77.4	50.5	120				
Benzo(b)fluoranthene	1.476	0.10	2.000		73.8	55.8	127				
Benzo(g,h,i)perylene	1.360	0.10	2.000		68.0	46.8	120				
Benzo(k)fluoranthene	1.926	0.050	2.000		96.3	54.5	120				
Chrysene	1.895	0.050	2.000		94.8	56.9	125				
Dibenz(a,h)anthracene	1.266	0.10	2.000		63.3	44.8	120				
Fluoranthene	1.726	0.10	2.000	0.02563	85.0	61.5	122				
Fluorene	1.670	0.10	2.000		83.5	55.6	118				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL - Macon
Workorder: 1604559

ANALYTICAL QC SUMMARY REPORT

BatchID: 222440

Sample ID: **1604559-010BMS**	Client ID: **MW-102-20160406-01**			Units: **ug/L**	Prep Date: **04/12/2016**	Run No: **314457**
SampleType: **MS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**			BatchID: **222440**	Analysis Date: **04/12/2016**	Seq No: **6767681**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Indeno(1,2,3-cd)pyrene	1.233	0.050	2.000		61.7	46.1	120				
Naphthalene	1.492	0.50	2.000		74.6	51.7	120				
Phenanthrene	1.597	0.050	2.000		79.8	56.1	120				
Pyrene	1.737	0.050	2.000	0.03704	85.0	56.1	125				
Surr: 4-Terphenyl-d14	1.711	0	2.000		85.6	58.7	134				

Sample ID: **1604559-010BMSD**	Client ID: **MW-102-20160406-01**			Units: **ug/L**	Prep Date: **04/12/2016**	Run No: **314457**
SampleType: **MSD**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**			BatchID: **222440**	Analysis Date: **04/12/2016**	Seq No: **6767682**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.639	0.50	2.000		82.0	51.2	120	1.675	2.12	23.9	
Acenaphthylene	1.552	1.0	2.000		77.6	53.5	120	1.594	2.63	24.2	
Anthracene	1.655	0.050	2.000		82.8	53.3	120	1.731	4.50	22.3	
Benz(a)anthracene	1.512	0.050	2.000		75.6	50.9	132	1.579	4.36	27.4	
Benzo(a)pyrene	1.493	0.050	2.000		74.6	50.5	120	1.548	3.61	41.9	
Benzo(b)fluoranthene	1.433	0.10	2.000		71.6	55.8	127	1.476	2.94	26.1	
Benzo(g,h,i)perylene	1.333	0.10	2.000		66.7	46.8	120	1.360	1.97	24.3	
Benzo(k)fluoranthene	1.876	0.050	2.000		93.8	54.5	120	1.926	2.61	24.2	
Chrysene	1.824	0.050	2.000		91.2	56.9	125	1.895	3.82	23.1	
Dibenz(a,h)anthracene	1.190	0.10	2.000		59.5	44.8	120	1.266	6.12	26.1	
Fluoranthene	1.661	0.10	2.000	0.02563	81.8	61.5	122	1.726	3.82	17.7	
Fluorene	1.657	0.10	2.000		82.8	55.6	118	1.670	0.799	27.5	
Indeno(1,2,3-cd)pyrene	1.199	0.050	2.000		59.9	46.1	120	1.233	2.84	26.7	
Naphthalene	1.418	0.50	2.000		70.9	51.7	120	1.492	5.10	24.2	
Phenanthrene	1.563	0.050	2.000		78.1	56.1	120	1.597	2.13	23.5	
Pyrene	1.692	0.050	2.000	0.03704	82.8	56.1	125	1.737	2.63	20.9	
Surr: 4-Terphenyl-d14	1.672	0	2.000		83.6	58.7	134	1.711	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL - Macon
Workorder: 1604559

ANALYTICAL QC SUMMARY REPORT

BatchID: 222546

Sample ID: **MB-222546** Client ID: Units: **mg/L** Prep Date: **04/13/2016** Run No: **314733**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010D** BatchID: **222546** Analysis Date: **04/14/2016** Seq No: **6772568**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	0.0200									
Arsenic	BRL	0.0100									
Barium	BRL	0.0200									
Beryllium	BRL	0.0100									
Cadmium	BRL	0.0050									
Chromium	BRL	0.0100									
Copper	BRL	0.0100									
Iron	BRL	0.100									
Lead	BRL	0.0100									
Nickel	BRL	0.0200									
Zinc	BRL	0.0200									

Sample ID: **LCS-222546** Client ID: Units: **mg/L** Prep Date: **04/13/2016** Run No: **314733**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010D** BatchID: **222546** Analysis Date: **04/14/2016** Seq No: **6772569**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.065	0.0200	1.000	0.004820	106	80	120				
Arsenic	1.075	0.0500	1.000		107	80	120				
Barium	1.066	0.0200	1.000		107	80	120				
Beryllium	1.067	0.0100	1.000		107	80	120				
Cadmium	1.062	0.0050	1.000		106	80	120				
Chromium	1.061	0.0100	1.000		106	80	120				
Copper	1.068	0.0100	1.000		107	80	120				
Iron	10.63	0.100	10.00		106	80	120				
Lead	1.057	0.0100	1.000		106	80	120				
Nickel	1.062	0.0200	1.000		106	80	120				
Zinc	1.059	0.0200	1.000		106	80	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL - Macon
Workorder: 1604559

ANALYTICAL QC SUMMARY REPORT

BatchID: 222546

Sample ID: **1604559-010CMS** Client ID: **MW-102-20160406-01** Units: **mg/L** Prep Date: **04/13/2016** Run No: **314733**
SampleType: **MS** TestCode: **METALS, TOTAL SW6010D** BatchID: **222546** Analysis Date: **04/14/2016** Seq No: **6772571**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.048	0.0200	1.000	0.01226	104	75	125				
Arsenic	1.075	0.0500	1.000		107	75	125				
Barium	1.097	0.0200	1.000	0.05845	104	75	125				
Beryllium	1.045	0.0100	1.000		104	75	125				
Cadmium	1.045	0.0050	1.000	0.0008400	104	75	125				
Chromium	1.037	0.0100	1.000		104	75	125				
Copper	1.070	0.0100	1.000	0.006210	106	75	125				
Iron	11.01	0.100	10.00	0.6558	104	75	125				
Lead	1.026	0.0100	1.000		103	75	125				
Nickel	1.044	0.0200	1.000	0.03712	101	75	125				
Zinc	1.532	0.0200	1.000	0.5324	99.9	75	125				

Sample ID: **1604559-010CMSD** Client ID: **MW-102-20160406-01** Units: **mg/L** Prep Date: **04/13/2016** Run No: **314733**
SampleType: **MSD** TestCode: **METALS, TOTAL SW6010D** BatchID: **222546** Analysis Date: **04/14/2016** Seq No: **6772572**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.035	0.0200	1.000	0.01226	102	75	125	1.048	1.19	20	
Arsenic	1.079	0.0500	1.000		108	75	125	1.075	0.383	20	
Barium	1.097	0.0200	1.000	0.05845	104	75	125	1.097	0.003	20	
Beryllium	1.042	0.0100	1.000		104	75	125	1.045	0.226	20	
Cadmium	1.045	0.0050	1.000	0.0008400	104	75	125	1.045	0.004	20	
Chromium	1.036	0.0100	1.000		104	75	125	1.037	0.082	20	
Copper	1.068	0.0100	1.000	0.006210	106	75	125	1.070	0.181	20	
Iron	11.02	0.100	10.00	0.6558	104	75	125	11.01	0.044	20	
Lead	1.028	0.0100	1.000		103	75	125	1.026	0.209	20	
Nickel	1.022	0.0200	1.000	0.03712	98.5	75	125	1.044	2.08	20	
Zinc	1.530	0.0200	1.000	0.5324	99.8	75	125	1.532	0.103	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL - Macon
Workorder: 1604559

ANALYTICAL QC SUMMARY REPORT

BatchID: 222576

Sample ID: **MB-222576**	Client ID:					Units: **mg/L**		Prep Date: **04/13/2016**		Run No: **314577**	
SampleType: **MBLK**	TestCode: **Cyanide SW9014**					BatchID: **222576**		Analysis Date: **04/13/2016**		Seq No: **6768821**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	0.010									

Sample ID: **LCS-222576**	Client ID:					Units: **mg/L**		Prep Date: **04/13/2016**		Run No: **314577**	
SampleType: **LCS**	TestCode: **Cyanide SW9014**					BatchID: **222576**		Analysis Date: **04/13/2016**		Seq No: **6768822**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2389	0.010	0.2500		95.6	85	115				

Sample ID: **1604558-001DMS**	Client ID:					Units: **mg/L**		Prep Date: **04/13/2016**		Run No: **314577**	
SampleType: **MS**	TestCode: **Cyanide SW9014**					BatchID: **222576**		Analysis Date: **04/13/2016**		Seq No: **6768841**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2437	0.010	0.2500	0.02310	88.2	70	130				

Sample ID: **1604558-013DMS**	Client ID:					Units: **mg/L**		Prep Date: **04/13/2016**		Run No: **314577**	
SampleType: **MS**	TestCode: **Cyanide SW9014**					BatchID: **222576**		Analysis Date: **04/13/2016**		Seq No: **6768848**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2335	0.010	0.2500		93.4	70	130				

Sample ID: **1604558-001DMSD**	Client ID:					Units: **mg/L**		Prep Date: **04/13/2016**		Run No: **314577**	
SampleType: **MSD**	TestCode: **Cyanide SW9014**					BatchID: **222576**		Analysis Date: **04/13/2016**		Seq No: **6768844**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2443	0.010	0.2500	0.02310	88.5	70	130	0.2437	0.246	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL - Macon
Workorder: 1604559

ANALYTICAL QC SUMMARY REPORT

BatchID: 222576

Sample ID: **1604558-013DMSD** Client ID:
SampleType: **MSD** TestCode: **Cyanide SW9014**
Units: **mg/L** Prep Date: **04/13/2016** Run No: **314577**
BatchID: **222576** Analysis Date: **04/13/2016** Seq No: **6768849**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2320	0.010	0.2500		92.8	70	130	0.2335	0.644	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL - Macon
Workorder: 1604559

ANALYTICAL QC SUMMARY REPORT

BatchID: 222577

Sample ID: **MB-222577**	Client ID:					Units: **mg/L**		Prep Date: **04/13/2016**		Run No: **314574**	
SampleType: **MBLK**	TestCode: **Cyanide SW9014**					BatchID: **222577**		Analysis Date: **04/13/2016**		Seq No: **6768805**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	0.010									

Sample ID: **LCS-222577**	Client ID:					Units: **mg/L**		Prep Date: **04/13/2016**		Run No: **314574**	
SampleType: **LCS**	TestCode: **Cyanide SW9014**					BatchID: **222577**		Analysis Date: **04/13/2016**		Seq No: **6768806**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2389	0.010	0.2500		95.6	85	115				

Sample ID: **1604559-010DMS**	Client ID: **MW-102-20160406-01**					Units: **mg/L**		Prep Date: **04/13/2016**		Run No: **314574**	
SampleType: **MS**	TestCode: **Cyanide SW9014**					BatchID: **222577**		Analysis Date: **04/13/2016**		Seq No: **6768816**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2467	0.010	0.2500		98.7	70	130				

Sample ID: **1604559-010DMSD**	Client ID: **MW-102-20160406-01**					Units: **mg/L**		Prep Date: **04/13/2016**		Run No: **314574**	
SampleType: **MSD**	TestCode: **Cyanide SW9014**					BatchID: **222577**		Analysis Date: **04/13/2016**		Seq No: **6768817**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2446	0.010	0.2500		97.8	70	130	0.2467	0.855	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

AES

May 03, 2016

Adria Reimer
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: AGL - Macon

Dear Adria Reimer: Order No: 1604771

Analytical Environmental Services, Inc. received 13 samples on 4/8/2016 11:10:00 AM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES's accreditations are as follows:
-NELAC/Florida State Laboratory ID E87582 for analysis of Non-Potable Water, Solid & Chemical Materials, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-NELAC/Louisiana Agency Interest No. 100818 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 07/01/15-06/30/16.
-NELAC/Texas Certificate No. T104704509-16-6 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 03/01/16-02/28/17.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

Revision 5/3/2016

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 160477

Date: 4/7/16 Page 1 of 1

COMPANY: ERM 3200 Windy Hill Rd - SE Suite 1500W Atlanta - GA - 30339	ADDRESS: 3200 Windy Hill Rd - SE Suite 1500W Atlanta - GA - 30339
PHONE: 678-486-2700	FAX: 678-745-0103
SAMPLED BY: M Leon / K Spurgeon / M Rodgers	SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	EPA-8260B	EPA-8270C	EPA-6010B+7470A	EPA-9012A	PRESERVATION (See codes) HCl+ICE	PRESERVATION (See codes) ICE	PRESERVATION (See codes) HNO3	PRESERVATION (See codes) NaOH	REMARKS	No # of Containers
1	MW-306D-20160407-01	4/7/16	1726	X		GW	2	2	1	1						
2	MW-200DR-20160407-01	4/7/16	1506	X		GW	2	2	1	1						
3	MW-305D-20160407-01	4/7/16	1840	X		GW	2	2	1	1						
4	MW-302DD-20160407-01	4/7/16	1330	X		GW	2	2	1	1						
5	MW-204D-20160407-01	4/7/16	1158	X		GW	2	2	1	1						
6	MW-110D-20160407-01	4/7/16	0954	X		GW	2	2	1	1						
7	MW-301-20160407-01	4/7/16	1040	X		GW	2	2	1	1						
8	MW-302D-20160407-01	4/7/16	1615	X		GW	2	2	1	1						
9	Dup-03-20160407-01	4/7/16	—	X		GW	2	2	1	1						
10	Dup-01-20160407-01	4/7/16	—	X		GW	2	2	1	1						
11	Trip Blk	—	—	—		—	2									
12																
13																
14																

ANALYSIS REQUESTED

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

Release Call Adria Reimer to the List of Analytes & other concerns

4/7/16 - 2000

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: Manuel Leon	4/8/16 - 0910	1: Fy April-8-16	9:15
2: Fy April-8/16	11:10	2: Rec	4-08-16 11:10
3:		3:	

SPECIAL INSTRUCTIONS/COMMENTS:
EPA-8260B
EPA-8270C
EPA-6010B/EPA 7470A
EPA-9012A

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
CLIENT FedEx UPS MAIL (COURIER)
GREYHOUND OTHER_____

PROJECT INFORMATION
PROJECT NAME: AGL - Macon
PROJECT #:
SITE ADDRESS: AGL - Macon
SEND REPORT TO: Adria Reimer
INVOICE TO: (IF DIFFERENT FROM ABOVE) Same As Report
QUOTE #:_____ PO#:_____

RECEIPT
Total # of Containers

Turnaround Time Request
- (●) Standard 5 Business Days
- ( ) 2 Business Day Rush
- ( ) Next Business Day Rush
- ( ) Same Day Rush (auth req.)
- ( ) Other _____

STATE PROGRAM (if any): _____
E-mail? Y / N; Fax? Y / N
DATA PACKAGE: I II III IV

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.
SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water
PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc

Date: 3-May-16

Client: ERM-Southeast
Project: AGL - Macon
Lab ID: 1604771

Case Narrative

Volatiles Organic Compounds Analysis by Method 8260B:

Due to sample matrix, sample 1604771-003A required dilution during preparation and/or analysis resulting in elevated reporting limits.

Semivolatile Organic Compounds Analysis by Method 8270D:

Report revised on 4/28/2016 to include Naphthalene. Naphthalene results for samples 1604771-001A,002A,003A,004A,005A,006A,007A,008A,009A & 010A are "E" qualified indicating an estimated value over linear calibration range and/or estimated due to the calibration verification exceeding method requirements. Naphthalene results provided for supoprting information purposes as per client's instructions.

Analytical Environmental Services, Inc **Date:** 3-May-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-306D-20160407-01
Project Name:	AGL - Macon	**Collection Date:**	4/7/2016 5:26:00 PM
Lab ID:	1604771-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	440	50		ug/L	222477	10	04/13/2016 02:00	NP
Carbon disulfide	BRL	5.0		ug/L	222477	1	04/12/2016 05:20	NP
Ethylbenzene	87	5.0		ug/L	222477	1	04/12/2016 05:20	NP
Toluene	18	5.0		ug/L	222477	1	04/12/2016 05:20	NP
Xylenes, Total	61	5.0		ug/L	222477	1	04/12/2016 05:20	NP
Surr: 4-Bromofluorobenzene	89.6	70.7-125		%REC	222477	10	04/13/2016 02:00	NP
Surr: 4-Bromofluorobenzene	100	70.7-125		%REC	222477	1	04/12/2016 05:20	NP
Surr: Dibromofluoromethane	105	82.2-120		%REC	222477	1	04/12/2016 05:20	NP
Surr: Dibromofluoromethane	110	82.2-120		%REC	222477	10	04/13/2016 02:00	NP
Surr: Toluene-d8	87.5	81.8-120		%REC	222477	10	04/13/2016 02:00	NP
Surr: Toluene-d8	88	81.8-120		%REC	222477	1	04/12/2016 05:20	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	63	50		ug/L	222440	100	04/13/2016 12:46	YH
Acenaphthylene	BRL	1.0		ug/L	222440	1	04/12/2016 20:36	YH
Acenaphthene	10	10		ug/L	222440	100	04/13/2016 12:46	YH
Fluorene	2.5	0.10		ug/L	222440	1	04/12/2016 20:36	YH
Phenanthrene	2.3	0.050		ug/L	222440	1	04/12/2016 20:36	YH
Anthracene	0.31	0.050		ug/L	222440	1	04/12/2016 20:36	YH
Fluoranthene	0.19	0.10		ug/L	222440	1	04/12/2016 20:36	YH
Pyrene	0.25	0.050		ug/L	222440	1	04/12/2016 20:36	YH
Benz(a)anthracene	BRL	0.050		ug/L	222440	1	04/12/2016 20:36	YH
Chrysene	BRL	0.050		ug/L	222440	1	04/12/2016 20:36	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222440	1	04/12/2016 20:36	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222440	1	04/12/2016 20:36	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 20:36	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 20:36	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222440	1	04/12/2016 20:36	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222440	1	04/12/2016 20:36	YH
Surr: 4-Terphenyl-d14	95.4	58.7-134		%REC	222440	1	04/12/2016 20:36	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222438	1	04/13/2016 15:51	YH
2-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 15:51	YH
3,4-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 15:51	YH
Naphthalene	81	10	E	ug/L	222438	1	04/13/2016 15:51	YH
Phenol	BRL	10		ug/L	222438	1	04/13/2016 15:51	YH
Surr: 2,4,6-Tribromophenol	86.3	51.5-141		%REC	222438	1	04/13/2016 15:51	YH
Surr: 2-Fluorobiphenyl	86.2	50.8-122		%REC	222438	1	04/13/2016 15:51	YH
Surr: 2-Fluorophenol	56	28.1-120		%REC	222438	1	04/13/2016 15:51	YH
Surr: 4-Terphenyl-d14	85.8	47.2-131		%REC	222438	1	04/13/2016 15:51	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 3-May-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-306D-20160407-01
Project Name:	AGL - Macon	**Collection Date:**	4/7/2016 5:26:00 PM
Lab ID:	1604771-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
Surr: Nitrobenzene-d5	79	42.1-124		%REC	222438	1	04/13/2016 15:51	YH
Surr: Phenol-d5	47.2	16-120		%REC	222438	1	04/13/2016 15:51	YH
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	222601	1	04/14/2016 14:02	JR
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	BRL	0.010		mg/L	222577	1	04/14/2016 13:30	PF
METALS, TOTAL SW6010D				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	222618	1	04/15/2016 14:18	JL
Arsenic	BRL	0.0500		mg/L	222618	1	04/15/2016 14:18	JL
Barium	0.170	0.0200		mg/L	222618	1	04/15/2016 14:18	JL
Beryllium	BRL	0.0100		mg/L	222618	1	04/15/2016 14:18	JL
Cadmium	BRL	0.0050		mg/L	222618	1	04/15/2016 14:18	JL
Chromium	0.0278	0.0100		mg/L	222618	1	04/15/2016 14:18	JL
Copper	0.0288	0.0100		mg/L	222618	1	04/15/2016 14:18	JL
Lead	BRL	0.0100		mg/L	222618	1	04/15/2016 14:18	JL
Nickel	0.0219	0.0200		mg/L	222618	1	04/15/2016 14:18	JL
Zinc	BRL	0.0200		mg/L	222618	1	04/15/2016 14:18	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 3-May-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-200DR-20160407-01
Project Name:	AGL - Macon	**Collection Date:**	4/7/2016 3:06:00 PM
Lab ID:	1604771-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	29	5.0		ug/L	222477	1	04/12/2016 05:43	NP
Carbon disulfide	BRL	5.0		ug/L	222477	1	04/12/2016 05:43	NP
Ethylbenzene	20	5.0		ug/L	222477	1	04/12/2016 05:43	NP
Toluene	BRL	5.0		ug/L	222477	1	04/12/2016 05:43	NP
Xylenes, Total	BRL	5.0		ug/L	222477	1	04/12/2016 05:43	NP
Surr: 4-Bromofluorobenzene	92.4	70.7-125		%REC	222477	1	04/12/2016 05:43	NP
Surr: Dibromofluoromethane	105	82.2-120		%REC	222477	1	04/12/2016 05:43	NP
Surr: Toluene-d8	90.3	81.8-120		%REC	222477	1	04/12/2016 05:43	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	222440	1	04/12/2016 21:04	YH
Acenaphthylene	BRL	1.0		ug/L	222440	1	04/12/2016 21:04	YH
Acenaphthene	1.5	0.50		ug/L	222440	1	04/12/2016 21:04	YH
Fluorene	1.4	0.10		ug/L	222440	1	04/12/2016 21:04	YH
Phenanthrene	0.055	0.050		ug/L	222440	1	04/12/2016 21:04	YH
Anthracene	0.069	0.050		ug/L	222440	1	04/12/2016 21:04	YH
Fluoranthene	0.65	0.10		ug/L	222440	1	04/12/2016 21:04	YH
Pyrene	0.45	0.050		ug/L	222440	1	04/12/2016 21:04	YH
Benz(a)anthracene	BRL	0.050		ug/L	222440	1	04/12/2016 21:04	YH
Chrysene	BRL	0.050		ug/L	222440	1	04/12/2016 21:04	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222440	1	04/12/2016 21:04	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222440	1	04/12/2016 21:04	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 21:04	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 21:04	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222440	1	04/12/2016 21:04	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222440	1	04/12/2016 21:04	YH
Surr: 4-Terphenyl-d14	94.6	58.7-134		%REC	222440	1	04/12/2016 21:04	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222438	1	04/13/2016 17:39	YH
2-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 17:39	YH
3,4-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 17:39	YH
Naphthalene	BRL	10	E	ug/L	222438	1	04/13/2016 17:39	YH
Phenol	BRL	10		ug/L	222438	1	04/13/2016 17:39	YH
Surr: 2,4,6-Tribromophenol	82.8	51.5-141		%REC	222438	1	04/13/2016 17:39	YH
Surr: 2-Fluorobiphenyl	83.4	50.8-122		%REC	222438	1	04/13/2016 17:39	YH
Surr: 2-Fluorophenol	57.2	28.1-120		%REC	222438	1	04/13/2016 17:39	YH
Surr: 4-Terphenyl-d14	85.3	47.2-131		%REC	222438	1	04/13/2016 17:39	YH
Surr: Nitrobenzene-d5	77.7	42.1-124		%REC	222438	1	04/13/2016 17:39	YH
Surr: Phenol-d5	46.8	16-120		%REC	222438	1	04/13/2016 17:39	YH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 3-May-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-200DR-20160407-01
Project Name:	AGL - Macon	**Collection Date:**	4/7/2016 3:06:00 PM
Lab ID:	1604771-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	222601	1	04/14/2016 14:09	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.016	0.010		mg/L	222577	1	04/14/2016 13:30	PF
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	222618	1	04/15/2016 14:21	JL
Arsenic	BRL	0.0500		mg/L	222618	1	04/15/2016 14:21	JL
Barium	1.19	0.0200		mg/L	222618	1	04/15/2016 14:21	JL
Beryllium	BRL	0.0100		mg/L	222618	1	04/15/2016 14:21	JL
Cadmium	BRL	0.0050		mg/L	222618	1	04/15/2016 14:21	JL
Chromium	BRL	0.0100		mg/L	222618	1	04/15/2016 14:21	JL
Copper	BRL	0.0100		mg/L	222618	1	04/15/2016 14:21	JL
Lead	BRL	0.0100		mg/L	222618	1	04/15/2016 14:21	JL
Nickel	0.0373	0.0200		mg/L	222618	1	04/15/2016 18:10	JL
Zinc	BRL	0.0200		mg/L	222618	1	04/15/2016 14:21	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 3-May-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-305D-20160407-01
Project Name:	AGL - Macon	**Collection Date:**	4/7/2016 6:40:00 PM
Lab ID:	1604771-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	14000	500		ug/L	222477	100	04/13/2016 00:49	NP
Carbon disulfide	BRL	250		ug/L	222477	50	04/12/2016 04:10	NP
Ethylbenzene	290	250		ug/L	222477	50	04/12/2016 04:10	NP
Toluene	6900	250		ug/L	222477	50	04/12/2016 04:10	NP
Xylenes, Total	1100	250		ug/L	222477	50	04/12/2016 04:10	NP
Surr: 4-Bromofluorobenzene	96.9	70.7-125		%REC	222477	50	04/12/2016 04:10	NP
Surr: 4-Bromofluorobenzene	91.1	70.7-125		%REC	222477	100	04/13/2016 00:49	NP
Surr: Dibromofluoromethane	105	82.2-120		%REC	222477	50	04/12/2016 04:10	NP
Surr: Dibromofluoromethane	108	82.2-120		%REC	222477	100	04/13/2016 00:49	NP
Surr: Toluene-d8	86	81.8-120		%REC	222477	50	04/12/2016 04:10	NP
Surr: Toluene-d8	85.9	81.8-120		%REC	222477	100	04/13/2016 00:49	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	3600	500		ug/L	222440	1000	04/13/2016 20:44	YH
Acenaphthylene	51	50		ug/L	222440	100	04/13/2016 13:13	YH
Acenaphthene	2.5	0.50		ug/L	222440	1	04/12/2016 21:31	YH
Fluorene	7.2	0.10		ug/L	222440	1	04/12/2016 21:31	YH
Phenanthrene	9.8	0.050		ug/L	222440	1	04/12/2016 21:31	YH
Anthracene	9.1	5.0		ug/L	222440	100	04/13/2016 13:13	YH
Fluoranthene	1.1	0.10		ug/L	222440	1	04/12/2016 21:31	YH
Pyrene	1.5	0.050		ug/L	222440	1	04/12/2016 21:31	YH
Benz(a)anthracene	0.14	0.050		ug/L	222440	1	04/12/2016 21:31	YH
Chrysene	0.11	0.050		ug/L	222440	1	04/12/2016 21:31	YH
Benzo(b)fluoranthene	0.16	0.10		ug/L	222440	1	04/12/2016 21:31	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222440	1	04/12/2016 21:31	YH
Benzo(a)pyrene	0.077	0.050		ug/L	222440	1	04/12/2016 21:31	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 21:31	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222440	1	04/12/2016 21:31	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222440	1	04/12/2016 21:31	YH
Surr: 4-Terphenyl-d14	90.9	58.7-134		%REC	222440	1	04/12/2016 21:31	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222438	1	04/13/2016 18:04	YH
2-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 18:04	YH
3,4-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 18:04	YH
Naphthalene	3200	10	E	ug/L	222438	1	04/13/2016 18:04	YH
Phenol	16	10		ug/L	222438	1	04/13/2016 18:04	YH
Surr: 2,4,6-Tribromophenol	99	51.5-141		%REC	222438	1	04/13/2016 18:04	YH
Surr: 2-Fluorobiphenyl	96.4	50.8-122		%REC	222438	1	04/13/2016 18:04	YH
Surr: 2-Fluorophenol	59.4	28.1-120		%REC	222438	1	04/13/2016 18:04	YH
Surr: 4-Terphenyl-d14	91.8	47.2-131		%REC	222438	1	04/13/2016 18:04	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 3-May-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-305D-20160407-01
Project Name:	AGL - Macon	**Collection Date:**	4/7/2016 6:40:00 PM
Lab ID:	1604771-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
Surr: Nitrobenzene-d5	86.5	42.1-124		%REC	222438	1	04/13/2016 18:04	YH
Surr: Phenol-d5	51.4	16-120		%REC	222438	1	04/13/2016 18:04	YH
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	222601	1	04/14/2016 14:11	JR
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	BRL	0.010		mg/L	222577	1	04/14/2016 13:30	PF
METALS, TOTAL SW6010D				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	222618	1	04/15/2016 14:29	JL
Arsenic	BRL	0.0500		mg/L	222618	1	04/15/2016 14:29	JL
Barium	0.450	0.0200		mg/L	222618	1	04/15/2016 14:29	JL
Beryllium	BRL	0.0100		mg/L	222618	1	04/15/2016 14:29	JL
Cadmium	BRL	0.0050		mg/L	222618	1	04/15/2016 14:29	JL
Chromium	BRL	0.0100		mg/L	222618	1	04/15/2016 14:29	JL
Copper	0.0116	0.0100		mg/L	222618	1	04/15/2016 14:29	JL
Lead	BRL	0.0100		mg/L	222618	1	04/15/2016 14:29	JL
Nickel	BRL	0.0200		mg/L	222618	1	04/15/2016 14:29	JL
Zinc	BRL	0.0200		mg/L	222618	1	04/15/2016 14:29	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 3-May-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-302DD-20160407-01
Project Name:	AGL - Macon	**Collection Date:**	4/7/2016 1:30:00 PM
Lab ID:	1604771-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	20	5.0		ug/L	222477	1	04/12/2016 06:07	NP
Carbon disulfide	BRL	5.0		ug/L	222477	1	04/12/2016 06:07	NP
Ethylbenzene	48	5.0		ug/L	222477	1	04/12/2016 06:07	NP
Toluene	BRL	5.0		ug/L	222477	1	04/12/2016 06:07	NP
Xylenes, Total	5.4	5.0		ug/L	222477	1	04/12/2016 06:07	NP
Surr: 4-Bromofluorobenzene	91.5	70.7-125		%REC	222477	1	04/12/2016 06:07	NP
Surr: Dibromofluoromethane	108	82.2-120		%REC	222477	1	04/12/2016 06:07	NP
Surr: Toluene-d8	88.7	81.8-120		%REC	222477	1	04/12/2016 06:07	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	73	50		ug/L	222440	100	04/13/2016 13:39	YH
Acenaphthylene	BRL	1.0		ug/L	222440	1	04/12/2016 21:58	YH
Acenaphthene	1.1	0.50		ug/L	222440	1	04/12/2016 21:58	YH
Fluorene	0.55	0.10		ug/L	222440	1	04/12/2016 21:58	YH
Phenanthrene	0.19	0.050		ug/L	222440	1	04/12/2016 21:58	YH
Anthracene	0.057	0.050		ug/L	222440	1	04/12/2016 21:58	YH
Fluoranthene	BRL	0.10		ug/L	222440	1	04/12/2016 21:58	YH
Pyrene	0.066	0.050		ug/L	222440	1	04/12/2016 21:58	YH
Benz(a)anthracene	BRL	0.050		ug/L	222440	1	04/12/2016 21:58	YH
Chrysene	BRL	0.050		ug/L	222440	1	04/12/2016 21:58	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222440	1	04/12/2016 21:58	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222440	1	04/12/2016 21:58	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 21:58	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 21:58	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222440	1	04/12/2016 21:58	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222440	1	04/12/2016 21:58	YH
Surr: 4-Terphenyl-d14	94.8	58.7-134		%REC	222440	1	04/12/2016 21:58	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222438	1	04/13/2016 18:28	YH
2-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 18:28	YH
3,4-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 18:28	YH
Naphthalene	23	10	E	ug/L	222438	1	04/13/2016 18:28	YH
Phenol	BRL	10		ug/L	222438	1	04/13/2016 18:28	YH
Surr: 2,4,6-Tribromophenol	90.4	51.5-141		%REC	222438	1	04/13/2016 18:28	YH
Surr: 2-Fluorobiphenyl	88.5	50.8-122		%REC	222438	1	04/13/2016 18:28	YH
Surr: 2-Fluorophenol	50	28.1-120		%REC	222438	1	04/13/2016 18:28	YH
Surr: 4-Terphenyl-d14	89.4	47.2-131		%REC	222438	1	04/13/2016 18:28	YH
Surr: Nitrobenzene-d5	79.6	42.1-124		%REC	222438	1	04/13/2016 18:28	YH
Surr: Phenol-d5	40.9	16-120		%REC	222438	1	04/13/2016 18:28	YH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 3-May-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-302DD-20160407-01
Project Name:	AGL - Macon	**Collection Date:**	4/7/2016 1:30:00 PM
Lab ID:	1604771-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	222601	1	04/14/2016 14:13	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	222577	1	04/14/2016 13:30	PF
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	222618	1	04/15/2016 14:32	JL
Arsenic	BRL	0.0500		mg/L	222618	1	04/15/2016 14:32	JL
Barium	0.865	0.0200		mg/L	222618	1	04/15/2016 14:32	JL
Beryllium	BRL	0.0100		mg/L	222618	1	04/15/2016 14:32	JL
Cadmium	BRL	0.0050		mg/L	222618	1	04/15/2016 14:32	JL
Chromium	BRL	0.0100		mg/L	222618	1	04/15/2016 14:32	JL
Copper	BRL	0.0100		mg/L	222618	1	04/15/2016 14:32	JL
Lead	BRL	0.0100		mg/L	222618	1	04/15/2016 14:32	JL
Nickel	0.0358	0.0200		mg/L	222618	1	04/15/2016 14:32	JL
Zinc	BRL	0.0200		mg/L	222618	1	04/15/2016 14:32	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 3-May-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-204D-20160407-01
Project Name:	AGL - Macon	**Collection Date:**	4/7/2016 11:58:00 AM
Lab ID:	1604771-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	450	100		ug/L	222477	20	04/12/2016 04:56	NP
Carbon disulfide	BRL	5.0		ug/L	222477	1	04/13/2016 06:43	NP
Ethylbenzene	330	100		ug/L	222477	20	04/12/2016 04:56	NP
Toluene	BRL	5.0		ug/L	222477	1	04/13/2016 06:43	NP
Xylenes, Total	35	5.0		ug/L	222477	1	04/13/2016 06:43	NP
Surr: 4-Bromofluorobenzene	101	70.7-125		%REC	222477	1	04/13/2016 06:43	NP
Surr: 4-Bromofluorobenzene	89.3	70.7-125		%REC	222477	20	04/12/2016 04:56	NP
Surr: Dibromofluoromethane	111	82.2-120		%REC	222477	20	04/12/2016 04:56	NP
Surr: Dibromofluoromethane	103	82.2-120		%REC	222477	1	04/13/2016 06:43	NP
Surr: Toluene-d8	88.8	81.8-120		%REC	222477	1	04/13/2016 06:43	NP
Surr: Toluene-d8	88.1	81.8-120		%REC	222477	20	04/12/2016 04:56	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	1700	500		ug/L	222440	1000	04/13/2016 21:10	YH
Acenaphthylene	3.1	1.0		ug/L	222440	1	04/12/2016 22:23	YH
Acenaphthene	60	50		ug/L	222440	100	04/13/2016 18:05	YH
Fluorene	19	10		ug/L	222440	100	04/13/2016 18:05	YH
Phenanthrene	19	5.0		ug/L	222440	100	04/13/2016 18:05	YH
Anthracene	3.5	0.050		ug/L	222440	1	04/12/2016 22:23	YH
Fluoranthene	3.2	0.10		ug/L	222440	1	04/12/2016 22:23	YH
Pyrene	3.8	0.050		ug/L	222440	1	04/12/2016 22:23	YH
Benz(a)anthracene	0.073	0.050		ug/L	222440	1	04/12/2016 22:23	YH
Chrysene	BRL	0.050		ug/L	222440	1	04/12/2016 22:23	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222440	1	04/12/2016 22:23	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222440	1	04/12/2016 22:23	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 22:23	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 22:23	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222440	1	04/12/2016 22:23	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222440	1	04/12/2016 22:23	YH
Surr: 4-Terphenyl-d14	96.5	58.7-134		%REC	222440	1	04/12/2016 22:23	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222438	1	04/13/2016 18:53	YH
2-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 18:53	YH
3,4-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 18:53	YH
Naphthalene	1300	10	E	ug/L	222438	1	04/13/2016 18:53	YH
Phenol	BRL	10		ug/L	222438	1	04/13/2016 18:53	YH
Surr: 2,4,6-Tribromophenol	86.7	51.5-141		%REC	222438	1	04/13/2016 18:53	YH
Surr: 2-Fluorobiphenyl	82.5	50.8-122		%REC	222438	1	04/13/2016 18:53	YH
Surr: 2-Fluorophenol	54	28.1-120		%REC	222438	1	04/13/2016 18:53	YH
Surr: 4-Terphenyl-d14	85.3	47.2-131		%REC	222438	1	04/13/2016 18:53	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 3-May-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-204D-20160407-01
Project Name:	AGL - Macon	**Collection Date:**	4/7/2016 11:58:00 AM
Lab ID:	1604771-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
Surr: Nitrobenzene-d5	76.8	42.1-124		%REC	222438	1	04/13/2016 18:53	YH
Surr: Phenol-d5	45.5	16-120		%REC	222438	1	04/13/2016 18:53	YH
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	222601	1	04/14/2016 14:15	JR
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	BRL	0.010		mg/L	222577	1	04/14/2016 13:30	PF
METALS, TOTAL SW6010D				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	222618	1	04/15/2016 14:35	JL
Arsenic	BRL	0.0500		mg/L	222618	1	04/15/2016 14:35	JL
Barium	4.71	0.0200		mg/L	222618	1	04/15/2016 14:35	JL
Beryllium	BRL	0.0100		mg/L	222618	1	04/15/2016 14:35	JL
Cadmium	BRL	0.0050		mg/L	222618	1	04/15/2016 14:35	JL
Chromium	BRL	0.0100		mg/L	222618	1	04/15/2016 14:35	JL
Copper	BRL	0.0100		mg/L	222618	1	04/15/2016 14:35	JL
Lead	BRL	0.0100		mg/L	222618	1	04/15/2016 14:35	JL
Nickel	0.0885	0.0200		mg/L	222618	1	04/15/2016 14:35	JL
Zinc	BRL	0.0200		mg/L	222618	1	04/15/2016 14:35	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 3-May-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-110D-20160407-01
Project Name:	AGL - Macon	**Collection Date:**	4/7/2016 9:54:00 AM
Lab ID:	1604771-006	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	96	5.0		ug/L	222477	1	04/12/2016 06:30	NP
Carbon disulfide	BRL	5.0		ug/L	222477	1	04/12/2016 06:30	NP
Ethylbenzene	290	50		ug/L	222477	10	04/13/2016 02:23	NP
Toluene	BRL	5.0		ug/L	222477	1	04/12/2016 06:30	NP
Xylenes, Total	7.0	5.0		ug/L	222477	1	04/12/2016 06:30	NP
Surr: 4-Bromofluorobenzene	88	70.7-125		%REC	222477	10	04/13/2016 02:23	NP
Surr: 4-Bromofluorobenzene	99	70.7-125		%REC	222477	1	04/12/2016 06:30	NP
Surr: Dibromofluoromethane	106	82.2-120		%REC	222477	1	04/12/2016 06:30	NP
Surr: Dibromofluoromethane	112	82.2-120		%REC	222477	10	04/13/2016 02:23	NP
Surr: Toluene-d8	88.8	81.8-120		%REC	222477	10	04/13/2016 02:23	NP
Surr: Toluene-d8	90.5	81.8-120		%REC	222477	1	04/12/2016 06:30	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	1600	500		ug/L	222440	1000	04/13/2016 21:36	YH
Acenaphthylene	2.8	1.0		ug/L	222440	1	04/12/2016 22:50	YH
Acenaphthene	76	50		ug/L	222440	100	04/13/2016 18:31	YH
Fluorene	21	10		ug/L	222440	100	04/13/2016 18:31	YH
Phenanthrene	40	5.0		ug/L	222440	100	04/13/2016 18:31	YH
Anthracene	7.1	0.050		ug/L	222440	1	04/12/2016 22:50	YH
Fluoranthene	4.4	0.10		ug/L	222440	1	04/12/2016 22:50	YH
Pyrene	5.9	0.050		ug/L	222440	1	04/12/2016 22:50	YH
Benz(a)anthracene	0.20	0.050		ug/L	222440	1	04/12/2016 22:50	YH
Chrysene	0.18	0.050		ug/L	222440	1	04/12/2016 22:50	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222440	1	04/12/2016 22:50	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222440	1	04/12/2016 22:50	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 22:50	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 22:50	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222440	1	04/12/2016 22:50	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222440	1	04/12/2016 22:50	YH
Surr: 4-Terphenyl-d14	97	58.7-134		%REC	222440	1	04/12/2016 22:50	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222438	1	04/13/2016 19:19	YH
2-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 19:19	YH
3,4-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 19:19	YH
Naphthalene	1500	10	E	ug/L	222438	1	04/13/2016 19:19	YH
Phenol	BRL	10		ug/L	222438	1	04/13/2016 19:19	YH
Surr: 2,4,6-Tribromophenol	88.3	51.5-141		%REC	222438	1	04/13/2016 19:19	YH
Surr: 2-Fluorobiphenyl	88	50.8-122		%REC	222438	1	04/13/2016 19:19	YH
Surr: 2-Fluorophenol	51.8	28.1-120		%REC	222438	1	04/13/2016 19:19	YH
Surr: 4-Terphenyl-d14	86.2	47.2-131		%REC	222438	1	04/13/2016 19:19	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 3-May-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-110D-20160407-01
Project Name:	AGL - Macon	**Collection Date:**	4/7/2016 9:54:00 AM
Lab ID:	1604771-006	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
Surr: Nitrobenzene-d5	78.8	42.1-124		%REC	222438	1	04/13/2016 19:19	YH
Surr: Phenol-d5	43.4	16-120		%REC	222438	1	04/13/2016 19:19	YH
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	222601	1	04/14/2016 14:17	JR
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	BRL	0.010		mg/L	222577	1	04/14/2016 13:30	PF
METALS, TOTAL SW6010D				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	222618	1	04/15/2016 14:38	JL
Arsenic	BRL	0.0500		mg/L	222618	1	04/15/2016 14:38	JL
Barium	2.51	0.0200		mg/L	222618	1	04/15/2016 14:38	JL
Beryllium	BRL	0.0100		mg/L	222618	1	04/15/2016 14:38	JL
Cadmium	BRL	0.0050		mg/L	222618	1	04/15/2016 14:38	JL
Chromium	BRL	0.0100		mg/L	222618	1	04/15/2016 14:38	JL
Copper	BRL	0.0100		mg/L	222618	1	04/15/2016 14:38	JL
Lead	BRL	0.0100		mg/L	222618	1	04/15/2016 14:38	JL
Nickel	0.177	0.0200		mg/L	222618	1	04/15/2016 14:38	JL
Zinc	BRL	0.0200		mg/L	222618	1	04/15/2016 14:38	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 3-May-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-301-20160407-01
Project Name:	AGL - Macon	**Collection Date:**	4/7/2016 10:40:00 AM
Lab ID:	1604771-007	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	222477	1	04/12/2016 06:54	NP
Carbon disulfide	BRL	5.0		ug/L	222477	1	04/12/2016 06:54	NP
Ethylbenzene	BRL	5.0		ug/L	222477	1	04/12/2016 06:54	NP
Toluene	BRL	5.0		ug/L	222477	1	04/12/2016 06:54	NP
Xylenes, Total	BRL	5.0		ug/L	222477	1	04/12/2016 06:54	NP
Surr: 4-Bromofluorobenzene	87	70.7-125		%REC	222477	1	04/12/2016 06:54	NP
Surr: Dibromofluoromethane	107	82.2-120		%REC	222477	1	04/12/2016 06:54	NP
Surr: Toluene-d8	88.2	81.8-120		%REC	222477	1	04/12/2016 06:54	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	81	50		ug/L	222440	100	04/13/2016 18:56	YH
Acenaphthylene	BRL	1.0		ug/L	222440	1	04/12/2016 23:17	YH
Acenaphthene	0.58	0.50		ug/L	222440	1	04/12/2016 23:17	YH
Fluorene	2.7	0.10		ug/L	222440	1	04/12/2016 23:17	YH
Phenanthrene	0.87	0.050		ug/L	222440	1	04/12/2016 23:17	YH
Anthracene	0.17	0.050		ug/L	222440	1	04/12/2016 23:17	YH
Fluoranthene	BRL	0.10		ug/L	222440	1	04/12/2016 23:17	YH
Pyrene	0.070	0.050		ug/L	222440	1	04/12/2016 23:17	YH
Benz(a)anthracene	BRL	0.050		ug/L	222440	1	04/12/2016 23:17	YH
Chrysene	BRL	0.050		ug/L	222440	1	04/12/2016 23:17	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222440	1	04/12/2016 23:17	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222440	1	04/12/2016 23:17	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 23:17	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 23:17	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222440	1	04/12/2016 23:17	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222440	1	04/12/2016 23:17	YH
Surr: 4-Terphenyl-d14	89.3	58.7-134		%REC	222440	1	04/12/2016 23:17	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222438	1	04/13/2016 19:48	YH
2-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 19:48	YH
3,4-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 19:48	YH
Naphthalene	57	10	E	ug/L	222438	1	04/13/2016 19:48	YH
Phenol	BRL	10		ug/L	222438	1	04/13/2016 19:48	YH
Surr: 2,4,6-Tribromophenol	83.9	51.5-141		%REC	222438	1	04/13/2016 19:48	YH
Surr: 2-Fluorobiphenyl	76.5	50.8-122		%REC	222438	1	04/13/2016 19:48	YH
Surr: 2-Fluorophenol	50.6	28.1-120		%REC	222438	1	04/13/2016 19:48	YH
Surr: 4-Terphenyl-d14	85	47.2-131		%REC	222438	1	04/13/2016 19:48	YH
Surr: Nitrobenzene-d5	71.5	42.1-124		%REC	222438	1	04/13/2016 19:48	YH
Surr: Phenol-d5	42.1	16-120		%REC	222438	1	04/13/2016 19:48	YH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 3-May-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-301-20160407-01
Project Name:	AGL - Macon	**Collection Date:**	4/7/2016 10:40:00 AM
Lab ID:	1604771-007	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	222601	1	04/14/2016 14:23	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.121	0.010		mg/L	222577	1	04/14/2016 13:30	PF
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	222618	1	04/15/2016 14:41	JL
Arsenic	BRL	0.0500		mg/L	222618	1	04/15/2016 14:41	JL
Barium	0.264	0.0200		mg/L	222618	1	04/15/2016 14:41	JL
Beryllium	BRL	0.0100		mg/L	222618	1	04/15/2016 14:41	JL
Cadmium	BRL	0.0050		mg/L	222618	1	04/15/2016 14:41	JL
Chromium	BRL	0.0100		mg/L	222618	1	04/15/2016 14:41	JL
Copper	BRL	0.0100		mg/L	222618	1	04/15/2016 14:41	JL
Lead	BRL	0.0100		mg/L	222618	1	04/15/2016 14:41	JL
Nickel	0.0434	0.0200		mg/L	222618	1	04/15/2016 14:41	JL
Zinc	BRL	0.0200		mg/L	222618	1	04/15/2016 14:41	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 3-May-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-302D-20160407-01
Project Name:	AGL - Macon	**Collection Date:**	4/7/2016 4:15:00 PM
Lab ID:	1604771-008	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	222477	1	04/12/2016 07:18	NP
Carbon disulfide	BRL	5.0		ug/L	222477	1	04/12/2016 07:18	NP
Ethylbenzene	BRL	5.0		ug/L	222477	1	04/12/2016 07:18	NP
Toluene	BRL	5.0		ug/L	222477	1	04/12/2016 07:18	NP
Xylenes, Total	6.8	5.0		ug/L	222477	1	04/12/2016 07:18	NP
Surr: 4-Bromofluorobenzene	93.9	70.7-125		%REC	222477	1	04/12/2016 07:18	NP
Surr: Dibromofluoromethane	111	82.2-120		%REC	222477	1	04/12/2016 07:18	NP
Surr: Toluene-d8	89.9	81.8-120		%REC	222477	1	04/12/2016 07:18	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	222440	1	04/12/2016 23:43	YH
Acenaphthylene	1.5	1.0		ug/L	222440	1	04/12/2016 23:43	YH
Acenaphthene	0.75	0.50		ug/L	222440	1	04/12/2016 23:43	YH
Fluorene	0.11	0.10		ug/L	222440	1	04/12/2016 23:43	YH
Phenanthrene	0.058	0.050		ug/L	222440	1	04/12/2016 23:43	YH
Anthracene	BRL	0.050		ug/L	222440	1	04/12/2016 23:43	YH
Fluoranthene	0.20	0.10		ug/L	222440	1	04/12/2016 23:43	YH
Pyrene	0.39	0.050		ug/L	222440	1	04/12/2016 23:43	YH
Benz(a)anthracene	BRL	0.050		ug/L	222440	1	04/12/2016 23:43	YH
Chrysene	BRL	0.050		ug/L	222440	1	04/12/2016 23:43	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222440	1	04/12/2016 23:43	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222440	1	04/12/2016 23:43	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 23:43	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222440	1	04/12/2016 23:43	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222440	1	04/12/2016 23:43	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222440	1	04/12/2016 23:43	YH
Surr: 4-Terphenyl-d14	97	58.7-134		%REC	222440	1	04/12/2016 23:43	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222438	1	04/13/2016 20:14	YH
2-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 20:14	YH
3,4-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 20:14	YH
Naphthalene	BRL	10	E	ug/L	222438	1	04/13/2016 20:14	YH
Phenol	BRL	10		ug/L	222438	1	04/13/2016 20:14	YH
Surr: 2,4,6-Tribromophenol	81	51.5-141		%REC	222438	1	04/13/2016 20:14	YH
Surr: 2-Fluorobiphenyl	78.1	50.8-122		%REC	222438	1	04/13/2016 20:14	YH
Surr: 2-Fluorophenol	51.6	28.1-120		%REC	222438	1	04/13/2016 20:14	YH
Surr: 4-Terphenyl-d14	83.7	47.2-131		%REC	222438	1	04/13/2016 20:14	YH
Surr: Nitrobenzene-d5	70.8	42.1-124		%REC	222438	1	04/13/2016 20:14	YH
Surr: Phenol-d5	40.5	16-120		%REC	222438	1	04/13/2016 20:14	YH

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 3-May-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-302D-20160407-01
Project Name:	AGL - Macon	**Collection Date:**	4/7/2016 4:15:00 PM
Lab ID:	1604771-008	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	222601	1	04/14/2016 14:25	JR
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	BRL	0.010		mg/L	222577	1	04/14/2016 13:30	PF
METALS, TOTAL SW6010D				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	222618	1	04/15/2016 14:44	JL
Arsenic	BRL	0.0500		mg/L	222618	1	04/15/2016 14:44	JL
Barium	0.0553	0.0200		mg/L	222618	1	04/15/2016 14:44	JL
Beryllium	BRL	0.0100		mg/L	222618	1	04/15/2016 14:44	JL
Cadmium	BRL	0.0050		mg/L	222618	1	04/15/2016 14:44	JL
Chromium	BRL	0.0100		mg/L	222618	1	04/15/2016 14:44	JL
Copper	BRL	0.0100		mg/L	222618	1	04/15/2016 14:44	JL
Lead	BRL	0.0100		mg/L	222618	1	04/15/2016 14:44	JL
Nickel	0.0371	0.0200		mg/L	222618	1	04/15/2016 14:44	JL
Zinc	BRL	0.0200		mg/L	222618	1	04/15/2016 14:44	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 3-May-16

Client:	ERM-Southeast	**Client Sample ID:**	DUP-03-20160407-01
Project Name:	AGL - Macon	**Collection Date:**	4/7/2016
Lab ID:	1604771-009	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	430	100		ug/L	222477	20	04/13/2016 01:36	NP
Carbon disulfide	BRL	5.0		ug/L	222477	1	04/13/2016 07:06	NP
Ethylbenzene	290	100		ug/L	222477	20	04/13/2016 01:36	NP
Toluene	BRL	5.0		ug/L	222477	1	04/13/2016 07:06	NP
Xylenes, Total	31	5.0		ug/L	222477	1	04/13/2016 07:06	NP
Surr: 4-Bromofluorobenzene	100	70.7-125		%REC	222477	1	04/13/2016 07:06	NP
Surr: 4-Bromofluorobenzene	86.9	70.7-125		%REC	222477	20	04/13/2016 01:36	NP
Surr: Dibromofluoromethane	111	82.2-120		%REC	222477	20	04/13/2016 01:36	NP
Surr: Dibromofluoromethane	106	82.2-120		%REC	222477	1	04/13/2016 07:06	NP
Surr: Toluene-d8	89	81.8-120		%REC	222477	1	04/13/2016 07:06	NP
Surr: Toluene-d8	86.2	81.8-120		%REC	222477	20	04/13/2016 01:36	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	66	50		ug/L	222440	100	04/13/2016 19:23	YH
Acenaphthylene	2.4	1.0		ug/L	222440	1	04/13/2016 00:09	YH
Acenaphthene	58	50		ug/L	222440	100	04/13/2016 19:23	YH
Fluorene	19	10		ug/L	222440	100	04/13/2016 19:23	YH
Phenanthrene	20	5.0		ug/L	222440	100	04/13/2016 19:23	YH
Anthracene	3.3	0.050		ug/L	222440	1	04/13/2016 00:09	YH
Fluoranthene	3.1	0.10		ug/L	222440	1	04/13/2016 00:09	YH
Pyrene	3.6	0.050		ug/L	222440	1	04/13/2016 00:09	YH
Benz(a)anthracene	0.071	0.050		ug/L	222440	1	04/13/2016 00:09	YH
Chrysene	BRL	0.050		ug/L	222440	1	04/13/2016 00:09	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222440	1	04/13/2016 00:09	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222440	1	04/13/2016 00:09	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222440	1	04/13/2016 00:09	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222440	1	04/13/2016 00:09	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222440	1	04/13/2016 00:09	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222440	1	04/13/2016 00:09	YH
Surr: 4-Terphenyl-d14	93.4	58.7-134		%REC	222440	1	04/13/2016 00:09	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222438	1	04/13/2016 20:41	YH
2-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 20:41	YH
3,4-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 20:41	YH
Naphthalene	150	10	E	ug/L	222438	1	04/13/2016 20:41	YH
Phenol	BRL	10		ug/L	222438	1	04/13/2016 20:41	YH
Surr: 2,4,6-Tribromophenol	94.7	51.5-141		%REC	222438	1	04/13/2016 20:41	YH
Surr: 2-Fluorobiphenyl	92.6	50.8-122		%REC	222438	1	04/13/2016 20:41	YH
Surr: 2-Fluorophenol	56.3	28.1-120		%REC	222438	1	04/13/2016 20:41	YH
Surr: 4-Terphenyl-d14	89.4	47.2-131		%REC	222438	1	04/13/2016 20:41	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 3-May-16

Client:	ERM-Southeast	**Client Sample ID:**	DUP-03-20160407-01
Project Name:	AGL - Macon	**Collection Date:**	4/7/2016
Lab ID:	1604771-009	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
Surr: Nitrobenzene-d5	83.6	42.1-124		%REC	222438	1	04/13/2016 20:41	YH
Surr: Phenol-d5	45	16-120		%REC	222438	1	04/13/2016 20:41	YH
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	222601	1	04/14/2016 14:27	JR
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	BRL	0.010		mg/L	222577	1	04/14/2016 13:30	PF
METALS, TOTAL SW6010D				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	222618	1	04/15/2016 14:47	JL
Arsenic	BRL	0.0500		mg/L	222618	1	04/15/2016 14:47	JL
Barium	4.70	0.0200		mg/L	222618	1	04/15/2016 14:47	JL
Beryllium	BRL	0.0100		mg/L	222618	1	04/15/2016 14:47	JL
Cadmium	BRL	0.0050		mg/L	222618	1	04/15/2016 14:47	JL
Chromium	BRL	0.0100		mg/L	222618	1	04/15/2016 14:47	JL
Copper	BRL	0.0100		mg/L	222618	1	04/15/2016 14:47	JL
Lead	BRL	0.0100		mg/L	222618	1	04/15/2016 14:47	JL
Nickel	0.0854	0.0200		mg/L	222618	1	04/15/2016 14:47	JL
Zinc	BRL	0.0200		mg/L	222618	1	04/15/2016 14:47	JL

Qualifiers:

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- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 3-May-16

Client:	ERM-Southeast	**Client Sample ID:**	DUP-01-20160407-01
Project Name:	AGL - Macon	**Collection Date:**	4/7/2016
Lab ID:	1604771-010	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	94	5.0		ug/L	222477	1	04/12/2016 07:42	NP
Carbon disulfide	BRL	5.0		ug/L	222477	1	04/12/2016 07:42	NP
Ethylbenzene	280	50		ug/L	222477	10	04/13/2016 02:47	NP
Toluene	BRL	5.0		ug/L	222477	1	04/12/2016 07:42	NP
Xylenes, Total	6.8	5.0		ug/L	222477	1	04/12/2016 07:42	NP
Surr: 4-Bromofluorobenzene	86.6	70.7-125		%REC	222477	10	04/13/2016 02:47	NP
Surr: 4-Bromofluorobenzene	95.9	70.7-125		%REC	222477	1	04/12/2016 07:42	NP
Surr: Dibromofluoromethane	105	82.2-120		%REC	222477	1	04/12/2016 07:42	NP
Surr: Dibromofluoromethane	114	82.2-120		%REC	222477	10	04/13/2016 02:47	NP
Surr: Toluene-d8	89.5	81.8-120		%REC	222477	10	04/13/2016 02:47	NP
Surr: Toluene-d8	90	81.8-120		%REC	222477	1	04/12/2016 07:42	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	222440	1	04/13/2016 00:36	YH
Acenaphthylene	BRL	1.0		ug/L	222440	1	04/13/2016 00:36	YH
Acenaphthene	60	50		ug/L	222440	100	04/13/2016 19:50	YH
Fluorene	19	10		ug/L	222440	100	04/13/2016 19:50	YH
Phenanthrene	33	5.0		ug/L	222440	100	04/13/2016 19:50	YH
Anthracene	6.3	0.050		ug/L	222440	1	04/13/2016 00:36	YH
Fluoranthene	4.0	0.10		ug/L	222440	1	04/13/2016 00:36	YH
Pyrene	5.2	0.050		ug/L	222440	1	04/13/2016 00:36	YH
Benz(a)anthracene	0.15	0.050		ug/L	222440	1	04/13/2016 00:36	YH
Chrysene	0.13	0.050		ug/L	222440	1	04/13/2016 00:36	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222440	1	04/13/2016 00:36	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222440	1	04/13/2016 00:36	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222440	1	04/13/2016 00:36	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222440	1	04/13/2016 00:36	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222440	1	04/13/2016 00:36	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222440	1	04/13/2016 00:36	YH
Surr: 4-Terphenyl-d14	96.3	58.7-134		%REC	222440	1	04/13/2016 00:36	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222438	1	04/13/2016 21:06	YH
2-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 21:06	YH
3,4-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 21:06	YH
Naphthalene	1300	10	E	ug/L	222438	1	04/13/2016 21:06	YH
Phenol	BRL	10		ug/L	222438	1	04/13/2016 21:06	YH
Surr: 2,4,6-Tribromophenol	86.9	51.5-141		%REC	222438	1	04/13/2016 21:06	YH
Surr: 2-Fluorobiphenyl	81.4	50.8-122		%REC	222438	1	04/13/2016 21:06	YH
Surr: 2-Fluorophenol	46.1	28.1-120		%REC	222438	1	04/13/2016 21:06	YH
Surr: 4-Terphenyl-d14	86.9	47.2-131		%REC	222438	1	04/13/2016 21:06	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 3-May-16

Client:	ERM-Southeast	**Client Sample ID:**	DUP-01-20160407-01
Project Name:	AGL - Macon	**Collection Date:**	4/7/2016
Lab ID:	1604771-010	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
Surr: Nitrobenzene-d5	71.9	42.1-124		%REC	222438	1	04/13/2016 21:06	YH
Surr: Phenol-d5	38.6	16-120		%REC	222438	1	04/13/2016 21:06	YH
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	222601	1	04/14/2016 14:29	JR
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	0.020	0.010		mg/L	222577	1	04/14/2016 13:30	PF
METALS, TOTAL SW6010D				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	222618	1	04/15/2016 14:50	JL
Arsenic	BRL	0.0500		mg/L	222618	1	04/15/2016 14:50	JL
Barium	2.49	0.0200		mg/L	222618	1	04/15/2016 14:50	JL
Beryllium	BRL	0.0100		mg/L	222618	1	04/15/2016 14:50	JL
Cadmium	BRL	0.0050		mg/L	222618	1	04/15/2016 14:50	JL
Chromium	BRL	0.0100		mg/L	222618	1	04/15/2016 14:50	JL
Copper	BRL	0.0100		mg/L	222618	1	04/15/2016 14:50	JL
Lead	BRL	0.0100		mg/L	222618	1	04/15/2016 14:50	JL
Nickel	0.181	0.0200		mg/L	222618	1	04/15/2016 14:50	JL
Zinc	BRL	0.0200		mg/L	222618	1	04/15/2016 14:50	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 3-May-16

Client:	ERM-Southeast	**Client Sample ID:**	TRIP BLANK
Project Name:	AGL - Macon	**Collection Date:**	4/8/2016
Lab ID:	1604771-011	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	222477	1	04/12/2016 00:39	NP
Carbon disulfide	BRL	5.0		ug/L	222477	1	04/12/2016 00:39	NP
Ethylbenzene	BRL	5.0		ug/L	222477	1	04/12/2016 00:39	NP
Toluene	BRL	5.0		ug/L	222477	1	04/12/2016 00:39	NP
Xylenes, Total	BRL	5.0		ug/L	222477	1	04/12/2016 00:39	NP
Surr: 4-Bromofluorobenzene	83.2	70.7-125		%REC	222477	1	04/12/2016 00:39	NP
Surr: Dibromofluoromethane	115	82.2-120		%REC	222477	1	04/12/2016 00:39	NP
Surr: Toluene-d8	89.5	81.8-120		%REC	222477	1	04/12/2016 00:39	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 3-May-16

Client:	ERM-Southeast	**Client Sample ID:**	TRIP BLANK 2
Project Name:	AGL - Macon	**Collection Date:**	4/8/2016
Lab ID:	1604771-012	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	222477	1	04/12/2016 01:01	NP
Carbon disulfide	BRL	5.0		ug/L	222477	1	04/12/2016 01:01	NP
Ethylbenzene	BRL	5.0		ug/L	222477	1	04/12/2016 01:01	NP
Toluene	BRL	5.0		ug/L	222477	1	04/12/2016 01:01	NP
Xylenes, Total	BRL	5.0		ug/L	222477	1	04/12/2016 01:01	NP
Surr: 4-Bromofluorobenzene	83.3	70.7-125		%REC	222477	1	04/12/2016 01:01	NP
Surr: Dibromofluoromethane	117	82.2-120		%REC	222477	1	04/12/2016 01:01	NP
Surr: Toluene-d8	92	81.8-120		%REC	222477	1	04/12/2016 01:01	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 3-May-16

Client:	ERM-Southeast	**Client Sample ID:**	TRIP BLANK 3
Project Name:	AGL - Macon	**Collection Date:**	4/8/2016
Lab ID:	1604771-013	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	222477	1	04/12/2016 01:25	NP
Carbon disulfide	BRL	5.0		ug/L	222477	1	04/12/2016 01:25	NP
Ethylbenzene	BRL	5.0		ug/L	222477	1	04/12/2016 01:25	NP
Toluene	BRL	5.0		ug/L	222477	1	04/12/2016 01:25	NP
Xylenes, Total	BRL	5.0		ug/L	222477	1	04/12/2016 01:25	NP
Surr: 4-Bromofluorobenzene	82.4	70.7-125		%REC	222477	1	04/12/2016 01:25	NP
Surr: Dibromofluoromethane	117	82.2-120		%REC	222477	1	04/12/2016 01:25	NP
Surr: Toluene-d8	91	81.8-120		%REC	222477	1	04/12/2016 01:25	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM Work Order Number 1604771

Checklist completed by Christ Jost 4-8-16
Signature Date

Carrier name: FedEx __ UPS __ Courier ✓ Client __ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 2.7°C Cooler #2 2.4°C Cooler #3 3.2°C Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes __ No ✓ Not Applicable __

Adjusted? CJ Checked by CJ

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

AES, Inc.
3080 Presidential Drive
Atlanta GA 30340

pH Adjustment Sheet

AES Sample ID number	Test Requested	pH as Received	Required pH	Preservative Required	Lot # of Preservative	Amount Added mL or Pellets*	Final pH	Tech's Initials	Date	Time
1604771-001C	6010	3	<2	HNO_3	633-84	0.5 mL Pellets	1	CJ	4-8-16	5:40pm
-003C		9				mL Pellets		CJ		
-006C	↓	3	↓	↓	↓	↓ mL Pellets	↓	CJ	↓	↓
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				

* Number of Pellets when adding NAOH

DWM 8/22/2014 10:01 AM

Client: ERM-Southeast
Project Name: AGL - Macon
Workorder: 1604771

ANALYTICAL QC SUMMARY REPORT

BatchID: 222438

Sample ID: **MB-222438** Client ID: Units: **ug/L** Prep Date: **04/12/2016** Run No: **314551**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **222438** Analysis Date: **04/13/2016** Seq No: **6768350**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	10									
2-Methylphenol	BRL	10									
3,4-Methylphenol	BRL	10									
Naphthalene	BRL	10									
Phenol	BRL	10									
Surr: 2,4,6-Tribromophenol	84.46	0	100.0		84.5	51.5	141				
Surr: 2-Fluorobiphenyl	43.05	0	50.00		86.1	50.8	122				
Surr: 2-Fluorophenol	50.80	0	100.0		50.8	28.1	120				
Surr: 4-Terphenyl-d14	46.17	0	50.00		92.3	47.2	131				
Surr: Nitrobenzene-d5	39.88	0	50.00		79.8	42.1	124				
Surr: Phenol-d5	35.81	0	100.0		35.8	16	120				

Sample ID: **LCS-222438** Client ID: Units: **ug/L** Prep Date: **04/12/2016** Run No: **314551**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **222438** Analysis Date: **04/13/2016** Seq No: **6768351**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	37.29	10	100.0		37.3	27	120				
Surr: 2,4,6-Tribromophenol	100.0	0	100.0		100	51.5	141				
Surr: 2-Fluorobiphenyl	50.46	0	50.00		101	50.8	122				
Surr: 2-Fluorophenol	53.56	0	100.0		53.6	28.1	120				
Surr: 4-Terphenyl-d14	51.37	0	50.00		103	47.2	131				
Surr: Nitrobenzene-d5	44.23	0	50.00		88.5	42.1	124				
Surr: Phenol-d5	44.67	0	100.0		44.7	16	120				

Sample ID: **1604559-010BMS** Client ID: Units: **ug/L** Prep Date: **04/12/2016** Run No: **314551**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **222438** Analysis Date: **04/13/2016** Seq No: **6769585**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL - Macon
Workorder: 1604771

ANALYTICAL QC SUMMARY REPORT

BatchID: 222438

Sample ID: **1604559-010BMS**	Client ID:		Units: **ug/L**	Prep Date: **04/12/2016**	Run No: **314551**
SampleType: **MS**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **222438**	Analysis Date: **04/13/2016**	Seq No: **6769585**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	59.91	10	100.0		59.9	30.6	120				
Surr: 2,4,6-Tribromophenol	94.07	0	100.0		94.1	51.5	141				
Surr: 2-Fluorobiphenyl	46.50	0	50.00		93.0	50.8	122				
Surr: 2-Fluorophenol	67.59	0	100.0		67.6	28.1	120				
Surr: 4-Terphenyl-d14	46.13	0	50.00		92.3	47.2	131				
Surr: Nitrobenzene-d5	44.57	0	50.00		89.1	42.1	124				
Surr: Phenol-d5	66.28	0	100.0		66.3	16	120				

Sample ID: **1604559-010BMSD**	Client ID:		Units: **ug/L**	Prep Date: **04/12/2016**	Run No: **314551**
SampleType: **MSD**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **222438**	Analysis Date: **04/13/2016**	Seq No: **6769586**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	52.22	10	100.0		52.2	30.6	120	59.91	13.7	36.3	
Surr: 2,4,6-Tribromophenol	93.19	0	100.0		93.2	51.5	141	94.07	0	0	
Surr: 2-Fluorobiphenyl	48.97	0	50.00		97.9	50.8	122	46.50	0	0	
Surr: 2-Fluorophenol	64.87	0	100.0		64.9	28.1	120	67.59	0	0	
Surr: 4-Terphenyl-d14	46.96	0	50.00		93.9	47.2	131	46.13	0	0	
Surr: Nitrobenzene-d5	43.98	0	50.00		88.0	42.1	124	44.57	0	0	
Surr: Phenol-d5	60.15	0	100.0		60.2	16	120	66.28	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL - Macon
Workorder: 1604771

ANALYTICAL QC SUMMARY REPORT

BatchID: 222440

Sample ID: **MB-222440**	Client ID:		Units: **ug/L**	Prep Date: **04/12/2016**	Run No: **314457**
SampleType: **MBLK**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **222440**	Analysis Date: **04/12/2016**	Seq No: **6766190**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	0.50									
Acenaphthylene	BRL	1.0									
Anthracene	BRL	0.050									
Benz(a)anthracene	BRL	0.050									
Benzo(a)pyrene	BRL	0.050									
Benzo(b)fluoranthene	BRL	0.10									
Benzo(g,h,i)perylene	BRL	0.10									
Benzo(k)fluoranthene	BRL	0.050									
Chrysene	BRL	0.050									
Dibenz(a,h)anthracene	BRL	0.10									
Fluoranthene	BRL	0.10									
Fluorene	BRL	0.10									
Indeno(1,2,3-cd)pyrene	BRL	0.050									
Naphthalene	BRL	0.50									
Phenanthrene	BRL	0.050									
Pyrene	BRL	0.050									
Surr: 4-Terphenyl-d14	1.964	0	2.000		98.2	58.7	134				

Sample ID: **LCS-222440**	Client ID:		Units: **ug/L**	Prep Date: **04/12/2016**	Run No: **314457**
SampleType: **LCS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **222440**	Analysis Date: **04/12/2016**	Seq No: **6766303**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.698	0.50	2.000		84.9	65.2	121				
Acenaphthylene	1.644	1.0	2.000		82.2	62	120				
Anthracene	1.776	0.050	2.000		88.8	63.8	125				
Benz(a)anthracene	1.675	0.050	2.000		83.7	60	136				
Benzo(a)pyrene	1.826	0.050	2.000		91.3	65.6	128				
Benzo(b)fluoranthene	1.713	0.10	2.000		85.7	61.6	135				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL - Macon
Workorder: 1604771

ANALYTICAL QC SUMMARY REPORT

BatchID: 222440

Sample ID: **LCS-222440**	Client ID:		Units: **ug/L**	Prep Date: **04/12/2016**	Run No: **314457**
SampleType: **LCS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **222440**	Analysis Date: **04/12/2016**	Seq No: **6766303**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(g,h,i)perylene	1.698	0.10	2.000		84.9	60.6	124				
Benzo(k)fluoranthene	2.256	0.050	2.000		113	66.2	126				
Chrysene	2.018	0.050	2.000		101	69.9	134				
Dibenz(a,h)anthracene	1.470	0.10	2.000		73.5	56.6	127				
Fluoranthene	1.783	0.10	2.000		89.1	69.3	130				
Fluorene	1.717	0.10	2.000		85.9	68.4	121				
Indeno(1,2,3-cd)pyrene	1.674	0.050	2.000		83.7	59.2	130				
Naphthalene	1.647	0.50	2.000		82.4	61.4	120				
Phenanthrene	1.653	0.050	2.000		82.7	65.4	123				
Pyrene	1.836	0.050	2.000		91.8	66.4	130				
Surr: 4-Terphenyl-d14	1.920	0	2.000		96.0	58.7	134				

Sample ID: **1604559-010BMS**	Client ID:		Units: **ug/L**	Prep Date: **04/12/2016**	Run No: **314457**
SampleType: **MS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **222440**	Analysis Date: **04/12/2016**	Seq No: **6767681**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.675	0.50	2.000		83.7	51.2	120				
Acenaphthylene	1.594	1.0	2.000		79.7	53.5	120				
Anthracene	1.731	0.050	2.000		86.6	53.3	120				
Benz(a)anthracene	1.579	0.050	2.000		79.0	50.9	132				
Benzo(a)pyrene	1.548	0.050	2.000		77.4	50.5	120				
Benzo(b)fluoranthene	1.476	0.10	2.000		73.8	55.8	127				
Benzo(g,h,i)perylene	1.360	0.10	2.000		68.0	46.8	120				
Benzo(k)fluoranthene	1.926	0.050	2.000		96.3	54.5	120				
Chrysene	1.895	0.050	2.000		94.8	56.9	125				
Dibenz(a,h)anthracene	1.266	0.10	2.000		63.3	44.8	120				
Fluoranthene	1.726	0.10	2.000	0.02563	85.0	61.5	122				
Fluorene	1.670	0.10	2.000		83.5	55.6	118				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL - Macon
Workorder: 1604771

ANALYTICAL QC SUMMARY REPORT

BatchID: 222440

Sample ID: **1604559-010BMS** Client ID:
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**
Units: **ug/L** Prep Date: **04/12/2016** Run No: **314457**
BatchID: **222440** Analysis Date: **04/12/2016** Seq No: **6767681**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Indeno(1,2,3-cd)pyrene	1.233	0.050	2.000		61.7	46.1	120				
Naphthalene	1.492	0.50	2.000		74.6	51.7	120				
Phenanthrene	1.597	0.050	2.000		79.8	56.1	120				
Pyrene	1.737	0.050	2.000	0.03704	85.0	56.1	125				
Surr: 4-Terphenyl-d14	1.711	0	2.000		85.6	58.7	134				

Sample ID: **1604559-010BMSD** Client ID:
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**
Units: **ug/L** Prep Date: **04/12/2016** Run No: **314457**
BatchID: **222440** Analysis Date: **04/12/2016** Seq No: **6767682**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.639	0.50	2.000		82.0	51.2	120	1.675	2.12	23.9	
Acenaphthylene	1.552	1.0	2.000		77.6	53.5	120	1.594	2.63	24.2	
Anthracene	1.655	0.050	2.000		82.8	53.3	120	1.731	4.50	22.3	
Benz(a)anthracene	1.512	0.050	2.000		75.6	50.9	132	1.579	4.36	27.4	
Benzo(a)pyrene	1.493	0.050	2.000		74.6	50.5	120	1.548	3.61	41.9	
Benzo(b)fluoranthene	1.433	0.10	2.000		71.6	55.8	127	1.476	2.94	26.1	
Benzo(g,h,i)perylene	1.333	0.10	2.000		66.7	46.8	120	1.360	1.97	24.3	
Benzo(k)fluoranthene	1.876	0.050	2.000		93.8	54.5	120	1.926	2.61	24.2	
Chrysene	1.824	0.050	2.000		91.2	56.9	125	1.895	3.82	23.1	
Dibenz(a,h)anthracene	1.190	0.10	2.000		59.5	44.8	120	1.266	6.12	26.1	
Fluoranthene	1.661	0.10	2.000	0.02563	81.8	61.5	122	1.726	3.82	17.7	
Fluorene	1.657	0.10	2.000		82.8	55.6	118	1.670	0.799	27.5	
Indeno(1,2,3-cd)pyrene	1.199	0.050	2.000		59.9	46.1	120	1.233	2.84	26.7	
Naphthalene	1.418	0.50	2.000		70.9	51.7	120	1.492	5.10	24.2	
Phenanthrene	1.563	0.050	2.000		78.1	56.1	120	1.597	2.13	23.5	
Pyrene	1.692	0.050	2.000	0.03704	82.8	56.1	125	1.737	2.63	20.9	
Surr: 4-Terphenyl-d14	1.672	0	2.000		83.6	58.7	134	1.711	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL - Macon
Workorder: 1604771

ANALYTICAL QC SUMMARY REPORT

BatchID: 222477

Sample ID: **MB-222477**	Client ID:		Units: **ug/L**	Prep Date: **04/11/2016**	Run No: **314391**
SampleType: **MBLK**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **222477**	Analysis Date: **04/12/2016**	Seq No: **6764535**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	5.0									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	41.08	0	50.00		82.2	70.7	125				
Surr: Dibromofluoromethane	57.25	0	50.00		114	82.2	120				
Surr: Toluene-d8	45.72	0	50.00		91.4	81.8	120				

Sample ID: **LCS-222477**	Client ID:		Units: **ug/L**	Prep Date: **04/11/2016**	Run No: **314391**
SampleType: **LCS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **222477**	Analysis Date: **04/11/2016**	Seq No: **6764534**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	39.69	5.0	50.00		79.4	74.9	123				
Toluene	41.03	5.0	50.00		82.1	75	124				
Surr: 4-Bromofluorobenzene	42.26	0	50.00		84.5	70.7	125				
Surr: Dibromofluoromethane	55.23	0	50.00		110	82.2	120				
Surr: Toluene-d8	43.57	0	50.00		87.1	81.8	120				

Sample ID: **1604792-002AMS**	Client ID:		Units: **ug/L**	Prep Date: **04/11/2016**	Run No: **314391**
SampleType: **MS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **222477**	Analysis Date: **04/12/2016**	Seq No: **6764543**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	512900	50000	500000		103	70.1	132				
Toluene	533100	50000	500000		107	70.1	133				
Surr: 4-Bromofluorobenzene	430400	0	500000		86.1	70.7	125				
Surr: Dibromofluoromethane	557900	0	500000		112	82.2	120				
Surr: Toluene-d8	449500	0	500000		89.9	81.8	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL - Macon
Workorder: 1604771

ANALYTICAL QC SUMMARY REPORT

BatchID: 222477

Sample ID: **1604792-002AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/L** Prep Date: **04/11/2016** Run No: **314391**
BatchID: **222477** Analysis Date: **04/12/2016** Seq No: **6764544**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	497100	50000	500000		99.4	70.1	132	512900	3.13	20	
Toluene	513800	50000	500000		103	70.1	133	533100	3.69	20	
Surr: 4-Bromofluorobenzene	421000	0	500000		84.2	70.7	125	430400	0	0	
Surr: Dibromofluoromethane	541300	0	500000		108	82.2	120	557900	0	0	
Surr: Toluene-d8	438500	0	500000		87.7	81.8	120	449500	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL - Macon
Workorder: 1604771

ANALYTICAL QC SUMMARY REPORT

BatchID: 222577

Sample ID: **MB-222577**	Client ID:				Units: **mg/L**		Prep Date: **04/13/2016**		Run No: **314574**
SampleType: **MBLK**	TestCode: **Cyanide SW9014**				BatchID: **222577**		Analysis Date: **04/13/2016**		Seq No: **6768805**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	0.010									

Sample ID: **LCS-222577**	Client ID:				Units: **mg/L**		Prep Date: **04/13/2016**		Run No: **314574**
SampleType: **LCS**	TestCode: **Cyanide SW9014**				BatchID: **222577**		Analysis Date: **04/13/2016**		Seq No: **6768806**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2389	0.010	0.2500		95.6	85	115				

Sample ID: **1604559-010DMS**	Client ID:				Units: **mg/L**		Prep Date: **04/13/2016**		Run No: **314574**
SampleType: **MS**	TestCode: **Cyanide SW9014**				BatchID: **222577**		Analysis Date: **04/13/2016**		Seq No: **6768816**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2467	0.010	0.2500		98.7	70	130				

Sample ID: **1604559-010DMSD**	Client ID:				Units: **mg/L**		Prep Date: **04/13/2016**		Run No: **314574**
SampleType: **MSD**	TestCode: **Cyanide SW9014**				BatchID: **222577**		Analysis Date: **04/13/2016**		Seq No: **6768817**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2446	0.010	0.2500		97.8	70	130	0.2467	0.855	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL - Macon
Workorder: 1604771

ANALYTICAL QC SUMMARY REPORT

BatchID: 222601

Sample ID: **MB-222601**	Client ID:				Units: **mg/L**		Prep Date: **04/14/2016**		Run No: **314660**
SampleType: **MBLK**	TestCode: **Mercury, Total SW7470A**				BatchID: **222601**		Analysis Date: **04/14/2016**		Seq No: **6770676**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.00020									

Sample ID: **LCS-222601**	Client ID:				Units: **mg/L**		Prep Date: **04/14/2016**		Run No: **314660**
SampleType: **LCS**	TestCode: **Mercury, Total SW7470A**				BatchID: **222601**		Analysis Date: **04/14/2016**		Seq No: **6770679**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005120	0.00020	0.0050		102	80	120				

Sample ID: **1604771-001CMS**	Client ID: **MW-306D-20160407-01**				Units: **mg/L**		Prep Date: **04/14/2016**		Run No: **314660**
SampleType: **MS**	TestCode: **Mercury, Total SW7470A**				BatchID: **222601**		Analysis Date: **04/14/2016**		Seq No: **6770681**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.004248	0.00020	0.0050		85.0	70	130				

Sample ID: **1604771-001CMSD**	Client ID: **MW-306D-20160407-01**				Units: **mg/L**		Prep Date: **04/14/2016**		Run No: **314660**
SampleType: **MSD**	TestCode: **Mercury, Total SW7470A**				BatchID: **222601**		Analysis Date: **04/14/2016**		Seq No: **6770682**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.004208	0.00020	0.0050		84.2	70	130	0.004248	0.945	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL - Macon
Workorder: 1604771

ANALYTICAL QC SUMMARY REPORT

BatchID: 222618

Sample ID: **MB-222618** Client ID: Units: **mg/L** Prep Date: **04/14/2016** Run No: **314765**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010D** BatchID: **222618** Analysis Date: **04/15/2016** Seq No: **6773840**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	0.0200									
Arsenic	BRL	0.0500									
Barium	BRL	0.0200									
Beryllium	BRL	0.0100									
Cadmium	BRL	0.0050									
Chromium	BRL	0.0100									
Copper	BRL	0.0100									
Lead	BRL	0.0100									
Nickel	BRL	0.0200									
Zinc	BRL	0.0200									

Sample ID: **LCS-222618** Client ID: Units: **mg/L** Prep Date: **04/14/2016** Run No: **314765**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010D** BatchID: **222618** Analysis Date: **04/15/2016** Seq No: **6773841**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.012	0.0200	1.000		101	80	120				
Arsenic	0.9870	0.0500	1.000		98.7	80	120				
Barium	1.012	0.0200	1.000		101	80	120				
Beryllium	1.012	0.0100	1.000		101	80	120				
Cadmium	0.9987	0.0050	1.000		99.9	80	120				
Chromium	1.018	0.0100	1.000		102	80	120				
Copper	1.014	0.0100	1.000		101	80	120				
Lead	1.011	0.0100	1.000		101	80	120				
Nickel	1.011	0.0200	1.000		101	80	120				
Zinc	1.009	0.0200	1.000		101	80	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL - Macon
Workorder: 1604771

ANALYTICAL QC SUMMARY REPORT

BatchID: 222618

Sample ID: **1604651-001AMS** Client ID: Units: **mg/L** Prep Date: **04/14/2016** Run No: **314765**
SampleType: **MS** TestCode: **METALS, TOTAL SW6010D** BatchID: **222618** Analysis Date: **04/15/2016** Seq No: **6773843**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	0.9995	0.0200	1.000		99.9	75	125				
Arsenic	0.9892	0.0500	1.000		98.9	75	125				
Barium	0.9732	0.0200	1.000	0.01109	96.2	75	125				
Beryllium	0.9843	0.0100	1.000		98.4	75	125				
Cadmium	0.9921	0.0050	1.000	0.0004600	99.2	75	125				
Chromium	0.9832	0.0100	1.000	0.001350	98.2	75	125				
Copper	1.029	0.0100	1.000	0.006320	102	75	125				
Lead	0.9582	0.0100	1.000		95.8	75	125				
Nickel	0.9608	0.0200	1.000	0.006790	95.4	75	125				
Zinc	0.9820	0.0200	1.000	0.01030	97.2	75	125				

Sample ID: **1604651-001AMSD** Client ID: Units: **mg/L** Prep Date: **04/14/2016** Run No: **314765**
SampleType: **MSD** TestCode: **METALS, TOTAL SW6010D** BatchID: **222618** Analysis Date: **04/15/2016** Seq No: **6773844**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	0.9885	0.0200	1.000		98.8	75	125	0.9995	1.10	20	
Arsenic	0.9978	0.0500	1.000		99.8	75	125	0.9892	0.867	20	
Barium	0.9613	0.0200	1.000	0.01109	95.0	75	125	0.9732	1.23	20	
Beryllium	0.9753	0.0100	1.000		97.5	75	125	0.9843	0.920	20	
Cadmium	0.9832	0.0050	1.000	0.0004600	98.3	75	125	0.9921	0.899	20	
Chromium	0.9792	0.0100	1.000	0.001350	97.8	75	125	0.9832	0.408	20	
Copper	1.015	0.0100	1.000	0.006320	101	75	125	1.029	1.38	20	
Lead	0.9521	0.0100	1.000		95.2	75	125	0.9582	0.645	20	
Nickel	0.9474	0.0200	1.000	0.006790	94.1	75	125	0.9608	1.40	20	
Zinc	0.9806	0.0200	1.000	0.01030	97.0	75	125	0.9820	0.149	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

AES

April 19, 2016

Adria Reimer
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: AGL-Macon

Dear Adria Reimer: Order No: 1604772

Analytical Environmental Services, Inc. received 5 samples on April 8, 2016 11:10 am for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES's accreditations are as follows:
-NELAC/Florida State Laboratory ID E87582 for analysis of Non-Potable Water, Solid & Chemical Materials, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-NELAC/Louisiana Agency Interest No. 100818 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 07/01/15-06/30/16.
-NELAC/Texas Certificate No. T104704509-16-6 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 03/01/16-02/28/17.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1604772

Date: 4/7/16 Page 1 of 1

COMPANY:	ADDRESS:
ERM 3200 Windy Hill Rd - SE Suite 1500W Atlanta - GA - 30339	3200 Windy Hill Rd - SE Suite 1500 W Atlanta - GA - 30339
PHONE: 678 - 486 - 2700	FAX: 678 - 745-0103
SAMPLED BY: M. Low / K Sprecack / M Rodgers	SIGNATURE:

ANALYSIS REQUESTED

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	EPA 8260B	EPA 8270C	EPA 6010B/7470A	EPA 9012A	PRESERVATION (See codes) HCl+I	I	H+I	W+H	REMARKS	No # of Containers
1	MW-101-20160407-01	4/7/16	1700	X		GW	2	2	1	1					Please Call Adria Reimer For the list of analytes & other concerns	
2	MW-105-20160407-01	4/7/16	1058	X		GW	2	2	1	1						
3	MW-10-20160407-01	4/7/16	0915	X		GW	2	2	1	1						
4	Dup-02-20160407-01	4/7/16	—	X		GW	2	2	1	1						
5	Trip BIK						2									
6																
7																
8																
9																
10																
11																
12																
13																
14																

4/7/16 - 2000

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: Manuel Low	4/8/16 - 910	1: Ty Aprit 8-16	915
2: Ty Aprit 8-16	11:10	2: Pa Mc	4-08-16 11:10
3:		3:	

SPECIAL INSTRUCTIONS/COMMENTS:
EPA - 8260 B
EPA - 8270C
EPA - 6010 B/EPA - 7470A
EPA - 9012 A

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
CLIENT FedEx UPS MAIL (COURIER)
GREYHOUND OTHER

PROJECT INFORMATION
PROJECT NAME: AGL - Hawn
PROJECT #:
SITE ADDRESS: AGL - Hawn
SEND REPORT TO: Adria Reimer
INVOICE TO: (IF DIFFERENT FROM ABOVE) Same As Report
QUOTE #: PO#:

RECEIPT
Total # of Containers

Turnaround Time Request
- (●) Standard 5 Business Days
- ( ) 2 Business Day Rush
- ( ) Next Business Day Rush
- ( ) Same Day Rush (auth req.)
- ( ) Other

STATE PROGRAM (if any):
E-mail? Y / N; Fax? Y / N
DATA PACKAGE: I II III IV

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water
PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-101-20160407-01
Project Name:	AGL-Macon	**Collection Date:**	4/7/2016 5:00:00 PM
Lab ID:	1604772-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	6.5	5.0		ug/L	222477	1	04/12/2016 08:06	NP
Carbon disulfide	BRL	5.0		ug/L	222477	1	04/12/2016 08:06	NP
Ethylbenzene	BRL	5.0		ug/L	222477	1	04/12/2016 08:06	NP
Toluene	BRL	5.0		ug/L	222477	1	04/12/2016 08:06	NP
Xylenes, Total	BRL	5.0		ug/L	222477	1	04/12/2016 08:06	NP
Surr: 4-Bromofluorobenzene	88.5	70.7-125		%REC	222477	1	04/12/2016 08:06	NP
Surr: Dibromofluoromethane	108	82.2-120		%REC	222477	1	04/12/2016 08:06	NP
Surr: Toluene-d8	89.1	81.8-120		%REC	222477	1	04/12/2016 08:06	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	12	10		ug/L	222440	100	04/13/2016 20:17	YH
Acenaphthylene	1.3	1.0		ug/L	222440	1	04/13/2016 01:01	YH
Acenaphthene	3.7	0.50		ug/L	222440	1	04/13/2016 01:01	YH
Fluorene	2.7	0.10		ug/L	222440	1	04/13/2016 01:01	YH
Phenanthrene	0.35	0.050		ug/L	222440	1	04/13/2016 01:01	YH
Anthracene	0.25	0.050		ug/L	222440	1	04/13/2016 01:01	YH
Fluoranthene	0.31	0.10		ug/L	222440	1	04/13/2016 01:01	YH
Pyrene	0.21	0.050		ug/L	222440	1	04/13/2016 01:01	YH
Benz(a)anthracene	BRL	0.050		ug/L	222440	1	04/13/2016 01:01	YH
Chrysene	0.054	0.050		ug/L	222440	1	04/13/2016 01:01	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222440	1	04/13/2016 01:01	YH
Benzo(k)fluoranthene	0.085	0.050		ug/L	222440	1	04/13/2016 01:01	YH
Benzo(a)pyrene	0.070	0.050		ug/L	222440	1	04/13/2016 01:01	YH
Indeno(1,2,3-cd)pyrene	0.11	0.050		ug/L	222440	1	04/13/2016 01:01	YH
Dibenz(a,h)anthracene	0.16	0.10		ug/L	222440	1	04/13/2016 01:01	YH
Benzo(g,h,i)perylene	0.11	0.10		ug/L	222440	1	04/13/2016 01:01	YH
Surr: 4-Terphenyl-d14	97.8	58.7-134		%REC	222440	1	04/13/2016 01:01	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222438	1	04/13/2016 21:31	YH
2-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 21:31	YH
3,4-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 21:31	YH
Phenol	BRL	10		ug/L	222438	1	04/13/2016 21:31	YH
Surr: 2,4,6-Tribromophenol	80.3	51.5-141		%REC	222438	1	04/13/2016 21:31	YH
Surr: 2-Fluorobiphenyl	77.1	50.8-122		%REC	222438	1	04/13/2016 21:31	YH
Surr: 2-Fluorophenol	43.4	28.1-120		%REC	222438	1	04/13/2016 21:31	YH
Surr: 4-Terphenyl-d14	84.9	47.2-131		%REC	222438	1	04/13/2016 21:31	YH
Surr: Nitrobenzene-d5	65	42.1-124		%REC	222438	1	04/13/2016 21:31	YH
Surr: Phenol-d5	34.4	16-120		%REC	222438	1	04/13/2016 21:31	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-101-20160407-01
Project Name:	AGL-Macon	**Collection Date:**	4/7/2016 5:00:00 PM
Lab ID:	1604772-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	222601	1	04/14/2016 14:31	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.013	0.010		mg/L	222577	1	04/14/2016 13:30	PF
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	222618	1	04/15/2016 14:53	JL
Arsenic	BRL	0.0500		mg/L	222618	1	04/15/2016 14:53	JL
Barium	0.0861	0.0200		mg/L	222618	1	04/15/2016 14:53	JL
Beryllium	BRL	0.0100		mg/L	222618	1	04/15/2016 14:53	JL
Cadmium	BRL	0.0050		mg/L	222618	1	04/15/2016 14:53	JL
Chromium	BRL	0.0100		mg/L	222618	1	04/15/2016 14:53	JL
Copper	BRL	0.0100		mg/L	222618	1	04/15/2016 14:53	JL
Iron	4.47	0.100		mg/L	222618	1	04/15/2016 14:53	JL
Lead	BRL	0.0100		mg/L	222618	1	04/15/2016 14:53	JL
Nickel	BRL	0.0200		mg/L	222618	1	04/15/2016 14:53	JL
Zinc	BRL	0.0200		mg/L	222618	1	04/15/2016 14:53	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-105-20160407-01
Project Name:	AGL-Macon	**Collection Date:**	4/7/2016 10:58:00 AM
Lab ID:	1604772-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	222477	1	04/12/2016 08:31	NP
Carbon disulfide	BRL	5.0		ug/L	222477	1	04/12/2016 08:31	NP
Ethylbenzene	BRL	5.0		ug/L	222477	1	04/12/2016 08:31	NP
Toluene	BRL	5.0		ug/L	222477	1	04/12/2016 08:31	NP
Xylenes, Total	BRL	5.0		ug/L	222477	1	04/12/2016 08:31	NP
Surr: 4-Bromofluorobenzene	87	70.7-125		%REC	222477	1	04/12/2016 08:31	NP
Surr: Dibromofluoromethane	111	82.2-120		%REC	222477	1	04/12/2016 08:31	NP
Surr: Toluene-d8	90.5	81.8-120		%REC	222477	1	04/12/2016 08:31	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	222440	1	04/13/2016 01:28	YH
Acenaphthylene	BRL	1.0		ug/L	222440	1	04/13/2016 01:28	YH
Acenaphthene	BRL	0.50		ug/L	222440	1	04/13/2016 01:28	YH
Fluorene	BRL	0.10		ug/L	222440	1	04/13/2016 01:28	YH
Phenanthrene	BRL	0.050		ug/L	222440	1	04/13/2016 01:28	YH
Anthracene	BRL	0.050		ug/L	222440	1	04/13/2016 01:28	YH
Fluoranthene	BRL	0.10		ug/L	222440	1	04/13/2016 01:28	YH
Pyrene	BRL	0.050		ug/L	222440	1	04/13/2016 01:28	YH
Benz(a)anthracene	BRL	0.050		ug/L	222440	1	04/13/2016 01:28	YH
Chrysene	BRL	0.050		ug/L	222440	1	04/13/2016 01:28	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222440	1	04/13/2016 01:28	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222440	1	04/13/2016 01:28	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222440	1	04/13/2016 01:28	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222440	1	04/13/2016 01:28	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222440	1	04/13/2016 01:28	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222440	1	04/13/2016 01:28	YH
Surr: 4-Terphenyl-d14	102	58.7-134		%REC	222440	1	04/13/2016 01:28	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222438	1	04/13/2016 18:27	YH
2-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 18:27	YH
3,4-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 18:27	YH
Phenol	BRL	10		ug/L	222438	1	04/13/2016 18:27	YH
Surr: 2,4,6-Tribromophenol	87.8	51.5-141		%REC	222438	1	04/13/2016 18:27	YH
Surr: 2-Fluorobiphenyl	70	50.8-122		%REC	222438	1	04/13/2016 18:27	YH
Surr: 2-Fluorophenol	53.4	28.1-120		%REC	222438	1	04/13/2016 18:27	YH
Surr: 4-Terphenyl-d14	76.1	47.2-131		%REC	222438	1	04/13/2016 18:27	YH
Surr: Nitrobenzene-d5	65.3	42.1-124		%REC	222438	1	04/13/2016 18:27	YH
Surr: Phenol-d5	42.1	16-120		%REC	222438	1	04/13/2016 18:27	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-105-20160407-01
Project Name:	AGL-Macon	**Collection Date:**	4/7/2016 10:58:00 AM
Lab ID:	1604772-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	222601	1	04/14/2016 14:33	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	222636	1	04/14/2016 13:45	PF
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	222618	1	04/15/2016 14:56	JL
Arsenic	BRL	0.0500		mg/L	222618	1	04/15/2016 14:56	JL
Barium	0.0491	0.0200		mg/L	222618	1	04/15/2016 14:56	JL
Beryllium	BRL	0.0100		mg/L	222618	1	04/15/2016 14:56	JL
Cadmium	BRL	0.0050		mg/L	222618	1	04/15/2016 14:56	JL
Chromium	BRL	0.0100		mg/L	222618	1	04/15/2016 14:56	JL
Copper	BRL	0.0100		mg/L	222618	1	04/15/2016 14:56	JL
Lead	BRL	0.0100		mg/L	222618	1	04/15/2016 14:56	JL
Nickel	BRL	0.0200		mg/L	222618	1	04/15/2016 14:56	JL
Zinc	BRL	0.0200		mg/L	222618	1	04/15/2016 14:56	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-10-20160407-01
Project Name:	AGL-Macon	**Collection Date:**	4/7/2016 9:15:00 AM
Lab ID:	1604772-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	222477	1	04/12/2016 08:53	NP
Carbon disulfide	BRL	5.0		ug/L	222477	1	04/12/2016 08:53	NP
Ethylbenzene	BRL	5.0		ug/L	222477	1	04/12/2016 08:53	NP
Toluene	BRL	5.0		ug/L	222477	1	04/12/2016 08:53	NP
Xylenes, Total	BRL	5.0		ug/L	222477	1	04/12/2016 08:53	NP
Surr: 4-Bromofluorobenzene	86.8	70.7-125		%REC	222477	1	04/12/2016 08:53	NP
Surr: Dibromofluoromethane	112	82.2-120		%REC	222477	1	04/12/2016 08:53	NP
Surr: Toluene-d8	91.6	81.8-120		%REC	222477	1	04/12/2016 08:53	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	222440	1	04/13/2016 01:54	YH
Acenaphthylene	BRL	1.0		ug/L	222440	1	04/13/2016 01:54	YH
Acenaphthene	BRL	0.50		ug/L	222440	1	04/13/2016 01:54	YH
Fluorene	BRL	0.10		ug/L	222440	1	04/13/2016 01:54	YH
Phenanthrene	BRL	0.050		ug/L	222440	1	04/13/2016 01:54	YH
Anthracene	BRL	0.050		ug/L	222440	1	04/13/2016 01:54	YH
Fluoranthene	BRL	0.10		ug/L	222440	1	04/13/2016 01:54	YH
Pyrene	BRL	0.050		ug/L	222440	1	04/13/2016 01:54	YH
Benz(a)anthracene	BRL	0.050		ug/L	222440	1	04/13/2016 01:54	YH
Chrysene	BRL	0.050		ug/L	222440	1	04/13/2016 01:54	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222440	1	04/13/2016 01:54	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222440	1	04/13/2016 01:54	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222440	1	04/13/2016 01:54	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222440	1	04/13/2016 01:54	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222440	1	04/13/2016 01:54	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222440	1	04/13/2016 01:54	YH
Surr: 4-Terphenyl-d14	94.2	58.7-134		%REC	222440	1	04/13/2016 01:54	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222438	1	04/13/2016 18:53	YH
2-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 18:53	YH
3,4-Methylphenol	BRL	10		ug/L	222438	1	04/13/2016 18:53	YH
Phenol	BRL	10		ug/L	222438	1	04/13/2016 18:53	YH
Surr: 2,4,6-Tribromophenol	90.5	51.5-141		%REC	222438	1	04/13/2016 18:53	YH
Surr: 2-Fluorobiphenyl	73.5	50.8-122		%REC	222438	1	04/13/2016 18:53	YH
Surr: 2-Fluorophenol	58	28.1-120		%REC	222438	1	04/13/2016 18:53	YH
Surr: 4-Terphenyl-d14	80.5	47.2-131		%REC	222438	1	04/13/2016 18:53	YH
Surr: Nitrobenzene-d5	67.3	42.1-124		%REC	222438	1	04/13/2016 18:53	YH
Surr: Phenol-d5	44.9	16-120		%REC	222438	1	04/13/2016 18:53	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-10-20160407-01
Project Name:	AGL-Macon	**Collection Date:**	4/7/2016 9:15:00 AM
Lab ID:	1604772-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	222601	1	04/14/2016 14:35	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	222636	1	04/14/2016 13:45	PF
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	222618	1	04/15/2016 15:04	JL
Arsenic	BRL	0.0500		mg/L	222618	1	04/15/2016 15:04	JL
Barium	0.0269	0.0200		mg/L	222618	1	04/15/2016 15:04	JL
Beryllium	BRL	0.0100		mg/L	222618	1	04/15/2016 15:04	JL
Cadmium	BRL	0.0050		mg/L	222618	1	04/15/2016 15:04	JL
Chromium	BRL	0.0100		mg/L	222618	1	04/15/2016 15:04	JL
Copper	BRL	0.0100		mg/L	222618	1	04/15/2016 15:04	JL
Lead	BRL	0.0100		mg/L	222618	1	04/15/2016 15:04	JL
Nickel	BRL	0.0200		mg/L	222618	1	04/15/2016 15:04	JL
Zinc	BRL	0.0200		mg/L	222618	1	04/15/2016 15:04	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	DUP-02-20160407-01
Project Name:	AGL-Macon	**Collection Date:**	4/7/2016
Lab ID:	1604772-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	6.3	5.0		ug/L	222477	1	04/12/2016 09:17	NP
Carbon disulfide	BRL	5.0		ug/L	222477	1	04/12/2016 09:17	NP
Ethylbenzene	BRL	5.0		ug/L	222477	1	04/12/2016 09:17	NP
Toluene	BRL	5.0		ug/L	222477	1	04/12/2016 09:17	NP
Xylenes, Total	BRL	5.0		ug/L	222477	1	04/12/2016 09:17	NP
Surr: 4-Bromofluorobenzene	90.7	70.7-125		%REC	222477	1	04/12/2016 09:17	NP
Surr: Dibromofluoromethane	114	82.2-120		%REC	222477	1	04/12/2016 09:17	NP
Surr: Toluene-d8	91.3	81.8-120		%REC	222477	1	04/12/2016 09:17	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	14	5.0		ug/L	222518	10	04/13/2016 22:02	YH
Acenaphthylene	1.3	1.0		ug/L	222518	1	04/13/2016 16:19	YH
Acenaphthene	3.9	0.50		ug/L	222518	1	04/13/2016 16:19	YH
Fluorene	2.8	0.10		ug/L	222518	1	04/13/2016 16:19	YH
Phenanthrene	0.36	0.050		ug/L	222518	1	04/13/2016 16:19	YH
Anthracene	0.25	0.050		ug/L	222518	1	04/13/2016 16:19	YH
Fluoranthene	0.30	0.10		ug/L	222518	1	04/13/2016 16:19	YH
Pyrene	0.22	0.050		ug/L	222518	1	04/13/2016 16:19	YH
Benz(a)anthracene	BRL	0.050		ug/L	222518	1	04/13/2016 16:19	YH
Chrysene	BRL	0.050		ug/L	222518	1	04/13/2016 16:19	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222518	1	04/13/2016 16:19	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222518	1	04/13/2016 16:19	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222518	1	04/13/2016 16:19	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222518	1	04/13/2016 16:19	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222518	1	04/13/2016 16:19	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222518	1	04/13/2016 16:19	YH
Surr: 4-Terphenyl-d14	93.5	58.7-134		%REC	222518	1	04/13/2016 16:19	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222516	1	04/13/2016 19:22	YH
2-Methylphenol	BRL	10		ug/L	222516	1	04/13/2016 19:22	YH
3,4-Methylphenol	BRL	10		ug/L	222516	1	04/13/2016 19:22	YH
Phenol	BRL	10		ug/L	222516	1	04/13/2016 19:22	YH
Surr: 2,4,6-Tribromophenol	94.5	51.5-141		%REC	222516	1	04/13/2016 19:22	YH
Surr: 2-Fluorobiphenyl	78.6	50.8-122		%REC	222516	1	04/13/2016 19:22	YH
Surr: 2-Fluorophenol	57.2	28.1-120		%REC	222516	1	04/13/2016 19:22	YH
Surr: 4-Terphenyl-d14	82.6	47.2-131		%REC	222516	1	04/13/2016 19:22	YH
Surr: Nitrobenzene-d5	73.9	42.1-124		%REC	222516	1	04/13/2016 19:22	YH
Surr: Phenol-d5	43	16-120		%REC	222516	1	04/13/2016 19:22	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	DUP-02-20160407-01
Project Name:	AGL-Macon	**Collection Date:**	4/7/2016
Lab ID:	1604772-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	222601	1	04/14/2016 14:37	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	222636	1	04/14/2016 13:45	PF
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	222618	1	04/15/2016 15:07	JL
Arsenic	BRL	0.0500		mg/L	222618	1	04/15/2016 15:07	JL
Barium	0.0886	0.0200		mg/L	222618	1	04/15/2016 15:07	JL
Beryllium	BRL	0.0100		mg/L	222618	1	04/15/2016 15:07	JL
Cadmium	BRL	0.0050		mg/L	222618	1	04/15/2016 15:07	JL
Chromium	BRL	0.0100		mg/L	222618	1	04/15/2016 15:07	JL
Copper	BRL	0.0100		mg/L	222618	1	04/15/2016 15:07	JL
Lead	BRL	0.0100		mg/L	222618	1	04/15/2016 15:07	JL
Nickel	BRL	0.0200		mg/L	222618	1	04/15/2016 15:07	JL
Zinc	BRL	0.0200		mg/L	222618	1	04/15/2016 15:07	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 19-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	TRIP BLANK
Project Name:	AGL-Macon	**Collection Date:**	4/8/2016
Lab ID:	1604772-005	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	222477	1	04/12/2016 01:49	NP
Carbon disulfide	BRL	5.0		ug/L	222477	1	04/12/2016 01:49	NP
Ethylbenzene	BRL	5.0		ug/L	222477	1	04/12/2016 01:49	NP
Toluene	BRL	5.0		ug/L	222477	1	04/12/2016 01:49	NP
Xylenes, Total	BRL	5.0		ug/L	222477	1	04/12/2016 01:49	NP
Surr: 4-Bromofluorobenzene	83.2	70.7-125		%REC	222477	1	04/12/2016 01:49	NP
Surr: Dibromofluoromethane	119	82.2-120		%REC	222477	1	04/12/2016 01:49	NP
Surr: Toluene-d8	92.1	81.8-120		%REC	222477	1	04/12/2016 01:49	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM Work Order Number 1604772

Checklist completed by Christ Ghat 4-8-16
Signature Date

Carrier name: FedEx __ UPS __ Courier ✓ Client __ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 2.1°C Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by CJ

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

Client: ERM-Southeast
Project Name: AGL-Macon
Workorder: 1604772

ANALYTICAL QC SUMMARY REPORT

BatchID: 222438

Sample ID: **MB-222438** Client ID: Units: **ug/L** Prep Date: **04/12/2016** Run No: **314551**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **222438** Analysis Date: **04/13/2016** Seq No: **6768350**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	10									
2-Methylphenol	BRL	10									
3,4-Methylphenol	BRL	10									
Phenol	BRL	10									
Surr: 2,4,6-Tribromophenol	84.46	0	100.0		84.5	51.5	141				
Surr: 2-Fluorobiphenyl	43.05	0	50.00		86.1	50.8	122				
Surr: 2-Fluorophenol	50.80	0	100.0		50.8	28.1	120				
Surr: 4-Terphenyl-d14	46.17	0	50.00		92.3	47.2	131				
Surr: Nitrobenzene-d5	39.88	0	50.00		79.8	42.1	124				
Surr: Phenol-d5	35.81	0	100.0		35.8	16	120				

Sample ID: **LCS-222438** Client ID: Units: **ug/L** Prep Date: **04/12/2016** Run No: **314551**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **222438** Analysis Date: **04/13/2016** Seq No: **6768351**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	37.29	10	100.0		37.3	27	120				
Surr: 2,4,6-Tribromophenol	100.0	0	100.0		100	51.5	141				
Surr: 2-Fluorobiphenyl	50.46	0	50.00		101	50.8	122				
Surr: 2-Fluorophenol	53.56	0	100.0		53.6	28.1	120				
Surr: 4-Terphenyl-d14	51.37	0	50.00		103	47.2	131				
Surr: Nitrobenzene-d5	44.23	0	50.00		88.5	42.1	124				
Surr: Phenol-d5	44.67	0	100.0		44.7	16	120				

Sample ID: **1604559-010BMS** Client ID: Units: **ug/L** Prep Date: **04/12/2016** Run No: **314551**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **222438** Analysis Date: **04/13/2016** Seq No: **6769585**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	59.91	10	100.0		59.9	30.6	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL-Macon
Workorder: 1604772

ANALYTICAL QC SUMMARY REPORT

BatchID: 222438

Sample ID: **1604559-010BMS** Client ID:
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/L** Prep Date: **04/12/2016** Run No: **314551**
BatchID: **222438** Analysis Date: **04/13/2016** Seq No: **6769585**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 2,4,6-Tribromophenol	94.07	0	100.0		94.1	51.5	141				
Surr: 2-Fluorobiphenyl	46.50	0	50.00		93.0	50.8	122				
Surr: 2-Fluorophenol	67.59	0	100.0		67.6	28.1	120				
Surr: 4-Terphenyl-d14	46.13	0	50.00		92.3	47.2	131				
Surr: Nitrobenzene-d5	44.57	0	50.00		89.1	42.1	124				
Surr: Phenol-d5	66.28	0	100.0		66.3	16	120				

Sample ID: **1604559-010BMSD** Client ID:
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/L** Prep Date: **04/12/2016** Run No: **314551**
BatchID: **222438** Analysis Date: **04/13/2016** Seq No: **6769586**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	52.22	10	100.0		52.2	30.6	120	59.91	13.7	36.3	
Surr: 2,4,6-Tribromophenol	93.19	0	100.0		93.2	51.5	141	94.07	0	0	
Surr: 2-Fluorobiphenyl	48.97	0	50.00		97.9	50.8	122	46.50	0	0	
Surr: 2-Fluorophenol	64.87	0	100.0		64.9	28.1	120	67.59	0	0	
Surr: 4-Terphenyl-d14	46.96	0	50.00		93.9	47.2	131	46.13	0	0	
Surr: Nitrobenzene-d5	43.98	0	50.00		88.0	42.1	124	44.57	0	0	
Surr: Phenol-d5	60.15	0	100.0		60.2	16	120	66.28	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL-Macon
Workorder: 1604772

ANALYTICAL QC SUMMARY REPORT

BatchID: 222440

Sample ID: **MB-222440** Client ID: Units: **ug/L** Prep Date: **04/12/2016** Run No: **314457**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **222440** Analysis Date: **04/12/2016** Seq No: **6766190**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	0.50									
Acenaphthylene	BRL	1.0									
Anthracene	BRL	0.050									
Benz(a)anthracene	BRL	0.050									
Benzo(a)pyrene	BRL	0.050									
Benzo(b)fluoranthene	BRL	0.10									
Benzo(g,h,i)perylene	BRL	0.10									
Benzo(k)fluoranthene	BRL	0.050									
Chrysene	BRL	0.050									
Dibenz(a,h)anthracene	BRL	0.10									
Fluoranthene	BRL	0.10									
Fluorene	BRL	0.10									
Indeno(1,2,3-cd)pyrene	BRL	0.050									
Naphthalene	BRL	0.50									
Phenanthrene	BRL	0.050									
Pyrene	BRL	0.050									
Surr: 4-Terphenyl-d14	1.964	0	2.000		98.2	58.7	134				

Sample ID: **LCS-222440** Client ID: Units: **ug/L** Prep Date: **04/12/2016** Run No: **314457**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **222440** Analysis Date: **04/12/2016** Seq No: **6766303**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.698	0.50	2.000		84.9	65.2	121				
Acenaphthylene	1.644	1.0	2.000		82.2	62	120				
Anthracene	1.776	0.050	2.000		88.8	63.8	125				
Benz(a)anthracene	1.675	0.050	2.000		83.7	60	136				
Benzo(a)pyrene	1.826	0.050	2.000		91.3	65.6	128				
Benzo(b)fluoranthene	1.713	0.10	2.000		85.7	61.6	135				

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: ERM-Southeast
Project Name: AGL-Macon
Workorder: 1604772

ANALYTICAL QC SUMMARY REPORT

BatchID: 222440

Sample ID: **LCS-222440** Client ID: Units: **ug/L** Prep Date: **04/12/2016** Run No: **314457**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **222440** Analysis Date: **04/12/2016** Seq No: **6766303**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(g,h,i)perylene	1.698	0.10	2.000		84.9	60.6	124				
Benzo(k)fluoranthene	2.256	0.050	2.000		113	66.2	126				
Chrysene	2.018	0.050	2.000		101	69.9	134				
Dibenz(a,h)anthracene	1.470	0.10	2.000		73.5	56.6	127				
Fluoranthene	1.783	0.10	2.000		89.1	69.3	130				
Fluorene	1.717	0.10	2.000		85.9	68.4	121				
Indeno(1,2,3-cd)pyrene	1.674	0.050	2.000		83.7	59.2	130				
Naphthalene	1.647	0.50	2.000		82.4	61.4	120				
Phenanthrene	1.653	0.050	2.000		82.7	65.4	123				
Pyrene	1.836	0.050	2.000		91.8	66.4	130				
Surr: 4-Terphenyl-d14	1.920	0	2.000		96.0	58.7	134				

Sample ID: **1604559-010BMS** Client ID: Units: **ug/L** Prep Date: **04/12/2016** Run No: **314457**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **222440** Analysis Date: **04/12/2016** Seq No: **6767681**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.675	0.50	2.000		83.7	51.2	120				
Acenaphthylene	1.594	1.0	2.000		79.7	53.5	120				
Anthracene	1.731	0.050	2.000		86.6	53.3	120				
Benz(a)anthracene	1.579	0.050	2.000		79.0	50.9	132				
Benzo(a)pyrene	1.548	0.050	2.000		77.4	50.5	120				
Benzo(b)fluoranthene	1.476	0.10	2.000		73.8	55.8	127				
Benzo(g,h,i)perylene	1.360	0.10	2.000		68.0	46.8	120				
Benzo(k)fluoranthene	1.926	0.050	2.000		96.3	54.5	120				
Chrysene	1.895	0.050	2.000		94.8	56.9	125				
Dibenz(a,h)anthracene	1.266	0.10	2.000		63.3	44.8	120				
Fluoranthene	1.726	0.10	2.000	0.02563	85.0	61.5	122				
Fluorene	1.670	0.10	2.000		83.5	55.6	118				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL-Macon
Workorder: 1604772

ANALYTICAL QC SUMMARY REPORT

BatchID: 222440

Sample ID: **1604559-010BMS** Client ID: Units: **ug/L** Prep Date: **04/12/2016** Run No: **314457**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **222440** Analysis Date: **04/12/2016** Seq No: **6767681**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Indeno(1,2,3-cd)pyrene	1.233	0.050	2.000		61.7	46.1	120				
Naphthalene	1.492	0.50	2.000		74.6	51.7	120				
Phenanthrene	1.597	0.050	2.000		79.8	56.1	120				
Pyrene	1.737	0.050	2.000	0.03704	85.0	56.1	125				
Surr: 4-Terphenyl-d14	1.711	0	2.000		85.6	58.7	134				

Sample ID: **1604559-010BMSD** Client ID: Units: **ug/L** Prep Date: **04/12/2016** Run No: **314457**
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **222440** Analysis Date: **04/12/2016** Seq No: **6767682**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.639	0.50	2.000		82.0	51.2	120	1.675	2.12	23.9	
Acenaphthylene	1.552	1.0	2.000		77.6	53.5	120	1.594	2.63	24.2	
Anthracene	1.655	0.050	2.000		82.8	53.3	120	1.731	4.50	22.3	
Benz(a)anthracene	1.512	0.050	2.000		75.6	50.9	132	1.579	4.36	27.4	
Benzo(a)pyrene	1.493	0.050	2.000		74.6	50.5	120	1.548	3.61	41.9	
Benzo(b)fluoranthene	1.433	0.10	2.000		71.6	55.8	127	1.476	2.94	26.1	
Benzo(g,h,i)perylene	1.333	0.10	2.000		66.7	46.8	120	1.360	1.97	24.3	
Benzo(k)fluoranthene	1.876	0.050	2.000		93.8	54.5	120	1.926	2.61	24.2	
Chrysene	1.824	0.050	2.000		91.2	56.9	125	1.895	3.82	23.1	
Dibenz(a,h)anthracene	1.190	0.10	2.000		59.5	44.8	120	1.266	6.12	26.1	
Fluoranthene	1.661	0.10	2.000	0.02563	81.8	61.5	122	1.726	3.82	17.7	
Fluorene	1.657	0.10	2.000		82.8	55.6	118	1.670	0.799	27.5	
Indeno(1,2,3-cd)pyrene	1.199	0.050	2.000		59.9	46.1	120	1.233	2.84	26.7	
Naphthalene	1.418	0.50	2.000		70.9	51.7	120	1.492	5.10	24.2	
Phenanthrene	1.563	0.050	2.000		78.1	56.1	120	1.597	2.13	23.5	
Pyrene	1.692	0.050	2.000	0.03704	82.8	56.1	125	1.737	2.63	20.9	
Surr: 4-Terphenyl-d14	1.672	0	2.000		83.6	58.7	134	1.711	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL-Macon
Workorder: 1604772

ANALYTICAL QC SUMMARY REPORT

BatchID: 222477

Sample ID: **MB-222477** Client ID: Units: **ug/L** Prep Date: **04/11/2016** Run No: **314391**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **222477** Analysis Date: **04/12/2016** Seq No: **6764535**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	5.0									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	41.08	0	50.00		82.2	70.7	125				
Surr: Dibromofluoromethane	57.25	0	50.00		114	82.2	120				
Surr: Toluene-d8	45.72	0	50.00		91.4	81.8	120				

Sample ID: **LCS-222477** Client ID: Units: **ug/L** Prep Date: **04/11/2016** Run No: **314391**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **222477** Analysis Date: **04/11/2016** Seq No: **6764534**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	39.69	5.0	50.00		79.4	74.9	123				
Toluene	41.03	5.0	50.00		82.1	75	124				
Surr: 4-Bromofluorobenzene	42.26	0	50.00		84.5	70.7	125				
Surr: Dibromofluoromethane	55.23	0	50.00		110	82.2	120				
Surr: Toluene-d8	43.57	0	50.00		87.1	81.8	120				

Sample ID: **1604792-002AMS** Client ID: Units: **ug/L** Prep Date: **04/11/2016** Run No: **314391**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **222477** Analysis Date: **04/12/2016** Seq No: **6764543**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	512900	50000	500000		103	70.1	132				
Toluene	533100	50000	500000		107	70.1	133				
Surr: 4-Bromofluorobenzene	430400	0	500000		86.1	70.7	125				
Surr: Dibromofluoromethane	557900	0	500000		112	82.2	120				
Surr: Toluene-d8	449500	0	500000		89.9	81.8	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL-Macon
Workorder: 1604772

ANALYTICAL QC SUMMARY REPORT

BatchID: 222477

Sample ID: **1604792-002AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/L** Prep Date: **04/11/2016** Run No: **314391**
BatchID: **222477** Analysis Date: **04/12/2016** Seq No: **6764544**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	497100	50000	500000		99.4	70.1	132	512900	3.13	20	
Toluene	513800	50000	500000		103	70.1	133	533100	3.69	20	
Surr: 4-Bromofluorobenzene	421000	0	500000		84.2	70.7	125	430400	0	0	
Surr: Dibromofluoromethane	541300	0	500000		108	82.2	120	557900	0	0	
Surr: Toluene-d8	438500	0	500000		87.7	81.8	120	449500	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL-Macon
Workorder: 1604772

ANALYTICAL QC SUMMARY REPORT

BatchID: 222518

Sample ID: **MB-222518** Client ID: Units: **ug/L** Prep Date: **04/13/2016** Run No: **314560**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **222518** Analysis Date: **04/13/2016** Seq No: **6768458**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	0.50									
Acenaphthylene	BRL	1.0									
Anthracene	BRL	0.050									
Benz(a)anthracene	BRL	0.050									
Benzo(a)pyrene	BRL	0.050									
Benzo(b)fluoranthene	BRL	0.10									
Benzo(g,h,i)perylene	BRL	0.10									
Benzo(k)fluoranthene	BRL	0.050									
Chrysene	BRL	0.050									
Dibenz(a,h)anthracene	BRL	0.10									
Fluoranthene	BRL	0.10									
Fluorene	BRL	0.10									
Indeno(1,2,3-cd)pyrene	BRL	0.050									
Naphthalene	BRL	0.50									
Phenanthrene	BRL	0.050									
Pyrene	BRL	0.050									
Surr: 4-Terphenyl-d14	2.079	0	2.000		104	58.7	134				

Sample ID: **LCS-222518** Client ID: Units: **ug/L** Prep Date: **04/13/2016** Run No: **314560**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **222518** Analysis Date: **04/13/2016** Seq No: **6769140**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.840	0.50	2.000		92.0	65.2	121				
Acenaphthylene	1.727	1.0	2.000		86.4	62	120				
Anthracene	1.837	0.050	2.000		91.9	63.8	125				
Benz(a)anthracene	1.624	0.050	2.000		81.2	60	136				
Benzo(a)pyrene	1.812	0.050	2.000		90.6	65.6	128				
Benzo(b)fluoranthene	1.669	0.10	2.000		83.4	61.6	135				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL-Macon
Workorder: 1604772

ANALYTICAL QC SUMMARY REPORT

BatchID: 222518

Sample ID: **LCS-222518** Client ID: Units: **ug/L** Prep Date: **04/13/2016** Run No: **314560**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **222518** Analysis Date: **04/13/2016** Seq No: **6769140**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(g,h,i)perylene	1.869	0.10	2.000		93.5	60.6	124				
Benzo(k)fluoranthene	2.314	0.050	2.000		116	66.2	126				
Chrysene	2.019	0.050	2.000		101	69.9	134				
Dibenz(a,h)anthracene	1.778	0.10	2.000		88.9	56.6	127				
Fluoranthene	1.784	0.10	2.000		89.2	69.3	130				
Fluorene	1.839	0.10	2.000		91.9	68.4	121				
Indeno(1,2,3-cd)pyrene	1.834	0.050	2.000		91.7	59.2	130				
Naphthalene	1.715	0.50	2.000		85.7	61.4	120				
Phenanthrene	1.768	0.050	2.000		88.4	65.4	123				
Pyrene	1.807	0.050	2.000		90.4	66.4	130				
Surr: 4-Terphenyl-d14	2.099	0	2.000		105	58.7	134				

Sample ID: **1604920-001AMS** Client ID: Units: **ug/L** Prep Date: **04/13/2016** Run No: **314560**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **222518** Analysis Date: **04/13/2016** Seq No: **6769059**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.916	0.50	2.000		95.8	51.2	120				
Acenaphthylene	1.803	1.0	2.000		90.1	53.5	120				
Anthracene	1.775	0.050	2.000		88.8	53.3	120				
Benz(a)anthracene	1.684	0.050	2.000		84.2	50.9	132				
Benzo(a)pyrene	1.721	0.050	2.000		86.1	50.5	120				
Benzo(b)fluoranthene	1.642	0.10	2.000	0.02803	80.7	55.8	127				
Benzo(g,h,i)perylene	1.606	0.10	2.000		80.3	46.8	120				
Benzo(k)fluoranthene	2.211	0.050	2.000		111	54.5	120				
Chrysene	2.011	0.050	2.000	0.02275	99.4	56.9	125				
Dibenz(a,h)anthracene	1.410	0.10	2.000		70.5	44.8	120				
Fluoranthene	1.838	0.10	2.000	0.03696	90.0	61.5	122				
Fluorene	1.855	0.10	2.000		92.7	55.6	118				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL-Macon
Workorder: 1604772

ANALYTICAL QC SUMMARY REPORT

BatchID: 222518

Sample ID: **1604920-001AMS** Client ID:
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**
Units: **ug/L** Prep Date: **04/13/2016** Run No: **314560**
BatchID: **222518** Analysis Date: **04/13/2016** Seq No: **6769059**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Indeno(1,2,3-cd)pyrene	1.496	0.050	2.000		74.8	46.1	120				
Naphthalene	1.845	0.50	2.000		92.3	51.7	120				
Phenanthrene	1.801	0.050	2.000		90.1	56.1	120				
Pyrene	1.824	0.050	2.000	0.03679	89.4	56.1	125				
Surr: 4-Terphenyl-d14	1.971	0	2.000		98.5	58.7	134				

Sample ID: **1604920-001AMSD** Client ID:
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**
Units: **ug/L** Prep Date: **04/13/2016** Run No: **314560**
BatchID: **222518** Analysis Date: **04/13/2016** Seq No: **6769060**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.783	0.50	2.000		89.1	51.2	120	1.916	7.21	23.9	
Acenaphthylene	1.632	1.0	2.000		81.6	53.5	120	1.803	9.96	24.2	
Anthracene	1.793	0.050	2.000		89.7	53.3	120	1.775	1.03	22.3	
Benz(a)anthracene	1.618	0.050	2.000		80.9	50.9	132	1.684	3.99	27.4	
Benzo(a)pyrene	1.703	0.050	2.000		85.1	50.5	120	1.721	1.07	41.9	
Benzo(b)fluoranthene	1.641	0.10	2.000	0.02803	80.6	55.8	127	1.642	0.058	26.1	
Benzo(g,h,i)perylene	1.603	0.10	2.000		80.2	46.8	120	1.606	0.177	24.3	
Benzo(k)fluoranthene	2.221	0.050	2.000		111	54.5	120	2.211	0.472	24.2	
Chrysene	2.020	0.050	2.000	0.02275	99.9	56.9	125	2.011	0.473	23.1	
Dibenz(a,h)anthracene	1.350	0.10	2.000		67.5	44.8	120	1.410	4.33	26.1	
Fluoranthene	1.830	0.10	2.000	0.03696	89.7	61.5	122	1.838	0.389	17.7	
Fluorene	1.726	0.10	2.000		86.3	55.6	118	1.855	7.17	27.5	
Indeno(1,2,3-cd)pyrene	1.501	0.050	2.000		75.1	46.1	120	1.496	0.382	26.7	
Naphthalene	1.667	0.50	2.000		83.3	51.7	120	1.845	10.2	24.2	
Phenanthrene	1.762	0.050	2.000		88.1	56.1	120	1.801	2.19	23.5	
Pyrene	1.812	0.050	2.000	0.03679	88.8	56.1	125	1.824	0.669	20.9	
Surr: 4-Terphenyl-d14	1.789	0	2.000		89.5	58.7	134	1.971	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL-Macon
Workorder: 1604772

ANALYTICAL QC SUMMARY REPORT

BatchID: 222577

Sample ID: **MB-222577**	Client ID:				Units: **mg/L**		Prep Date: **04/13/2016**		Run No: **314574**
SampleType: **MBLK**	TestCode: **Cyanide SW9014**				BatchID: **222577**		Analysis Date: **04/13/2016**		Seq No: **6768805**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	0.010									

Sample ID: **LCS-222577**	Client ID:				Units: **mg/L**		Prep Date: **04/13/2016**		Run No: **314574**
SampleType: **LCS**	TestCode: **Cyanide SW9014**				BatchID: **222577**		Analysis Date: **04/13/2016**		Seq No: **6768806**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2389	0.010	0.2500		95.6	85	115				

Sample ID: **1604559-010DMS**	Client ID:				Units: **mg/L**		Prep Date: **04/13/2016**		Run No: **314574**
SampleType: **MS**	TestCode: **Cyanide SW9014**				BatchID: **222577**		Analysis Date: **04/13/2016**		Seq No: **6768816**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2467	0.010	0.2500		98.7	70	130				

Sample ID: **1604559-010DMSD**	Client ID:				Units: **mg/L**		Prep Date: **04/13/2016**		Run No: **314574**
SampleType: **MSD**	TestCode: **Cyanide SW9014**				BatchID: **222577**		Analysis Date: **04/13/2016**		Seq No: **6768817**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2446	0.010	0.2500		97.8	70	130	0.2467	0.855	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL-Macon
Workorder: 1604772

ANALYTICAL QC SUMMARY REPORT

BatchID: 222601

Sample ID: **MB-222601** Client ID: Units: **mg/L** Prep Date: **04/14/2016** Run No: **314660**
SampleType: **MBLK** TestCode: **Mercury, Total SW7470A** BatchID: **222601** Analysis Date: **04/14/2016** Seq No: **6770676**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.00020									

Sample ID: **LCS-222601** Client ID: Units: **mg/L** Prep Date: **04/14/2016** Run No: **314660**
SampleType: **LCS** TestCode: **Mercury, Total SW7470A** BatchID: **222601** Analysis Date: **04/14/2016** Seq No: **6770679**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005120	0.00020	0.0050		102	80	120				

Sample ID: **1604771-001CMS** Client ID: Units: **mg/L** Prep Date: **04/14/2016** Run No: **314660**
SampleType: **MS** TestCode: **Mercury, Total SW7470A** BatchID: **222601** Analysis Date: **04/14/2016** Seq No: **6770681**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.004248	0.00020	0.0050		85.0	70	130				

Sample ID: **1604771-001CMSD** Client ID: Units: **mg/L** Prep Date: **04/14/2016** Run No: **314660**
SampleType: **MSD** TestCode: **Mercury, Total SW7470A** BatchID: **222601** Analysis Date: **04/14/2016** Seq No: **6770682**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.004208	0.00020	0.0050		84.2	70	130	0.004248	0.945	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL-Macon
Workorder: 1604772

ANALYTICAL QC SUMMARY REPORT

BatchID: 222618

Sample ID: **MB-222618** Client ID: Units: **mg/L** Prep Date: **04/14/2016** Run No: **314765**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010D** BatchID: **222618** Analysis Date: **04/15/2016** Seq No: **6773840**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	0.0200									
Arsenic	BRL	0.0500									
Barium	BRL	0.0200									
Beryllium	BRL	0.0100									
Cadmium	BRL	0.0050									
Chromium	BRL	0.0100									
Copper	BRL	0.0100									
Iron	BRL	0.100									
Lead	BRL	0.0100									
Nickel	BRL	0.0200									
Zinc	BRL	0.0200									

Sample ID: **LCS-222618** Client ID: Units: **mg/L** Prep Date: **04/14/2016** Run No: **314765**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010D** BatchID: **222618** Analysis Date: **04/15/2016** Seq No: **6773841**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.012	0.0200	1.000		101	80	120				
Arsenic	0.9870	0.0500	1.000		98.7	80	120				
Barium	1.012	0.0200	1.000		101	80	120				
Beryllium	1.012	0.0100	1.000		101	80	120				
Cadmium	0.9987	0.0050	1.000		99.9	80	120				
Chromium	1.018	0.0100	1.000		102	80	120				
Copper	1.014	0.0100	1.000		101	80	120				
Iron	10.12	0.100	10.00		101	80	120				
Lead	1.011	0.0100	1.000		101	80	120				
Nickel	1.011	0.0200	1.000		101	80	120				
Zinc	1.009	0.0200	1.000		101	80	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL-Macon
Workorder: 1604772

ANALYTICAL QC SUMMARY REPORT

BatchID: 222618

Sample ID: **1604651-001AMS** Client ID: Units: **mg/L** Prep Date: **04/14/2016** Run No: **314765**
SampleType: **MS** TestCode: **METALS, TOTAL SW6010D** BatchID: **222618** Analysis Date: **04/15/2016** Seq No: **6773843**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	0.9995	0.0200	1.000		99.9	75	125				
Arsenic	0.9892	0.0500	1.000		98.9	75	125				
Barium	0.9732	0.0200	1.000	0.01109	96.2	75	125				
Beryllium	0.9843	0.0100	1.000		98.4	75	125				
Cadmium	0.9921	0.0050	1.000	0.0004600	99.2	75	125				
Chromium	0.9832	0.0100	1.000	0.001350	98.2	75	125				
Copper	1.029	0.0100	1.000	0.006320	102	75	125				
Iron	10.16	0.100	10.00	0.4885	96.7	75	125				
Lead	0.9582	0.0100	1.000		95.8	75	125				
Nickel	0.9608	0.0200	1.000	0.006790	95.4	75	125				
Zinc	0.9820	0.0200	1.000	0.01030	97.2	75	125				

Sample ID: **1604651-001AMSD** Client ID: Units: **mg/L** Prep Date: **04/14/2016** Run No: **314765**
SampleType: **MSD** TestCode: **METALS, TOTAL SW6010D** BatchID: **222618** Analysis Date: **04/15/2016** Seq No: **6773844**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	0.9885	0.0200	1.000		98.8	75	125	0.9995	1.10	20	
Arsenic	0.9978	0.0500	1.000		99.8	75	125	0.9892	0.867	20	
Barium	0.9613	0.0200	1.000	0.01109	95.0	75	125	0.9732	1.23	20	
Beryllium	0.9753	0.0100	1.000		97.5	75	125	0.9843	0.920	20	
Cadmium	0.9832	0.0050	1.000	0.0004600	98.3	75	125	0.9921	0.899	20	
Chromium	0.9792	0.0100	1.000	0.001350	97.8	75	125	0.9832	0.408	20	
Copper	1.015	0.0100	1.000	0.006320	101	75	125	1.029	1.38	20	
Iron	10.05	0.100	10.00	0.4885	95.6	75	125	10.16	1.12	20	
Lead	0.9521	0.0100	1.000		95.2	75	125	0.9582	0.645	20	
Nickel	0.9474	0.0200	1.000	0.006790	94.1	75	125	0.9608	1.40	20	
Zinc	0.9806	0.0200	1.000	0.01030	97.0	75	125	0.9820	0.149	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL-Macon
Workorder: 1604772

ANALYTICAL QC SUMMARY REPORT

BatchID: 222636

Sample ID: **MB-222636**	Client ID:					Units: **mg/L**		Prep Date: **04/14/2016**		Run No: **314634**	
SampleType: **MBLK**	TestCode: **Cyanide SW9014**					BatchID: **222636**		Analysis Date: **04/14/2016**		Seq No: **6770129**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	0.010									

Sample ID: **LCS-222636**	Client ID:					Units: **mg/L**		Prep Date: **04/14/2016**		Run No: **314634**	
SampleType: **LCS**	TestCode: **Cyanide SW9014**					BatchID: **222636**		Analysis Date: **04/14/2016**		Seq No: **6770130**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2389	0.010	0.2500		95.6	85	115				

Sample ID: **1604772-002DMS**	Client ID: **MW-105-20160407-01**					Units: **mg/L**		Prep Date: **04/14/2016**		Run No: **314634**	
SampleType: **MS**	TestCode: **Cyanide SW9014**					BatchID: **222636**		Analysis Date: **04/14/2016**		Seq No: **6770134**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2365	0.010	0.2500		94.6	70	130				

Sample ID: **1604772-002DMSD**	Client ID: **MW-105-20160407-01**					Units: **mg/L**		Prep Date: **04/14/2016**		Run No: **314634**	
SampleType: **MSD**	TestCode: **Cyanide SW9014**					BatchID: **222636**		Analysis Date: **04/14/2016**		Seq No: **6770135**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2377	0.010	0.2500		95.1	70	130	0.2365	0.506	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

April 21, 2016

Adria Reimer
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

TEL: (678) 486-2700
FAX: (404) 745-0103

RE: AGL Macon

Dear Adria Reimer: Order No: 1604944

Analytical Environmental Services, Inc. received 4 samples on 4/12/2016 10:15:00 AM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES's accreditations are as follows:
-NELAC/Florida State Laboratory ID E87582 for analysis of Non-Potable Water, Solid & Chemical Materials, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-NELAC/Louisiana Agency Interest No. 100818 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 07/01/15-06/30/16.
-NELAC/Texas Certificate No. T104704509-16-6 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 03/01/16-02/28/17.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

Accutest Laboratories Southeast
Chain of Custody

ACCUTEST LABORATORIES

4405 Vineland Road, Suite C-15 Orlando, Fl 32811
TEL. 407-425-6700 • FAX: 407-425-0707
www.accutest.com

1604944

Accutest JOB #

PAGE 1 OF 1

Accutest Quote #

SKIFF#

Client / Reporting Information

Company Name: ERM
Address: 3200 Windy Hill Rd
City: ATL State: GA Zip: 30339
Project Contact: Nic Vrey E-mail: N.C.Vrey@erm.com
Phone#:
Sampler(s) Name(s) (Printed): Kevin Spavacek, Myles Rogers

Project Information

Project Name: A&L Macon
Street: 224 Walnut St
City: Macon State: GA
Project #: 0176740
Fax #:
Client Purchase Order #:

Analytical Information

Accutest Sample #	Field ID / Point of Collection	DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NaOH+ZnAc	DI WATER	MeOH	8260B CoH	8270C COH	6010B COI	9012A	7470A
	MW-109D-20160408-01	4/8/16	1135	KS	GW	6		2	2	1	1					X	X	X	X	X
	MW-205D-20160408-01	4/8/16	931	MR	GW	6		2	2	1	1					X	X	X	X	X
	TB-05-20160408-01	4/8/16	—	—	W	2			2							X				
	MW-26D-20160411-01	4/11/16	1020	KS	GW	6		2	2	1	1					X	X	X	X	X

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe

LAB USE ONLY

TURNAROUND TIME (Business Days)

Approved By: / Rush Code

- [X] 10 Days Standard
- [ ] 7 Day RUSH
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [ ] OTHER

Emergency or Rush T/A Data Available VIA Email or Lablink

Data Deliverable Information

- [ ] COMMERCIAL "A" (RESULTS ONLY)
- [ ] COMMERCIAL "B" (RESULTS PLUS QC)
- [ ] REDT1 (EPA LEVEL 3)
- [ ] FULT1 (EPA LEVEL 4)
- [ ] EDD'S

Comments / Remarks

Please see A&L Macon CoI List

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished by:	Date Time:	Received By:
1	4/11/16 1530	2	3		4
Relinquished by:	Date Time:	Received By:	Relinquished by:	Date Time:	Received By:
5		6 (FedEx)	7		8

Lab Use Only: Custody Seal in Place: Y N Temp Blank Provided: Y N Preserved where Applicable: Y N Total # of Coolers: Cooler Temperature (s) Celsius:

Client: ERM-Southeast
Project: AGL Macon
Lab ID: 1604944

Case Narrative

Sample Receiving Nonconformance:

For sample "MW-26D-20160411-01" for SVOCs analysis, one of the two 1-Liter amber glass bottles was received broken, and no sample remained for analysis. The second of the two amber glass bottles was received with a broken lid, and only approximately 1/4Liter remained in the bottle. Per Adria Reimer via email 4/13/2016 11:25am, SVOCs analysis was not performed for sample "MW-26D-20160411-01" and Naphthalene was reported via method 8260 for Volatile Organic Compounds analysis.

Volatile Organic Compounds Analysis by Method 8260B:

Due to sample matrix, sample 1604944-002A required dilution during preparation and/or analysis resulting in elevated reporting limits.

Analytical Environmental Services, Inc **Date:** 21-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-108D-20160408-01
Project Name:	AGL Macon	**Collection Date:**	4/8/2016 11:35:00 AM
Lab ID:	1604944-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	222670	1	04/14/2016 20:23	NP
Carbon disulfide	BRL	5.0		ug/L	222670	1	04/14/2016 20:23	NP
Ethylbenzene	BRL	5.0		ug/L	222670	1	04/14/2016 20:23	NP
Toluene	BRL	5.0		ug/L	222670	1	04/14/2016 20:23	NP
Xylenes, Total	BRL	5.0		ug/L	222670	1	04/14/2016 20:23	NP
Surr: 4-Bromofluorobenzene	85.9	70.7-125		%REC	222670	1	04/14/2016 20:23	NP
Surr: Dibromofluoromethane	114	82.2-120		%REC	222670	1	04/14/2016 20:23	NP
Surr: Toluene-d8	89.6	81.8-120		%REC	222670	1	04/14/2016 20:23	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	222518	1	04/13/2016 16:45	YH
Acenaphthylene	BRL	1.0		ug/L	222518	1	04/13/2016 16:45	YH
Acenaphthene	BRL	0.50		ug/L	222518	1	04/13/2016 16:45	YH
Fluorene	BRL	0.10		ug/L	222518	1	04/13/2016 16:45	YH
Phenanthrene	BRL	0.050		ug/L	222518	1	04/13/2016 16:45	YH
Anthracene	BRL	0.050		ug/L	222518	1	04/13/2016 16:45	YH
Fluoranthene	BRL	0.10		ug/L	222518	1	04/13/2016 16:45	YH
Pyrene	BRL	0.050		ug/L	222518	1	04/13/2016 16:45	YH
Benz(a)anthracene	BRL	0.050		ug/L	222518	1	04/13/2016 16:45	YH
Chrysene	BRL	0.050		ug/L	222518	1	04/13/2016 16:45	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222518	1	04/13/2016 16:45	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222518	1	04/13/2016 16:45	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222518	1	04/13/2016 16:45	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222518	1	04/13/2016 16:45	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222518	1	04/13/2016 16:45	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222518	1	04/13/2016 16:45	YH
Surr: 4-Terphenyl-d14	94.4	58.7-134		%REC	222518	1	04/13/2016 16:45	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222516	1	04/14/2016 13:49	YH
2-Methylphenol	BRL	10		ug/L	222516	1	04/14/2016 13:49	YH
3,4-Methylphenol	BRL	10		ug/L	222516	1	04/14/2016 13:49	YH
Phenol	BRL	10		ug/L	222516	1	04/14/2016 13:49	YH
Surr: 2,4,6-Tribromophenol	76.8	51.5-141		%REC	222516	1	04/14/2016 13:49	YH
Surr: 2-Fluorobiphenyl	73.8	50.8-122		%REC	222516	1	04/14/2016 13:49	YH
Surr: 2-Fluorophenol	52.5	28.1-120		%REC	222516	1	04/14/2016 13:49	YH
Surr: 4-Terphenyl-d14	82.1	47.2-131		%REC	222516	1	04/14/2016 13:49	YH
Surr: Nitrobenzene-d5	65.4	42.1-124		%REC	222516	1	04/14/2016 13:49	YH
Surr: Phenol-d5	43.3	16-120		%REC	222516	1	04/14/2016 13:49	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 21-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-108D-20160408-01
Project Name:	AGL Macon	**Collection Date:**	4/8/2016 11:35:00 AM
Lab ID:	1604944-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	222714	1	04/18/2016 14:16	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	222636	1	04/15/2016 13:45	PF
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	222694	1	04/18/2016 21:29	JL
Arsenic	BRL	0.0500		mg/L	222694	1	04/18/2016 21:29	JL
Barium	0.783	0.0200		mg/L	222694	1	04/18/2016 21:29	JL
Beryllium	BRL	0.0100		mg/L	222694	1	04/18/2016 21:29	JL
Cadmium	BRL	0.0050		mg/L	222694	1	04/18/2016 21:29	JL
Chromium	BRL	0.0100		mg/L	222694	1	04/18/2016 21:29	JL
Copper	BRL	0.0100		mg/L	222694	1	04/18/2016 21:29	JL
Lead	BRL	0.0100		mg/L	222694	1	04/18/2016 21:29	JL
Nickel	0.0443	0.0200		mg/L	222694	1	04/19/2016 19:24	JL
Zinc	BRL	0.0200		mg/L	222694	1	04/18/2016 21:29	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 21-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-205D-20160408-01
Project Name:	AGL Macon	**Collection Date:**	4/8/2016 9:31:00 AM
Lab ID:	1604944-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	5100	500		ug/L	222670	100	04/14/2016 19:12	NP
Carbon disulfide	BRL	50		ug/L	222670	10	04/14/2016 16:02	NP
Ethylbenzene	990	50		ug/L	222670	10	04/14/2016 16:02	NP
Toluene	BRL	50		ug/L	222670	10	04/14/2016 16:02	NP
Xylenes, Total	620	50		ug/L	222670	10	04/14/2016 16:02	NP
Surr: 4-Bromofluorobenzene	85.7	70.7-125		%REC	222670	100	04/14/2016 19:12	NP
Surr: 4-Bromofluorobenzene	94.8	70.7-125		%REC	222670	10	04/14/2016 16:02	NP
Surr: Dibromofluoromethane	104	82.2-120		%REC	222670	10	04/14/2016 16:02	NP
Surr: Dibromofluoromethane	110	82.2-120		%REC	222670	100	04/14/2016 19:12	NP
Surr: Toluene-d8	84.8	81.8-120		%REC	222670	10	04/14/2016 16:02	NP
Surr: Toluene-d8	86.9	81.8-120		%REC	222670	100	04/14/2016 19:12	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	4900	500		ug/L	222518	1000	04/14/2016 11:51	YH
Acenaphthylene	1.7	1.0		ug/L	222518	1	04/13/2016 17:39	YH
Acenaphthene	140	50		ug/L	222518	100	04/14/2016 11:24	YH
Fluorene	29	10		ug/L	222518	100	04/14/2016 11:24	YH
Phenanthrene	30	5.0		ug/L	222518	100	04/14/2016 11:24	YH
Anthracene	4.5	0.050		ug/L	222518	1	04/13/2016 17:39	YH
Fluoranthene	0.97	0.10		ug/L	222518	1	04/13/2016 17:39	YH
Pyrene	1.1	0.050		ug/L	222518	1	04/13/2016 17:39	YH
Benz(a)anthracene	BRL	0.050		ug/L	222518	1	04/13/2016 17:39	YH
Chrysene	BRL	0.050		ug/L	222518	1	04/13/2016 17:39	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	222518	1	04/13/2016 17:39	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	222518	1	04/13/2016 17:39	YH
Benzo(a)pyrene	BRL	0.050		ug/L	222518	1	04/13/2016 17:39	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	222518	1	04/13/2016 17:39	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	222518	1	04/13/2016 17:39	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	222518	1	04/13/2016 17:39	YH
Surr: 4-Terphenyl-d14	104	58.7-134		%REC	222518	1	04/13/2016 17:39	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	222516	1	04/14/2016 14:15	YH
2-Methylphenol	BRL	10		ug/L	222516	1	04/14/2016 14:15	YH
3,4-Methylphenol	BRL	10		ug/L	222516	1	04/14/2016 14:15	YH
Phenol	18	10		ug/L	222516	1	04/14/2016 14:15	YH
Surr: 2,4,6-Tribromophenol	93	51.5-141		%REC	222516	1	04/14/2016 14:15	YH
Surr: 2-Fluorobiphenyl	86.1	50.8-122		%REC	222516	1	04/14/2016 14:15	YH
Surr: 2-Fluorophenol	58.4	28.1-120		%REC	222516	1	04/14/2016 14:15	YH
Surr: 4-Terphenyl-d14	83.5	47.2-131		%REC	222516	1	04/14/2016 14:15	YH
Surr: Nitrobenzene-d5	83.2	42.1-124		%REC	222516	1	04/14/2016 14:15	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 21-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-205D-20160408-01
Project Name:	AGL Macon	**Collection Date:**	4/8/2016 9:31:00 AM
Lab ID:	1604944-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
Surr: Phenol-d5	48.3	16-120		%REC	222516	1	04/14/2016 14:15	YH
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	222714	1	04/18/2016 14:04	JR
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	BRL	0.010		mg/L	222636	1	04/15/2016 13:45	PF
METALS, TOTAL SW6010D				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	222694	1	04/18/2016 21:53	JL
Arsenic	BRL	0.0500		mg/L	222694	1	04/18/2016 21:53	JL
Barium	3.08	0.0200		mg/L	222694	1	04/18/2016 21:53	JL
Beryllium	BRL	0.0100		mg/L	222694	1	04/18/2016 21:53	JL
Cadmium	BRL	0.0050		mg/L	222694	1	04/18/2016 21:53	JL
Chromium	BRL	0.0100		mg/L	222694	1	04/18/2016 21:53	JL
Copper	BRL	0.0100		mg/L	222694	1	04/18/2016 21:53	JL
Lead	BRL	0.0100		mg/L	222694	1	04/18/2016 21:53	JL
Nickel	0.0434	0.0200		mg/L	222694	1	04/18/2016 21:53	JL
Zinc	BRL	0.0200		mg/L	222694	1	04/18/2016 21:53	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 21-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	TB-05-20160408-01
Project Name:	AGL Macon	**Collection Date:**	4/8/2016
Lab ID:	1604944-003	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	222670	1	04/14/2016 18:48	NP
Carbon disulfide	BRL	5.0		ug/L	222670	1	04/14/2016 18:48	NP
Ethylbenzene	BRL	5.0		ug/L	222670	1	04/14/2016 18:48	NP
Toluene	BRL	5.0		ug/L	222670	1	04/14/2016 18:48	NP
Xylenes, Total	BRL	5.0		ug/L	222670	1	04/14/2016 18:48	NP
Surr: 4-Bromofluorobenzene	84.6	70.7-125		%REC	222670	1	04/14/2016 18:48	NP
Surr: Dibromofluoromethane	115	82.2-120		%REC	222670	1	04/14/2016 18:48	NP
Surr: Toluene-d8	90.3	81.8-120		%REC	222670	1	04/14/2016 18:48	NP

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 21-Apr-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-26D-20160411-01
Project Name:	AGL Macon	**Collection Date:**	4/11/2016 10:20:00 AM
Lab ID:	1604944-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	222670	1	04/14/2016 20:47	NP
Carbon disulfide	BRL	5.0		ug/L	222670	1	04/14/2016 20:47	NP
Ethylbenzene	BRL	5.0		ug/L	222670	1	04/14/2016 20:47	NP
Naphthalene	BRL	5.0		ug/L	222670	1	04/14/2016 20:47	NP
Toluene	BRL	5.0		ug/L	222670	1	04/14/2016 20:47	NP
Xylenes, Total	BRL	5.0		ug/L	222670	1	04/14/2016 20:47	NP
Surr: 4-Bromofluorobenzene	86.5	70.7-125		%REC	222670	1	04/14/2016 20:47	NP
Surr: Dibromofluoromethane	114	82.2-120		%REC	222670	1	04/14/2016 20:47	NP
Surr: Toluene-d8	89.9	81.8-120		%REC	222670	1	04/14/2016 20:47	NP
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	222714	1	04/18/2016 14:18	JR
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	BRL	0.010		mg/L	222636	1	04/15/2016 13:45	PF
METALS, TOTAL SW6010D				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	222694	1	04/18/2016 21:56	JL
Arsenic	BRL	0.0500		mg/L	222694	1	04/18/2016 21:56	JL
Barium	1.74	0.0200		mg/L	222694	1	04/18/2016 21:56	JL
Beryllium	BRL	0.0100		mg/L	222694	1	04/18/2016 21:56	JL
Cadmium	BRL	0.0050		mg/L	222694	1	04/18/2016 21:56	JL
Chromium	BRL	0.0100		mg/L	222694	1	04/18/2016 21:56	JL
Copper	0.0129	0.0100		mg/L	222694	1	04/18/2016 21:56	JL
Lead	BRL	0.0100		mg/L	222694	1	04/18/2016 21:56	JL
Nickel	BRL	0.0200		mg/L	222694	1	04/18/2016 21:56	JL
Zinc	BRL	0.0200		mg/L	222694	1	04/18/2016 21:56	JL

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client EEM-DE Work Order Number 1604944

Checklist completed by [signature] 4/12/2016
Signature Date

Carrier name: FedEx ✓ UPS __ Courier __ Client __ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 0.6 Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes __ No ✓

Sufficient sample volume for indicated test? Yes __ No ✓

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Sample Condition: Good ✓ Adjusted? 4+2+4p Checked by CJ

Other(Explain) one broken amber received, one amber with broken cap

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1604944

ANALYTICAL QC SUMMARY REPORT

BatchID: 222516

Sample ID: **MB-222516** Client ID: Units: **ug/L** Prep Date: **04/13/2016** Run No: **314565**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **222516** Analysis Date: **04/13/2016** Seq No: **6779983**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	10									
2-Methylphenol	BRL	10									
3,4-Methylphenol	BRL	10									
Phenol	BRL	10									
Surr: 2,4,6-Tribromophenol	82.79	0	100.0		82.8	51.5	141				
Surr: 2-Fluorobiphenyl	36.79	0	50.00		73.6	50.8	122				
Surr: 2-Fluorophenol	41.76	0	100.0		41.8	28.1	120				
Surr: 4-Terphenyl-d14	37.83	0	50.00		75.7	47.2	131				
Surr: Nitrobenzene-d5	34.68	0	50.00		69.4	42.1	124				
Surr: Phenol-d5	27.26	0	100.0		27.3	16	120				

Sample ID: **LCS-222516** Client ID: Units: **ug/L** Prep Date: **04/13/2016** Run No: **314565**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **222516** Analysis Date: **04/13/2016** Seq No: **6779987**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	29.16	10	100.0		29.2	27	120				
Surr: 2,4,6-Tribromophenol	108.3	0	100.0		108	51.5	141				
Surr: 2-Fluorobiphenyl	45.36	0	50.00		90.7	50.8	122				
Surr: 2-Fluorophenol	48.99	0	100.0		49.0	28.1	120				
Surr: 4-Terphenyl-d14	45.62	0	50.00		91.2	47.2	131				
Surr: Nitrobenzene-d5	42.04	0	50.00		84.1	42.1	124				
Surr: Phenol-d5	32.84	0	100.0		32.8	16	120				

Sample ID: **1604609-001CMS** Client ID: Units: **ug/L** Prep Date: **04/13/2016** Run No: **314565**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **222516** Analysis Date: **04/13/2016** Seq No: **6779988**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	BRL	100	100.0	72.40	4.80	30.6	120				S

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1604944

ANALYTICAL QC SUMMARY REPORT

BatchID: 222516

Sample ID: **1604609-001CMS** Client ID: Units: **ug/L** Prep Date: **04/13/2016** Run No: **314565**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **222516** Analysis Date: **04/13/2016** Seq No: **6779988**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 2,4,6-Tribromophenol	92.20	0	100.0		92.2	51.5	141				
Surr: 2-Fluorobiphenyl	39.90	0	50.00		79.8	50.8	122				
Surr: 2-Fluorophenol	51.20	0	100.0		51.2	28.1	120				
Surr: 4-Terphenyl-d14	23.80	0	50.00		47.6	47.2	131				
Surr: Nitrobenzene-d5	40.30	0	50.00		80.6	42.1	124				
Surr: Phenol-d5	29.00	0	100.0		29.0	16	120				

Sample ID: **1604609-001CMSD** Client ID: Units: **ug/L** Prep Date: **04/13/2016** Run No: **314565**
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **222516** Analysis Date: **04/13/2016** Seq No: **6779989**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	BRL	100	100.0	72.40	1.80	30.6	120	77.20	0	36.3	S
Surr: 2,4,6-Tribromophenol	77.10	0	100.0		77.1	51.5	141	92.20	0	0	
Surr: 2-Fluorobiphenyl	37.10	0	50.00		74.2	50.8	122	39.90	0	0	
Surr: 2-Fluorophenol	46.10	0	100.0		46.1	28.1	120	51.20	0	0	
Surr: 4-Terphenyl-d14	21.70	0	50.00		43.4	47.2	131	23.80	0	0	S
Surr: Nitrobenzene-d5	37.50	0	50.00		75.0	42.1	124	40.30	0	0	
Surr: Phenol-d5	25.30	0	100.0		25.3	16	120	29.00	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1604944

ANALYTICAL QC SUMMARY REPORT

BatchID: 222518

Sample ID: **MB-222518** Client ID: Units: **ug/L** Prep Date: **04/13/2016** Run No: **314560**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **222518** Analysis Date: **04/13/2016** Seq No: **6768458**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	0.50									
Acenaphthylene	BRL	1.0									
Anthracene	BRL	0.050									
Benz(a)anthracene	BRL	0.050									
Benzo(a)pyrene	BRL	0.050									
Benzo(b)fluoranthene	BRL	0.10									
Benzo(g,h,i)perylene	BRL	0.10									
Benzo(k)fluoranthene	BRL	0.050									
Chrysene	BRL	0.050									
Dibenz(a,h)anthracene	BRL	0.10									
Fluoranthene	BRL	0.10									
Fluorene	BRL	0.10									
Indeno(1,2,3-cd)pyrene	BRL	0.050									
Naphthalene	BRL	0.50									
Phenanthrene	BRL	0.050									
Pyrene	BRL	0.050									
Surr: 4-Terphenyl-d14	2.079	0	2.000		104	58.7	134				

Sample ID: **LCS-222518** Client ID: Units: **ug/L** Prep Date: **04/13/2016** Run No: **314560**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **222518** Analysis Date: **04/13/2016** Seq No: **6769140**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.840	0.50	2.000		92.0	65.2	121				
Acenaphthylene	1.727	1.0	2.000		86.4	62	120				
Anthracene	1.837	0.050	2.000		91.9	63.8	125				
Benz(a)anthracene	1.624	0.050	2.000		81.2	60	136				
Benzo(a)pyrene	1.812	0.050	2.000		90.6	65.6	128				
Benzo(b)fluoranthene	1.669	0.10	2.000		83.4	61.6	135				

Qualifiers:
> Greater than Result value
< Less than Result value
B Analyte detected in the associated method blank
BRL Below reporting limit
E Estimated (value above quantitation range)
H Holding times for preparation or analysis exceeded
J Estimated value detected below Reporting Limit
N Analyte not NELAC certified
R RPD outside limits due to matrix
Rpt Lim Reporting Limit
S Spike Recovery outside limits due to matrix

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1604944

ANALYTICAL QC SUMMARY REPORT

BatchID: 222518

Sample ID: **LCS-222518** Client ID: Units: **ug/L** Prep Date: **04/13/2016** Run No: **314560**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **222518** Analysis Date: **04/13/2016** Seq No: **6769140**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(g,h,i)perylene	1.869	0.10	2.000		93.5	60.6	124				
Benzo(k)fluoranthene	2.314	0.050	2.000		116	66.2	126				
Chrysene	2.019	0.050	2.000		101	69.9	134				
Dibenz(a,h)anthracene	1.778	0.10	2.000		88.9	56.6	127				
Fluoranthene	1.784	0.10	2.000		89.2	69.3	130				
Fluorene	1.839	0.10	2.000		91.9	68.4	121				
Indeno(1,2,3-cd)pyrene	1.834	0.050	2.000		91.7	59.2	130				
Naphthalene	1.715	0.50	2.000		85.7	61.4	120				
Phenanthrene	1.768	0.050	2.000		88.4	65.4	123				
Pyrene	1.807	0.050	2.000		90.4	66.4	130				
Surr: 4-Terphenyl-d14	2.099	0	2.000		105	58.7	134				

Sample ID: **1604920-001AMS** Client ID: Units: **ug/L** Prep Date: **04/13/2016** Run No: **314560**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **222518** Analysis Date: **04/13/2016** Seq No: **6769059**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.916	0.50	2.000		95.8	51.2	120				
Acenaphthylene	1.803	1.0	2.000		90.1	53.5	120				
Anthracene	1.775	0.050	2.000		88.8	53.3	120				
Benz(a)anthracene	1.684	0.050	2.000		84.2	50.9	132				
Benzo(a)pyrene	1.721	0.050	2.000		86.1	50.5	120				
Benzo(b)fluoranthene	1.642	0.10	2.000	0.02803	80.7	55.8	127				
Benzo(g,h,i)perylene	1.606	0.10	2.000		80.3	46.8	120				
Benzo(k)fluoranthene	2.211	0.050	2.000		111	54.5	120				
Chrysene	2.011	0.050	2.000	0.02275	99.4	56.9	125				
Dibenz(a,h)anthracene	1.410	0.10	2.000		70.5	44.8	120				
Fluoranthene	1.838	0.10	2.000	0.03696	90.0	61.5	122				
Fluorene	1.855	0.10	2.000		92.7	55.6	118				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1604944

ANALYTICAL QC SUMMARY REPORT

BatchID: 222518

Sample ID: **1604920-001AMS** Client ID: Units: **ug/L** Prep Date: **04/13/2016** Run No: **314560**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **222518** Analysis Date: **04/13/2016** Seq No: **6769059**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Indeno(1,2,3-cd)pyrene	1.496	0.050	2.000		74.8	46.1	120				
Naphthalene	1.845	0.50	2.000		92.3	51.7	120				
Phenanthrene	1.801	0.050	2.000		90.1	56.1	120				
Pyrene	1.824	0.050	2.000	0.03679	89.4	56.1	125				
Surr: 4-Terphenyl-d14	1.971	0	2.000		98.5	58.7	134				

Sample ID: **1604920-001AMSD** Client ID: Units: **ug/L** Prep Date: **04/13/2016** Run No: **314560**
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **222518** Analysis Date: **04/13/2016** Seq No: **6769060**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.783	0.50	2.000		89.1	51.2	120	1.916	7.21	23.9	
Acenaphthylene	1.632	1.0	2.000		81.6	53.5	120	1.803	9.96	24.2	
Anthracene	1.793	0.050	2.000		89.7	53.3	120	1.775	1.03	22.3	
Benz(a)anthracene	1.618	0.050	2.000		80.9	50.9	132	1.684	3.99	27.4	
Benzo(a)pyrene	1.703	0.050	2.000		85.1	50.5	120	1.721	1.07	41.9	
Benzo(b)fluoranthene	1.641	0.10	2.000	0.02803	80.6	55.8	127	1.642	0.058	26.1	
Benzo(g,h,i)perylene	1.603	0.10	2.000		80.2	46.8	120	1.606	0.177	24.3	
Benzo(k)fluoranthene	2.221	0.050	2.000		111	54.5	120	2.211	0.472	24.2	
Chrysene	2.020	0.050	2.000	0.02275	99.9	56.9	125	2.011	0.473	23.1	
Dibenz(a,h)anthracene	1.350	0.10	2.000		67.5	44.8	120	1.410	4.33	26.1	
Fluoranthene	1.830	0.10	2.000	0.03696	89.7	61.5	122	1.838	0.389	17.7	
Fluorene	1.726	0.10	2.000		86.3	55.6	118	1.855	7.17	27.5	
Indeno(1,2,3-cd)pyrene	1.501	0.050	2.000		75.1	46.1	120	1.496	0.382	26.7	
Naphthalene	1.667	0.50	2.000		83.3	51.7	120	1.845	10.2	24.2	
Phenanthrene	1.762	0.050	2.000		88.1	56.1	120	1.801	2.19	23.5	
Pyrene	1.812	0.050	2.000	0.03679	88.8	56.1	125	1.824	0.669	20.9	
Surr: 4-Terphenyl-d14	1.789	0	2.000		89.5	58.7	134	1.971	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1604944

ANALYTICAL QC SUMMARY REPORT

BatchID: 222636

Sample ID: **MB-222636**	Client ID:					Units: **mg/L**		Prep Date: **04/14/2016**		Run No: **314634**	
SampleType: **MBLK**	TestCode: **Cyanide SW9014**					BatchID: **222636**		Analysis Date: **04/14/2016**		Seq No: **6770129**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	0.010									

Sample ID: **LCS-222636**	Client ID:					Units: **mg/L**		Prep Date: **04/14/2016**		Run No: **314634**	
SampleType: **LCS**	TestCode: **Cyanide SW9014**					BatchID: **222636**		Analysis Date: **04/14/2016**		Seq No: **6770130**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2389	0.010	0.2500		95.6	85	115				

Sample ID: **1604772-002DMS**	Client ID:					Units: **mg/L**		Prep Date: **04/14/2016**		Run No: **314634**	
SampleType: **MS**	TestCode: **Cyanide SW9014**					BatchID: **222636**		Analysis Date: **04/14/2016**		Seq No: **6770134**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2365	0.010	0.2500		94.6	70	130				

Sample ID: **1604772-002DMSD**	Client ID:					Units: **mg/L**		Prep Date: **04/14/2016**		Run No: **314634**	
SampleType: **MSD**	TestCode: **Cyanide SW9014**					BatchID: **222636**		Analysis Date: **04/14/2016**		Seq No: **6770135**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2377	0.010	0.2500		95.1	70	130	0.2365	0.506	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1604944

ANALYTICAL QC SUMMARY REPORT

BatchID: 222670

Sample ID: **MB-222670**	Client ID:		Units: **ug/L**	Prep Date: **04/14/2016**	Run No: **314618**
SampleType: **MBLK**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **222670**	Analysis Date: **04/14/2016**	Seq No: **6771605**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	5.0									
Ethylbenzene	BRL	5.0									
Naphthalene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	41.26	0	50.00		82.5	70.7	125				
Surr: Dibromofluoromethane	57.88	0	50.00		116	82.2	120				
Surr: Toluene-d8	44.70	0	50.00		89.4	81.8	120				

Sample ID: **LCS-222670**	Client ID:		Units: **ug/L**	Prep Date: **04/14/2016**	Run No: **314618**
SampleType: **LCS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **222670**	Analysis Date: **04/14/2016**	Seq No: **6771604**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	44.06	5.0	50.00		88.1	74.9	123				
Toluene	46.54	5.0	50.00		93.1	75	124				
Surr: 4-Bromofluorobenzene	41.49	0	50.00		83.0	70.7	125				
Surr: Dibromofluoromethane	57.06	0	50.00		114	82.2	120				
Surr: Toluene-d8	44.16	0	50.00		88.3	81.8	120				

Sample ID: **1604944-002AMS**	Client ID: **MW-205D-20160408-01**		Units: **ug/L**	Prep Date: **04/14/2016**	Run No: **314618**
SampleType: **MS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **222670**	Analysis Date: **04/14/2016**	Seq No: **6771623**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	11060	500	5000	5064	120	70.1	132				
Toluene	4782	500	5000		95.6	70.1	133				
Surr: 4-Bromofluorobenzene	4531	0	5000		90.6	70.7	125				
Surr: Dibromofluoromethane	5374	0	5000		107	82.2	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1604944

ANALYTICAL QC SUMMARY REPORT

BatchID: 222670

Sample ID: **1604944-002AMS**	Client ID: **MW-205D-20160408-01**	Units: **ug/L**	Prep Date: **04/14/2016**	Run No: **314618**
SampleType: **MS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**	BatchID: **222670**	Analysis Date: **04/14/2016**	Seq No: **6771623**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: Toluene-d8	4393	0	5000		87.9	81.8	120				

Sample ID: **1604944-002AMSD**	Client ID: **MW-205D-20160408-01**	Units: **ug/L**	Prep Date: **04/14/2016**	Run No: **314618**
SampleType: **MSD**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**	BatchID: **222670**	Analysis Date: **04/14/2016**	Seq No: **6771624**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	10820	500	5000	5064	115	70.1	132	11060	2.24	20	
Toluene	4710	500	5000		94.2	70.1	133	4782	1.52	20	
Surr: 4-Bromofluorobenzene	4350	0	5000		87.0	70.7	125	4531	0	0	
Surr: Dibromofluoromethane	5359	0	5000		107	82.2	120	5374	0	0	
Surr: Toluene-d8	4391	0	5000		87.8	81.8	120	4393	0	0	

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1604944

ANALYTICAL QC SUMMARY REPORT

BatchID: 222694

Sample ID: **MB-222694** Client ID: Units: **mg/L** Prep Date: **04/15/2016** Run No: **314910**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010D** BatchID: **222694** Analysis Date: **04/18/2016** Seq No: **6777034**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	0.0200									
Arsenic	BRL	0.0500									
Barium	BRL	0.0200									
Beryllium	BRL	0.0100									
Cadmium	BRL	0.0050									
Chromium	BRL	0.0100									
Copper	BRL	0.0100									
Lead	BRL	0.0100									
Nickel	BRL	0.0200									
Zinc	BRL	0.0200									

Sample ID: **LCS-222694** Client ID: Units: **mg/L** Prep Date: **04/15/2016** Run No: **314910**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010D** BatchID: **222694** Analysis Date: **04/18/2016** Seq No: **6777035**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.046	0.0200	1.000		105	80	120				
Arsenic	1.027	0.0500	1.000		103	80	120				
Barium	1.058	0.0200	1.000		106	80	120				
Beryllium	1.046	0.0100	1.000		105	80	120				
Cadmium	1.043	0.0050	1.000		104	80	120				
Chromium	1.048	0.0100	1.000		105	80	120				
Copper	1.062	0.0100	1.000		106	80	120				
Lead	1.016	0.0100	1.000		102	80	120				
Nickel	1.055	0.0200	1.000		106	80	120				
Zinc	1.041	0.0200	1.000		104	80	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1604944

ANALYTICAL QC SUMMARY REPORT

BatchID: 222694

Sample ID: **1604944-001CMS** Client ID: **MW-108D-20160408-01** Units: **mg/L** Prep Date: **04/15/2016** Run No: **314910**
SampleType: **MS** TestCode: **METALS, TOTAL SW6010D** BatchID: **222694** Analysis Date: **04/18/2016** Seq No: **6777037**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.019	0.0200	1.000		102	75	125				
Arsenic	1.006	0.0500	1.000		101	75	125				
Barium	1.785	0.0200	1.000	0.7827	100	75	125				
Beryllium	1.038	0.0100	1.000	0.003190	103	75	125				
Cadmium	1.026	0.0050	1.000	0.001280	102	75	125				
Chromium	1.036	0.0100	1.000		104	75	125				
Copper	1.062	0.0100	1.000	0.002070	106	75	125				
Lead	0.9806	0.0100	1.000	0.007900	97.3	75	125				
Nickel	1.031	0.0200	1.000	0.03987	99.1	75	125				
Zinc	1.020	0.0200	1.000	0.008680	101	75	125				

Sample ID: **1604944-001CMSD** Client ID: **MW-108D-20160408-01** Units: **mg/L** Prep Date: **04/15/2016** Run No: **314910**
SampleType: **MSD** TestCode: **METALS, TOTAL SW6010D** BatchID: **222694** Analysis Date: **04/18/2016** Seq No: **6777038**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.019	0.0200	1.000		102	75	125	1.019	0.070	20	
Arsenic	1.016	0.0500	1.000		102	75	125	1.006	0.952	20	
Barium	1.793	0.0200	1.000	0.7827	101	75	125	1.785	0.486	20	
Beryllium	1.051	0.0100	1.000	0.003190	105	75	125	1.038	1.26	20	
Cadmium	1.035	0.0050	1.000	0.001280	103	75	125	1.026	0.815	20	
Chromium	1.041	0.0100	1.000		104	75	125	1.036	0.505	20	
Copper	1.070	0.0100	1.000	0.002070	107	75	125	1.062	0.712	20	
Lead	0.9834	0.0100	1.000	0.007900	97.5	75	125	0.9806	0.285	20	
Nickel	1.034	0.0200	1.000	0.03987	99.4	75	125	1.031	0.268	20	
Zinc	1.028	0.0200	1.000	0.008680	102	75	125	1.020	0.794	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1604944

ANALYTICAL QC SUMMARY REPORT

BatchID: 222714

Sample ID: **MB-222714**	Client ID:					Units: **mg/L**		Prep Date: **04/18/2016**		Run No: **314759**	
SampleType: **MBLK**	TestCode: **Mercury, Total SW7470A**					BatchID: **222714**		Analysis Date: **04/18/2016**		Seq No: **6775412**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.00020									

Sample ID: **LCS-222714**	Client ID:					Units: **mg/L**		Prep Date: **04/18/2016**		Run No: **314759**	
SampleType: **LCS**	TestCode: **Mercury, Total SW7470A**					BatchID: **222714**		Analysis Date: **04/18/2016**		Seq No: **6775415**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005283	0.00020	0.0050		106	80	120				

Sample ID: **1604944-002CMS**	Client ID: **MW-205D-20160408-01**					Units: **mg/L**		Prep Date: **04/18/2016**		Run No: **314759**	
SampleType: **MS**	TestCode: **Mercury, Total SW7470A**					BatchID: **222714**		Analysis Date: **04/18/2016**		Seq No: **6775417**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.003596	0.00020	0.0050		71.9	70	130				

Sample ID: **1604944-002CMSD**	Client ID: **MW-205D-20160408-01**					Units: **mg/L**		Prep Date: **04/18/2016**		Run No: **314759**	
SampleType: **MSD**	TestCode: **Mercury, Total SW7470A**					BatchID: **222714**		Analysis Date: **04/18/2016**		Seq No: **6775418**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.003472	0.00020	0.0050		69.4	70	130	0.003596	3.52	20	S

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Data Evaluation

Appendix B-5

May 21, 2016
Project No. 0176740
Atlanta Gas Light Company

Environmental Resources Management Southeast, Inc.
3200 Windy Hill Rd. Suite 1500W
Atlanta, GA 30339
(678) 486-2700

Sample Submittals
AGLC Macon
April 4 - 8, 2016

Matrix	Sample ID	Laboratory ID
Water	MW-8-20160405-01	1604599-001
Water	MW-12R-20160404-01	1604599-002
Water	MW-14-20160405-01	1604599-003
Water	MW-28-20160405-01	1604599-004
Water	MW-104-20160405-01	1604599-005
Water	MW-107-20160404-01	1604599-006
Water	MW-400-20160406-01	1604599-007
Water	MW-21-20160406-01	1604599-008
Water	MW-15-20160406-01	1604599-009
Water	MW-102-20160406-01	1604599-010
Water	DUP-01-20160406-01	1604599-011
Water	TRIP BLANK	1604599-012
Water	TRIP BLANK 2	1604599-013
Water	TRIP BLANK 3	1604599-014
Water	TRIP BLANK 4	1604599-015
Water	TRIP BLANK 5	1604599-016
Water	TRIP BLANK 6	1604599-017
Water	MW-101-20160407-01	1604722-001
Water	MW-105-20160407-01	1604722-002
Water	MW-10-20160407-01	1604722-003
Water	DUP-02-20160407-01	1604722-004
Water	TRIP BLANK	1604722-005

ERM Analytical Data Validation Checklist

Project Name: AGLC/Macon	Laboratory: Analytical Environmental Services, Inc.
Project Reference: 0176740	Sample Matrix: Aqueous
ERM Project Phase Number: 13	Sample Start Date: 4/4/2016
Date Validated: 4/28/2016	Sample End Date: 4/8/2016

Sample Analyzed: Approximately ten percent (10%) of the samples collected were chosen for validation. The following samples within Order No: 1604599 & 1604772 were validated. For a full list of the samples collected, see the sample submittal summary above.

MW-15-20160406-01	DUP-01-20160406-01
MW-101-20160407-01	DUP-02-20160407-01

Parameters Analyzed: Volatile Organic Compounds (Benzene, Toluene, Ethylbenzene, Total Xylenes and carbon disulfide) by SW-846 Method 8260B, Low Level Semi-Volatile Organic Compounds and SIM Polynuclear Aromatic Hydrocarbons by SW-846 Method 8270D, Metals (Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Lead, Nickel and Zinc) by SW-846 Method 6010C, Mercury by SW-846 Method 7470A, and Cyanide by SW-846 Method 9014.

Laboratory Order No: 1604599, 1604771, 1604772

PRECISION, ACCURACY, METHOD CONFORMANCE, AND COMPLETENESS ASSESSMENT

Precision:	**X**	Acceptable	Unacceptable	WFV	Initials

Comments: Laboratory precision was evaluated using laboratory control samples (LCSs), laboratory duplicates, and matrix spike duplicates (MSDs). Evaluation of duplicates was done using the Relative Percent Difference (RPD). The RPD is defined as the difference between two duplicate sample results divided by the mean, and expressed as a percent. Overall, laboratory and field sampling precision were acceptable.

Accuracy:	**X**	Acceptable	Unacceptable	WFV	Initials

Comments: Accuracy is a measure of the system bias. Laboratory accuracy was evaluated using blanks, matrix spikes (MSs), LCSs, and surrogate recoveries. Overall, laboratory accuracy was acceptable.

Method Compliance:	**X**	Acceptable	Unacceptable	WFV	Initials

Comments: Method compliance was evaluated using holding times, internal standard recoveries, and surrogate recoveries. Overall method compliance was acceptable.

Completeness:	**X**	Acceptable	Unacceptable	WFV	Initials

Comments: Completeness is a percentage expression of the ratio of total acceptable data points to the total possible data points. No data points were rejected; all data are usable with some usable with qualification. For the sample data validated, no data points were rejected. The data set was 100% complete.

ERM Analytical Data Validation Checklist (Continued)

EVALUATION CRITERIA CHECK						
Data validation flags used in this review only include those used by the laboratory: BRL Below reporting limit **Only bolded comments required qualification.** The other comments are of interest, but qualification of the results was not necessary.						
1. Did the laboratory identify any nonconformances related to the analytical results?	**X**	Yes		No	WFV	Initials
Explanation: The laboratory identified the following nonconformance in the case narratives for the samples validated.						
Volatile Organic Compounds Analysis by Method 8260B: Due to sample matrix, sample 1604944-002A required dilution during preparation and/or analysis resulting in elevated reporting limits. Due to sample matrix, sample 1604771-003A required dilution during preparation and/or analysis resulting in elevated reporting limits.						
2. Were samples Chain-of Custody (COC) forms complete?	**X**	Yes		No	WFV	Initials
Comments: Chains-of-Custody were complete and correct;						
3. Were all the analyses requested for the samples on the COCs completed by the laboratory?	**X**	Yes		No	WFV	Initials
Comments: All analyses requested for the samples on the COCs were completed by the laboratory.						
4. Were samples received in good condition and at appropriate temperature?	**X**	Yes		No	WFV	Initials
Comments: Samples were received in good condition and at appropriate temperature.						
5. Were the requested analytical methods in compliance with WP/QAPP, permit, or COC?	**X**	Yes		No	WFV	Initials
Comments: Requested analytical methods were in compliance with COC forms. Additionally, the test results in the validated report meet all NELAP requirements for parameters for which accreditation is required or available.						
6. Were detection limits in accordance with WP/QAPP, permit, or method?	**X**	Yes		No	WFV	Initials
Comments: Results were reported down to the practical quantitation limits.						
7. Do the laboratory reports include only those constituents requested to be reported for a specific analytical method?	**X**	Yes		No	WFV	Initials
Comments: The laboratory reported the requested constituents.						
8. Were the sample holding times met?	**X**	Yes		No	WFV	Initials
Comments: All sample holding times were met.						
9. Were correct concentration units reported?	**X**	Yes		No	WFV	Initials
Comments: Organic results were reported in µg/L and inorganics in mg/L						
10. Were the reporting requirements for flagged data met?	**X**	Yes		No	WFV	Initials
Comments: No data was flagged during the April 2016 sampling event.						
11. Were laboratory blank samples free of target analyte contamination?	**X**	Yes		No	WFV	Initials
Comments: Target analytes were not detected in blanks.						

ERM Analytical Data Validation Checklist (Continued)

12. Were trip blank, field blank, and/or equipment rinse blank samples free of target analyte contamination?	**X**	Yes		No	WFV	Initials
Comments: Trip blanks were free of analytes.						
13. Were instrument calibrations within method control limits?	**X**	Yes		No	WFV	Initials
Comments: The initial calibrations were within control limits.						
14. Were surrogate recoveries within control limits?	**X**	Yes		No	WFV	Initials
Comments: Surrogate recoveries were within laboratory QC limits.						
15. Were laboratory control sample recoveries within control limits?	**X**	Yes		No	WFV	Initials
Comments: The LCS recoveries were within control limits.						
16. Were matrix spike recoveries within control limits?	**X**	Yes		No	WFV	Initials
Comments: All matrix spike recoveries were within control limits						
17. Were duplicate RPDs and/or serial dilution %Ds within control limits?	**X**	Yes		No	NGV	Initials
Comments: RPDs for MS/MSDs, laboratory duplicate samples and LCS/LCSDs met QC criteria for all target compounds/analytes for the samples validated.						
18. Were organic system performance criteria met?	**X**	Yes		No	NGV	Initials
Comments: All GC/MS internal standards were within method criteria for the samples validated.						
19. Were internal standards within method criteria for GS/MS sample analyses?	**X**	Yes		No	NGV	Initials
Comments: All GC/MS internal standards were within method criteria for the samples validated.						
20. Were inorganic system performance criteria met?	**X**	Yes		No	NGV	Initials
Comments: Inorganic system performance criteria were met for the samples validated.						
21. Were blind field duplicates collected? If so, discuss the precision (RPD) of the results.	**X**	Yes		No	WFV	Initials
Comments: The largest RPD vaule that was recorded between the parent samples and the field duplicates was 15%						
22. Were qualitative criteria for organic target analyte identification met?	**X**	Yes		No	WFV	Initials
Comments: All qualitative criteria for organic target analyte identification were met.						
23. Were 100% of the EDD concentrations and reporting limits compared to the hardcopy data reports?	**NA**	Yes	**NA**	No	WFV	Initials
Comments: The EDD is not routinely reviewed as part of the data validation process.						

ERM Analytical Data Validation Checklist (Continued)
Field Duplicate Comparisons
ACLC - Macon

April 5 - 7, 2016

Parameter	MW-15-20160406-01		DUP-01-20160406-01		RPD(%)
Cyanide	0.014	mg/L	0.012	mg/L	15
Barium	0.0315	mg/L	0.0326	mg/L	3
Zinc	0.0500	mg/L	0.0506	mg/L	1

Parameter	MW-101-20160407-01		DUP-02-20160407-01		RPD(%)
Benzene	6.5	ug/L	6.3	ug/L	3
Acenaphthene	3.7	µg/L	3.9	µg/L	5
Acenaphthylene	1.3	µg/L	1.3	µg/L	0
Anthracene	0.25	ug/L	0.25	ug/L	0
Benzo(a)pyrene	0.070	ug/L	< 0.050	ug/L	NC
Benzo(g,h,i)perylene	0.11	ug/L	< 0.10	ug/L	NC
Benzo(k)fluoranthene	0.085	ug/L	< 0.050	ug/L	NC
Chrysene	0.054	ug/L	< 0.050	ug/L	NC
Dibenzo(a,h)anthracene	0.16	ug/L	< 0.10	ug/L	NC
Fluoranthene	0.31	ug/L	0.30	ug/L	3
Fluorene	2.7	µg/L	2.8	µg/L	4
Indeno(1,2,3-)pyrene	0.11	ug/L	< 0.050	ug/L	NC
Naphthalene	12	µg/L	14	ug/L	15
Phenanthrene	0.35	µg/L	0.35	µg/L	0
Pyrene	0.21	µg/L	0.22	µg/L	5
Cyanide	0.013	mg/L	< 0.010	mg/L	NC
Barium	0.0861	mg/L	0.0886	mg/L	3

Sample Submittals
AGLC Macon
April 5 - 11, 2016

Matrix	Sample ID	Laboratory ID
Water	MW-12DRR-20160405-01	1604558-001
Water	MW-12D-20160405-01	1604558-002
Water	MW-23D-20160405-01	1604558-003
Water	MW-24D-20160405-01	1604558-004
Water	MW-27D-20160405-01	1604558-005
Water	MW-112D-20160405-01	1604558-006
Water	MW-113D-20160405-01	1604558-007
Water	MW-308D-20160405-01	1604558-008
Water	MW-12DD-20160406-01	1604558-009
Water	MW-205DD-20160406-01	1604558-010
Water	MW-206D-20160406-01	1604558-011
Water	MW-207D-20160406-01	1604558-012
Water	MW-300D-20160406-01	1604558-013
Water	MW-304D-20160406-01	1604558-014
Water	MW-307D-20160406-01	1604558-015
Water	DUP-01-20160406-01	1604558-016
Water	TRIP BLANK	1604558-017
Water	TRIP BLANK 2	1604558-018
Water	MW-306D-20160407-01	1604771-001
Water	MW-200DR-20160407-01	1604771-002
Water	MW-305D-20160407-01	1604771-003
Water	MW-302DD-20160407-01	1604771-004
Water	MW-204D-20160407-01	1604771-005
Water	MW-110D-20160407-01	1604771-006
Water	MW-302D-20160407-01	1604771-008
Water	DUP-03-20160407-01	1604771-009
Water	DUP-01-20160407-01	1604771-010
Water	TRIP BLANK	1604771-011
Water	TRIP BLANK 2	1604771-012
Water	TRIP BLANK 3	1604771-013
Water	MW-101-20160407-01	1604772-001
Water	MW-105-20160407-01	1604772-002
Water	MW-10-20160407-01	1604772-003
Water	TRIP BLANK	1604772-005
Water	MW-108D-20160408-01	1604944-001
Water	MW-205D-20160408-01	1604944-002
Water	TB-05-20160408-01	1604944-003
Water	MW-26D-201604011-01	1604944-004

ERM Analytical Data Validation Checklist

Project Name: AGLC/Macon	Laboratory: Analytical Environmental Services, Inc.
Project Reference: 0176740	Sample Matrix: Aqueous
ERM Project Phase Number: 052	Sample Start Date: 4/5/2016
Date Validated: April 28, 2016	Sample End Date: 4/11/2016

Sample Analyzed: Approximately ten percent (10%) of the samples collected were chosen for validation. The following samples within Order No: 1502E13 & 1502F52 were validated. For a full list of the samples collected, see the sample submittal summary above.

MW-110D-20160407-01	DUP-01-20160407-01
MW-304D-20160406-01	DUP-01-20160406-01
MW-204D-20160407-01	DUP-03-20160407-01

Parameters Analyzed: Volatile Organic Compounds (Benzene, Toluene, Ethylbenzene, Total Xylenes and carbon disulfide) by SW-846 Method 8260B, Low Level Semi-Volatile Organic Compounds and SIM Polynuclear Aromatic Hydrocarbons by SW-846 Method 8270D, Metals (Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Lead, Nickel and Zinc) by SW-846 Method 6010C, Mercury by SW-846 Method 7470A, and Cyanide by SW-846 Method 9014.

Laboratory Order No: 1604558, 1604771, 1604772, 1604944

PRECISION, ACCURACY, METHOD CONFORMANCE, AND COMPLETENESS ASSESSMENT

Precision:	**X**	Acceptable		Unacceptable	WFV	Initials

Comments: Laboratory precision was evaluated using laboratory control samples (LCSs), laboratory duplicates, and matrix spike duplicates (MSDs). Field sampling precision was evaluated using field duplicates. Evaluation of duplicates was done using the Relative Percent Difference (RPD). The RPD is defined as the difference between two duplicate sample results divided by the mean, and expressed as a percent. Overall, laboratory and field sampling precision were acceptable.

Accuracy:	**X**	Acceptable		Unacceptable	WFV	Initials

Comments: Accuracy is a measure of the system bias. Laboratory accuracy was evaluated using blanks, matrix spikes (MSs), LCSs, and surrogate recoveries. Overall, laboratory accuracy was acceptable.

Method Compliance:	**X**	Acceptable		Unacceptable	WFV	Initials

Comments: Method compliance was evaluated using holding times, internal standard recoveries, and surrogate recoveries. Overall method compliance was acceptable.

Completeness:	**X**	Acceptable		Unacceptable	WFV	Initials

Comments: Completeness is a percentage expression of the ratio of total acceptable data points to the total possible data points. No data points were rejected; all data are usable with some usable with qualification. For the sample data validated, no data points were rejected. The data set was 100% complete.

EVALUATION CRITERIA CHECK

Data validation flags used in this review only include those used by the laboratory:

BRL	Below reporting limit

ERM Analytical Data Validation Checklist (Continued)

Only bolded comments required qualification. The other comments are of interest, but qualification of the results was not necessary.						
1. Did the laboratory identify any nonconformances related to the analytical results?	**X**	Yes		No	WFV	Initials
Explanation: The laboratory identified the following nonconformance in the case narratives for the samples validated.						
Semi-Volatile organics Analysis by Method 8270D: Percent recovery for the surrogate spiking compound 2-Fluorobiphenyl on QC sample LCS-222389 was outside control limits biased high. All other surrogate recoveries were within control limits.						
For sample "MW-26D-20160411-01" for SVOCs analysis, one of the two 1-Liter amber glass bottles was received broken, and no sample remained for analysis. The second of the two amber glass bottles was received with a broken lid, and only approximately 1/4Liter remained in the bottle. Per Adria Reimer via email 4/13/2016 11:25am, SVOCs analysis was not performed for sample "MW-26D-20160411-01" and Naphthalene was reported via method 8260 for Volatile Organic Compounds analysis.						
Volatile Organic Compounds Analysis by Method 8260B: Due to sample matrix, sample 1604771-003A required dilution during preparation and/or analysis resulting in elevated reporting limits. Due to sample matrix, sample 1604944-002A required dilution during preparation and/or analysis resulting in elevated reporting limits.						
2. Were samples Chain-of Custody (COC) forms complete?	**X**	Yes		No	WFV	Initials
Comments: Chains-of-Custody were complete and correct;						
3. Were all the analyses requested for the samples on the COCs completed by the laboratory?	**X**	Yes		No	WFV	Initials
Comments: All analyses requested for the samples on the COCs were completed by the laboratory.						
4. Were samples received in good condition and at appropriate temperature?	**X**	Yes		No	WFV	Initials
Comments: Samples were received in good condition and at appropriate temperature.						
5. Were the requested analytical methods in compliance with WP/QAPP, permit, or COC?	**X**	Yes		No	WFV	Initials
Comments: Requested analytical methods were in compliance with COC forms. Additionally, the test results in the validated report meet all NELAP requirements for parameters for which accreditation is required or available.						
6. Were detection limits in accordance with WP/QAPP, permit, or method?	**X**	Yes		No	WFV	Initials
Comments: Results were reported down to the practical quantitation limits.						
7. Do the laboratory reports include only those constituents requested to be reported for a specific analytical method?	**X**	Yes		No	WFV	Initials
Comments: The laboratory reported the requested constituents.						
8. Were the sample holding times met?	**X**	Yes		No	WFV	Initials
Comments: All sample holding times were met.						
9. Were correct concentration units reported?	**X**	Yes		No	WFV	Initials
Comments: Organic results were reported in µg/L and inorganics in mg/L						
10. Were the reporting requirements for flagged data met?	**X**	Yes		No	WFV	Initials
Comments: No data was flagged during the April 2016 sampling event.						
11. Were laboratory blank samples free of target analyte contamination?	**X**	Yes		No	WFV	Initials
Comments: Target analytes were not detected in blanks.						

ERM Analytical Data Validation Checklist (Continued)

12. Were trip blank, field blank, and/or equipment rinse blank samples free of target analyte contamination?	**X**	Yes		No	WFV	Initials
Comments: Trip blanks were free of analytes.						
13. Were instrument calibrations within method control limits?	**X**	Yes		No	WFV	Initials
Comments: The initial calibrations were within control limits.						
14. Were surrogate recoveries within control limits?	**X**	Yes		No	WFV	Initials
Comments: Surrogate recoveries were within laboratory QC limits.						
15. Were laboratory control sample recoveries within control limits?	**X**	Yes		No	WFV	Initials
Comments: The LCS recoveries were within control limits.						
16. Were matrix spike recoveries within control limits?	**X**	Yes		No	WFV	Initials
Comments: All matrix spike recoveries were within control limits						
17. Were duplicate RPDs and/or serial dilution %Ds within control limits?	**X**	Yes		No	WFV	Initials
Comments: RPDs for MS/MSDs, laboratory duplicate samples and LCS/LCSDs met QC criteria for all target compounds/analytes for the samples validated.						
18. Were organic system performance criteria met?	**X**	Yes		No	WFV	Initials
Comments: All GC/MS internal standards were within method criteria for the samples validated.						
19. Were internal standards within method criteria for GS/MS sample analyses?	**X**	Yes		No	WFV	Initials
Comments: All GC/MS internal standards were within method criteria for the samples validated.						
20. Were inorganic system performance criteria met?	**X**	Yes		No	WFV	Initials
Comments: Inorganic system performance criteria were met for the samples validated.						
21. Were blind field duplicates collected? If so, discuss the precision (RPD) of the results.	**X**	Yes		No	WFV	Initials
Duplicate Sample No. DUP-01-20160407-01	Primary Sample No.	MW-110D-20160407-01				
Duplicate Sample No. DUP-01-20160406-01	Primary Sample No.	MW-304D-20160406-01				
Duplicate Sample No. DUP-03-20160407-01	Primary Sample No.	MW-204D-20160407-01				
Comments: RPD's exceeded the 30% advisory limit for variation between primary and duplicate for the samples as bolded in following page						
22. Were qualitative criteria for organic target analyte identification met?	**X**	Yes		No	NGV	Initials
Comments: All qualitative criteria for organic target analyte identification were met.						
23. Were 100% of the EDD concentrations and reporting limits compared to the hardcopy data reports?	**NA**	Yes	**NA**	No	WFV	Initials
Comments: The EDD is not routinely reviewed as part of the data validation process.						

ERM Analytical Data Validation Checklist (Continued)
Field Duplicate Comparisons
ACLC - Macon

April 5-8, 2016

Parameter	MW-110D-20160407-01		DUP-01-20160407-01		RPD(%)
Benzene	96	ug/L	94	ug/L	2
Ethylbenzene	290	µg/L	280	µg/L	4
Xyenes, Total	7.0	ug/L	6.8	ug/L	3
Acenaphthene	76	µg/L	60	µg/L	24
Acenaphthylene	2.8	µg/L	< 1.0	µg/L	NC
Anthracene	7.1	ug/L	6.3	ug/L	12
Benzo(a)anthracene	0.20	ug/L	0.15	ug/L	29
Chrysene	**0.18**	**ug/L**	**0.13**	**ug/L**	**32**
Fluoranthene	4.4	ug/L	4.0	ug/L	10
Fluorene	21	µg/L	19	µg/L	10
Naphthalene (8270 SIM)	**1600**	**µg/L**	**< 0.50**	**ug/L**	**NC**
Naphthalene (8270 GC/MS)	1500	µg/L	1300	ug/L	14
Phenanthrene	40	µg/L	33	µg/L	19
Pyrene	5.9	µg/L	5.2	µg/L	13
Cyanide	< 0.010	mg/L	0.020	mg/L	NC
Barium	2.51	mg/L	2.49	mg/L	1
Nickel	0.177	mg/L	0.181	mg/L	2

Parameter	MW-304D-20160406-01		DUP-01-20160406-01		RPD(%)
Barium	4.50	mg/L	4.53	mg/L	1
Nickel	0.0465	mg/L	0.0397	mg/L	16

Parameter	MW-204D-20160407-01		DUP-03-20160407-01		RPD(%)
Benzene	450	ug/L	430	ug/L	5
Ethylbenzene	330	µg/L	290	µg/L	13
Xyenes, Total	35	ug/L	31	ug/L	12
Acenaphthene	60	µg/L	58	µg/L	3
Acenaphthylene	3.1	µg/L	2.4	µg/L	25
Anthracene	3.5	ug/L	3.3	ug/L	6
Benzo(a)anthracene	0.073	ug/L	0.071	ug/L	3
Fluoranthene	3.2	ug/L	3.1	ug/L	3
Fluorene	19	µg/L	19	µg/L	0
Naphthalene (8270 SIM)	**1700**	**µg/L**	**66**	**ug/L**	**185**
Naphthalene (8270 GC/MS)	**1300**	**µg/L**	**150**	**ug/L**	**159**
Phenanthrene	19	µg/L	20	µg/L	5
Pyrene	3.8	µg/L	3.6	µg/L	5
Barium	4.71	mg/L	4.70	mg/L	0
Nickel	0.0885	mg/L	0.0854	mg/L	4

Historical Data Summary (CD ONLY)

Appendix B-6

May 21, 2016
Project No. 0176740
Atlanta Gas Light Company

Environmental Resources Management Southeast, Inc.
3200 Windy Hill Rd. Suite 1500W
Atlanta, GA 30339
(678) 486-2700

Appendix B-6a
Summary of Alluvium Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	AMW-1 (Abandoned)										
				04/28/15	08/05/13	02/04/13	11/05/12	08/06/12	05/14/12	02/08/12	11/15/11	08/09/11	05/02/11	02/17/11
Field Groundwater Quality Parameters														
pH	SU	--	--	5.96	6.58	6.15	6.23	5.92	6.21	6.10	6.38	6.46	6.52	6.90
Specific Conductance	mMhos	--	--	944	1371	581	524	605	584	496	593	597	655	589
Temperature	°Celsius	--	--	21.15	27.21	15.66	22.66	26.50	22.67	21.37	24.40	27.69	21.87	21.53
Dissolved Oxygen (YSI)	mg/L	--	--	0.67	0.18	0.20	1.40	1.16	0.38	1.35	0.76	0.32	0.22	0.08
ORP	mV	--	--	-42.5	160.5	129.5	25.0	36.0	25.9	54.4	-68.2	126.9	-364.1	-490.3
Turbidity	NTU	--	--	27.5	7.41	4.97	10.38	284	17.4	23	864	790	234	74
Laboratory Results - Natural Attenuation Parameters														
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	< 0.050	--	--	--	0.75	--	--	--	< 0.050
Sulfate	mg/L	--	--	--	--	95	--	--	--	62	--	--	--	23
Sulfide	mg/L	--	--	--	--	< 1.0	--	--	--	1.5	--	--	--	< 1.0
Ferrous Iron	mg/L	--	--	--	--	0.47 HF	--	--	--	< 0.10 HF	--	--	--	2.2
Total Iron	mg/L	--	--	--	--	1.2	--	--	--	4.2	--	--	--	14
Carbon Dioxide	mg/L	--	--	--	--	120	--	--	--	2.1	--	--	--	0.67
Methane	mg/L	--	--	--	--	1.3	--	--	--	< 0.58	--	--	--	430
Dissolved Nitrogen	mg/L	--	--	--	--	15	--	--	--	5.5	--	--	--	4.5
Dissolved Oxygen	mg/L	--	--	--	--	5.1	--	--	--	1.8	--	--	--	1.5
Laboratory Results - Organic Constituents														
Volatile Organic Compounds														
Benzene	µg/L	5*	9	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	22	51	170	300
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	11	10	34	42
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	17	26
Semivolatile Organic Compounds														
Acenaphthene	µg/L	2,000*	6,100	< 10	< 10	< 0.23	0.28	1.1	1.7	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 10	< 10	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 10	< 10	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.20	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.20	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.20	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 10	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 10	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 10	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.20	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 2.3	< 2.1	< 1.9	< 1.9	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	< 10	< 10	< 0.23	0.65	0.59	0.33	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.20	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 2.3	< 2.1	< 1.9	< 1.9	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 2.3	< 2.1	< 1.9	< 1.9	--	--	--	--	--
Naphthalene	µg/L	20*	20*	< 10	< 10	< 0.23	< 0.21	< 0.19	< 0.19	< 5.0	< 5.0	< 5.0 *	62	110
Phenanthrene	µg/L	470	3,100	< 10	< 10	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 10	< 1.2	< 1.1	< 0.19	< 0.19	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	< 10	< 0.23	0.22	0.26	< 0.96	--	--	--	--	--
Laboratory Results - Inorganic Constituents														
Antimony	µg/L	6.3	400	< 20.0	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--
Barium	µg/L	2,000	7,200	59.6	105	75	95	120	10	94	230	140	190	170
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10	< 10	13	< 10	< 10	22	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	23	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20	< 20	20	21	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 0.10	35	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6a
Summary of Alluvium Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	AMW-2										
				04/27/15	08/05/13	02/04/13	11/05/12	08/06/12	05/14/12	02/07/12	11/15/11	08/09/11	05/02/11	02/16/11
Field Groundwater Quality Parameters														
pH	SU	--	--	5.92	6.52	6.30	5.96	5.36	6.00	5.99	6.02	5.74	5.84	5.98
Specific Conductance	mMhos	--	--	309	352	401	502	492	403	388	544	717	507	414
Temperature	°Celsius	--	--	20.57	25.48	18.26	23.57	28.97	24.27	20.89	22.06	25.39	20.39	18.19
Dissolved Oxygen (YSI)	mg/L	--	--	2.25	0.41	3.40	0.34	1.51	0.33	0.56	0.61	1.65	0.38	1.86
ORP	mV	--	--	-39.3	130.9	106.6	52.9	48.6	-8.3	-47.9	150.8	147.0	-55.1	61.1
Turbidity	NTU	--	--	3.42	0.99	5.90	4.41	6.39	1.81	20.8	9.77	290	8.31	9.70
Laboratory Results - Natural Attenuation Parameters														
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	4.0	--	--	--	1.3	--	--	--	4.9
Sulfate	mg/L	--	--	--	--	60	--	--	--	65	--	--	--	100
Sulfide	mg/L	--	--	--	--	< 1.0	--	--	--	< 1.0	--	--	--	< 1.0
Ferrous Iron	mg/L	--	--	--	--	2.3 HF	--	--	--	21 HF	--	--	--	7.4
Total Iron	mg/L	--	--	--	--	4.2	--	--	--	25	--	--	--	8.2
Carbon Dioxide	mg/L	--	--	--	--	97	--	--	--	1.7	--	--	--	1.2
Methane	mg/L	--	--	--	--	17	--	--	--	39	--	--	--	30
Dissolved Nitrogen	mg/L	--	--	--	--	18	--	--	--	4.9	--	--	--	4.1
Dissolved Oxygen	mg/L	--	--	--	--	6.2	--	--	--	1.5	--	--	--	1.4
Laboratory Results - Organic Constituents														
Volatile Organic Compounds														
Benzene	µg/L	5*	9	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds														
Acenaphthene	µg/L	2,000*	6,100	< 10	< 10	2.8	4.2	8.4	12	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 10	< 10	0.29	0.52	0.97	1.2	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 10	< 10	< 0.22	< 0.22	< 0.20	< 0.22	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.20	< 0.22	< 0.22	< 0.20	< 0.22	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.20	< 0.22	< 0.22	< 0.20	< 0.22	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.20	< 0.22	< 0.22	< 0.20	< 0.22	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 10	< 0.22	< 0.22	< 0.20	< 0.22	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 10	< 0.22	< 0.22	< 0.20	< 0.22	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 10	< 0.22	< 0.22	< 0.20	< 0.22	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.20	< 0.22	< 0.22	< 0.20	< 0.22	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 2.2	< 2.2	< 2.0	< 0.22	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	< 0.22	0.38	0.49	< 2.2	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	< 10	< 10	0.74	1.1	2.6	0.33	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.20	< 0.22	< 0.22	< 0.20	< 0.22	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 2.2	< 2.2	< 2.0	< 2.2	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 2.2	< 2.2	< 2.0	< 2.2	--	--	--	--	--
Naphthalene	µg/L	20*	20*	< 10	< 10	< 0.22	< 0.22	< 0.20	< 0.22	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Phenanthrene	µg/L	470	3,100	< 10	< 10	< 0.22	< 0.22	< 0.20	< 0.22	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 10	< 1.1	< 1.1	< 0.98	< 1.1	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	< 10	0.25	0.87	0.73	1.4	--	--	--	--	--
Laboratory Results - Inorganic Constituents														
Antimony	µg/L	6.3	400	< 20.0	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--
Barium	µg/L	2,000	7,200	111	125	76	66	64	51	48	61	39	54	52
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--
Cadmium	µg/L	7.8	51	7.0	13.9	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Zinc	µg/L	4,700	31,000	91.4	< 20.0	245	< 20	< 20	< 20	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 0.10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6a
Summary of Alluvium Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	AMW-3 (Abandoned)											
				08/05/13	02/11/13	02/13 DUP	11/05/12	08/06/12	05/15/12	05/12 DUP	02/07/12	11/17/11	08/10/11	05/03/11	02/17/11
Field Groundwater Quality Parameters															
pH	SU	--	--	6.25	6.56	6.56	5.90	5.20	5.86	5.86	6.19	6.08	5.86	6.02	6.43
Specific Conductance	mMhos	--	--	746	613	613	647	682	740	740	784	527	509	782	674
Temperature	°Celsius	--	--	25.67	19.33	19.33	22.73	25.72	24.84	24.84	19.26	23.02	24.46	19.79	18.59
Dissolved Oxygen (YSI)	mg/L	--	--	1.06	4.73	4.73	0.90	1.72	0.28	0.28	4.50	0.51	0.93	3.83	2.68
ORP	mV	--	--	142.8	114.3	114.3	153.6	189.5	123.5	123.5	-8.4	5.0	329.4	-29.2	0.0
Turbidity	NTU	--	--	0.97	1.79	1.79	3.25	281	8.09	8.09	3.32	292	>1000	13.2	8.42
Laboratory Results - Natural Attenuation Parameters															
Nitrogen, Nitrate (as N)	mg/L	--	--	--	1.3	1.4	--	--	--	--	6.1	--	--	--	5.4
Sulfate	mg/L	--	--	--	150	150	--	--	--	--	280	--	--	--	220
Sulfide	mg/L	--	--	--	< 1.0	< 1.0	--	--	--	--	1.4	--	--	--	< 1.0
Ferrous Iron	mg/L	--	--	--	< 0.10 HF	< 0.10 HF	--	--	--	--	< 0.10 HF	--	--	--	< 0.010
Total Iron	mg/L	--	--	--	< 0.10	< 0.10	--	--	--	--	< 0.10	--	--	--	0.62
Carbon Dioxide	mg/L	--	--	--	61	66	--	--	--	--	1.0	--	--	--	0.91
Methane	mg/L	--	--	--	< 0.58	< 0.58	--	--	--	--	< 0.58	--	--	--	1.1
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	--	--	--	5.0	--	--	--	4.5
Dissolved Oxygen	mg/L	--	--	--	8.9	8.7	--	--	--	--	1.8	--	--	--	1.5
Laboratory Results - Organic Constituents															
Volatile Organic Compounds															
Benzene	µg/L	5*	9	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds															
Acenaphthene	µg/L	2,000*	6,100	< 10	< 0.19	< 0.20	< 0.23	< 0.20	< 0.23	< 0.21	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 10	< 0.19	< 0.20	< 0.23	< 0.20	< 0.23	< 0.21	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 10	< 0.19	< 0.20	< 0.23	< 0.20	< 0.23	< 0.21	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.20	< 0.19	< 0.20	< 0.23	< 0.20	0.28	< 0.21	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.20	< 0.19	< 0.20	< 0.23	< 0.20	0.25	< 0.21	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.20	< 0.19	< 0.20	< 0.23	< 0.20	< 0.23	< 0.21	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 0.19	< 0.20	< 0.23	< 0.20	< 0.23	< 0.21	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 0.19	< 0.20	< 0.23	< 0.20	< 0.23	< 0.21	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 0.19	< 0.20	< 0.23	< 0.20	0.35	< 0.21	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.20	< 0.19	< 0.20	< 0.23	< 0.20	< 0.23	< 0.21	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 1.9	< 2.0	< 2.3	< 2.0	< 2.3	< 2.1	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 10	< 0.19	< 0.20	< 0.23	< 0.20	0.27	< 0.21	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	< 10	< 0.19	< 0.20	< 0.23	< 0.20	< 0.23	< 0.21	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.20	< 0.19	< 0.20	< 0.23	< 0.20	< 0.23	< 0.21	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 1.9	< 2.0	< 2.3	< 2.0	< 2.3	< 2.1	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 1.9	< 2.0	< 2.3	< 2.0	< 2.3	< 2.1	--	--	--	--	--
Naphthalene	µg/L	20*	20*	< 10	0.59	< 0.20	< 0.23	< 0.20	< 0.23	< 0.21	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Phenanthrene	µg/L	470	3,100	< 10	< 0.19	< 0.20	< 0.23	< 0.20	< 0.23	< 0.21	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 0.97	< 0.99	< 1.2	< 0.98	< 1.1	< 1.0	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	< 0.19	< 0.20	< 0.23	< 0.20	0.58	0.22	--	--	--	--	--
Laboratory Results - Inorganic Constituents															
Antimony	µg/L	6.3	400	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--
Barium	µg/L	2,000	7,200	60.1	42	44	38	90	36	36	45	78	460	57	93
Beryllium	µg/L	31	200	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10	< 10	< 10	19	< 10	< 10	< 10	< 10	42	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	320	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10	< 10	< 10	20	< 10	< 10	< 10	25	560	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Zinc	µg/L	4,700	31,000	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	16	< 10	< 10	26	22	21	21	< 10	--	--	--	< 10

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6a
Summary of Alluvium Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	AMW-4 (Abandoned)									
				08/07/13	03/14/13	11/06/12	08/08/12	05/15/12	02/08/12	11/17/11	08/11/11	05/04/11	02/18/11
Field Groundwater Quality Parameters													
pH	SU	--	--	6.59	6.90	6.59	6.13	6.44	6.71	6.66	6.71	6.70	6.87
Specific Conductance	mMhos	--	--	902	960	754	884	953	738	723	817	849	559
Temperature	°Celsius	--	--	24.10	17.61	22.32	25.18	23.58	18.59	24.48	23.32	18.06	19.26
Dissolved Oxygen (YSI)	mg/L	--	--	0.65	2.91	2.62	0.33	0.78	1.86	1.00	0.23	0.52	0.50
ORP	mV	--	--	-73.9	63.6	-106.1	-82.9	74.1	-27.4	-96.7	150.2	-92.4	-370.1
Turbidity	NTU	--	--	7.84	8.72	2087	271	103	211	123	>1000	107	>999
Laboratory Results - Natural Attenuation Parameters													
Nitrogen, Nitrate (as N)	mg/L	--	--	--	14	--	--	--	0.59	--	--	--	9.6
Sulfate	mg/L	--	--	--	138	--	--	--	47	--	--	--	55
Sulfide	mg/L	--	--	--	< 1.0	--	--	--	< 1.0	--	--	--	1.5
Ferrous Iron	mg/L	--	--	--	< 0.10 HF	--	--	--	< 0.10 HF	--	--	--	< 0.010
Total Iron	mg/L	--	--	--	0.26	--	--	--	1.0	--	--	--	8.0
Carbon Dioxide	mg/L	--	--	--	38	--	--	--	1.5	--	--	--	0.41
Methane	mg/L	--	--	--	37	--	--	--	82	--	--	--	140
Dissolved Nitrogen	mg/L	--	--	--	16	--	--	--	5.5	--	--	--	4.7
Dissolved Oxygen	mg/L	--	--	--	6.4	--	--	--	1.7	--	--	--	1.7
Laboratory Results - Organic Constituents													
Volatile Organic Compounds													
Benzene	µg/L	5*	9	1,000	5.1	5,400	1,800	1,300	720	4,900	5,000	3,200	1,700
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 2.0	< 20	< 20	< 20	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	230	<1.0	1200	430	300	140	640	450	890	290
Toluene	µg/L	1,000*	1,100	190	1.6	4,400	1,200	630	610	4,200	4,100	3,000	1,800
Total Xylenes	µg/L	31,000	200,000	480	3.1	4,200	990	570	780	3,200	2,700	4,600	1,400
Semivolatile Organic Compounds													
Acenaphthene	µg/L	2,000*	6,100	< 10	<0.19	34	23	27	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 10	<0.19	54	42	35	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 10	<0.19	< 0.10	4.0	1.9	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.20	<0.19	< 0.10	< 2.1	< 1.1	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.20	<0.19	< 0.10	< 2.1	< 1.1	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.20	<0.19	< 0.10	< 2.1	< 1.1	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	<0.19	< 0.10	< 2.1	< 1.1	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	<0.19	< 0.10	< 2.1	< 1.1	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	<0.19	< 0.10	< 2.1	< 1.1	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.20	<0.19	< 0.10	< 2.1	< 1.1	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	<1.9	130	< 21	< 11	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 10	<0.19	< 0.10	3.2	< 1.1	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	< 10	<0.19	21	17	15	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.20	<0.19	< 0.10	< 2.1	< 1.1	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	<1.9	< 100	29	< 11	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	<1.9	< 100	< 21	< 11	--	--	--	--	--
Naphthalene	µg/L	20*	20*	150	<0.19	1,800	690 D	420	510	1,900	1,100	1,200	530
Phenanthrene	µg/L	470	3,100	< 10	<0.19	42	46	25	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	<0.96	960	47	15	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	<0.19	< 0.10	3.9	1.3	--	--	--	--	--
Laboratory Results - Inorganic Constituents													
Antimony	µg/L	6.3	400	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 20	< 20	56	< 20	--	--	--	--	--
Barium	µg/L	2,000	7,200	127	130	340	1,100	170	250	320	620	170	120
Beryllium	µg/L	31	200	< 10.0	< 4.0	< 4.0	9.9	< 4.0	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10	< 10	430	< 10	< 10	< 10	22	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 20	< 20	310	< 20	< 20	< 20	91	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10	< 10	400	< 10	< 10	< 10	190	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 40	< 40	120	< 40	< 40	< 40	< 40	< 40	< 40
Zinc	µg/L	4,700	31,000	< 20.0	< 20	< 20	440	< 20	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	10	< 10	< 10	< 10	--	--	< 10

Notes:

*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.

Only those constituents that are MGP-related and HSRA-regulated are reported on this table.

Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.

Exceeds Type 2 RRS (only indicated for off-site wells)

Exceeds Type 4 RRS

Appendix B-6a
Summary of Alluvium Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	AMW-5 (Abandoned)											
				08/07/13	03/13/13	11/06/12	08/07/12	05/15/12	02/08/12	11/17/11	DUP 11/17	08/10/11	08/11 DUP	05/04/11	02/22/11
Field Groundwater Quality Parameters															
pH	SU	--	--	6.35	6.39	6.27	6.31	6.38	6.20	6.52	6.52	6.41	6.41	6.46	6.62
Specific Conductance	mMhos	--	--	646	433	490	520	582	354	479	479	536	536	526	383
Temperature	°Celsius	--	--	21.95	17.76	22.09	24.69	23.75	19.55	21.24	21.24	21.70	21.70	18.86	19.99
Dissolved Oxygen (YSI)	mg/L	--	--	0.48	0.40	1.71	3.63	0.59	1.62	0.35	0.35	0.25	0.25	0.12	0.37
ORP	mV	--	--	-90.7	-225.5	-73.9	-21.1	-77.9	-19.9	-93.5	-93.5	151.8	151.8	-100.8	-356.3
Turbidity	NTU	--	--	4.46	8.82	5.10	2.84	1.45	1.48	9.86	9.86	>1000	>1000	36.9	>999
Laboratory Results - Natural Attenuation Parameters															
Nitrogen, Nitrate (as N)	mg/L	--	--	--	< 0.050	--	--	--	< 0.050	--	--	--	--	--	< 0.050
Sulfate	mg/L	--	--	--	6	--	--	--	< 5.0	--	--	--	--	--	< 5.0
Sulfide	mg/L	--	--	--	< 1.0	--	--	--	< 1.0	--	--	--	--	--	< 1.0
Ferrous Iron	mg/L	--	--	--	0.58 HF	--	--	--	5.6 HF	--	--	--	--	--	4.1
Total Iron	mg/L	--	--	--	14	--	--	--	11	--	--	--	--	--	22
Carbon Dioxide	mg/L	--	--	--	100	--	--	--	2.0	--	--	--	--	--	0.92
Methane	mg/L	--	--	--	620	--	--	--	220	--	--	--	--	--	490
Dissolved Nitrogen	mg/L	--	--	--	19	--	--	--	5.3	--	--	--	--	--	3.0
Dissolved Oxygen	mg/L	--	--	--	5.1	--	--	--	1.4	--	--	--	--	--	1.0
Laboratory Results - Organic Constituents															
Volatile Organic Compounds															
Benzene	µg/L	5*	9	840	540	910	390	680	640	520	610	890	960	720	900
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 10	< 10	< 10	< 20	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	700	280	1,000	500	460	220	480	550	830	680	580	920
Toluene	µg/L	1,000*	1,100	400	430	1,200	340	630	640	520	670	1,700	1,600	870	2,000
Total Xylenes	µg/L	31,000	200,000	1,300	2,200	4,100	1,400	2,300	2,400	1,500	1,700	3,600	2,900	3,000	4,000
Semivolatile Organic Compounds															
Acenaphthene	µg/L	2,000*	6,100	28	37	40	32	51	--	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	33	40	43	21	48	--	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 10	4.5	< 20	< 1.9	< 23	--	--	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	1.2	< 3.9	< 20	< 1.9	< 23	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	0.56	< 3.9	< 20	< 1.9	< 23	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	1.3	< 3.9	< 20	< 1.9	< 23	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 3.9	< 20	< 1.9	< 23	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 3.9	< 20	< 1.9	< 23	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 3.9	< 20	< 1.9	< 23	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	0.21	< 3.9	< 20	< 1.9	< 23	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	62	< 39	< 200	120	< 230	--	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 10	< 3.9	< 20	< 1.9	< 23	--	--	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	14	22	26	17	28	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	0.37	< 3.9	< 20	< 1.9	< 23	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	12	< 39	< 200	< 19	< 230	--	--	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	17	< 39	< 200	38	< 230	--	--	--	--	--	--	--
Naphthalene	µg/L	20*	20*	1,400	950	2,500	440	2,700	1,800	1,600	1,300	2,500 *	2,600	3,600	2,900
Phenanthrene	µg/L	470	3,100	42	70	130	38	62	--	--	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 20	< 98	< 9.5	< 110	--	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	< 3.9	< 20	2.1	< 23	--	--	--	--	--	--	--
Laboratory Results - Inorganic Constituents															
Antimony	µg/L	6.3	400	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--
Barium	µg/L	2,000	7,200	318	240	520	150	220	330	330	270	460	470	290	400
Beryllium	µg/L	31	200	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10	14	< 10	< 10	< 10	< 10	< 10	12	44	27	12
Copper	µg/L	630	4,100	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	22	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	33	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Zinc	µg/L	4,700	31,000	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	--	--	< 10

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6a
Summary of Alluvium Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	AMW-6									
				08/05/13	02/12/13	11/05/12	08/06/12	05/14/12	02/09/12	11/18/11	08/08/11	05/03/11	02/17/11
Field Groundwater Quality Parameters													
pH	SU	--	--	7.23	5.97	5.62	5.79	5.71	5.89	6.20	5.65	5.94	6.02
Specific Conductance	mMhos	--	--	602	492	516	541	499	426	507	597	736	441
Temperature	°Celsius	--	--	26.27	17.92	21.10	25.98	20.74	17.47	16.18	24.70	18.61	17.55
Dissolved Oxygen (YSI)	mg/L	--	--	0.16	1.71	1.14	0.75	0.80	1.32	0.40	0.47	0.44	4.78
ORP	mV	--	--	-5.6	-35.7	4.0	48.2	65.4	-6.5	0.1	-16.1	-39.8	-2.6
Turbidity	NTU	--	--	6.01	5.67	1291	9.7	9.27	9.08	8.94	4.22	23.8	121
Laboratory Results - Natural Attenuation Parameters													
Nitrogen, Nitrate (as N)	mg/L	--	--	--	< 0.050	--	--	--	< 0.050	--	--	--	< 0.050
Sulfate	mg/L	--	--	--	140	--	--	--	120	--	--	--	130
Sulfide	mg/L	--	--	--	< 1.0	--	--	--	< 1.0	--	--	--	< 1.0
Ferrous Iron	mg/L	--	--	--	12 HF	--	--	--	5.1 HF	--	--	--	9.7
Total Iron	mg/L	--	--	--	13	--	--	--	6.0	--	--	--	16
Carbon Dioxide	mg/L	--	--	--	140	--	--	--	2.6	--	--	--	2.1
Methane	mg/L	--	--	--	23	--	--	--	20	--	--	--	15
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	--	4.6	--	--	--	3.0
Dissolved Oxygen	mg/L	--	--	--	7.4	--	--	--	1.4	--	--	--	1.0
Laboratory Results - Organic Constituents													
Volatile Organic Compounds													
Benzene	µg/L	5*	9	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds													
Acenaphthene	µg/L	2,000*	6,100	< 10	1.0	0.84	0.43	0.85	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 10	< 0.20	< 0.21	< 0.23	< 0.22	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 10	< 0.20	< 0.21	< 0.23	< 0.22	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.20	< 0.20	< 0.21	< 0.23	0.24	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.20	< 0.20	< 0.21	< 0.23	0.22	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.20	< 0.20	< 0.21	< 0.23	0.39	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 0.20	< 0.21	< 0.23	< 0.22	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 0.20	< 0.21	< 0.23	< 0.22	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 0.20	< 0.21	< 0.23	0.26	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.20	< 0.20	< 0.21	< 0.23	< 0.22	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 2.0	< 2.1	< 2.3	< 2.2	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 10	< 0.20	< 0.21	< 0.23	0.44	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	< 10	< 0.20	< 0.21	< 0.23	< 0.22	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.20	< 0.20	< 0.21	< 0.23	< 0.22	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 2.0	< 2.1	< 2.3	< 2.2	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 2.0	< 2.1	< 2.3	< 2.2	--	--	--	--	--
Naphthalene	µg/L	20*	20*	< 10	< 0.20	< 0.21	< 0.23	< 0.22	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Phenanthrene	µg/L	470	3,100	< 10	< 0.20	< 0.21	< 0.23	< 0.22	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 1.0	< 1.0	< 1.1	< 1.1	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	< 0.20	0.23	< 0.23	0.48	--	--	--	--	--
Laboratory Results - Inorganic Constituents													
Antimony	µg/L	6.3	400	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--
Barium	µg/L	2,000	7,200	36.6	63	60	54	51	62	71	74	66	81
Beryllium	µg/L	31	200	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Zinc	µg/L	4,700	31,000	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6a
Summary of Alluvium Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	AMW-7 (Abandoned)										AMW-8 (Abandoned)										
				08/07/13	03/14/13	11/07/12	8/7/2012	05/16/12	02/08/12	11/17/11	08/09/11	05/04/11	02/22/11	08/07/13	03/13/13	11/07/12	8/7/2012	05/16/12	02/09/12	11/18/11	08/09/11	08/11 DUP	05/04/11	05/11 DUP	02/22/11
Field Groundwater Quality Parameters																									
pH	SU	--	--	6.81	6.35	6.21	6.15	6.27	6.10	6.22	6.19	6.18	6.37	7.12	6.66	6.31	6.21	6.47	6.44	6.50	6.43	6.43	6.48	6.48	6.56
Specific Conductance	mMhos	--	--	469	439	364	493	399	292	326	333	468	256	1,096	804	510	575	971	1,389	566	661	661	899	899	810
Temperature	°Celsius	--	--	24.13	16.90	17.93	27.64	22.42	18.00	19.63	22.44	17.68	17.44	23.13	16.52	17.04	22.86	21.58	17.35	20.69	27.16	27.16	17.70	17.70	18.23
Dissolved Oxygen (YSI)	mg/L	--	--	0.59	1.14	7.13	3.99	1.58	5.50	0.53	0.41	0.31	0.78	0.18	3.39	0.50	2.68	0.41	0.94	0.58	0.16	0.16	0.52	0.52	0.29
ORP	mV	--	--	-43.9	34.9	-45.2	5.0	-100.3	16.0	-74.5	142.5	-97.3	-243.5	-56.7	159.1	-49.0	-7.7	-73.9	-40.7	-108.1	138.7	138.7	-433.9	-433.9	-279.2
Turbidity	NTU	--	--	1.72	6.82	10	161	22.3	57.3	511	>1000	452	>999	1.09	5.03	101	83.3	9.2	9.82	308	>1000	>1000	7.06	7.06	381
Laboratory Results - Natural Attenuation Parameters																									
Nitrogen, Nitrate (as N)	mg/L	--	--	--	0.19	--	--	--	0.47	--	--	--	0.22	--	0.28	--	--	--	0.23	--	--	--	--	--	1.0
Sulfate	mg/L	--	--	--	78	--	--	--	27	--	--	--	18	--	120	--	--	--	200	--	--	--	--	--	95
Sulfide	mg/L	--	--	--	1.1	--	--	--	1.6	--	--	--	3.1	--	< 1.0	--	--	--	< 1.0	--	--	--	--	--	5.3
Ferrous Iron	mg/L	--	--	--	1.1 HF	--	--	--	< 0.10 HF	--	--	--	1.4	--	< 0.10 HF	--	--	--	2.5 HF	--	--	--	--	--	< 0.010
Total Iron	mg/L	--	--	--	2.3	--	--	--	1.0	--	--	--	13	--	1.1	--	--	--	4.1	--	--	--	--	--	18
Carbon Dioxide	mg/L	--	--	--	61	--	--	--	1.2	--	--	--	0.74	--	71	--	--	--	2.6	--	--	--	--	--	1.1
Methane	mg/L	--	--	--	19	--	--	--	1.2	--	--	--	100	--	< 0.58	--	--	--	24	--	--	--	--	--	12
Dissolved Nitrogen	mg/L	--	--	--	19	--	--	--	4.7	--	--	--	4.2	--	17	--	--	--	5.2	--	--	--	--	--	3.9
Dissolved Oxyger	mg/L	--	--	--	6.0	--	--	--	1.6	--	--	--	1.5	--	6.9	--	--	--	1.5	--	--	--	--	--	1.3
Laboratory Results - Organic Constituents																									
Volatile Organic Compounds																									
Benzene	µg/L	5*	9	770	180	3,300	870	1,800	8.6	3,600	6,000	3,800	2,300	< 5.0	< 1.0	780	620	110	14	590	600	530	< 50	<25	< 50
Carbon Disulfide	µg/L	329	1,700	< 5.0	<10	< 50	< 50	< 25	--	--	--	--	--	< 5.0	< 2.0	< 100	< 20	< 5.0	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	160	21	1,000	330	730	< 5.0	580	< 500	660	< 500	< 5.0	< 1.0	1,500	810	380	44	950	760	670	130	130	450
Toluene	µg/L	1,000*	1,100	1,500	400	10,000	2,800	5,000	25	7,700	13,000	9,300	5,700	< 5.0	< 1.0	4,600	3,700 D	590	39	2,600	2,400	2,600	240	240	580
Total Xylenes	µg/L	31,000	200,000	690	370	5,200	1,800	2,600	20	3,800	3,700	4,900	2,400	< 5.0	< 2.0	5,100	2,200	780	120	3,100	2,500	2,300	1,400	1,300	3,300
Semivolatile Organic Compounds																									
Acenaphthene	µg/L	2,000*	6,100	< 10	2.0	28	21	28	--	--	--	--	--	< 10	< 0.20	32	27	14	--	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	12	5.7	99	69	100	--	--	--	--	--	< 10	< 0.20	48	41	19	--	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 10	0.30	2.8	< 1.9	2.1	--	--	--	--	--	< 10	0.36	4.2	< 2.0	< 2.2	--	--	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.20	< 0.20	< 2.3	< 1.9	< 2.1	--	--	--	--	--	< 0.20	0.21	< 2.4	< 2.0	< 2.2	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.20	< 0.20	< 2.3	< 1.9	< 2.1	--	--	--	--	--	< 0.20	< 0.20	< 2.4	< 2.0	< 2.2	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.20	< 0.20	< 2.3	< 1.9	< 2.1	--	--	--	--	--	< 0.20	< 0.20	< 2.4	< 2.0	< 2.2	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 0.20	< 2.3	< 1.9	< 2.1	--	--	--	--	--	< 10	< 0.20	< 2.4	< 2.0	< 2.2	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 0.20	< 2.3	< 1.9	< 2.1	--	--	--	--	--	< 10	< 0.20	< 2.4	< 2.0	< 2.2	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 0.20	< 2.3	< 1.9	< 2.1	--	--	--	--	--	< 10	0.25	< 2.4	< 2.0	< 2.2	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.20	< 0.20	< 2.3	< 1.9	< 2.1	--	--	--	--	--	< 0.20	< 0.20	< 2.4	< 2.0	< 2.2	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	69	32	540	350	460	--	--	--	--	--	< 10	< 2.0	38	30	< 22	--	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 10	<0.20	2.3	2.2	< 2.1	--	--	--	--	--	< 10	0.30	4.4	3.9	< 2.2	--	--	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	< 10	1.5	20	16	18	--	--	--	--	--	< 10	< 0.20	21	19	7.3	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.20	<0.2	< 2.3	< 1.9	< 2.1	--	--	--	--	--	< 0.20	< 0.20	< 2.4	< 2.0	< 2.2	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	40	42	< 23	75	300	--	--	--	--	--	< 10	< 2.0	< 24	< 20	< 22	--	--	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	62	28	300	150	500	--	--	--	--	--	< 10	< 2.0	< 24	< 20	< 22	--	--	--	--	--	--	--
Naphthalene	µg/L	20*	20*	260	1.8	1,800	380	1,100	6.3	1,100	740 *	1,100	1,300	< 10	< 0.20	2,100	1,600	650	170	1,100	1,700	1,400	680	700	1,800
Phenanthrene	µg/L	470	3,100	< 10	0.73	28	23	19	--	--	--	--	--	< 10	0.54	52	46	20	--	--	--	--	--	--	--
Phenol	µg/L	9,390	61,000	30	37	130	73	390	--	--	--	--	--	< 10	< 0.99	< 12	< 9.9	< 11	--	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	<0.20	3.1	3.1	2.6	--	--	--	--	--	< 10	0.35	5.3	5.7	< 2.2	--	--	--	--	--	--	--
Laboratory Results - Inorganic Constituents																									
Antimony	µg/L	6.3	400	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--
Barium	µg/L	2,000	7,200	52.5	29	55	76	35	36	44	53	69	46	59.2	41	140	89	59	87	130	170	95	74	76	92
Beryllium	µg/L	31	200	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10	10	< 10	< 10	< 10	< 10	< 10	18	< 10	< 10.0	< 10	< 10	12	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	34	< 20	< 20	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10	< 10	13	< 10	< 10	< 10	< 10	< 10	< 10	< 10.0	< 10	12	17	< 10	< 10	23	10	20	< 10	< 10	12
Nickel	µg/L	100	2,000	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Zinc	µg/L	4,700	31,000	< 20.0	< 20	20	29	< 20	--	--	--	--	--	< 20.0	< 20	< 20	23	< 20	--	--	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	11	< 10	< 10	< 10	< 10	11	--	--	--	--	--	< 10

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6a
Summary of Alluvium Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	AMW-9 (Destroyed)											AMW-10 (abandoned)									
				04/28/15	08/06/13	03/13/13	11/06/12	08/06/12	05/14/12	02/09/12	11/18/11	08/08/11	05/04/11	02/22/11	08/07/13	02/12/13	11/07/12	08/08/12	05/16/12	02/14/12	11/18/11	08/11/11	05/04/11	02/23/11
Field Groundwater Quality Parameters																								
pH	SU	--	--	4.64	4.51	4.92	4.58	5.07	4.71	5.33	4.91	4.48	5.05	5.59	6.41	6.35	6.18	6.09	6.21	5.92	6.38	6.20	6.24	6.44
Specific Conductance	mMhos	--	--	374	341	317	371	414	398	353	378	474	405	364	726	628	528	676	716	561	541	651	569	378
Temperature	°Celsius	--	--	16.87	19.93	17.56	16.78	23.04	23.64	16.88	18.80	23.01	18.63	17.36	22.53	19.54	16.98	23.79	24.20	18.49	15.13	20.61	21.39	20.51
Dissolved Oxygen (YSI)	mg/L	--	--	0.75	1.27	1.06	1.36	1.76	1.52	5.18	0.50	0.49	0.28	2.73	0.15	1.79	2.38	0.53	0.43	2.70	0.30	0.26	0.62	2.63
ORP	mV	--	--	-24.7	212.2	1.5	237.0	125.1	167.1	40.8	210.1	357.7	-420.6	160.1	-2.5	-58.9	-71.2	-40.7	-66.0	-40.7	-75.4	162.3	-54.3	-92.3
Turbidity	NTU	--	--	461	230	>4000	37.3	34.6	51.1	34.2	306	125	652	273	3.03	51.3	3.02	131	7.75	18.0	6.05	233	5.12	>999
Laboratory Results - Natural Attenuation Parameters																								
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	< 0.050	--	--	--	< 0.050	--	--	--	< 0.050	--	< 0.050	--	--	--	< 0.050	--	--	--	< 0.050
Sulfate	mg/L	--	--	--	--	91	--	--	--	110	--	--	--	83	--	40	--	--	--	110	--	--	--	62
Sulfide	mg/L	--	--	--	--	1.0	--	--	--	< 1.0	--	--	--	< 1.0	--	< 1.0	--	--	--	1.2	--	--	--	< 1.0
Ferrous Iron	mg/L	--	--	--	--	< 0.10 HF	--	--	--	0.23 HF	--	--	--	1.0	--	36 HF	--	--	--	16 HF	--	--	--	0.36
Total Iron	mg/L	--	--	--	--	14	--	--	--	1.6	--	--	--	1.4	--	59	--	--	--	21	--	--	--	8.9
Carbon Dioxide	mg/L	--	--	--	--	110	--	--	--	2.5	--	--	--	1.5	--	200	--	--	--	3200	--	--	--	1.1
Methane	mg/L	--	--	--	--	1.7	--	--	--	1.3	--	--	--	14	--	250	--	--	--	< 0.58	--	--	--	35
Dissolved Nitrogen	mg/L	--	--	--	--	16	--	--	--	6.6	--	--	--	4.7	--	--	--	--	--	5200	--	--	--	4.1
Dissolved Oxygen	mg/L	--	--	--	--	9.4	--	--	--	2.3	--	--	--	1.7	--	3.0	--	--	--	1500	--	--	--	1.4
Laboratory Results - Organic Constituents																								
Volatile Organic Compounds																								
Benzene	µg/L	5*	9	< 5.0	< 5.0	< 1.0	3.6	2.7	< 5.0	< 5.0	20	11	22	< 5.0	< 5.0	390	410	670	180	250	170	240	180	110
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	--	--	--	--	--	< 5.0	< 20	< 20	< 20	< 25	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	1,000	760	1,200	370	290	450	520	410	210
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	20	17	20	< 25	< 25	25	11	13	< 10
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	480	410	440	190	540	300	390	490	200
Semivolatile Organic Compounds																								
Acenaphthene	µg/L	2,000*	6,100	< 10	< 10	< 0.19	< 0.22	< 0.22	< 0.21	--	--	--	--	--	< 10	38	52	38	18	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 10	< 10	< 0.19	< 0.22	< 0.22	0.21	--	--	--	--	--	< 10	15	13	15	3.9	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 10	< 10	< 0.19	< 0.22	< 0.22	0.29	--	--	--	--	--	< 10	2.2	< 1.9	2.4	0.53	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.20	0.20	0.22	< 0.22	1.8	--	--	--	--	--	< 0.20	< 2.0	< 1.9	< 2.0	< 0.23	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	0.29	0.24	0.29	< 0.22	2.0	--	--	--	--	--	< 0.20	< 2.0	< 1.9	< 2.0	< 0.23	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	0.64	0.39	0.58	< 0.22	3.2	--	--	--	--	--	< 0.20	< 2.0	< 1.9	< 2.0	< 0.23	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 10	0.39	0.43	0.22	2.1	--	--	--	--	--	< 10	< 2.0	< 1.9	< 2.0	< 0.23	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 10	0.37	0.31	< 0.22	< 0.21	--	--	--	--	--	< 10	< 2.0	< 1.9	< 2.0	< 0.23	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 10	0.26	0.35	< 0.22	1.9	--	--	--	--	--	< 10	< 2.0	< 1.9	< 2.0	0.35	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.20	< 0.19	< 0.22	< 0.22	< 0.21	--	--	--	--	--	< 0.20	< 2.0	< 1.9	< 2.0	< 0.23	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 1.9	< 2.2	< 2.2	< 2.1	--	--	--	--	--	< 10	< 20	< 19	< 20	4.1	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	0.31	0.34	< 0.22	2.9	--	--	--	--	--	< 10	< 2.0	< 1.9	< 2.0	< 0.23	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	< 10	< 10	0.48	0.61	< 0.22	0.23	--	--	--	--	--	< 10	17	20	16	6.1	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	0.44	0.34	0.31	< 0.22	1.5	--	--	--	--	--	< 0.20	< 2.0	< 1.9	< 2.0	< 0.23	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 1.9	< 2.2	< 2.2	< 2.1	--	--	--	--	--	< 10	< 20	< 19	< 20	< 2.3	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 1.9	< 2.2	< 2.2	< 2.1	--	--	--	--	--	< 10	< 20	< 19	< 20	< 2.3	--	--	--	--	--
Naphthalene	µg/L	20*	20*	< 10	< 10	< 0.19	< 0.22	< 0.22	1.1	7.1	< 5.0	< 5.0 *	< 5.0	< 5.0	< 10	390	690	460	200	510	520	590 *	690	300
Phenanthrene	µg/L	470	3,100	< 10	< 10	1.3	0.95	0.22	1.4	--	--	--	--	--	< 10	36	31	37	8.8	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 10	0.97	< 1.1	< 1.1	< 1.1	--	--	--	--	--	< 10	11	< 9.7	23	12	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	< 10	0.34	0.39	< 0.22	3.3	--	--	--	--	--	< 10	< 2.0	< 1.9	< 2.0	0.23	--	--	--	--	--
Laboratory Results - Inorganic Constituents																								
Antimony	µg/L	6.3	400	< 20.0	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--
Barium	µg/L	2,000	7,200	34.5	44.9	83	44	40	36	35	97	96	1,400	46	42.3	440	450	810	240	300	220	600	370	170
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	11	< 10	< 10	< 10	< 10	< 10	< 10	390	< 10	< 10.0	< 10	< 10	34	< 10	< 10	10	90	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	750	< 20	< 10.0	< 20	< 20	20	< 20	< 20	20	< 20	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10.0	20	< 10	< 10	< 10	< 10	< 10	< 10	1,200	< 10	< 10.0	< 10	< 10	20	< 10	< 10	10	120	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	200	< 40	< 20.0	< 40	< 40	< 40	< 40	< 40	40	< 40	< 40	< 40
Zinc	µg/L	4,700	31,000	< 20.0	64.7	98	100	110	100	--	--	--	--	--	< 20.0	32	< 20	32	< 20	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 10.0	< 10	< 10	16	24	< 10	< 10	--	--	--	< 10	< 10	< 10	28	< 10	< 10	< 10	--	--	--	< 10

Appendix B-6a
Summary of Alluvium Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	AMW-11		AMW-12		AMW-13		AMW-14	AMW-15
				04/28/15	08/06/13	04/28/15	08/06/13	04/28/15	08/06/13	04/29/15	04/29/15
Field Groundwater Quality Parameters											
pH	SU	--	--	5.99	7.06	5.41	6.06	5.41	6.75	6.18	6.02
Specific Conductance	mMhos	--	--	581	861	389	292	415	646	373	158
Temperature	°Celsius	--	--	19.31	26.81	19.61	26.11	22.22	27.72	18.46	17.72
Dissolved Oxygen (YSI)	mg/L	--	--	2.05	0.27	2.44	0.60	1.75	0.41	1.26	7.96
ORP	mV	--	--	-30.4	1.5	-31.4	146.4	-28.3	83.7	-27.1	39.0
Turbidity	NTU	--	--	9.91	1.38	1.4	0.98	9.61	13.7	5.58	24.1
Laboratory Results - Natural Attenuation Parameters											
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/L	--	--	--	--	--	--	--	--	--	--
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	--
Ferrous Iron	mg/L	--	--	--	--	--	--	--	--	--	--
Total Iron	mg/L	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	mg/L	--	--	--	--	--	--	--	--	--	--
Methane	mg/L	--	--	--	--	--	--	--	--	--	--
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	--	--	--	--
Dissolved Oxygen	mg/L	--	--	--	--	--	--	--	--	--	--
Laboratory Results - Organic Constituents											
Volatile Organic Compounds											
Benzene	µg/L	5*	9	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	57
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	9.3
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	15
Semivolatile Organic Compounds											
Acenaphthene	µg/L	2,000*	6,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	<0.050	< 0.20	<0.050	< 0.20	<0.050	< 0.20	< 0.050	< 0.050
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.20	< 0.050	< 0.20	< 0.050	< 0.20	< 0.050	< 0.050
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.20	< 0.10	< 0.20	< 0.10	< 0.20	< 0.10	< 0.10
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Chrysene	µg/L	117	392	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.20	< 0.10	< 0.20	< 0.10	< 0.20	< 0.10	< 0.10
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.20	< 0.050	< 0.20	< 0.050	< 0.20	< 0.050	< 0.050
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	20
Phenanthrene	µg/L	470	3,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Laboratory Results - Inorganic Constituents											
Antimony	µg/L	6.3	400	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0
Barium	µg/L	2,000	7,200	42.3	53.6	42.8	38.5	48.8	93.9	92.5	15.8
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chromium	µg/L	100	310	17.7	< 10.0	15.7	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Total Cyanide	µg/L	310	2,000	15	45	< 10.0	< 10	< 10	< 10	< 10	< 10

Appendix B-6a
Summary of Alluvium Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-07					MW-08								
				08/06/13	08/13 DUP	02/08/13	08/11/09	03/05/04	04/05/16	04/27/15	08/05/13	02/04/13	02/08/12	02/17/11	02/23/10	08/11/09	12/12/02
Field Groundwater Quality Parameters																	
pH	SU	--	--	5.12		5.86	6.59	5.72	6.29	5.95	5.08	5.55	5.51	2.19	6.02	5.79	6.10
Specific Conductance	mMhos	--	--	185		191	230	171	300	271	419	273	262	198	339	481	289
Temperature	°Celsius	--	--	24.16		15.37	25.85	18.88	20.84	19.59	25.97	20.01	21.22	17.64	17.89	23.98	23.37
Dissolved Oxygen (YSI)	mg/L	--	--	4.35		6.27	5.75	2.10	5.56	3.85	3.29	2.10	2.23	2.00	3.43	2.96	0.24
ORP	mV	--	--	-25.1		130.5	-122.4	97.0	73.5	59.2	34.6	186.2	73.2	5.7	73.4	-179.9	-8.2
Turbidity	NTU	--	--	8.62		2.97	1.82	12.9	7.76	1.01	0.21	6.62	5.2	78.3	4.31	1.50	1.64
Laboratory Results - Natural Attenuation Parameters																	
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.894
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	1.3	0.45	--	--	--	--	0.26	0.38	0.065	0.091	< 0.050	< 0.0500
Sulfate	mg/L	--	--	--	--	33	59	--	--	--	--	60	55	35	64	92	27.5
Sulfide	mg/L	--	--	--	--	< 1.0	< 1.0	--	--	--	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.00
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.169
Total Manganese	mg/L	--	--	--	--	--	--	0.218	--	--	--	--	--	--	--	--	0.175
Ferrous Iron	mg/L	--	--	--	--	< 0.10 HF	< 0.010	--	--	--	--	1.3 HF	0.40 HF	0.19 HF	0.29	2.8	4.86
Total Iron	mg/L	--	--	--	--	19	0.16	1.21	--	--	--	1.8	0.79	1.2	0.99	3.1	4.82
Carbon Dioxide	mg/L	--	--	--	--	120	0.37	--	--	--	--	110	1800	1.2	1.1	0.77	120
Methane	mg/L	--	--	--	--	< 0.58	<0.19	--	--	--	--	9.3	1.7	3.3	12	3.7	100
Dissolved Nitrogen	mg/L	--	--	--	--	--	4.4	--	--	--	--	17	5300	3.9	4.2	4.7	16
Dissolved Oxygen	mg/L	--	--	--	--	6.5	1.6	--	--	--	--	5.2	1700	1.4	1.5	1.7	7.5
Laboratory Results - Organic Constituents																	
Volatile Organic Compounds																	
Benzene	µg/L	5.0*	9	< 5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 2.0	--	--	< 5.0	< 5.0	< 5.0	< 2.0	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds																	
Acenaphthene	µg/L	2,000*	6,100	< 10	< 10	16	--	< 10	< 0.50	< 10	< 10	1.3	--	--	--	--	< 10
Acenaphthylene	µg/L	470	3,100	< 10	< 10	13	--	< 10	< 1.0	< 10	< 10	< 0.19	--	--	--	--	< 10
Anthracene	µg/L	4,700	31, 000	< 10	< 10	< 0.20	--	< 10	< 0.050	< 10	< 10	< 0.19	--	--	--	--	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.20	< 0.20	< 0.20	--	--	< 0.050	< 0.050	< 0.20	< 0.19	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.20	< 0.20	< 0.20	--	--	< 0.050	< 0.050	< 0.20	< 0.19	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.20	< 0.20	< 0.20	--	--	< 0.10	< 0.10	< 0.20	< 0.19	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 10	< 0.20	--	--	< 0.10	< 10	< 10	< 0.19	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 10	< 0.20	--	--	< 0.050	< 10	< 10	< 0.19	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 10	< 0.20	--	--	< 0.050	< 10	< 10	< 0.19	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.20	< 0.20	< 0.20	--	--	< 0.10	< 0.10	< 0.20	< 0.19	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 10	< 2.0	--	< 10	< 10	< 10	< 10	< 1.9	--	--	--	--	< 10
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	1.6	--	< 10	< 0.10	< 10	< 10	< 0.19	--	--	--	--	< 10
Fluorene	µg/L	1,000*	4,100	< 10	< 10	6.0	--	< 10	< 0.10	< 10	< 10	< 0.19	--	--	--	--	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.20	< 0.20	< 0.20	--	--	0.10	< 0.050	< 0.20	< 0.19	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 2.0	--	< 10	< 10	< 10	< 10	< 1.9	--	--	--	--	< 10
4-Methylphenol	µg/L	78	510	< 10	< 10	< 2.0	--	< 10	< 10	< 10	< 10	< 1.9	--	--	--	--	< 10
Naphthalene	µg/L	20*	20*	< 10	< 10	7.8	< 9.8	< 10	< 0.50	< 10	< 10	< 0.19	< 5.0	< 9.4	< 9.4	< 11	< 10
Phenanthrene	µg/L	470	3,100	< 10	< 10	0.48	--	< 10	< 0.050	< 10	< 10	< 0.19	--	--	--	--	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 0.99	--	< 10	< 10	< 10	< 10	< 0.97	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	< 10	4.7	--	< 10	< 0.050	< 10	< 10	0.29	--	--	--	--	< 10
Laboratory Results - Inorganic Constituents																	
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20	--	< 40	< 20.0	< 20.0	< 20.0	< 20	--	--	--	--	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 20	--	< 50	< 50.0	< 50.0	< 50.0	< 20	--	--	--	--	< 50
Barium	µg/L	2,000	7,200	31.2	31.4	100	59	39.6	48.6	72.5	61.6	66	69	58	64	0.11	56
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 4.0	--	--	< 10.0	< 10.0	< 10.0	< 4.0	--	--	--	--	--
Cadmium	mg/L	7.8	51	< 5.0	< 5.0	< 5.0	--	--	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10	< 10	< 10	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 20	< 20	< 10	< 10.0	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 10
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10	< 10	< 10	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 40	< 40	< 20	< 20.0	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 20
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20	--	< 20	< 20.0	< 20.0	< 20.0	< 20	--	--	--	--	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	--	< 0.5	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	< 0.5
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6a
Summary of Alluvium Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-09 (Abandoned)																														
				08/06/13	02/07/13	11/07/12	08/09/12	08/12 DUP	05/16/12	02/07/12	11/16/11	08/11/11	05/05/11	02/23/11	11/09/10	08/10/10	05/10/10	02/23/10	08/13/09	06/08/06	03/10/06	12/22/05	09/29/05	03/15/05	12/16/04	10/01/04	06/09/04	03/04/04	12/18/03	09/09/03	06/11/03	03/11/03	12/11/02	09/17/02
Field Groundwater Quality Parameters																																		
pH	SU	--	--	5.35	6.16	6.10	5.97	5.97	--	6.22	4.91	6.09	5.99	6.13	6.04	5.95	5.72	6.03	6.02	6.61	6.44	6.16	6.45	6.47	6.36	6.04	6.52	6.43	6.39	5.37	6.6	6.19	6.23	6.24
Specific Conductance	mMhos	--	--	495	467	476	445	445	--	419	378	518	523	468	479	495	480	482	486	536	494	292	402	431	493	314	561	408	424	477	501	577	399	454
Temperature	°Celsius	--	--	23.01	12.14	20.94	25.47	25.47	--	17.89	18.80	27.19	20.47	20.42	26.10	25.96	20.73	17.67	25.96	23.30	18.72	19.88	24.43	19.15	23.02	24.92	21.32	18.77	20.72	23.76	22.88	18.72	21.69	26.69
Dissolved Oxygen (YSI)	mg/L	--	--	0.67	0.14	0.78	0.60	0.60	--	4.04	0.50	0.22	0.16	0.09	0.08	0.09	0.43	0.60	2.15	0.28	0.44	0.77	0.27	2.66	1.68	0.84	0.11	0.65	0.26	0.29	0.10	0.04	0.18	0.12
ORP	mV	--	--	-29.2	-50.10	-73.3	-21.10	-21.1	--	-30.2	210.1	130.5	-97.4	-62.6	-65.3	-64.9	-57.2	-55.3	-11.5	-92.2	-72.2	9.5	-26.3	-88.4	-81.9	43.4	-108.7	-3.1	-143.3	-87.8	-94	-63.7	-73.4	-60.6
Turbidity	NTU	--	--	1.77	1.06	6.24	4.38	4.38	--	9.85	306	666	1.95	0.41	3.47	5.34	8.51	15.1	2.5	2.74	3.0	3.54	4.27	1.17	2.08	0.05	0.70	2.75	2.20	3.29	1.1	2.8	0.10	3.75
Laboratory Results - Natural Attenuation Parameters																																		
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.57	0.61	< 0.20	0.56	0.78	0.39	0.83	0.429	0.289	0.274	0.280
Nitrogen, Nitrate (as N)	mg/L	--	--	--	< 0.050	--	--	--	--	6.4	--	--	--	< 0.050	--	--	--	< 0.050	<0.25	--	--	--	--	< 0.500	< 0.0500	0.0687	< 0.0500	< 0.500	< 0.0500	< 0.0500	< 0.500	< 0.0500	< 0.0500	0.059
Sulfate	mg/L	--	--	--	< 5.0	--	--	--	--	100	--	--	--	< 5.0	--	--	--	< 5.0	9.0	--	--	--	--	1.29	3.08	35.2	2.63	9.23	24.0	2.17	14.5	83	13.3	12.6
Sulfide	mg/L	--	--	--	< 0.010	--	--	--	--	1.70	--	--	--	< 1.0	--	--	--	< 1.0	< 1.0	--	--	--	--	< 1.0	1.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.00	< 1.00
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.693	0.646	0.131	0.804	0.684	0.655	0.792	0.81	0.916	0.450	0.685
Total Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.696	0.656	0.114	0.783	0.712	0.668	0.804	0.831	0.938	0.462	0.573
Ferrous Iron	mg/L	--	--	--	16 HF	--	--	--	--	< 10	--	--	--	8.2 HF	--	--	--	26	13	--	--	--	--	20.2	17.0	1.0	46.5	28.3	10.7	32.8	14.1	12.8	18.6	16.9
Total Iron	mg/L	--	--	--	44	--	--	--	--	< 10	--	--	--	39	--	--	--	45	37	--	--	--	--	29.0	28.2	0.793	34.9	25.3	16.8	35.0	25.9	11.9	18.3	17.7
Carbon Dioxide	mg/L	--	--	--	170	--	--	--	--	3.3	--	--	--	2.7	--	--	--	2.9	2.3	--	--	--	--	110	130	140	120	130	130	120	140	160	140	160
Methane	mg/L	--	--	--	1300	--	--	--	--	1300	--	--	--	1500	--	--	--	1400	1200	--	--	--	--	2,500	2,200	130	2,200	1,600	570	1,800	1,700	810	1,800	2,200
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	--	--	4.4	--	--	--	3.9	--	--	--	3.3	4.0	--	--	--	--	19	17	16	15	21	17	14	15	19	15	16
Dissolved Oxygen	mg/L	--	--	--	2.9	--	--	--	--	1.5	--	--	--	1.2	--	--	--	0.95	1.2	--	--	--	--	1.8	0.81	1.2	0.46	0.95	1.1	0.53	0.58	0.72	6.0	4.3
Laboratory Results - Organic Constituents																																		
Volatile Organic Compounds																																		
Benzene	µg/L	5*	9	1,300	1,300	1,300	640	1,300 D	1300	980	29	930	1,200	880	910	1,000	1,100	1,000	940	900	980	< 5.0	600	600	830	11	1,100	440	60	410	470	120	830	1,100
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 20	< 50	< 50	< 2.0	< 250	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	2,800	2,200	2,500	1,300	2,700 D	2,600	2,100	170	1,800	2,900	2,100	--	--	--	2,200	2,500	2,000	2,300	13	1,700	1,400	1,800	18	2,900	890	120	390	940	300	1,800	2,200
Toluene	µg/L	1,000*	1,100	790	500	580	290	590 D	580	480	< 5.0	510	680	450	--	--	--	600	460	1,400	1,500	< 5.0	560	640	1,200	< 5.0	1,100	290	25	480	500	23	780	970
Total Xylenes	µg/L	31,000	200,000	5,300	3,800	4,600	2,400	4,900 D	4,500	3,800	82	2,600	4,300	3,800	--	--	--	3,700	3,300	4,200	4,800	7.4	2,800	1,900	3,500	18	4,100	490	89	1,600	980	136	1,000	3,600
Semivolatile Organic Compounds																																		
Acenaphthene	µg/L	2,000*	6,100	< 10	29	45	36	33	33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	70	64	< 10	87	74	26	93	64	21	45	33
Acenaphthylene	µg/L	470	3,100	52	40	68	52	49	47	--	--	--	--	--	--	--	--	--	--	--	--	--	--	36	51	< 10	47	18	< 10	61	22	< 10	29	30
Anthracene	µg/L	4,700	31,000	< 10	2.4	4.2	3.4	3.9	2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	0.47	< 2.4	< 1.9	< 1.9	< 1.9	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	0.45	< 2.4	< 1.9	< 1.9	< 1.9	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	0.44	< 2.4	< 1.9	< 1.9	< 1.9	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 2.4	< 1.9	< 1.9	< 1.9	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 2.4	< 1.9	< 1.9	< 1.9	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 2.4	< 1.9	< 1.9	< 1.9	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	0.22	< 2.4	< 1.9	< 1.9	< 1.9	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	52	180	210	180	170	140	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15	22	< 10	< 10	< 10	< 10	< 10	< 10	< 10	15	15
Fluoranthene	µg/L	1,000*	4,100	< 10	< 2.4	2.0	< 1.9	< 1.9	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 10	20	30	25	25	22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	26	24	< 10	31	23	< 10	38	23	< 10	15	15
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	0.35	< 2.4	< 1.9	< 1.9	< 1.9	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 24	< 19	58	56	72	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	< 10	< 24	< 19	< 19	< 19	< 21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	2,400	1,400	4,900	2,000 D	2,000 D	2,500	3,700	300	2,100	4,300	3,800	4,000	4,500	3,100	2,000	3,000	1,000	1,400	17	1,300	1,300	2,200	42	2,500	910	180	210	820	290	890	730
Phenanthrene	µg/L	470	3,100	67	45	83	64	73	46	--	--	--	--	--	--	--	--	--	--	--	--	--	--	89	91	< 10	120	84	50	120	91	21	63	43
Phenol	µg/L	9,390	61,000	< 10	20	< 9.7	13	13	26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 10	< 2.4	1.9	2.1	2.2	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Laboratory Results - Inorganic Constituents																																		
Antimony	µg/L	6.3	40	< 20.0	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	893	790	840	770	760	1,300	36	91	820	700	620	--	--	--	550	360	211	210	59.9	167	155	160	54.7	152	111	97.8	165	122	71.6	113	133
Beryllium	µg/L	31	200	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10	< 10	< 10	< 10	44	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	< 10	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 20	< 20	< 20	< 20	85	< 20	< 20	< 20	< 20	< 20	--	--	--	< 20	< 20	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10.0	< 10	< 10	< 10	< 10	110	< 10	< 10	13	< 10	< 10	--	--	--	< 10	< 10	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	20.5	< 40	< 40	< 40	< 40	44	< 40	< 40	< 40	< 40	< 40	--	--	--	< 40	< 40	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	< 20.0	< 20	28	49	49	2,900	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	--	--	--	< 10	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6a
Summary of Alluvium Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-10			MW-11															
				04/07/16	02/06/13	09/17/02	02/07/13	02/08/12	02/17/11	02/23/10	08/12/09	03/15/05	12/15/04	09/30/04	06/08/04	6/04 DUP	03/03/04	12/17/03	09/09/03	06/11/03	03/11/03	12/09/02	09/17/02
Field Groundwater Quality Parameters																						
pH	SU	--	--	6.06	5.65	5.72	5.59	5.32	5.49	5.43	5.96	5.43	5.37	5.33	5.64	5.64	5.45	5.52	5.50	5.56	5.40	5.35	5.38
Specific Conductance	mMhos	--	--	200	287	350	293	322	304	474	330	278	314	324	314	314	273	305	301	300	294	276	294
Temperature	°Celsius	--	--	19.02	20.56	23.11	17.27	19.4	16.77	12.92	28.79	19.03	23.03	28.66	24.53	24.53	18.37	22.95	27.51	23.95	19.14	23.37	29.30
Dissolved Oxygen (YSI)	mg/L	--	--	1.87	2.33	0.23	2.94	0.67	0.84	0.49	2.48	2.08	4.11	0.35	0.63	0.63	0.38	0.16	0.23	0.25	0.21	0.46	0.07
ORP	mV	--	--	80	159.8	40.1	187.8	71.1	44.7	20.43	75.4	157.7	242.5	158.6	148.7	148.7	107.8	190.8	21.4	156.3	227.6	273.3	194.4
Turbidity	NTU	--	--	23.9	1.79	2.11	4.02	7.76	0.65	0.57	0.00	0.00	4.3	0.00	0.89	0.89	0.23	0.00	0.00	0.00	2.4	0.00	0.16
Laboratory Results - Natural Attenuation Parameters																						
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	< 0.200	--	--	--	--	--	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.200	< 0.200	< 0.200	< 0.20
Nitrogen, Nitrate (as N)	mg/L	--	--	--	0.46	0.207	1.1	0.83	0.59	0.15	< 1.0	1.80	1.07	1.50	1.05	1.1	2.14	1.27	1.44	0.934	1.83	0.896	1.03
Sulfate	mg/L	--	--	--	72	65.0	95	91	99	120	91	77.2	70.9	83.5	85.9	78.1	78.5	77.9	79.5	49.7	65.5	72.9	65.5
Sulfide	mg/L	--	--	--	< 1.0	< 1.00	< 1.0	1.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.00	< 1.00
Dissolved Manganese	mg/L	--	--	--	--	0.0226	--	--	--	--	--	0.326	0.243	0.293	0.335	0.333	0.401	0.310	0.397	0.456	0.422	0.318	0.337
Total Manganese	mg/L	--	--	--	--	0.0392	--	--	--	--	--	0.327	0.262	0.295	0.339	0.341	0.427	0.320	0.405	0.473	0.431	0.311	0.33
Ferrous Iron	mg/L	--	--	--	< 0.10 HF	< 0.200	< 0.10 HF	0.17 HF	0.15	< 0.010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.100	< 0.200	< 0.200
Total Iron	mg/L	--	--	--	< 0.10	0.735	< 0.10	0.13	< 0.010	< 0.010	< 0.1	< 0.1	0.119	< 0.1	< 0.1	< 0.1	< 0.1	< 0.100	< 0.100	0.108	< 0.100	< 0.100	< 0.100
Carbon Dioxide	mg/L	--	--	--	130	**	130	2.4	1.8	1.8	1.3	160	180	180	170	170	170	170	130	190	180	**	170
Methane	mg/L	--	--	--	< 0.58	**	< 0.58	< 0.58	77	77	<0.19	0.36	0.88	2.3	0.45	0.64	0.52	1.1	0.62	3.0	0.54	**	0.58
Dissolved Nitrogen	mg/L	--	--	--	--	**	--	5.2	4.6	4.6	4.1	22	15	14	14	18	18	17	14	14	17	**	15
Dissolved Oxygen	mg/L	--	--	--	8.5	**	5.8	1.6	1.6	1.6	1.4	2.9	2.4	1.5	1.2	2.1	1.6	2.1	2.6	1.3	1.2	**	7.1
Laboratory Results - Organic Constituents																						
Volatile Organic Compounds																						
Benzene	µg/L	5.0*	9.0	< 5.0	< 1.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1700	< 5.0	< 2.0	--	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 1.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 1.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 2.0	< 5.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds																						
Acenaphthene	µg/L	2,000*	6,100	< 0.50	< 0.20	< 10	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 1.0	< 0.20	< 10	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31, 000	< 0.050	< 0.20	< 10	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.20	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.20	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.20	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 0.20	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 0.20	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 0.050	< 0.20	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.20	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 2.0	< 10	< 2.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 0.10	< 0.20	< 10	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 0.10	< 0.20	< 10	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.20	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 2.0	< 10	< 2.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	< 10	< 2.0	< 10	< 2.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 0.50	< 0.20	< 10	0.50	< 5.0	< 5.0	<9.9	<9.4	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	470	3,100	< 0.050	< 0.20	< 10	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 0.98	< 10	< 0.98	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 0.050	< 0.20	< 10	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Laboratory Results - Inorganic Constituents																						
Antimony	µg/L	6.3	40	< 20.0	< 20	< 40	< 20	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 20	< 50	< 20	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	86.1	47	79.8	31	30	33	42	36	35.7	38.8	39.7	37.8	37.8	38.8	42	42.7	43.4	41.8	43	46
Beryllium	mg/L	31	200	< 10.0	< 4.0	--	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	--	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 20	< 10	< 20	< 20	< 20	< 20	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 40	< 20	< 40	< 40	< 40	< 40	< 40	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	< 20.0	< 20	< 20	< 20	--	--	--	--	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.5	< 0.20	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6a
Summary of Alluvium Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-12R						MW-12																
				04/06/16	02/06/13	02/09/12	02/15/11	2/11 DUP	02/23/10	08/12/09	06/06/06	03/08/06	12/21/05	09/29/05	03/25/05	12/14/04	10/04/04	06/09/04	03/03/04	12/17/03	09/09/03	06/10/03	03/12/03	12/10/02	09/18/02	11/06/01
Field Groundwater Quality Parameters																										
pH	SU	--	--	3.86	4.05	4.03	4.10	4.10	4.15	6.01	3.63	3.61	3.71	3.70	5.13	3.52	3.26	4.33	3.71	3.75	3.75	3.66	3.82	4.61	4.44	5.62
Specific Conductance	mMhos	--	--	0.688	642	649	567	567	584	468	630	667	630	723	497	752	817	690	887	1492	1280	1196	968	617	964	788
Temperature	°Celsius	--	--	21.55	19.63	17.49	17.92	17.92	17.34	24.75	23.54	19.1	21.44	26.97	19.23	22.21	26.29	22.34	18.30	21.64	25.68	22.44	18.90	22.56	27.83	25.85
Dissolved Oxygen (YSI)	mg/L	--	--	0.25	1.24	1.26	4.12	4.12	0.70	4.13	0.20	0.42	0.83	0.26	0.52	2.61	0.67	0.60	0.88	0.24	0.21	0.40	0.11	0.22	0.06	0.22
ORP	mV	--	--	291.7	295.4	54.2	239.0	239.0	312.1	-77.1	357.7	361.1	364.6	278.0	333.2	347.0	338.2	283	262.9	275.9	296	309.2	287.1	211.9	208.7	11.0
Turbidity	NTU	--	--	6.91	4.15	8.55	2.26	2.26	1.85	7.54	4.97	4.59	0.00"	4.82	4.61	2.99	2.17	0.73	1.26	0.24	2.03	0.25	0.90	0.00	7.60	8.42
Laboratory Results - Natural Attenuation Parameters																										
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	4.75	5.17	6.35	5.65	8.25	8.37	13.3	10.3	8.26	5.57	8.64	7.23
Nitrogen, Nitrate (as N)	mg/L	--	--	--	0.64	0.40	0.52	0.51	0.44	< 0.050	--	--	--	--	0.503	1.79	4.80	< 0.5	2.99	1.04	< 0.0500	< 0.0500	0.101	< 0.050	0.075	< 0.050
Sulfate	mg/L	--	--	--	290	270	260	250	230	--	--	--	--	--	227	161	164	134	517	487	607	378	481	301	457	281
Sulfide	mg/L	--	--	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	130	--	--	--	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.00	< 1.00	< 1.00
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	0.889	0.953	1.10	0.923	1.06	1.25	1.60	1.44	1.44	0.950	1.36	0.974
Total Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	0.820	0.965	1.06	0.891	1.43	1.19	1.62	1.44	1.46	0.945	1.22	1.01
Ferrous Iron	mg/L	--	--	--	14 HF	15 HF	12 HF	12 HF	9.3	36	--	--	--	--	10.1	9.4	8.9	34	25.0	30.1	67.6	1.5	47.1	35.5	38.0	21.4
Total Iron	mg/L	--	--	--	15	17	13	13	9.8	41	--	--	--	--	10.2	10.6	11.3	25.2	29.1	31.0	68.4	46.3	49.5	25.5	43.9	79.6
Carbon Dioxide	mg/L	--	--	--	110	2.2	1.3	1.3	2.4	0.85	--	--	--	--	180	160	150	170	170	120	130	180	200	210	180	160
Methane	mg/L	--	--	--	51	79	31	34	36	1.7	--	--	--	--	14	6.9	4.3	25	10	16	7.6	21	43	82	33	40
Dissolved Nitrogen	mg/L	--	--	--	--	5.6	3.7	4.3	3.9	4.4	--	--	--	--	26	16	15	15	20	18	13	14	18	15	22	11
Dissolved Oxygen	mg/L	--	--	--	6.3	1.8	1.4	1.5	1.3	1.5	--	--	--	--	4.6	1.6	2.3	0.81	1.1	1.5	2.4	0.81	0.72	7.2	8.2	0.98
Laboratory Results - Organic Constituents																										
Volatile Organic Compounds																										
Benzene	µg/L	5.0*	9.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	5.9	31
Carbon Disulfide	µg/L	329	1700.0	< 5.0	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	12
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 2.0	< 5.0	< 5.0	< 5.0	**6.8**	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds																										
Acenaphthene	µg/L	2,000*	6,100	< 0.50	< 0.19	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 1.0	< 0.19	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31, 000	0.066	< 0.19	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 0.050	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 1.9	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 0.10	< 0.19	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 0.10	< 0.19	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 1.9	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	< 10	< 1.9	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 0.50	< 0.19	5.5	< 5.0	< 5.0	33	<9.8	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	26	24
Phenanthrene	µg/L	470	3,100	< 0.050	< 0.19	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 0.97	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	0.17	0.47	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Laboratory Results - Inorganic Constituents																										
Antimony	µg/L	6.3	40	< 20.0	< 20	--	--	--	--	--	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 20	--	--	--	--	--	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	< 20.0	< 10	12	15	15	20	40	< 20	< 20	22.1	< 20	< 20	< 20	21.0	< 20	< 20	< 20	24.8	< 20	< 20	< 20	35	31
Beryllium	µg/L	31	200	< 10.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	21.1	30.5	32.9	29.3	14.5	34.2	39.8	< 10	39.9	21.8	40.5	55.2	26	< 10	18	< 10
Lead	µg/L	15*	15*	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	14.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	38.9	< 40	< 40	< 40	< 40	< 40	< 40	< 20	24.2	24.5	< 20	< 20	28.8	38.4	< 20	44.5	25.3	36.8	41	32	< 20	< 10	< 20
Zinc	µg/L	4,700	31,000	12.1	76	--	--	--	--	--	--	--	--	--	111	183	246	74.2	320	149	215	254	187	51	107	26
Mercury	µg/L	2*	2*	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.54	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	< 10.0	74	73	66	66	46	< 10	< 10	< 10	< 10	12	< 10	< 10	44	18	39	21	33	10	27	19	30	19

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6a
Summary of Alluvium Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-12IR																MW-12I																			
				08/06/13	02/05/13	11/06/12	08/08/12	08/12 DUP	05/15/12	02/09/12	11/15/11	08/09/11	05/03/11	05/11 DUP	02/15/11	11/10/10	08/10/10	05/10/10	02/24/10	08/14/09	06/07/06	06/06 DUP	03/09/06	12/21/05	09/29/05	09/05 DUP	03/16/05	03/05 DUP	12/16/04	10/04/04	10/04 DUP	06/09/04	03/04/04	12/17/03	09/09/03	06/10/03	03/12/03	12/10/02	09/18/02	11/07/01
Field Groundwater Quality Parameters																																							
pH	SU	--	--	5.69	5.75	5.56	5.16	5.16	6.06	5.52	5.64	5.65	5.48	5.48	5.56	5.47	5.65	5.51	5.78	5.98	5.81	5.81	5.65	5.59	5.49	5.49	5.56	5.56	5.49	5.59	5.59	6.08	5.81	5.83	5.81	5.92	5.86	5.79	5.89	5.88
Specific Conductance	mMhos	--	--	634	605	584	593	593	595	564	559	561	532	532	479	497	516	505	506	391	460	460	395	359	407	407	381	381	413	388	388	463	472	750	517	458	482	513	546	482
Temperature	°Celsius	--	--	24.30	21.06	19.07	22.92	22.92	24.91	18.92	24.05	24.57	23.52	23.52	19.85	23.72	25.71	20.70	13.52	27.54	21.93	21.93	21.10	21.98	24.39	24.39	20.77	20.77	23.84	24.82	24.82	21.57	21.05	23.16	24.52	21.94	21.34	23.53	25.2	24.37
Dissolved Oxygen (YSI)	mg/L	--	--	0.76	0.42	0.34	0.21	0.21	0.59	0.21	0.22	0.16	0.23	0.23	1.29	0.19	2.7	0.39	7.04	6.61	0.19	0.19	0.25	0.28	0.15	0.15	0.80	0.80	3.06	2.22	2.22	0.56	0.28	0.26	0.26	0.06	0.09	0.38	0.05	0.25
ORP	mV	--	--	91.6	66.8	101.6	66.5	66.5	31.2	72.6	81.7	212.4	-405.7	-405.7	78.3	93.6	-37.9	98	64.6	-105.3	-71.9	-71.9	-28.3	-94.2	-99.7	-99.7	113.3	113.3	89.9	37.1	37.1	18.7	77.6	-65.2	13.7	-18.5	11.7	20.4	21	-36.7
Turbidity	NTU	--	--	9.20	9.09	0.29	1.72	1.72	8.53	9.59	4.6	9.21	9.60	9.60	9.26	0.49	5.72	9.83	50.7	8.81	0.42	0.42	4.2	0.00[1]	1.10	1.10	1.09	1.09	0.96	0.73	0.73	1.96	4.95	--	1.10	26.1	4.3	3.2	1.5	6.8
Laboratory Results - Natural Attenuation Parameters																																							
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.14	2.44	3.01	2.57	--	2.44	2.78	2.94	3.41	3.09	2.72	2.51	2.86	2.86
Nitrogen, Nitrate (as N)	mg/L	--	--	--	< 0.050	--	--	--	--	< 0.050	--	--	--	--	< 0.050	--	--	--	< 0.050	< 0.050	--	--	--	--	--	--	0.186	0.139	0.209	0.0732	--	< 0.5	< 0.500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	0.314
Sulfate	mg/L	--	--	--	210	--	--	--	--	190	--	--	--	--	160	--	--	--	140	110	--	--	--	--	--	--	102	103	93.8	112	--	248	134	126	193	110	124	112	140	232
Sulfide	mg/L	--	--	--	< 1.0	--	--	--	--	< 1.0	--	--	--	--	< 1.0	--	--	--	< 1.0	< 1.0	--	--	--	--	--	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.00	< 1.00	< 1.00
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.36	1.40	1.39	1.22	--	1.47	1.44	1.49	1.28	1.32	1.55	1.84	1.76	1.69
Total Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.46	1.46	1.34	1.19	1.26	1.44	1.53	1.46	1.22	1.39	1.61	1.67	1.62	1.75
Ferrous Iron	mg/L	--	--	--	14 HF	--	--	--	--	11 HF	--	--	--	--	9.2 HF	--	--	--	7.5	4.6	--	--	--	--	--	--	10.6	10.5	7.9	7.0	--	30.2	27.1	19.6	25.7	15.6	24.4	37.3	27.6	25.7
Total Iron	mg/L	--	--	--	14	--	--	--	--	14	--	--	--	--	12	--	--	--	32	4.6	--	--	--	--	--	--	9.58	9.39	9.36	6.72	7.33	24.7	25.0	24.4	24.0	67	25.7	27.5	27.9	31.4
Carbon Dioxide	mg/L	--	--	--	100	--	--	--	--	2.3	--	--	--	--	1.4	--	--	--	1.6	0.24	--	--	--	--	--	--	200	200	200	190	--	170	44	160	38	170	180	170	160	160
Methane	mg/L	--	--	--	120	--	--	--	--	240	--	--	--	--	56	--	--	--	65	0.3	--	--	--	--	--	--	48	15	82	63	--	33	3,000	39	0.91	67	90	69	54	62
Dissolved Nitrogen	mg/L	--	--	--	18	--	--	--	--	5.3	--	--	--	--	4.6	--	--	--	3.4	4.5	--	--	--	--	--	--	25	23	15	9.2	--	19	21	18	12	14	17	16	16	12
Dissolved Oxyger	mg/L	--	--	--	6.3	--	--	--	--	1.6	--	--	--	--	1.6	--	--	--	1.2	1.7	--	--	--	--	--	--	5.2	5.6	1.4	7.4	--	0.97	0.85	1.2	2.9	0.60	0.93	6.7	6.0	0.74
Laboratory Results - Organic Constituents																																							
Volatile Organic Compounds																																							
Benzene	µg/L	5*	9	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	1.4	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	140	140	180	460	630	590	26	24	69	21	23	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	< 5.0	< 5.0	7.1	6.8	6.3	15	23	24	< 5.0	< 5.0	6.2	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	< 5.0	< 5.0	< 5.0	5.0	5.9	16	22	22	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	< 5.0	< 5.0	44	44	37	82	110	110	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds																																							
Acenaphthene	µg/L	2,000*	6,100	< 10	14	7.9	15	14	8.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18	18	< 10	15	16	24	22	37	23	17	20	33	27	64
Acenaphthylene	µg/L	470	3,100	< 10	14	7.8	16	15	8.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	52	50	< 10	43	46	71	66	90	60	52	66	100	75	22
Anthracene	µg/L	4,700	31,000	< 10	0.66	0.67	0.8	0.8	0.61	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	0.47	0.62	0.58	0.72	0.72	0.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.20	< 0.19	< 0.23	< 0.19	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.20	< 0.19	< 0.23	< 0.19	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 0.19	< 0.23	< 0.19	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 0.19	< 0.23	< 0.19	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	0.5	0.49	0.56	0.59	0.34	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.20	< 0.19	< 0.23	< 0.19	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 1.9	< 2.3	< 1.9	< 1.9	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 10	11	9.5	11	10	6.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	13	< 10	< 10	12	< 10	< 10
Fluorene	µg/L	1,000*	4,100	14	27	20	34	33	20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	40	39	< 10	35	38	48	46	69	46	36	43	65	51	41
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.20	< 0.19	< 0.23	< 0.19	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 1.9	< 2.3	< 1.9	< 1.9	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	< 10	< 1.9	< 2.3	< 1.9	< 1.9	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 10	3.4	0.25	0.49	0.46	6.7	18	< 5.0	< 5.0	15	14	6.3	9.1	< 5.0	80	< 9.8	< 9.4	530	580	440	710	810	910	63	66	< 10	57	59	18	< 10	25	< 10	39	46	52	24	22
Phenanthrene	µg/L	470	3,100	< 10	0.97	1.1	1.2	1.1	1.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14	13	< 10	11	12	14	14	20	< 10	11	15	24	15	15
Phenol	µg/L	9,390	61,000	< 10	< 0.97	< 1.2	< 0.97	< 0.96	< 1.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	14	13	15	15	9.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	10	11	13	15	< 10	< 10	12	15	11	< 10
Laboratory Results - Inorganic Constituents																																							
Antimony	µg/L	6.3	40	< 20.0	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	31.7	23	25	27	27	25	26	32	30	26	26	27	--	--	--	100	64	164	159	172	206	216	204	69.9	69.5	85.5	77.5	82.8	68.6	70.0	74.8	487	74.9	80.6	76	72	81
Beryllium	µg/L	31	200	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	11	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 10	< 20	< 20	< 20	< 20	--	--	--	< 20	< 20	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	12.3	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 20	< 40	< 40	< 40	< 40	--	--	--	< 40	< 40	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	27.6	21	21	24	23	20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 20	< 20	21.9	27.6	25.5	< 20	25.1	< 20	41.2	96.2	23	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.5	< 0.5	0.05	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	16	28	74	14	16	12	18	--	--	--	--	13	--	--	--	< 10	18	14	13	12	12	< 10	< 10	< 10	< 10	21	11	12	< 10	< 10	< 10	< 10	< 10	< 10	< 10	10	< 10

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6a
Summary of Alluvium Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-14																			
				02/05/13	02/15/12	02/22/11	02/23/10	08/11/09	06/06/06	03/09/06	12/21/05	09/30/05	3/1505	12/14/04	10/01/04	06/08/04	03/03/04	12/16/03	09/08/03	06/11/03	03/11/03	12/10/02	09/17/02	11/08/01
Field Groundwater Quality Parameters																							
pH	SU	--	--	6.08	6.18	6.27	6.14	6.3	6.20	6.32	6.38	6.25	6.33	7.28	6.20	6.33	6.32	6.46	6.34	6.4	6.43	6.28	6.14	6.32
Specific Conductance	mMhos	--	--	212	184	177	179	241	229	210	198	288	200	258	252	296	172	236	289	269	243	376	380	502
Temperature	°Celsius	--	--	17.04	19.74	17.87	15.20	30.97	22.75	18.28	18.88	26.47	17.93	19.33	26.73	23.39	15.66	19.42	26.43	22.86	17.15	20.85	26.37	24.36
Dissolved Oxygen (YSI)	mg/L	--	--	3.22	2.77	3.62	3.82	4.81	0.33	0.99	3.74	0.68	3.71	0.57	1.32	1.34	4.42	4.35	1.03	1.8	2.66	1.39	0.55	0.24
ORP	mV	--	--	230.1	-36.6	6.3	108	53.9	82.1	79.1	144.3	25.9	141.0	120.5	108.9	91.2	108.2	117.6	3.4	37.2	201.0	79.9	168.9	-23.5
Turbidity	NTU	--	--	1.86	23.70	41.7	9.27	9.09	4.89	9.68	10.56	4.96	9.53	3.15	7.5	5.40	21.6	--	4.02	15.4	17.9	11.4	12.8	8.89
Laboratory Results - Natural Attenuation Parameters																								
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	< 0.20	0.22	< 0.20	0.38	< 0.20	< 0.20	0.33	< 0.200	< 0.200	1.92	1.09	3.59
Nitrogen, Nitrate (as N)	mg/L	--	--	0.81	0.18	0.23	1.0	0.086	--	--	--	--	0.266	< 0.0500	0.121	< 0.0500	1.17	1.42	0.596	0.779	1.63	0.469	1.35	< 0.500
Sulfate	mg/L	--	--	21	71	20	19	22	--	--	--	--	20.8	18.0	22.3	16.5	22.0	22.4	24.7	17.9	25.1	36.2	64.5	25.8
Sulfide	mg/L	--	--	< 1.0	1.4	< 1.0	< 1.0	< 1.0	--	--	--	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.00	< 1.00	< 1.00
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	0.0534	0.0996	0.126	0.355	0.0168	0.367	0.140	0.128	< 0.0050	0.922	0.368	3.02
Total Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	0.0787	0.107	0.136	0.417	0.0308	0.551	0.174	0.231	0.643	1.13	0.347	3.08
Ferrous Iron	mg/L	--	--	< 0.10 HF	3.5 HF	< 0.010	< 0.010	< 0.010	--	--	--	--	< 0.1	0.1	0.1	0.2	< 0.1	< 0.1	0.1	0.1	< 0.100	1.60	0.206	3.47
Total Iron	mg/L	--	--	< 0.10	4.2	1.0	0.59	0.57	--	--	--	--	0.380	0.307	0.320	0.351	0.74	0.795	0.333	1.68	3.87	6.75	1.39	3.06
Carbon Dioxide	mg/L	--	--	54	1.7	0.47	0.50	0.46	--	--	--	--	53	85	75	78	46	50	64	82	60	84	66	120
Methane	mg/L	--	--	1.8	9.7	7.9	<0.19	1.5	--	--	--	--	22	230	48	5.4	0.95	3.9	2.4	10	3.5	40	11	87
Dissolved Nitrogen	mg/L	--	--	20	5.4	4.6	4.1	4.5	--	--	--	--	23	20	16	18	20	18	14	14	17	17	14	13
Dissolved Oxygen	mg/L	--	--	8.6	1.7	1.6	1.5	1.6	--	--	--	--	4.7	3.5	3.0	2.8	4.9	5.9	2.2	1.5	3.7	8.4	5.6	2.0
Laboratory Results - Organic Constituents																								
Volatile Organic Compounds																								
Benzene	µg/L	5.0*	9.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Naphthalene	µg/L	31,000	200,000	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds																								
Acenaphthene	µg/L	2,000*	6,100	< 0.22	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 0.22	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31, 000	< 0.22	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 2.2	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 0.22	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 0.22	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 2.2	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	< 2.2	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 0.22	< 5.0	< 5.0	< 10	<9.4	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	470	3,100	< 0.22	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 1.1	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 0.22	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Laboratory Results - Inorganic Constituents																								
Antimony	µg/L	6.3	40	< 20	--	--	--	--	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 20	--	--	--	--	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	90	120	89	83	140	112	98.1	356	156	97.8	119	114	142	83.2	106	121	120	117	171	180	325
Beryllium	µg/L	31	200	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10	< 10	< 10	< 10	< 10	< 10	< 10	17.6	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 20	< 20	< 20	< 20	< 20	< 10	< 10	44.7	< 10	1,640	617	10.2	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	88.8	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 40	< 40	< 40	< 40	< 40	< 20	< 20	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	< 20	--	--	--	--	--	--	--	--	297	126	< 20	22.6	< 20	< 20	< 20	24.3	47	36	< 20	37
Mercury	µg/L	2*	2*	< 0.20	--	--	--	--	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	12	< 10	< 10	43	52	120

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6a
Summary of Alluvium Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-14I																						
				04/05/16	02/04/13	02/15/12	02/22/11	02/23/10	08/11/09	06/06/06	03/09/06	12/21/05	09/28/05	03/15/05	12/15/04	09/30/04	07/15/04	06/09/04	03/03/04	12/16/03	09/08/03	06/11/03	03/11/03	03/03 DUP	12/10/02	09/17/02	11/08/01
Field Groundwater Quality Parameters																										
pH	SU	--	--	6.52	6.69	5.83	5.87	6.18	5.95	6.24	6.17	6.11	6.31	6.15	7.39	6.15	--	6.10	6.11	6.2	5.15	6.38	6.27	6.27	6.08	6.13	6.17
Specific Conductance	mMhos	--	--	0.4	269	250	278	315	423	448	416	401	432	399	417	467	--	463	393	436	421	421	453	453	429	464	461
Temperature	°Celsius	--	--	19.77	19.53	19.58	20.67	18.22	26.35	23.02	20.43	22.05	23.40	20.69	22.48	24.15	--	20.95	19.96	21.57	23.43	20.86	20.58	20.58	22.27	23.47	22.61
Dissolved Oxygen (YSI)	mg/L	--	--	0.21	0.32	0.85	0.39	1.46	5.67	0.20	0.40	0.42	0.55	1.71	0.19	0.28	--	0.21	0.57	0.22	0.34	0.03	0.09	0.09	0.06	0.16	0.19
ORP	mV	--	--	4.9	-56.4	41.2	-9.5	27	-9.9	-37.3	-8.2	-13.6	-5.9	-13.4	-148.1	-59.1	--	-86.6	58.0	-109.2	-79.3	-151.8	***	***	-43.2	-49.9	-79.4
Turbidity	NTU	--	--	24.9	3.62	8.23	8.27	1.52	1.41	0.33	1.46	2.54	0.50	1.52	2.82	0.65	--	0.40	2.83	--	1.49	9.72	4.92	4.92	2.30	1.31	9.50
Laboratory Results - Natural Attenuation Parameters																										
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	11.7	12.0	11.5	--	10.6	12.8	11.6	11.4	11.1	12	12.2	10.5	12.2	11.2
Nitrogen, Nitrate (as N)	mg/L	--	--	--	< 0.050	0.18	< 0.050	0.097	< 0.050	--	--	--	--	< 0.500	< 0.0500	< 0.0500	--	< 0.5	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	0.297
Sulfate	mg/L	--	--	--	44	18	54	32	41	--	--	--	--	47.3	39.5	39.6	--	73.7	49.0	47.7	32.0	17.2	36.9	39.6	43.2	40.5	31.5
Sulfide	mg/L	--	--	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	--	--	--	--	< 1.0	< 1.0	< 1.0	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.00	< 1.00	< 1.00
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	1.62	1.53	1.78	--	1.5	1.57	1.77	1.92	1.81	1.76	1.7	1.63	1.66	1.35
Total Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	1.55	1.56	1.78	--	1.51	1.52	1.64	1.95	1.80	1.77	1.87	1.55	1.64	1.88
Ferrous Iron	mg/L	--	--	--	6.4 HF	< 0.10 HF	3.4	7.5	6.8	--	--	--	--	17.7	12.2	13.5	--	16.7	6.2	6.5	12.6	13.0	12.2	13.4	14.5	14.1	11.1
Total Iron	mg/L	--	--	--	7.8	0.20	3.9	8.6	16	--	--	--	--	8.89	11.4	12.5	--	11.6	7.15	10.4	12.7	14.9	11.7	12.3	9.94	11.4	12.9
Carbon Dioxide	mg/L	--	--	--	87	830	1.0	1.5	1.3	--	--	--	--	160	170	160	--	180	160	140	96	160	170	200	170	180	150
Methane	mg/L	--	--	--	74	2.4	14	82	69	--	--	--	--	320	430	420	--	400	44	340	550	610	470	700	520	650	280
Dissolved Nitrogen	mg/L	--	--	--	18	5100	4.2	3.1	4.1	--	--	--	--	26	15	16	--	15	17	20	14	14	18	16	16	17	13
Dissolved Oxygen	mg/L	--	--	--	5.0	1800	1.4	1.0	1.4	--	--	--	--	4.2	1.1	1.2	--	0.44	0.89	3.6	0.53	0.66	2.9	0.55	6.6	6.4	0.79
Laboratory Results - Organic Constituents																										
Volatile Organic Compounds																										
Benzene	µg/L	5.0*	9.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	8.2	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	16	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	10	7.7	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Naphthalene	µg/L	31,000	200,000	< 5.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	5.3	< 5.0	< 5.0
Semivolatile Organic Compounds																										
Acenaphthene	µg/L	2,000*	6,100	4.4	3.4	--	--	--	--	--	--	--	--	38	48	43	< 5.0	24	20	29	38	57	33 J	37 J	35	36	< 10
Acenaphthylene	µg/L	470	3,100	3.3	1.2	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	41
Anthracene	µg/L	4,700	31, 000	0.056	< 0.19	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.392	< 0.050	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	12	39	< 0.050	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 0.050	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.392	< 0.10	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 1.9	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	0.11	0.48	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	1.60	0.89	--	--	--	--	--	--	--	--	11	14	11	< 10	< 10	< 10	< 10	< 10	12	< 10	< 10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 1.9	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	< 10	< 1.9	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 0.50	< 0.19	< 5.0	< 5.0	< 10	<9.9	< 10	80	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	23	19	21	58	48	24
Phenanthrene	µg/L	470	3,100	< 0.050	< 0.19	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	1.2	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	0.27	0.93	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Laboratory Results - Inorganic Constituents																										
Antimony	µg/L	6.3	40	< 20.0	< 20	--	--	--	--	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 20	--	--	--	--	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	129	71	180	180	300	220	276	281	287	301	296	292	339	292	292	277	292	369	343	379	404	314	314	394
Beryllium	µg/L	31	200	< 10.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 20	< 20	< 20	< 20	< 20	< 10	< 10	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 40	< 40	< 40	< 40	< 40	< 20	< 20	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	20.9	< 20	--	--	--	--	--	--	--	--	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	--	--	--	--	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	14	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6a
Summary of Alluvium Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-15																									
				04/06/16	4/16 DUP	08/12/15	02/17/15	02/06/13	02/13 DUP	02/14/12	02/12 DUP	02/23/11	02/25/10	08/12/09	06/06/06	03/08/06	12/21/05	09/28/05	03/16/05	12/14/04	09/30/04	06/08/04	03/03/04	12/16/03	09/09/03	06/10/03	03/12/03	12/10/02	09/19/02	11/06/01
Field Groundwater Quality Parameters																													
pH	SU	--	--	5.45		5.71	5.09	4.64		4.92		5.37	5.56	5.40	5.74	6.06	5.74	5.69	6.20	5.84	6.16	5.95	5.98	5.69	5.77	6.05	6.11	5.80	5.99	5.98
Specific Conductance	mMhos	--	--	400		880	851	1044		938		485	774	987	915	781	795	1165	568	828	650	1,022	1,000	1532	952	717	891	754	934	976
Temperature	°Celsius	--	--	20.45		24.28	14.83	16.01		15.57		14.96	11.36	23.86	21.23	17.58	19.02	25.54	16.39	20.03	25.08	21.11	16.63	20.66	24.33	21.06	16.85	20.10	24.28	22.16
Dissolved Oxygen (YSI)	mg/L	--	--	0.33		0.18	0.66	0.47		0.39		1.13	0.59	3.07	0.24	0.52	0.79	0.28	1.20	2.97	0.76	1.04	0.69	0.18	0.24	0.34	0.58	1.79	0.10	1.5
ORP	mV	--	--	116.5		-18.3	99.7	301.1		73.2		210.3	154.4	-187	192.3	157.2	220.8	-18.1	219.9	233.5	47.9	122.3	106.1	69.1	31.2	118.1	250.3	87.4	6.00	30.0
Turbidity	NTU	--	--	11.10		3.28	8.81	1.34		3.95		4.67	9.82	0.46	0.23	1.66	4.98	1.36	4.90	2.6	1.11	1.06	1.49	--	4.45	6.53	17.7	1.82	1.50	9.02
Laboratory Results - Natural Attenuation Parameters																													
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20	15.7	1.54	25.6	5.97	27.8	25.8	8.15	2.62	28.4	37.9	36.0
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--	--	31	30	21	22	4.8	6.9	6.4	--	--	--	--	13.6	10.3	6.93	33.6	35.2	45.2	58.8	38.9	45.9	17.7	0.0654	0.515
Sulfate	mg/L	--	--	--	--	--	--	370	370	310	310	310	330	350	--	--	--	--	124	4.83	95.8	248	240	153	116	71.9	100	201	263	281
Sulfide	mg/L	--	--	--	--	--	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	--	--	--	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.00	< 1.00	< 1.00
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.58	2.86	0.592	3.95	2.54	3.54	4.23	2.93	1.53	5.52	6.86	7.35
Total Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.40	2.89	0.692	3.99	2.66	3.54	4.32	3.01	1.55	5.42	6.05	7.30
Ferrous Iron	mg/L	--	--	--	--	--	--	0.13 HF	0.28 HF	< 0.10 HF	0.11 HF	< 0.010	< 0.010	< 0.010	--	--	--	--	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.100	12.7	22.0	21.7
Total Iron	mg/L	--	--	--	--	--	--	0.18	0.18	0.16	0.18	0.12	0.50	< 0.010	--	--	--	--	0.213	0.230	0.159	0.166	0.293	0.104	0.338	0.781	1.89	9.12	21.4	19.9
Carbon Dioxide	mg/L	--	--	--	--	--	--	110	99	2.7	2.8	1.7	1.4	1.2	--	--	--	--	140	140	120	180	160	170	170	210	120	190	250	200
Methane	mg/L	--	--	--	--	--	--	2.4	2.2	1.8	2.1	<0.58	0.58	<0.19	--	--	--	--	0.77	1.1	3.2	1.4	0.62	1.5	2.2	2.4	1.4	35	93	330
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	--	--	5.1	5.3	3.8	4.1	4.3	--	--	--	--	26	21	17	17	18	15	14	14	16	16	16	12
Dissolved Oxygen	mg/L	--	--	--	--	--	--	6.6	7.2	1.6	1.7	1.3	1.3	1.6	--	--	--	--	6.8	2.6	4.4	0.97	1.6	1.1	1.8	1.3	3.6	7.5	5.5	1.8
Laboratory Results - Organic Constituents																													
Volatile Organic Compounds																													
Benzene	µg/L	5.0*	9.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1700.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds																													
Acenaphthene	µg/L	2,000*	6,100	< 0.50	< 0.50	< 0.50	< 10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 1.0	< 1.0	< 1.0	< 10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31, 000	< 0.050	< 0.050	0.11	< 10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.050	< 0.050	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.10	< 0.10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 0.10	< 0.10	< 10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 0.050	< 0.050	< 10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 0.050	< 0.050	< 0.050	< 10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	< 0.10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 2.1	< 2.1	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 0.10	< 0.10	< 0.10	< 10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 0.10	< 0.10	< 0.10	< 10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 2.1	< 2.1	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 2.1	< 2.1	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 0.50	< 0.50	< 0.50	< 10	< 0.21	< 0.21	< 5.0	< 5.0	< 5.0	<9.8	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	470	3,100	< 0.050	< 0.050	< 0.050	< 10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 1.1	< 1.1	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 0.050	< 0.050	< 0.050	< 10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Laboratory Results - Inorganic Constituents																													
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	--	--	--	--	--	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 20	< 20	--	--	--	--	--	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	31.5	32.6	33.6	50	16	16	19	18	41	49	35	21.8	33.7	28.5	38.7	84.7	38.3	87.3	35.4	80.8	48.7	74.6	105	119	34	34	35
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	50.0	50.6	< 20.0	297	320	330	--	--	--	--	--	--	--	--	--	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	14	12	11.3	108	120	120	130	130	65	110	150	167	315	121	282	199	355	216	236	403	173	189	51	248	181	276	227

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6a
Summary of Alluvium Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-21			MW-23		
				04/06/16	04/30/15	07/12/06	02/13/12	02/24/11	03/05/04
Field Groundwater Quality Parameters									
pH	SU	--	--	5.92	5.99	--	6.07	6.16	6.20
Specific Conductance	mMhos	--	--	95	58	--	287	272	347
Temperature	°Celsius	--	--	17.35	16.44	--	19.25	16.63	20.76
Dissolved Oxygen (YSI)	mg/L	--	--	0.19	0.98	--	6.32	1.42	1.86
ORP	mV	--	--	5.7	-44.1	--	0.5	9.1	42.5
Turbidity	NTU	--	--	6.8	14.1	--	3.89	0.56	10.65
Laboratory Results - Natural Attenuation Parameters									
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--	0.85	0.75	--
Sulfate	mg/L	--	--	--	--	--	36	35	--
Sulfide	mg/L	--	--	--	--	--	< 1.0	< 1.0	--
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--
Total Manganese	mg/L	--	--	--	--	--	--	--	< 0.005
Ferrous Iron	mg/L	--	--	--	--	--	< 0.10 HF	< 0.010	--
Total Iron	mg/L	--	--	--	--	--	< 0.10	< 0.010	0.171
Carbon Dioxide	mg/L	--	--	--	--	--	1.6	1.0	--
Methane	mg/L	--	--	--	--	--	< 0.58	<0.58	--
Dissolved Nitrogen	mg/L	--	--	--	--	--	5.0	4.4	--
Dissolved Oxygen	mg/L	--	--	--	--	--	1.6	1.5	--
Laboratory Results - Organic Constituents									
Volatile Organic Compounds									
Benzene	µg/L	5.0*	9.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Naphthalene	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds									
Acenaphthene	µg/L	2,000*	6,100	< 0.50	< 10	< 10	--	--	< 10
Acenaphthylene	µg/L	470	3,100	< 1.0	< 10	< 10	--	--	< 10
Anthracene	µg/L	4,700	31, 000	< 0.050	< 10	< 10	--	--	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.050	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.10	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 10	< 10	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 10	< 10	--	--	--
Chrysene	µg/L	117	392	< 0.050	< 10	< 0.050	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	--	--	--	< 10
Fluoranthene	µg/L	1,000*	4,100	< 0.10	< 10	< 10	--	--	< 10
Fluorene	µg/L	1,000*	4,100	< 0.10	< 10	< 10	--	--	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	--	--	--	< 10
4-Methylphenol	µg/L	78	510	< 10	< 10	--	--	--	< 10
Naphthalene	µg/L	20*	20*	< 0.50	< 10	< 10	< 5.0	< 5.0	< 10
Phenanthrene	µg/L	470	3,100	< 0.050	< 10	< 10	--	--	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	--	--	--	< 10
Pyrene	µg/L	1,000*	3,100	< 0.050	< 10	< 10	--	--	< 10
Laboratory Results - Inorganic Constituents									
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	--	--	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	--	--	< 50
Barium	µg/L	2,000	7,200	96.8	75.6	73	74	67	71.8
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 20	< 20	< 10
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 20.0	< 40	< 40	< 20
Zinc	µg/L	4,700	31,000	165	< 20.0	< 20.0	--	--	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	--	--	< 0.5
Total Cyanide	µg/L	310	2,000	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.

Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6a
Summary of Alluvium Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-25						
				04/28/15	02/04/13	02/07/12	02/16/11	02/23/10	08/13/09	06/12/03
Field Groundwater Quality Parameters										
pH	SU	--	--	5.16	4.48	5.35	5.45	5.44	5.08	5.33
Specific Conductance	mMhos	--	--	409	342	391	331	398	346	334
Temperature	°Celsius	--	--	20.52	21.08	18.99	19.16	15.26	23.74	21.73
Dissolved Oxygen (YSI)	mg/L	--	--	0.66	0.44	1.01	0.88	3.33	6.63	0.25
ORP	mV	--	--	-31.1	523.5	79.2	447.3	175.9	-76.5	213.5
Turbidity	NTU	--	--	1.3	6.39	1.85	0.80	8.42	2.82	7.09
Laboratory Results - Natural Attenuation Parameters										
Nitrogen, Ammonia (as N	mg/L	--	--	--	--	--	--	--	--	< 0.200
Nitrogen, Nitrate (as N)	mg/L	--	--	--	6.3	< 5.0	4.0	3.3	2.1	2.38
Sulfate	mg/L	--	--	--	89	< 5.0	96	110	95	85.1
Sulfide	mg/L	--	--	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	0.0591
Total Manganese	mg/L	--	--	--	--	--	--	--	--	0.059
Ferrous Iron	mg/L	--	--	--	0.11 HF	37	< 0.010	< 0.010	< 0.1	< 0.1
Total Iron	mg/L	--	--	--	0.15	45	< 0.010	0.24	< 0.1	< 0.1
Carbon Dioxide	mg/L	--	--	--	170	4.2	0.96	2.1	0.74	230
Methane	mg/L	--	--	--	< 0.58	< 0.58	< 0.58	< 0.19	0.21	0.60
Dissolved Nitrogen	mg/L	--	--	--	16	4.1	4.7	3.7	4.2	14
Dissolved Oxygen	mg/L	--	--	--	5.2	0.96	1.6	1.3	1.5	1.3
Laboratory Results - Organic Constituents										
Volatile Organic Compounds										
Benzene	µg/L	5*	9	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 2.0	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds										
Acenaphthene	µg/L	2,000*	6,100	< 10	< 0.20	--	--	--	--	< 10
Acenaphthylene	µg/L	470	3,100	< 10	< 0.20	--	--	--	--	< 10
Anthracene	µg/L	4,700	31,000	< 10	< 0.20	--	--	--	--	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.20	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.20	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.20	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 0.20	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 0.20	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 0.20	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.20	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 2.0	--	--	--	--	< 10
Fluoranthene	µg/L	1,000*	4,100	< 10	< 0.20	--	--	--	--	< 10
Fluorene	µg/L	1,000*	4,100	< 10	< 0.20	--	--	--	--	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.20	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 2.0	--	--	--	--	< 10
4-Methylphenol	µg/L	78	510	< 10	< 2.0	--	--	--	--	< 10
Naphthalene	µg/L	20*	20*	< 10	< 0.20	< 5.0	< 5.0	<9.5	< 10	< 10
Phenanthrene	µg/L	470	3,100	< 10	0.43	--	--	--	--	< 10
Phenol	µg/L	9,390	61,000	< 10	< 0.99	--	--	--	--	< 10
Pyrene	µg/L	1,000*	3,100	< 10	< 0.20	--	--	--	--	< 10
Inorganic Constituents										
Antimony	µg/L	6.3	40	< 20.0	< 20	--	--	--	--	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 20	--	--	--	--	< 50
Barium	µg/L	2,000	7,200	33.6	32	820	33	40	32	33
Beryllium	µg/L	31	200	< 10.0	< 4.0	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 20	< 20	< 20	< 20	< 20	< 10
Lead	µg/L	15*	15*	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 40	< 40	< 40	< 40	< 40	< 20
Zinc	µg/L	4,700	31,000	47.0	59	--	--	--	--	28
Mercury	µg/L	2*	2*	< 0.20	< 0.20	--	--	--	--	< 0.5
Total Cyanide	µg/L	310	2,000	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6a
Summary of Alluvium Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-26	MW-28			
				02/05/13	04/05/16	02/07/13	03/05/04	03/04 DUP
Field Groundwater Quality Parameters								
pH	SU	--	--	6.41	6.30	6.28	6.73	6.73
Specific Conductance	mMhos	--	--	642	148	240	412	412
Temperature	°Celsius	--	--	14.36	21.42	16.97	17.56	17.56
Dissolved Oxygen (YSI)	mg/L	--	--	0.65	2.16	1.96	0.42	0.42
ORP	mV	--	--	-28.2	42.1	14.0	-125.5	-125.5
Turbidity	NTU	--	--	2.02	48.4	8.27	20.2	20.2
Laboratory Results - Natural Attenuation Parameters								
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--
Nitrogen, Nitrate (as N)	mg/L	--	--	< 0.050	--	0.12	--	--
Sulfate	mg/L	--	--	200	--	15	--	--
Sulfide	mg/L	--	--	4.5	--	< 1.0	--	--
Dissolved Manganese	mg/L	--	--	--	--	--	--	--
Total Manganese	mg/L	--	--	--	--	--	6.11	6.14
Ferrous Iron	mg/L	--	--	34 HF	--	9.2 HF	--	--
Total Iron	mg/L	--	--	50	--	10	34.3	35.6
Carbon Dioxide	mg/L	--	--	170	--	72.0	--	--
Methane	mg/L	--	--	32	--	82	--	--
Dissolved Nitrogen	mg/L	--	--	18	--	--	--	--
Dissolved Oxygen	mg/L	--	--	2.0	--	6.6	--	--
Laboratory Results - Organic Constituents								
Volatile Organic Compounds								
Benzene	µg/L	5.0*	9	< 1.0	< 5.0	< 1.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 2.0	< 5.0	< 2.0	--	--
Ethylbenzene	µg/L	700*	2,300	< 1.0	< 5.0	< 1.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 1.0	< 5.0	< 1.0	< 5.0	< 5.0
Naphthalene	µg/L	31,000	200,000	< 2.0	< 5.0	< 2.0	< 5.0	< 5.0
Semivolatile Organic Compounds								
Acenaphthene	µg/L	2,000*	6,100	< 2.0	< 0.50	< 0.19	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 2.0	< 1.0	< 0.19	< 10	< 10
Anthracene	µg/L	4,700	31, 000	< 2.0	< 0.050	< 0.19	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 2.0	< 0.050	< 0.19	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 2.0	< 0.050	< 0.19	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 2.0	< 0.10	< 0.19	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 2.0	< 0.10	< 0.19	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 2.0	< 0.050	< 0.19	--	--
Chrysene	µg/L	117	392	< 2.0	< 0.050	< 0.19	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 2.0	< 0.10	< 0.19	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 20	< 10	< 1.9	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 2.0	< 0.10	< 0.19	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 2.0	< 0.10	< 0.19	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 2.0	< 0.050	< 0.19	--	--
2-Methylphenol	µg/L	780	5,100	< 20	< 10	< 1.9	< 10	< 10
4-Methylphenol	µg/L	78	510	< 20	< 10	< 1.9	< 10	< 10
Naphthalene	µg/L	20*	20*	< 2.0	< 0.50	< 0.19	< 10	< 10
Phenanthrene	µg/L	470	3,100	< 2.0	< 0.050	< 0.19	< 10	< 10
Phenol	µg/L	9,390	61,000	< 9.9	< 10	< 0.97	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 2.0	< 0.050	< 0.19	< 10	< 10
Laboratory Results - Inorganic Constituents								
Antimony	µg/L	6.3	40	< 20	< 20.0	< 20	< 40	< 40
Arsenic	µg/L	50*	50*	< 20	< 50.0	< 20	< 50	< 50
Barium	µg/L	2,000	7,200	120	64.9	82	115	115
Beryllium	µg/L	31	200	< 4.0	< 10.0	< 4.0	--	--
Cadmium	µg/L	7.8	51	< 5.0	40.3	< 5.0	--	--
Chromium	µg/L	100	310	< 10	< 10.0	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 20	< 10.0	< 20	< 10	< 10
Lead	µg/L	15*	15*	< 10	< 10.0	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 40	< 20.0	< 40	< 20	< 20
Zinc	µg/L	4,700	31,000	< 20	< 20.0	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	< 10	< 10.0	< 10	< 10	< 10

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6a
Summary of Alluvium Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-101																									
				04/07/16	4/16 DUP	08/13/15	02/18/15	08/07/13	08/13 DUP	02/07/13	02/13 DUP	11/07/12	11/12 DUP	08/09/12	05/16/12	05/12 DUP	02/09/12	02/12 DUP	11/16/11	11/11 DUP	08/10/11	08/11 DUP	05/04/11	02/24/11	11/10/10	11/10 DUP	08/10/10	05/11/10	05/11 DUP	02/25/10
Field Groundwater Quality Parameters																													
pH	SU	--	--	6.10		5.87	5.38	5.56		5.08		6.23		6.11	6.17		5.6		5.84		6.54		4.84	6.15	6.29		6.01	6.12		5.92
Specific Conductance	mMhos	--	--	400		534	490	498		814		1049		1125	976		828		997		1.185		404	696	954		958	948		720
Temperature	°Celsius	--	--	21.77		27.35	13.50	23.36		14.94		21.1		25.58	23.62		17.07		26.14		23.85		20.26	17.84	23.54		28.39	18.57		12.69
Dissolved Oxygen (YSI)	mg/L	--	--	0.16		0.19	1.57	0.41		0.78		0.59		0.66	0.81		2.89		0.61		1.19		0.89	1.29	0.21		0.30	0.68		0.95
ORP	mV	--	--	17.3		-23.1	125.0	-123.0		200.8		3.6		-6.1	28.2		4.3		29.4		-73.3		173.2	-19.8	-79.4		-3.3	-21.0		47.7
Turbidity	NTU	--	--	23		4.65	9.50	7.07		1.05		18.9		3.80	3.16		8.35		155		4.02		2.44	9.98	3.3		3.14	5.17		91.30
Laboratory Results - Natural Attenuation Parameters																													
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--	--	--	--	69	69	--	--	--	--	--	69	72	--	--	--	--	--	3.4	--	--	--	--	6.6
Sulfate	mg/L	--	--	--	--	--	--	--	--	120	120	--	--	--	--	--	170	160	--	--	--	--	--	280	--	--	--	--	210
Sulfide	mg/L	--	--	--	--	--	--	--	--	< 1.0	< 1.0	--	--	--	--	--	< 1.0	< 1.0	--	--	--	--	--	5.9	--	--	--	--	< 1.0
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ferrous Iron	mg/L	--	--	--	--	--	--	--	--	5.5 HF	5.6 HF	--	--	--	--	--	2.8 HF	2.4 HF	--	--	--	--	--	10	--	--	--	--	5.6
Total Iron	mg/L	--	--	--	--	--	--	--	--	5.6	5.5	--	--	--	--	--	3.2	3.1	--	--	--	--	--	12	--	--	--	--	14
Carbon Dioxide	mg/L	--	--	--	--	--	--	--	--	76	69	--	--	--	--	--	1.3	1.3	--	--	--	--	--	0.62	--	--	--	--	1.3
Methane	mg/L	--	--	--	--	--	--	--	--	3.5	3.4	--	--	--	--	--	10	11	--	--	--	--	--	61	--	--	--	--	1400
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.8	4.9	--	--	--	--	--	4.7	--	--	--	--	3.7
Dissolved Oxygen	mg/L	--	--	--	--	--	--	--	--	7.2	12	--	--	--	--	--	2.3	1.5	--	--	--	--	--	1.5	--	--	--	--	1.2
Laboratory Results - Organic Constituents																													
Volatile Organic Compounds																													
Benzene	µg/L	5*	9	6.5	6.3	< 5.0	49	< 5.0	< 5.0	25	20	27	26	51	43	44	25	26	24	20	65	74	19	120	150	150	130	140	130	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	9.6	5.9	5.0	5.6	12	8.7	8.3	11	9.9	7.9	6.9	<25	<25	6.7	61	--	--	--	--	--	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	6.9	< 5.0	< 5.0	14	9.3	< 1.0	< 1.0	< 1.0	15	15	6.4	6.1	< 5.0	< 5.0	<25	<25	7.8	64	--	--	--	--	--	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	18	< 5.0	< 5.0	18	12	< 2.0	< 2.0	9.9	32	31	9.6	8.3	< 5.0	< 5.0	<25	<25	12	88	--	--	--	--	--	< 5.0
Semivolatile Organic Compounds																													
Acenaphthene	µg/L	2,000*	6,100	3.7	3.9	11	< 10	< 10	< 10	11	7.0	17	16	19	18	26	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	1.3	1.3	5.2	< 10	< 10	< 10	3.8	2.2	4.7	4.4	6.8	7.1	9.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	0.25	0.25	0.78	< 10	< 10	< 10	0.77	0.40	0.81	0.97	< 0.20	0.65	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	0.070	< 0.050	< 0.050	< 0.050	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	0.11	< 0.10	< 0.10	< 10	< 10	< 10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	0.085	< 0.050	< 0.050	< 10	< 10	< 10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	0.054	< 0.050	< 0.050	< 10	< 10	< 10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	0.16	< 0.10	< 0.10	< 0.10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	0.31	0.3	1.2	< 10	< 10	< 10	0.59	0.34	1.3	1.4	1.5	0.55	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	2.7	2.8	9.5	< 10	< 10	< 10	13	8.1	12	13	22	15	22	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	0.11	< 0.050	< 0.050	< 0.050	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	µg/L	20*	20*	12	14	< 0.50	310	< 10	< 10	290	180	4.1	3.2	170 D	490	410	120	100	14	16	1100	1300	160	1700	1100	840	1900	770	990	<9.4
Phenanthrene	µg/L	470	3,100	0.35	0.35	0.28	< 10	< 10	< 10	5.4	3.1	8.7	9.5	16	4.8	7.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10	< 10	1.4	< 0.99	< 0.99	< 0.99	< 0.98	0.99	< 11	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	0.21	0.22	0.92	< 10	< 10	< 10	0.44	0.35	1.1	1.1	1.1	0.38	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Inorganic Constituents																													
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Barium	µg/L	2,000	7,200	86.1	88.6	45.3	76.7	126	132	150	150	20	18	20	82	79	270	290	33	38	22	22	47	35	--	--	--	--	--	74
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	--	--	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	< 20
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	--	--	< 10
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--	--	--	--	< 40
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20.0	26.3	78.5	50.6	190	180	< 20	< 20	< 20	53	53	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	13	< 10	39	30	40	21	110	110	230	190	160	55	100	83	60	--	--	--	--	--	140	--	--	--	--	--	71

Notes:
bdl - below detection limt
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters.
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6a
Summary of Alluvium Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-101 (Continued)																					
				08/13/09	06/08/06	03/10/06	12/22/05	09/30/05	03/14/05	03/05 DUP	12/15/04	12/04 DUP	10/01/04	10/04 DUP	06/10/04	03/04/04	03/04 DUP	12/16/03	12/03 DUP	09/09/03	09/03 DUP	06/10/03	06/03 DUP	03/12/03	12/11/02	09/19/02	09/02 DUP
Field Groundwater Quality Parameters																									
pH	SU	--	--	6.4	6.45	6.45	6.48	6.65	6.42	6.42	6.38	6.38	6.37	6.37	6.81	6.81	6.81	6.46	6.46	6.61	6.61	6.68	6.68	6.57	6.35	6.36	6.36
Specific Conductance	mMhos	--	--	1191	634	772	732	756	664	664	793	793	820	820	841	740	740	1,114	1,114	610	610	591	591	743	726	757	757
Temperature	°Celsius	--	--	31.69	21.71	18.15	20.96	26.36	18.04	18.04	22.48	22.48	25.85	25.85	21.74	18.65	18.65	22.16	22.16	25.38	25.38	21.86	21.86	20.03	22.88	27.31	27.31
Dissolved Oxygen (YSI)	mg/L	--	--	5.37	0.13	0.30	0.37	0.06	2.61	2.61	1.58	1.58	0.34	0.34	0.74	0.38	0.38	0.22	0.82	0.15	0.15	0.02	0.02	0.10	0.06	0.02	0.02
ORP	mV	--	--	-85.3	-75.9	-75.0	-99.9	-99.1	-70.9	-70.9	-103.1	-103.1	-101.4	-101.4	-85.2	-147.3	-147.3	-161.2	-161.2	-125.8	-125.8	-128	-128	-96.1	-87.3	-88.6	-88.6
Turbidity	NTU	--	--	3.79	1.79	4.36	3.60	4.34	2.90	2.90	5.1	5.1	0.68	0.68	1.80	4.64	4.64	--	--	3.59	3.59	13.9	13.9	7.95	31.7	10.5	10.5
Laboratory Results - Natural Attenuation Parameters																									
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	24.5	23.6	23.1	20.2	21.4	23.2	22.4	19.2	22.2	19.9	22.8	21.4	21.4	22.8	22.4	27.9	29.8	35.8	33.7
Nitrogen, Nitrate (as N)	mg/L	--	--	6.5	--	--	--	--	0.514	0.478	0.337	0.341	1.31	1.01	< 0.5	< 0.500	< 0.0500	0.0384	0.0686	0.306	0.330	< 0.500	< 0.500	0.224	0.113	< 0.0500	< 0.0500
Sulfate	mg/L	--	--	340	--	--	--	--	75.1	73.9	121	124	130	131	212	111	118	79.0	75.5	50.2	36.8	25.1	24.1	35.1	40.3	48.8	48.2
Sulfide	mg/L	--	--	< 1.0	--	--	--	--	< 1.0	< 1.0	1.0	1.0	2.9	4.5	5.8	2.8	2.4	2.8	3.0	< 1.0	2.3	< 1.0	< 1.0	< 1.0	< 1.00	< 1.00	< 1.00
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	1.68	1.68	1.44	1.45	1.46	1.49	1.64	1.63	1.62	1.47	1.48	1.38	1.33	1.53	1.56	2.35	1.89	2.12	2.15
Total Manganese	mg/L	--	--	--	--	--	--	--	1.72	1.65	1.47	1.51	1.45	1.42	1.72	1.7	1.79	1.53	1.55	1.42	1.44	1.67	1.69	2.34	2.07	1.94	1.99
Ferrous Iron	mg/L	--	--	14	--	--	--	--	37.5	37.4	31.9	32.8	21.5	22.3	11.7	59.4	31.3	20.2	19.5	29.1	29.8	16.0	15.0	34.9	34.0	28.6	27.7
Total Iron	mg/L	--	--	28	--	--	--	--	36.5	35.4	29.6	29.8	30.0	29.5	42.7	36.2	37.6	34.0	34.8	30.9	31.2	34.0	34.4	36.7	35.5	31.4	33
Carbon Dioxide	mg/L	--	--	0.41	--	--	--	--	160	170	150	140	120	110	75	99	98	100	100	110	110	120	120	180	220	200	220
Methane	mg/L	--	--	0.49	--	--	--	--	170	150	210	300	190	200	250	300	280	340	390	230	54	390	400	390	280	250	300
Dissolved Nitrogen	mg/L	--	--	4.8	--	--	--	--	25	25	18	19	16	15	17	23	21	14	16	15	13	15	14	20	14	12	14
Dissolved Oxygen	mg/L	--	--	1.7	--	--	--	--	2.5	2.9	1.8	0.68	0.60	0.53	0.55	0.89	0.87	0.67	0.22	1.5	1.8	0.59	0.54	0.58	5.0	2.6	3.1
Laboratory Results - Organic Constituents																									
Volatile Organic Compounds																									
Benzene	µg/L	5.0*	9	27	< 5.0	< 5.0	< 5.0	7.0	< 5.0	< 5.0	41	40	440	440	1,200	160	150	100	97	350	330	51	51	48	77	100	100
Ethylbenzene	µg/L	700*	2,300	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	5.1	< 5.0	71	74	250	25	24	11	11	30	27	15	15	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	130	130	670	17	16	< 5.0	5.7	22	19	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Naphthalene	µg/L	31,000	200,000	19	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	82	91	400	20	19	8.6	8.7	39	36	11	11	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds																									
2,4-Dimethylphenol	µg/L	700*	700*	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	12	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
2-Methylphenol	µg/L	780	5,100	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	23	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	39	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthene	µg/L	2,000*	6,100	--	--	--	--	--	27	26	29	30	26	26	45	30	32	32	34	32	31	26	25	31	31	23	26
Acenaphthylene	µg/L	470	3,100	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	14	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31, 000	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	--	--	--	--	--	21	21	15	15	< 10	< 10	< 10	< 10	< 10	14	15	14	< 10	20	20	32	32	33	34
Naphthalene	µg/L	20*	20*	450	< 10	< 10	< 10	< 10	< 10	< 10	10	11	700	850	3,600	400	450	160	170	390	420	340	370	< 10	49	130	64
Phenanthrene	µg/L	470	3,100	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	49	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Laboratory Results - Inorganic Constituents																									
Antimony	µg/L	6.3	40	--	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	--	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	76	79.7	101	81.1	84.0	72.3	70.3	68.7	68.2	74.9	73.6	88	109	114	110	110	108	109	91.1	91.7	99	124	111	117
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 20	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Mercury	µg/L	2*	2*	--	--	--	--	--	< 0.2	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	µg/L	100	2,000	< 40	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	20	< 20	< 20
Zinc	µg/L	4,700	31,000	--	--	--	--	--	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	20	< 20	< 20
Total Cyanide	µg/L	310	2,000	130	67	77	15	58	81	86	112	114	55	50	107	64	71	98	97	50	52	19	24	43	55	97	84

Notes:

*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.

Only those constituents that are MGP-related and HSRA-regulated are reported on this table.

Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.

Exceeds Type 2 RRS (only indicated for off-site wells)

Exceeds Type 4 RRS

Appendix B-6a
Summary of Alluvium Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-102																															
				04/06/16	08/11/15	02/18/15	08/06/13	02/05/13	11/06/12	08/07/12	05/15/12	02/13/12	11/15/11	08/10/11	05/04/11	02/24/11	11/10/10	08/10/10	05/11/10	02/25/10	08/12/09	06/06/06	03/08/06	12/20/05	09/28/05	03/16/05	12/14/04	09/30/04	06/08/04	03/03/04	12/16/03	09/10/03	06/10/03	03/12/03	12/11/02***	09/19/02
Field Groundwater Quality Parameters																																			
pH	SU	--	--	5.95	5.89	6.49	5.93	6.54	6.53	5.5	5.95	6.54	5.77	6.08	6.07	6.41	6.06	6.25	6.61	6.66	5.93	5.93	6.20	6.64	6.17	6.34	6.24	6.79	6.33	6.34	6.3	6.4	6.69	6.98	NM	6.34
Specific Conductance	mMhos	--	--	300	888	451	706	824	575	645	739	711	594	472	414	322	253	300	320	246	749	302	341	312	277	308	358	361	463	450	705	561	525	616	NM	799
Temperature	°Celsius	--	--	16.08	27.50	13.84	24.87	20.69	20.89	26.12	23.47	16.77	23.72	27.53	20.58	16.6	22.19	25.33	19.87	12.47	30.10	22.76	17.74	19.58	26.38	15.74	20.28	26.12	22.74	16.35	20.69	25.3	22.39	17.59	NM	25.75
Dissolved Oxygen (YSI)	mg/L	--	--	0.26	0.98	5.83	1.71	0.51	1.75	0.81	2.20	1.56	0.97	0.92	0.90	2.03	0.50	3.0	0.8	5.85	2.69	0.29	0.59	0.44	0.20	0.63	3.14	1.28	8.10[2]	0.55	0.23	0.40	0.06	0.12	NM	0.50
ORP	mV	--	--	59.0	-15.6	81.0	-114.2	151.3	76.5	160.4	88.4	58.1	191.3	79.1	123.5	142.8	69.7	55.8	22.4	88	-160.1	45.1	135.2	-30.9	-77.8	-59.1	16.9	-100.2	52.2	56.4	-62.9	-75.5	-206.5	-124.5	NM	2.4
Turbidity	NTU	--	--	9.22	9.62	9.52	2.24	0.42	6.17	16.4	4.62	2.04	41.1	11.6	4.76	5.05	0.12	2.42	7.12	5.21	3.45	0.21	0.02	1.58	2.71	2.50	2.2	0.2	109.2	1.96	--	1.87	5.15	4.65	NM	18.0
Laboratory Results - Natural Attenuation Parameters																																			
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.59	0.32	1.07	1.84	1.95	1.72	4.71	3.80	5.21	8.85	14.5
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--	--	0.13	--	--	--	0.26	--	--	--	0.064	--	--	--	7.4	0.81	--	--	--	--	0.134	0.459	0.517	0.43	5.51	0.412	< 0.0500	< 0.500	< 0.0500	2.47	0.114
Sulfate	mg/L	--	--	--	--	--	--	350	--	--	--	220	--	--	--	66	--	--	--	29	220	--	--	--	--	51.5	4.83	30.4	81.7	78.3	50.0	104	71.9	94.1	183	105
Sulfide	mg/L	--	--	--	--	--	--	< 1.0	--	--	--	< 1.0	--	--	--	< 1.0	--	--	--	< 1.0	< 1.0	--	--	--	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.00	< 1.00
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.66	1.75	0.778	0.827	1.84	0.255	1.72	1.43	1.74	1.22	1.14
Total Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.59	1.82	0.826	0.651	2.03	0.223	1.74	1.41	1.92	1.24	0.968
Ferrous Iron	mg/L	--	--	--	--	--	--	< 0.10 HF	--	--	--	< 0.10 HF	--	--	--	< 0.010	--	--	--	0.12	< 0.010	--	--	--	--	3.0	0.6	1.1	0.2	2.6	0.4	15.2	9.4	9.02	0.133	3.72
Total Iron	mg/L	--	--	--	--	--	--	0.11	--	--	--	< 0.10	--	--	--	0.13	--	--	--	0.6	0.57	--	--	--	--	2.60	0.915	1.24	10.2	3.79	0.515	15.8	8.97	7.93	4.94	6.83
Carbon Dioxide	mg/L	--	--	--	--	--	--	37	--	--	--	0.97	--	--	--	0.78	--	--	--	0.45	1.1	--	--	--	--	100	83	49	160	120	98	120	90	49	81	150
Methane	mg/L	--	--	--	--	--	--	< 0.58	--	--	--	< 0.58	--	--	--	3.5	--	--	--	15	0.23	--	--	--	--	180	74	23	7.1	0.87	2.5	7.8	150	110	14	27
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	19	--	--	--	5.0	--	--	--	4.5	--	--	--	3.9	4.4	--	--	--	--	26	15	16	16	22	16	13	15	21	15	16
Dissolved Oxygen	mg/L	--	--	--	--	--	--	7.8	--	--	--	1.6	--	--	--	1.5	--	--	--	1.4	1.5	--	--	--	--	6.5	1.4	1.9	0.92	1.1	1.6	0.47	0.48	0.69	7.5	6.7
Laboratory Results - Organic Constituents																																			
Volatile Organic Compounds																																			
Benzene	µg/L	5*	9	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds																																			
Acenaphthene	µg/L	2,000*	6,100	< 0.50	< 0.50	< 10	< 10	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 1.0	< 1.0	< 10	< 10	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31,000	< 0.050	< 0.050	< 10	< 10	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.20	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.050	< 0.20	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.10	< 0.20	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 0.10	< 10	< 10	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 0.050	< 10	< 10	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 0.050	< 0.050	< 10	< 10	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	< 0.20	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 2.5	< 2.0	< 1.9	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 0.10	< 0.10	< 10	< 10	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 0.10	< 0.10	< 10	< 10	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.20	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 2.5	< 2.0	< 1.9	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 2.5	< 2.0	< 1.9	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 0.50	< 0.50	< 10	< 10	< 0.25	1.2	< 0.19	< 0.22	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<9.8	<9.8	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	37
Phenanthrene	µg/L	470	3,100	< 0.050	< 0.050	< 0.050	< 10	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 1.2	< 0.99	< 0.95	< 1.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	11	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 0.050	< 0.050	< 10	< 10	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Inorganic Constituents																																			
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	58.4	210	68.7	180	51	110	110	110	97	120	290	180	88	--	--	--	82	220	154	158	116	125	147	129	106	146	149	104	163	137	104	180	183
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	< 20	< 20	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	20.1	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	0.0408	< 20.0	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--	--	< 40	< 40	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	532	242	124	184	470	28	< 20	30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 20	< 20	< 20	55	< 20	< 20	< 20	< 20	< 20	30	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	< 10.0	< 10.0	17	106	22	21	180	170	34	--	--	--	55	--	--	--	46	390	57	56	57	59	41	35	90	95	101	159	133	46	190	293	283

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
** Samples collected for dissolved gases were misplaced during shipment; therefore, they were not analyzed.
*** No readings due to faulty meter.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6a
Summary of Alluvium Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-103																
				2/6/2013	02/13/12	2/22/2011	02/25/10	08/12/09	06/06/06	03/16/06	09/29/05	03/14/05	12/15/04	10/01/04	06/10/04	03/04/04	12/16/03	09/10/03	06/11/03	03/11/03	12/11/02	09/19/02
Field Groundwater Quality Parameters																					
pH	SU	--	--	5.99	5.48	5.84	4.94	5.5	6.00	6.17	6.40	6.44	6.38	6.46	6.80	6.67	6.51	6.6	6.67	6.52	6.49	6.51
Specific Conductance	mMhos	--	--	348	324	408	224	535	961	785	778	743	759	651	743	723	1,212	719	673	695	644	674
Temperature	°Celsius	--	--	20.99	15.87	20.04	15.37	25.13	22.13	20.43	24.57	20.65	22.97	25.55	21.85	20.12	22.45	24.37	21.98	20.53	23.54	26.43
Dissolved Oxygen (YSI)	mg/L	--	--	0.58	0.71	0.81	1.81	5.15	0.27	0.30	0.46	4.10	1.66	0.24	0.60	0.49	0.24	0.31	0.46	0.05	0.05	0.06
ORP	mV	--	--	116.4	44.4	112.2	263.6	100.2	80.6	101.2	-28.2	25.7	-48.3	-8.5	-45.8	-72.4	-82.3	-28.8	-22.3	-97.1	-117.9	-83.7
Turbidity	NTU	--	--	1.49	9.00	5.73	0.57	3.59	0.58	4.15	1.71	2.23	3.0	1.7	2.52	9.81	--	4.71	8.34	6.8	4.58	2.8
Laboratory Results - Natural Attenuation Parameters																					
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	33.6	25.9	17.8	31.2	25.4	1.02	40.0	37.4	9.89	9.66	20.3
Nitrogen, Nitrate (as N)	mg/L	--	--	2.5	15	0.15	7.4	35	--	--	--	3.56	3.86	3.62	4.86	1.89	3.05	5.19	6.12	< 0.0500	2.24	< 0.0500
Sulfate	mg/L	--	--	88	40	110	34	70	--	--	--	172	145	70.4	82.8	67.8	90.8	51.8	29.0	86.2	66.2	28.9
Sulfide	mg/L	--	--	< 1.0	< 1.0	1.2	< 1.0	< 1.0	--	--	--	< 1.0	< 1.0	1.0	< 1.0	1.4	3.4	< 1.0	< 1.0	< 1.0	< 1.00	< 1.00
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	0.983	1.05	0.976	0.911	1.00	0.974	0.688	0.701	1.65	1.80	1.5
Total Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	1.00	1.08	0.998	0.936	1.09	0.958	0.694	0.716	1.74	1.81	1.44
Ferrous Iron	mg/L	--	--	< 0.10 HF	< 0.10 HF	0.22	< 0.010	< 0.010	--	--	--	3.9	5.9	1.5	4.5	8.2	3.1	1.5	1.1	29.4	31.1	15.6
Total Iron	mg/L	--	--	0.64	0.23	0.93	0.38	< 0.010	--	--	--	4.30	5.68	1.93	5.51	8.98	4.58	1.73	6.17	29.1	21.9	16.3
Carbon Dioxide	mg/L	--	--	42	1.0	1.6	0.57	0.41	--	--	--	94	100	92	100	130	100	91	110	110	120	120
Methane	mg/L	--	--	0.83	< 0.58	3.0	0.37	0.9	--	--	--	57	75	140	210	240	230	200	160	320	22	240
Dissolved Nitrogen	mg/L	--	--	--	7.7	4.0	3.6	4.8	--	--	--	24	15	14	19	22	17	15	13	19	15	15
Dissolved Oxygen	mg/L	--	--	7.2	2.4	1.4	1.2	1.7	--	--	--	2.9	0.97	1.2	0.77	1.1	1.4	2.4	1.7	0.72	5.4	5.1
Laboratory Results - Organic Constituents																					
Volatile Organic Compounds																					
Benzene	µg/L	5.0*	9	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	15	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1700	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Naphthalene	µg/L	31,000	200,000	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds																					
Acenaphthene	µg/L	2,000*	6,100	< 0.20	--	--	--	--	--	--	--	< 10	< 10	< 10	30	44	50	60	39	22 J	21	21
Acenaphthylene	µg/L	470	3,100	< 0.20	--	--	--	--	--	--	--	< 10	< 10	14	14	28	30	45	18	< 10	11	< 10
Anthracene	µg/L	4,700	31, 000	< 0.20	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 2.0	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 0.20	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 0.20	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 2.0	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	< 2.0	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 0.20	< 5.0	< 5.0	< 9.8	< 9.8	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	470	3,100	< 0.20	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 1.0	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 0.20	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Laboratory Results - Inorganic Constituents																					
Antimony	µg/L	6.3	40	< 20	--	--	--	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 20	--	--	--	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	100	160	28	75	250	193	251	135	135	178	139	180	184	169	148	150	192	180	229
Beryllium	µg/L	31	200	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 20	< 20	24	< 20	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10	< 10	13	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 40	< 40	< 40	< 40	< 40	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	< 20	--	--	--	--	--	--	--	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	--	--	--	--	--	--	--	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	< 10	< 10	61	< 10	12	12	13	22	38	37	< 10	23	14	21	19	< 10	< 10	57	< 10

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6a
Summary of Alluvium Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-104																
				4/5/2016	2/5/2013	2/14/2012	2/21/2011	2/24/2010	8/11/2009	03/15/05	12/16/04	09/30/04	06/09/04	03/03/04	12/17/03	09/08/03	06/11/03	03/12/03	12/11/02	09/17/02	09/02 DUP
Field Groundwater Quality Parameters																					
pH	SU	--	--	6.53	5.73	5.36	5.52	5.85	6.28	5.56	6.21	5.48	5.80	5.60	5.68	5.60	5.65	5.62	5.41	5.24	5.24
Specific Conductance	mMhos	--	--	300	159	154	168	127	241	217	238	259	280	273	280	279	271	298	316	361	361
Temperature	°Celsius	--	--	21.37	19	17.14	20.02	9.88	31.71	18.90	22.42	26.87	22.72	18.69	20.9	27.19	22.71	17.16	21.96	27.62	27.62
Dissolved Oxygen (YSI)	mg/L	--	--	4.83	1.89	3.77	0.98	5.1	5.76	2.15	1.78	1.20	1.45	2.09	0.77	0.23	0.66	1.45	0.42	0.21	0.21
ORP	mV	--	--	65.8	215.6	7.7	-1.4	122.9	-110	227.9	78.9	148.6	136.8	101.6	215.4	26.5	120.1	232.5	253.1	231.8	231.8
Turbidity	NTU	--	--	3.95	5.55	8.05	6.07	9.21	8.84	4.51	8.69	9.0	1.74	3.52	--	1.82	0.9	4.93	28.9	0.81	0.81
Laboratory Results - Natural Attenuation Parameters																					
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200
Nitrogen, Nitrate (as N)	mg/L	--	--	--	1.5	2.7	1.9	0.79	2.2	1.54	1.44	1.63	2.61	2.36	1.87	1.57	2.11	3.15	2.74	2.63	2.61
Sulfate	mg/L	--	--	--	60	47	44	40	55	74.2	70.7	69.8	79.5	70.4	76.6	87.5	61.8	84	101	111	118
Sulfide	mg/L	--	--	--	< 1.0	12	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.00	< 1.00	< 1.00
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	0.0475	0.0482	0.0301	0.106	0.105	0.138	0.248	0.183	0.192	0.200	0.262	0.264
Total Manganese	mg/L	--	--	--	--	--	--	--	--	0.0782	0.0556	0.0327	0.104	0.12	0.145	0.233	0.177	0.192	0.212	0.256	0.237
Ferrous Iron	mg/L	--	--	--	< 0.10 HF	< 0.10 HF	< 0.010	< 0.010	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.100	< 0.200	< 0.200	< 0.200
Total Iron	mg/L	--	--	--	0.22	1.0	0.47	0.50	<0.1	0.571	0.471	0.230	< 0.1	0.189	0.415	< 0.100	0.208	0.371	0.157	2.31	1.07
Carbon Dioxide	mg/L	--	--	--	60	1.3	0.77	0.59	2.2	100	110	110	130	110	130	110	120	120	120	150	150
Methane	mg/L	--	--	--	< 0.58	< 0.58	<0.58	<0.19	<0.19	0.53	2.6	7.4	1.4	0.55	1.3	1.6	1.9	1.0	2.6	0.96	0.92
Dissolved Nitrogen	mg/L	--	--	--	18	6.4	4.8	4.1	4.4	25	15	11	16	22	18	13	16	20	14	16	14
Dissolved Oxygen	mg/L	--	--	--	8.1	2.1	1.7	1.5	1.6	5.5	3.0	4.5	1.6	4.4	2.2	2.2	1.6	3.0	7.1	7.4	6.5
Laboratory Results - Organic Constituents																					
Volatile Organic Compounds																					
Benzene	µg/L	5.0*	9	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Naphthalene	µg/L	31,000	200,000	< 5.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds																					
Acenaphthene	µg/L	2,000*	6,100	< 0.50	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 1.0	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31, 000	< 0.050	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 0.050	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 2.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 0.10	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 0.10	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 2.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	< 10	< 2.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 0.50	< 0.20	< 5.0	< 5.0	<9.4	<9.4	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	470	3,100	< 0.050	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 0.99	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 0.050	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	--	< 10	< 10	< 10	< 10	< 10
Laboratory Results - Inorganic Constituents																					
Antimony	µg/L	6.3	40	< 20.0	< 20	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 20	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	109	21	24	28	34	30	29.8	29.9	37.4	29.9	29.9	31.5	30.7	30.2	25	35	38	36
Beryllium	µg/L	31	200	< 10.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 20	< 20	< 20	< 20	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 40	< 40	< 40	< 40	< 40	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	< 20.0	< 20	--	--	--	--	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	< 10.0	< 10	< 10	< 10	< 10	12	< 10	< 10	< 10	< 10	< 10	< 10	10	< 10	< 10	< 10	11	11

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6a
Summary of Alluvium Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-104I															MW-105		
				2/5/2013	2/14/2012	2/21/2011	2/24/2010	8/11/2009	03/15/05	12/15/04	09/30/04	6/9/2004	03/03/04	12/17/03	09/08/03	06/11/03	03/11/03	12/11/02	09/19/02	04/07/16	02/06/13	06/11/03
Field Groundwater Quality Parameters																					
pH	SU	--	--	5.90	5.74	5.73	6.00	6.20	5.80	7.14	5.42	6.05	5.91	6.02	4.82	6.07	5.93	5.78	5.47	5.56	5.04	5.39
Specific Conductance	mMhos	--	--	151	137	153	128	218	224	242	248	257	274	275	303	326	318	316	308	607	317	238
Temperature	°Celsius	--	--	20.51	16.86	20.42	12.32	31.7	19.35	24.08	27.6	22.61	18.45	21.89	27.81	23.02	18.57	23.5	27.9	19.95	20.97	21.75
Dissolved Oxygen (YSI)	mg/L	--	--	0.81	3.82	0.42	2.01	5.46	0.77	0.44	0.35	0.79	0.70	0.50	0.30	0.08	0.23	0.07	0.10	1.08	1.80	1.51
ORP	mV	--	--	166.1	-21	-10.8	71.6	-134.2	212.4	-68.1	56.8	130.8	73.9	199.2	20.5	72.5	190.2	218.3	208	98.7	257.2	208.7
Turbidity	NTU	--	--	0.1	6.03	9.25	8.72	0.91	4.51	3.82	3.97	1.19	3.74	--	4.91	0	3.11	2.80	3.51	8.43	9.9	12.8
Laboratory Results - Natural Attenuation Parameters																					
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.200	< 0.200	< 0.200	< 0.200	--	--	< 0.200
Nitrogen, Nitrate (as N)	mg/L	--	--	0.77	1.6	0.63	0.63	0.85	0.85	0.764	0.851	0.909	1.25	0.367	0.362	0.977	1.24	0.935	0.757	--	3.8	2.10
Sulfate	mg/L	--	--	31	29	33	33	36	48.4	50.6	51.1	53.1	60.2	58.3	58.8	48.6	69.8	72.4	85.4	--	100	41.8
Sulfide	mg/L	--	--	< 1.0	110	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.00	< 1.00	--	< 1.0	< 1.0
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	0.166	0.160	0.197	0.429	0.414	0.503	0.502	0.529	0.697	0.694	0.79	--	--	0.0382
Total Manganese	mg/L	--	--	--	--	--	--	--	0.268	0.174	0.191	0.429	0.444	0.504	0.514	0.532	0.706	0.705	0.735	--	--	0.0522
Ferrous Iron	mg/L	--	--	< 0.10 HF	< 0.10 HF	< 0.010	< 0.010	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.100	< 0.200	< 0.200	--	< 0.10 HF	< 0.1
Total Iron	mg/L	--	--	< 0.10	< 0.10	0.58	0.58	<0.1	5.73	0.533	1.75	0.209	< 0.1	0.496	3.52	0.118	0.475	< 0.100	6.93	--	0.21	0.662
Carbon Dioxide	mg/L	--	--	62	1.3	0.61	0.61	0.25	110	120	130	110	110	110	110	110	120	110	130	--	140	170
Methane	mg/L	--	--	0.7	< 0.58	0.48	0.48	<0.19	0.37	1.8	2.9	0.55	1.9	4.1	6.5	4.0	1.7	1.5	7.9	--	< 0.58	0.93
Dissolved Nitrogen	mg/L	--	--	17	5.0	4.1	4.1	4.4	26	17	16	16	20	20	13	16	21	16	22	--	--	13
Dissolved Oxygen	mg/L	--	--	6.9	1.7	1.4	1.4	1.6	4.2	2.0	3.0	1.2	2.0	3.2	1.2	1.3	1.8	7.5	8.9	--	7.1	2.4
Laboratory Results - Organic Constituents																					
Volatile Organic Compounds																					
Benzene	µg/L	5.0*	9	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5.0	< 2.0	--
Ethylbenzene	µg/L	700*	2,300	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 5.0
Naphthalene	µg/L	31,000	200,000	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 5.0
Semivolatile Organic Compounds																					
Acenaphthene	µg/L	2,000*	6,100	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.50	< 0.20	< 10
Acenaphthylene	µg/L	470	3,100	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 1.0	< 0.20	< 10
Anthracene	µg/L	4,700	31, 000	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.050	< 0.20	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.050	< 0.20	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.050	< 0.20	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.10	< 0.20	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.10	< 0.20	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.050	< 0.20	--
Chrysene	µg/L	117	392	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.050	< 0.20	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.10	< 0.20	--
2,4-Dimethylphenol	µg/L	700*	700*	< 2.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	< 10
Fluoranthene	µg/L	1,000*	4,100	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.10	< 0.20	< 10
Fluorene	µg/L	1,000*	4,100	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.10	< 0.20	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.050	< 0.20	--
2-Methylphenol	µg/L	780	5,100	< 2.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	< 10
4-Methylphenol	µg/L	78	510	< 2.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	< 10
Naphthalene	µg/L	20*	20*	< 0.20	< 5.0	< 5.0	< 10	<11	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.50	< 0.20	< 10
Phenanthrene	µg/L	470	3,100	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.050	< 0.20	< 10
Phenol	µg/L	9,390	61,000	< 0.99	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.99	< 10
Pyrene	µg/L	1,000*	3,100	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	--	< 10	< 10	< 10	< 10	< 0.050	< 0.20	< 10
Laboratory Results - Inorganic Constituents																					
Antimony	µg/L	6.3	40	< 20	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 0.0200	< 20	< 40
Arsenic	µg/L	50*	50*	< 20	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 0.0500	< 20	< 50
Barium	µg/L	2,000	7,200	20	21	22	24	28	37.2	36.7	38.2	35.5	34.8	39.6	44.0	38.8	38	42	40	49	32	59.6
Beryllium	µg/L	31	200	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.0100	< 4.0	--
Cadmium	µg/L	7.8	51	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.0050	< 5.0	--
Chromium	µg/L	100	310	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.0100	< 10	< 10
Copper	µg/L	630	4,100	< 20	< 20	< 20	< 20	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.0100	< 20	< 10
Lead	µg/L	15*	15*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.0100	< 10	< 10
Nickel	µg/L	100	2,000	< 40	< 40	< 40	< 40	< 40	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 0.0200	< 40	< 20
Zinc	µg/L	4,700	31,000	< 20	--	--	--	--	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 0.0200	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.00020	< 0.20	< 0.5
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.010	< 10	< 10

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6a
Summary of Alluvium Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-106												MW-107												
				04/29/15	02/06/13	06/06/06	03/08/06	12/22/05	09/29/05	03/15/05	12/15/04	10/01/04	03/02/04	12/16/03	09/10/03	04/04/16	02/06/13	06/06/06	03/08/06	12/21/05	09/29/05	12/15/04	10/01/04	03/02/04	03/04 DUP	12/16/03	09/10/03	09/03 DUP
Field Groundwater Quality Parameters																												
Groundwater Elevation	ft AMSL	--	--	297.95	294.88	295.64	296.11	295.62	295.74	296.77	296.17	296.21	296.56	295.69	296.66	298.76	294.78	295.52	296.01	295.54	295.63	296.04	296.16	296.43	296.43	295.58	296.52	296.52
pH	SU	--	--	3.56	5.55	5.53	5.64	5.90	5.49	5.09	5.24	5.18	5.12	4.95	3.87	6.16	6.13	6.38	6.35	6.39	6.29	6.15	6.28	6.05	6.05	5.93	5.92	5.92
Specific Conductance	mMhos	--	--	317	451	515	425	557	553	361	426	550	516	849	393	303	469	556	483	488	524	527	502	448	448	789	496	496
Temperature	°Celsius	--	--	17.43	20.93	21.51	21.04	22.55	23.83	20.49	22.8	23.61	21.44	22.61	24.22	21.23	18.88	21.80	19.53	21.21	25.83	22.49	26.05	19.69	19.69	21.69	24.89	24.89
Dissolved Oxygen (YSI)	mg/L	--	--	3.56	0.73	0.35	0.42	0.75	0.20	0.43	3.07	0.30	0.45	0.25	0.33	0.19	0.17	0.19	0.22	0.42	0.22	1.79	0.39	0.35	0.35	0.40	0.15	0.15
ORP	mV	--	--	59.4	148.4	186.8	180.6	158.2	-33.7	267.5	154.7	81.1	113.4	123.8	180.5	51.6	-58.3	-89.1	-90.7	-66.7	-110.6	-81.6	-193.3	28.3	28.3	-111.7	-94	-94
Laboratory Results - Natural	NTU	--	--	9.02	2.07	3.93	4.9	4.7	5.98	4.32	3.7	7.10	7.55	--	15.1	31.7	9.83	3.20	4.2	4.87	4.54	5.0	2.93	10.6	10.6	--	4.8	4.8
Laboratory Results - '--tural Attenuation Parameters																												
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	2.26	1.08	1.76	1.02	35.2	1.46	1.46
Nitrogen, Nitrate (as N)	mg/L	--	--	--	0.37	--	--	--	--	1.68	0.588	< 0.0500	0.124	0.0649	< 0.0500	--	< 0.050	--	--	--	--	< 0.0500	< 0.0500	< 0.250	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Sulfate	mg/L	--	--	--	120	--	--	--	--	143	63.6	135	147	128	147	--	130	--	--	--	--	82.1	82.9	122	83.7	94.5	159	155
Sulfide	mg/L	--	--	--	< 1.0	--	--	--	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	--	< 1.0	--	--	--	--	< 1.0	1.2	< 1.0	1.3	< 1.0	< 1.0	< 1.0
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	0.266	0.209	0.239	0.358	0.512	0.511	--	--	--	--	--	--	0.480	0.528	0.691	0.696	0.792	1.03	1.03
Total Manganese	mg/L	--	--	--	--	--	--	--	--	0.276	0.215	0.231	0.368	0.507	0.487	--	--	--	--	--	--	0.511	0.504	0.72	0.724	0.778	1.00	1.02
Ferrous Iron	mg/L	--	--	--	< 0.10 HF	--	--	--	--	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.3	--	9.3 HF	--	--	--	--	5.2	5.5	6.5	8.9	5.0	7.7	7.8
Total Iron	mg/L	--	--	--	0.28	--	--	--	--	0.544	< 0.100	0.202	0.302	0.340	0.610	--	9.6	--	--	--	--	5.55	5.54	7.16	7.23	8.33	8.30	8.62
Carbon Dioxide	mg/L	--	--	--	140	--	--	--	--	200	210	250	230	240	75	--	100	--	--	--	--	120	140	150	150	110	81	73
Methane	mg/L	--	--	--	1.3	--	--	--	--	0.44	3.8	33	3.8	27	1.9	--	< 0.58	--	--	--	--	590	680	750	650	900	560	490
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	--	--	23	21	15	20	16	18	--	--	--	--	--	--	16	12	20	21	16	14	13
Dissolved Oxygen	mg/L	--	--	--	6.4	--	--	--	--	4.2	2.6	1.8	2.4	1.4	2.8	--	5.6	--	--	--	--	3.5	0.76	1.0	1.3	2.1	0.98	0.94
Laboratory Results - Organic Constituents																												
Volatile Organic Compounds																												
Benzene	µg/L	5.0*	9	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 2.0	--	--	--	--	--	--	--	--	--	--	< 5.0	< 2.0	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Naphthalene	µg/L	1,000*	1,100	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds																												
Acenaphthene	µg/L	2,000*	6,100	< 10	< 0.22	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	1.3	1.6	--	--	--	--	< 10	< 10	< 10	< 10	< 10	10	< 10
Acenaphthylene	µg/L	470	3,100	< 10	< 0.22	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 1.0	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31, 000	< 10	< 0.22	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	0.082	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	<0.050	< 0.22	--	--	--	--	--	--	--	--	--	--	< 0.050	< 0.20	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.22	--	--	--	--	--	--	--	--	--	--	< 0.050	< 0.20	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.22	--	--	--	--	--	--	--	--	--	--	< 0.10	< 0.20	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 0.22	--	--	--	--	--	--	--	--	--	--	< 0.10	< 0.20	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 0.22	--	--	--	--	--	--	--	--	--	--	< 0.050	< 0.20	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 0.22	--	--	--	--	--	--	--	--	--	--	< 0.050	< 0.20	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.22	--	--	--	--	--	--	--	--	--	--	< 0.10	< 0.20	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 2.2	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 10	< 0.22	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 0.10	0.28	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 10	< 0.22	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	0.41	1.3	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.22	--	--	--	--	--	--	--	--	--	--	< 0.050	< 0.20	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 2.2	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10	< 2.2	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 10	< 0.22	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	47	0.79	< 0.20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	69	62
Phenanthrene	µg/L	470	3,100	< 10	< 0.22	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 0.050	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 1.1	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 1.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 10	< 0.22	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	0.36	1.4	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	--
Laboratory Results - Inorganic Constituents																												
Antimony	µg/L	6.3	40	< 20.0	< 20	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 20.0	< 20	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 20	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50.0	< 20	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	32.8	25	29.8	25.8	30.1	< 20	31.1	26.9	29.2	33.5	33.7	33.3	49.1	26.0	42.8	39.2	44.5	41.6	50.2	38.3	44.3	44.0	52.8	65.3	67.3
Beryllium	µg/L	31	200	< 10.0	< 4.0	--	--	--	--	--	--	--	--	--	--	< 10.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10.0	< 10	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 20	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10.0	< 20	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	11.9	< 10	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10.0	< 10	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 40	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20.0	< 40	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	< 20.0	< 20	--	--	--	--	< 20	< 20	< 20	24.7	< 20	< 20	< 20.0	< 20	--	--	--	--	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.20	< 0.20	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	94	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	10	< 10.0	14	< 10	13	< 10	12	< 10	< 10	< 10	< 10	11	< 10	16

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6a
Summary of Alluvium Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-108										MW-109									
				04/29/15	02/06/13	02/07/12	02/18/11	02/23/10	08/12/09	03/15/05	12/16/04	10/01/04	06/10/04	04/29/15	08/08/13	02/06/13	02/08/12	02/16/11	02/16 DUP	02/23/10	08/12/09	03/15/05	12/16/04
Field Groundwater Quality Parameters																							
pH	SU	--	--	6.10	6.02	5.99	6.13	6.09	6.5	6.19	5.29	6.11	6.45	4.86	4.85	4.53	4.43	4.48		4.75	4.51	4.71	5.93
Specific Conductance	mMhos	--	--	376	286	271	275	227	225	182	215	220	203	169	146	122	130	137		140	152	207	140
Temperature	°Celsius	--	--	19.09	21.19	20.71	20.4	18.59	28.28	20.07	22.74	25.13	22.15	19.49	25.55	20.78	20.69	20.15		17.49	25.85	20.31	24.02
Dissolved Oxygen (YSI)	mg/L	--	--	0.61	1.25	1.46	0.32	1.99	2.15	4.13	0.43	0.98	0.99	0.169	1.23	6.08	1.47	6.27		4.41	3.38	5.25	5.82
ORP	mV	--	--	-39.40	154.9	9.2	39.9	64.3	47	50.9	-57	46.5	36.6	-38.3	189.2	342.6	10.2	413		153.20	-140.5	242.9	152.1
Turbidity	NTU	--	--	7.97	4.07	9.37	2.91	9.51	4.96	1.74	3.09	0.00	33.3	1.36	0.48	1.62	4.54	9.12		2.34	0.51	5.64	18.3
Laboratory Results - Natural Attenuation Parameters																							
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	< 0.20	< 0.20
Nitrogen, Nitrate (as N)	mg/L	--	--	--	0.07	0.12	0.38	0.07	< 0.050	0.304	0.0596	< 0.05	0.131	--	--	0.37	0.52	0.055	0.064	0.29	0.1	1.46	0.984
Sulfate	mg/L	--	--	--	36	33	24	24	25	9.63	13.5	16.4	14.3	--	--	29	30	27	26	31	37	54.1	24.5
Sulfide	mg/L	--	--	--	< 1.0	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	--	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	0.144	0.178	0.164	0.182	--	--	--	--	--	--	--	--	0.164	0.218
Total Manganese	mg/L	--	--	--	--	--	--	--	--	0.157	0.173	0.162	0.183	--	--	--	--	--	--	--	--	0.181	0.176
Ferrous Iron	mg/L	--	--	--	0.29 HF	2.2 HF	3.1	1.4	0.87	1.9	1.4	2.2	0.7	--	--	< 0.10 HF	< 0.10 HF	< 0.010	< 0.010	< 0.010	< 0.1	< 0.1	< 0.1
Total Iron	mg/L	--	--	--	0.61	2.6	3.2	2.8	1.2	2.09	1.56	1.58	1.71	--	--	31	< 0.10	0.36	0.22	0.11	< 0.010	1.47	0.302
Carbon Dioxide	mg/L	--	--	--	81	1.3	0.56	0.8	0.69	76	72	75	69	--	--	180	1.9	0.76	0.65	1.30	0.83	120	100
Methane	mg/L	--	--	--	8.1	11	3.0	16	5.4	13	8.5	11	11	--	--	< 0.58	0.70	<0.58	<0.58	0.51	1.6	2.6	8.6
Dissolved Nitrogen	mg/L	--	--	--	--	5.9	4.2	3.7	4.6	25	16	19	16	--	--	--	4.9	4.2	4.4	4.5	4.4	22	18
Dissolved Oxygen	mg/L	--	--	--	7.3	1.8	1.5	1.3	1.6	4.6	2.2	3.6	1.2	--	--	5.5	1.6	1.6	1.7	1.5	1.5	8.0	7.2
Laboratory Results - Organic Constituents																							
Volatile Organic Compounds																							
Benzene	µg/L	5.0*	9	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1700	< 5.0	< 2.0	--	--	--	--	--	--	--	--	< 5.0	< 5.0	< 2.0	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Naphthalene	µg/L	31,000	200,000	< 5.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds																							
Acenaphthene	µg/L	2,000*	6,100	< 10	< 0.25	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	4.4	--	--	--	--	--	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 10	< 0.25	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	11	--	--	--	--	--	< 10	< 10
Anthracene	µg/L	4,700	31, 000	< 10	< 0.25	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	1.8	--	--	--	--	--	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	<0.050	< 0.25	--	--	--	--	--	--	--	--	<0.050	< 0.20	2.6	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.25	--	--	--	--	--	--	--	--	< 0.050	< 0.20	3.2	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.25	--	--	--	--	--	--	--	--	< 0.10	< 0.20	1.7	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 0.25	--	--	--	--	--	--	--	--	< 10	< 10	1.1	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 0.25	--	--	--	--	--	--	--	--	< 10	< 10	2.2	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 0.25	--	--	--	--	--	--	--	--	< 10	< 10	2.5	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.25	--	--	--	--	--	--	--	--	< 0.10	< 0.20	0.30	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 2.5	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	--	--	--	--	--	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 10	< 0.25	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	4.7	--	--	--	--	--	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 10	< 0.25	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	6.3	--	--	--	--	--	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.25	--	--	--	--	--	--	--	--	< 0.050	< 0.20	0.65	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 2.5	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	--	--	--	--	--	< 10	< 10
3 & 4-Methylphenol	µg/L	78	510	< 10	< 2.5	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	--	--	--	--	--	< 10	< 10
Naphthalene	µg/L	20*	20*	< 10	< 0.25	< 5.0	< 5.0	<9.8	<9.4	< 10	< 10	< 10	< 10	< 10	< 10	44	< 5.0	< 5.0	< 5.0	<9.4	<11	< 10	< 10
Phenanthrene	µg/L	470	3,100	< 10	< 0.25	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	8.7	--	--	--	--	--	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 1.2	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 0.99	--	--	--	--	--	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 10	< 0.25	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	7.4	--	--	--	--	--	< 10	< 10
Laboratory Results - Inorganic Constituents																							
Antimony	µg/L	6.3	40	< 20.0	< 20	--	--	--	--	< 40	< 40	< 40	< 40	< 20.0	< 20.0	< 20	--	--	--	--	--	< 40	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 20	--	--	--	--	< 50	< 50	< 50	< 50	< 50.0	< 50.0	< 20	--	--	--	--	--	< 50	< 50
Barium	µg/L	2,000	7,200	61.1	79	78	61	62	54	47.2	53.0	51.7	56.9	78.6	73.4	36	75	97	98	77	58	164	402
Beryllium	µg/L	31	200	< 10.0	< 4.0	--	--	--	--	--	--	--	--	< 10.0	< 10.0	< 4.0	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	--	--	--	--	--	--	--	--	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 20	< 20	< 20	< 20	< 20	< 10	< 10	< 10	< 10	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 10	< 10
Lead	µg/L	15*	15*	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 40	< 40	< 40	< 40	< 40	< 20	< 20	< 20	< 20	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 20	< 20
Zinc	µg/L	4,700	31,000	< 20.0	< 20	--	--	--	--	< 20	< 20	< 20	< 20	< 20.0	< 20.0	< 20	--	--	--	--	--	38.8	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.20	< 0.20	< 0.20	--	--	--	--	--	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	30

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6a
Summary of Alluvium Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-201 (Abandoned)																				
				08/08/13	02/06/13	11/08/12	08/08/12	05/17/12	02/16/12	11/17/11	08/11/11	05/04/11	2/15/2011	11/10/2010	8/10/2010	08/10 DUP	5/11/2010	02/24/10	08/13/09	08/09 DUP	06/08/06	03/10/06	12/22/05	09/29/05
Field Groundwater Quality Parameters																								
pH	SU	--	--	5.05	5.18	5.34	4.38	5.31	5.16	5.05	5.09	5.41	5.36	4.89	5.69	5.69	5.42	5.38	5.14	5.14	5.61	4.52	5.02	6.23
Specific Conductance	mMhos	--	--	383	263	311	259	291	283	270	297	361	286	270	326	326	360	391	351	351	271	502	408	537
Temperature	°Celsius	--	--	23.23	21.42	16.87	22.75	23.04	20.10	23.12	26.92	20.23	20.47	24.36	23.76	23.76	21.74	16.98	25.35	25.35	24.41	20.70	23.27	25.74
Dissolved Oxygen (YSI)	mg/L	--	--	5.62	0.54	1.48	1.58	6.21	0.32	0.20	0.88	0.54	0.72	0.27	3.30	3.30	0.69	0.87	2.75	2.75	0.50	0.30	0.43	0.65
ORP	mV	--	--	-75.2	18	16.3	123.3	2.5	3.0	44.6	262.4	-28.6	39.9	71.5	-99.2	-99.2	-19.1	32.8	103.1	103.1	230.8	96.3	96.0	-69.1
Turbidity	NTU	--	--	0.51	1.31	1.67	683	1.95	2.73	1.07	4.5	0.85	0.75	1.41	3.37	3.37	1.34	1.42	0.00	0.00	7.34	4.6	4.96	3.52
Laboratory Results - Natural Attenuation Parameters																								
Nitrogen, Nitrate (as N)	mg/L	--	--	--	< 0.050	--	--	--	0.083	--	--	--	0.32	--	--	--	--	< 0.050	0.077	0.074	--	--	--	--
Sulfate	mg/L	--	--	--	< 5.0	--	--	--	60	--	--	--	66	--	--	--	--	120	110	110	--	--	--	--
Sulfide	mg/L	--	--	--	< 1.0	--	--	--	1.9	--	--	--	< 1.0	--	--	--	--	< 1.0	< 1.0	< 1.0	--	--	--	--
Ferrous Iron	mg/L	--	--	--	29 HF	--	--	--	16 HF	--	--	--	10	--	--	--	--	4.5	9.1	8.9	--	--	--	--
Total Iron	mg/L	--	--	--	28	--	--	--	15	--	--	--	11	--	--	--	--	4.5	9.1	9.1	--	--	--	--
Carbon Dioxide	mg/L	--	--	--	160	--	--	--	3.7	--	--	--	1.9	--	--	--	--	2	1.7	1.7	--	--	--	--
Methane	mg/L	--	--	--	250	--	--	--	350	--	--	--	190	--	--	--	--	100	96	100	--	--	--	--
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	--	4.6	--	--	--	4.2	--	--	--	--	4	4.2	4.2	--	--	--	--
Dissolved Oxygen	mg/L	--	--	--	5.8	--	--	--	1.6	--	--	--	1.4	--	--	--	--	1.3	1.5	1.5	--	--	--	--
Laboratory Results - Organic Constituents																								
Volatile Organic Compounds																								
Benzene	µg/L	5*	9	390	1,700	2,400	2,300	2,500	550	2,500	2,900	510	730	3,300	2,500	2,700	1,100	350	310	410	4,400	710	2,600	1,900
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 40	< 40	< 40	< 40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	220	1,100	1,300	1,700	1,700	410	1,100	1,300	370	510	--	--	--	--	190	180	220	1,800	500	1,100	840
Toluene	µg/L	1,000*	1,100	8.8	62	77	64	91	< 100	<250	120	< 100	31	--	--	--	--	11	<25	<25	220	23	91	40
Total Xylenes	µg/L	31,000	200,000	380	2,100	2,500	1,400	3,200	700	2,400	3,000	520	1,100	--	--	--	--	320	240	280	5,900	720	2,800	1,200
Semivolatile Organic Compounds																								
Acenaphthene	µg/L	2,000*	6,100	< 10	19	17	30	47	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 10	< 2.0	< 0.22	< 2.0	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 10	2.9	3.0	4.7	7.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.20	< 2.0	< 0.22	< 2.0	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.20	< 2.0	< 0.22	< 2.0	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.20	< 2.0	< 0.22	< 2.0	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 2.0	< 0.22	< 2.0	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 2.0	< 0.22	< 2.0	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 2.0	< 0.22	< 2.0	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.20	< 2.0	< 0.22	< 2.0	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	40	< 2.2	69	130	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 10	< 2.0	1.5	2.8	2.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	< 10	13	11	26	30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.20	< 2.0	< 0.22	< 2.0	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 20	< 2.2	< 20	< 22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 20	< 2.2	< 20	< 22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	µg/L	20*	20*	490	1,600	2,900	1,800 D	4,900	2,100	3,500	5,700 *	1,700	2,200	5,500	4,800	5,900	1,500	200	670	580	2,400	600	2,500	1,900
Phenanthrene	µg/L	470	3,100	20	60	110	150	160	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 10	< 1.1	11	< 11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	< 2.0	1.8	2.9	2.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Laboratory Results - Inorganic Constituents																								
Antimony	µg/L	6.3	40	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Barium	µg/L	2,000	7,200	25.9	860	990	1,000	1,000	370	1,100	910	280	370	--	--	--	--	100	190	170	943	190	635	< 20
Beryllium	µg/L	31	200	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10	< 10	34	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	--	< 10	< 10.0	< 10	< 10.0	10.8	< 10.0	< 10
Copper	µg/L	630	4,100	< 10.0	< 20	< 20	43	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	< 20	< 20	< 20	< 10.0	< 10.0	< 10.0	< 10
Lead	µg/L	15*	15*	< 10.0	< 10	< 10	44	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	--	< 10	< 10.0	< 10	< 10.0	18.2	< 10.0	< 10
Nickel	µg/L	100	2,000	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--	--	--	< 40	< 40	< 40	< 20.0	< 20.0	< 20.0	< 20
Zinc	µg/L	4,700	31,000	< 20.0	< 20	< 20	100	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	0.24	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6a
Summary of Alluvium Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-202 (Aband.)		MW-203 (Destroyed)															
				02/11/13	09/29/05	02/11/13	11/08/12	08/08/12	08/12 DUP	05/17/12	02/14/12	11/16/11	08/11/11	05/04/11	02/25/11	11/10/10	08/10/10	08/10 DUP	05/11/10	02/24/10	08/13/09
Field Groundwater Quality Parameters																					
pH	SU	--	--	5.08	5.9	6.23	6.21	6.41	6.41	6.77	6.14	6.27	6.44	5.99	6.12	6.17	6.11	6.11	6.00	6.38	6.78
Specific Conductance	mMhos	--	--	257	377	292	287	144	144	134	150	186	188	327	276	293	246	246	175	76	120
Temperature	°Celsius	--	--	20.38	26.15	20.59	19.64	24.47	24.47	22.91	18.42	23.92	26.94	19.86	18.71	23.2	24.32	24.32	20.26	12.11	29.32
Dissolved Oxygen (YSI)	mg/L	--	--	2.23	0.40	1.42	0.91	0.50	0.50	2.40	0.50	0.16	0.50	0.23	0.42	0.19	1.78	1.78	1.25	1.24	5.83
ORP	mV	--	--	48.5	-23	-33.5	-7.4	-11.4	-11.4	69.6	30.8	-51.7	-55.0	-76.3	-18.2	-60.6	-45.9	-45.9	36.2	50.7	22.1
Turbidity	NTU	--	--	6.97	3.93	2.71	1.21	6.79	6.79	3.14	9.21	2.54	9.52	5.68	8.6	20.6	9.63	9.63	7.57	24.2	4.5
Laboratory Results - Natural Attenuation Parameters																					
Nitrogen, Nitrate (as N)	mg/L	--	--	0.062	--	< 0.050	--	--	--	--	< 0.050	--	--	--	0.15	--	--	--	--	0.26	< 0.050
Sulfate	mg/L	--	--	40	--	9.2	--	--	--	--	9.0	--	--	--	< 5.0	--	--	--	--	< 5.0	310
Sulfide	mg/L	--	--	< 1.0	--	< 1.0	--	--	--	--	2.3	--	--	--	< 1.0	--	--	--	--	< 1.0	< 1.0
Ferrous Iron	mg/L	--	--	16 HF	--	15 HF	--	--	--	--	0.99 HF	--	--	--	13	--	--	--	--	< 0.010	< 0.010
Total Iron	mg/L	--	--	18	--	31	--	--	--	--	2.2	--	--	--	26	--	--	--	--	1	0.34
Carbon Dioxide	mg/L	--	--	160	--	110	--	--	--	--	750	--	--	--	1.6	--	--	--	--	0.16	1.7
Methane	mg/L	--	--	600	--	97	--	--	--	--	19	--	--	--	230	--	--	--	--	2.4	1.1
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	--	--	--	5400	--	--	--	4.2	--	--	--	--	4	4.2
Dissolved Oxygen	mg/L	--	--	4.6	--	5.6	--	--	--	--	1700	--	--	--	1.3	--	--	--	--	1.3	1.5
Laboratory Results - Organic Constituents																					
Volatile Organic Compounds																					
Benzene	µg/L	5*	9	1,000	1,900	8.2	< 1.0	2.2	1.2	1.5	25	60	65	400	430	< 5.0	150	150	220	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 20	--	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	720	1,100	7.0	< 1.0	< 1.0	< 1.0	< 1.0	13	7.1	9.9	120	170	--	--	--	--	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	23	23	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	<25	--	--	--	--	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	470	660	2.9	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	20	43	--	--	--	--	< 5.0	< 5.0
Semivolatile Organic Compounds																					
Acenaphthene	µg/L	2,000*	6,100	13	--	19	2.8	1.5	0.92	0.83	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 2.1	--	< 0.20	< 0.24	< 0.21	< 0.20	< 0.23	--	--	--	--	--	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	2.1	--	0.20	< 0.24	< 0.21	< 0.20	< 0.23	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 2.1	--	< 0.20	< 0.24	< 0.21	< 0.20	< 0.23	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 2.1	--	< 0.20	< 0.24	< 0.21	< 0.20	< 0.23	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 2.1	--	< 0.20	< 0.24	< 0.21	< 0.20	< 0.23	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 2.1	--	< 0.20	< 0.24	< 0.21	< 0.20	< 0.23	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 2.1	--	< 0.20	< 0.24	< 0.21	< 0.20	< 0.23	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 2.1	--	< 0.20	< 0.24	< 0.21	< 0.20	< 0.23	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 2.1	--	< 0.20	< 0.24	< 0.21	< 0.20	< 0.23	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 21	--	< 2.0	< 2.4	< 2.1	< 2.0	< 2.3	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 2.1	--	0.30	0.24	< 0.21	< 0.20	< 0.23	--	--	--	--	--	--	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	11	--	6.4	0.83	0.52	0.30	< 0.23	--	--	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 2.1	--	< 0.20	< 1.9	< 0.21	< 0.20	< 0.23	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 21	--	< 2.0	< 2.4	< 2.1	< 2.0	< 2.3	--	--	--	--	--	--	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 21	--	< 2.0	< 2.4	< 2.1	< 2.0	< 2.3	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	µg/L	20*	20*	1,900	1,300	4.7	< 0.24	1.30	0.56	0.30	7.2	21	8.4 *	220	550	< 5.0	91	80	230	< 9.9	< 9.7
Phenanthrene	µg/L	470	3,100	69	--	0.38	< 0.24	< 0.21	< 0.20	< 0.23	--	--	--	--	--	--	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	--	< 1.0	< 1.2	3.7	2.9	< 1.1	--	--	--	--	--	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 2.1	--	0.33	0.26	< 0.21	< 0.20	< 0.23	--	--	--	--	--	--	--	--	--	--	--
Laboratory Results - Inorganic Constituents																					
Antimony	µg/L	6.3	40	< 20	--	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 20	--	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--
Barium	µg/L	2,000	7,200	560	41.6	320	200	97	96	58	120	130	210	510	520	--	--	--	--	36	44
Beryllium	µg/L	31	200	< 4.0	--	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	--	< 10	< 10
Copper	µg/L	630	4,100	< 20	< 10	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	< 20	< 20
Lead	µg/L	15*	15*	17	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	--	< 10	< 10
Nickel	µg/L	100	2,000	< 40	< 20	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--	--	--	< 40	< 40
Zinc	µg/L	4,700	31,000	62	--	45	92	550	540	160	--	--	--	--	--	--	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	--	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 10	12	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	--	--	--	--	< 10	19

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6a
Summary of Alluvium Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-204 (Abandoned)														
				08/05/13	02/11/13	11/06/12	08/07/12	05/15/12	02/13/12	11/17/11	08/09/11	05/03/11	02/15/11	11/09/10	08/11/10	05/11/10	02/24/10	08/14/09
Field Groundwater Quality Parameters																		
pH	SU	--	--	5.19	6.03	5.72	5.05	5.72	5.78	5.72	5.55	5.69	5.84	5.77	5.94	5.86	6.10	6.12
Specific Conductance	mMhos	--	--	702	287	668	673	680	497	719	680	678	385	543	658	601	501	794
Temperature	°Celsius	--	--	26.72	20.92	20.85	24.52	23.72	19.43	21.54	24.92	20.84	21.05	25.05	25.42	21.91	13.95	25.39
Dissolved Oxygen (YSI)	mg/L	--	--	1.53	0.86	0.35	0.24	0.35	0.89	0.28	0.91	0.20	1.25	0.36	0.58	0.57	1.68	1.71
ORP	mV	--	--	-68.0	-12.2	30.6	197.8	173.0	36.8	103.3	106.4	-15.0	103.4	149.0	1.3	57.2	74.9	109.3
Turbidity	NTU	--	--	1.39	0.44	6.25	2.40	0.58	9.27	5.06	7.67	3.31	9.82	2.33	7.61	8.19	9.34	4
Laboratory Results - Natural Attenuation Parameters																		
Nitrogen, Nitrate (as N)	mg/L	--	--	--	< 0.050	--	--	--	0.060	--	--	--	0.062	--	--	--	< 0.050	0.056
Sulfate	mg/L	--	--	--	54	--	--	--	140	--	--	--	110	--	--	--	150	6.8
Sulfide	mg/L	--	--	--	< 1.0	--	--	--	< 1.0	--	--	--	< 1.0	--	--	--	< 1.0	< 1.0
Ferrous Iron	mg/L	--	--	--	0.15 HF	--	--	--	0.11 HF	--	--	--	0.11	--	--	--	< 0.010	0.13
Total Iron	mg/L	--	--	--	< 0.10	--	--	--	0.36	--	--	--	1.9	--	--	--	0.82	1.3
Carbon Dioxide	mg/L	--	--	--	120	--	--	--	1.4	--	--	--	1.1	--	--	--	2.1	0.079
Methane	mg/L	--	--	--	< 0.58	--	--	--	1.1	--	--	--	<0.58	--	--	--	7.1	4.1
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	--	4.5	--	--	--	4.3	--	--	--	2.9	1.7
Dissolved Oxygen	mg/L	--	--	--	5.9	--	--	--	1.5	--	--	--	1.5	--	--	--	0.98	1.7
Laboratory Results - Organic Constituents																		
Volatile Organic Compounds																		
Benzene	µg/L	5*	9	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0	< 5.0
Semivolatile Organic Compounds																		
Acenaphthene	µg/L	2,000*	6,100	< 10	< 0.20	< 0.20	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 10	< 0.20	< 0.20	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 10	< 0.20	< 0.20	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.20	< 0.20	< 0.20	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.20	< 0.20	< 0.20	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.20	< 0.20	< 0.20	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 0.20	< 0.20	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 0.20	< 0.20	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 0.20	< 0.20	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.20	< 0.20	< 0.20	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 2.0	< 2.0	< 1.9	< 2.3	--	--	--	--	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 10	< 0.20	< 0.20	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	< 10	< 0.20	< 0.20	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.20	< 0.20	< 0.20	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 2.0	< 2.0	< 1.9	< 2.3	--	--	--	--	--	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 2.0	< 2.0	< 1.9	< 2.3	--	--	--	--	--	--	--	--	--	--
Naphthalene	µg/L	20*	20*	< 10	< 0.20	3.0	< 0.19	< 0.23	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<9.9	<9.4
Phenanthrene	µg/L	470	3,100	< 10	< 0.20	< 0.20	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 0.99	< 1.0	< 0.96	< 1.1	--	--	--	--	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	< 0.20	0.36	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--
Laboratory Results - Inorganic Constituents																		
Antimony	µg/L	6.3	40	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--
Barium	µg/L	2,000	7,200	54.5	44	44	59	41	43	42	53	48	47	--	--	--	41	57
Beryllium	µg/L	31	200	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--	--	< 40	< 40
Zinc	µg/L	4,700	31,000	< 20.0	< 20	21	28	< 20	--	--	--	--	--	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 10	10	< 10	15	21	< 10	--	--	--	< 10	--	--	--	< 10	< 10

Notes:

*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.

Only those constituents that are MGP-related and HSRA-regulated are reported on this table.

Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.

Exceeds Type 2 RRS (only indicated for off-site wells)

Exceeds Type 4 RRS

Appendix B-6a
Summary of Alluvium Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-205																	MW-206
				04/27/15	08/06/13	02/07/13	11/07/12	08/07/12	05/17/12	02/14/12	11/15/11	08/10/11	05/03/11	02/23/11	02/11 DUP	11/09/10	11/10 DUP	08/10/10	08/10 DUP	05/10/10	02/23/10	02/11/13
Field Groundwater Quality Parameters																					
pH	SU	--	--	6.45	8.08	6.32	6.28	6.17	6.74	6.16	6.34	6.18	6.08	6.39	6.39	6.24	6.24	4.16	4.16	6.25	6.37	5.8
Specific Conductance	mMhos	--	--	272	293	244	276	297	295	251	293	289	323	273	273	314	314	328	328	314	339	521
Temperature	°Celsius	--	--	20.23	24.72	18.09	20.72	24.17	22.74	19.10	22.57	23.92	20.23	19.7	19.7	22.24	22.24	23.68	23.68	19.18	17.18	19.01
Dissolved Oxygen (YSI)	mg/L	--	--	1.0	0.06	1.29	1.35	2.0	0.34	2.05	0.22	0.28	0.17	0.32	0.32	0.25	0.25	0.27	0.27	0.73	3.77	0.24
ORP	mV	--	--	-62.7	-94.1	-27.1	-43.5	7.6	-66.6	-29.9	-100.0	146.2	-102.1	-105.6	-105.6	-1.0	-1.0	79.5	79.5	-102.8	-45.6	-3.1
Turbidity	NTU	--	--	0.56	1.96	5.81	0.95	1.59	3.58	3.11	7.26	2.02	0.89	2.43	2.43	1.18	1.18	0.65	0.65	2.97	3.61	32.9
Laboratory Results - Natural Attenuation Parameters																					
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	< 0.050	--	--	--	< 0.050	--	--	--	< 0.050	0.07	--	--	--	--	--	< 0.050	< 0.050
Sulfate	mg/L	--	--	--	--	12	--	--	--	7.2	--	--	--	< 5.0	< 5.0	--	--	--	--	--	< 5.0	150
Sulfide	mg/L	--	--	--	--	< 1.0	--	--	--	< 1.0	--	--	--	< 1.0	< 1.0	--	--	--	--	--	< 1.0	< 1.0
Ferrous Iron	mg/L	--	--	--	--	17 HF	--	--	--	21 HF	--	--	--	6.1	5.7	--	--	--	--	--	23	14 HF
Total Iron	mg/L	--	--	--	--	20	--	--	--	24	--	--	--	26	22	--	--	--	--	--	30	15
Carbon Dioxide	mg/L	--	--	--	--	86	--	--	--	1.8	--	--	--	1.1	1.1	--	--	--	--	--	1.3	150
Methane	mg/L	--	--	--	--	22	--	--	--	42	--	--	--	55	62	--	--	--	--	--	150	7.1
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	--	--	6.5	--	--	--	4.3	4.5	--	--	--	--	--	3.3	--
Dissolved Oxygen	mg/L	--	--	--	--	5.0	--	--	--	1.9	--	--	--	1.3	1.4	--	--	--	--	--	0.98	6.6
Laboratory Results - Organic Constituents																					
Volatile Organic Compounds																					
Benzene	µg/L	5*	9	66	53	5.8	24	16	42	26	62	350	37	19	55	580	33	33	33	63	91	< 1.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	< 2.0
Ethylbenzene	µg/L	700*	2,300	150	130	4.5	32	18	75	29	34	230	66	67	120	--	--	--	--	--	130	< 1.0
Toluene	µg/L	1,000*	1,100	13	11	< 1.0	1.5	1.0	8.8	< 5.0	< 5.0	41	8.1	8.9	15	--	--	--	--	--	17	< 1.0
Total Xylenes	µg/L	31,000	200,000	100	98	7.2	15	11	57	29	18	240	42	51	99	--	--	--	--	--	100	< 2.0
Semivolatile Organic Compounds																					
Acenaphthene	µg/L	2,000*	6,100	72	55	36	47	34	49	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Acenaphthylene	µg/L	470	3,100	< 10	< 10	< 0.19	< 0.23	4.0	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Anthracene	µg/L	4,700	31,000	< 10	< 10	1.3	2.1	2.1	2.5	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Benzo[a]anthracene	µg/L	1.17	3.92	0.20	< 0.20	0.19	< 0.23	< 0.21	0.28	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.20	< 0.19	< 0.23	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.20	< 0.19	< 0.23	< 0.21	0.22	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 10	< 0.19	< 0.23	< 0.21	0.22	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 10	< 0.19	< 0.23	< 0.21	0.21	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Chrysene	µg/L	117	392	< 10	< 10	0.26	< 0.23	0.22	0.31	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.20	< 0.19	< 0.23	< 0.21	0.22	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 1.9	< 2.3	< 2.1	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	< 2.0
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	2.9	3.6	3.6	3.0	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Fluorene	µg/L	1,000*	4,100	32	21	18	23	21	25	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.20	< 0.19	< 0.23	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 1.9	< 2.3	< 2.1	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	< 2.0
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 1.9	< 2.3	< 2.1	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	< 2.0
Naphthalene	µg/L	20*	20*	280	160	19	55	28	150	130	79	940 *	140	580	330	120	100	63	63	270	160	< 0.20
Phenanthrene	µg/L	470	3,100	29	17	3.7	9.4	5.8	14	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Phenol	µg/L	9,390	61,000	< 10	< 10	1.0	< 1.1	< 1.0	< 1.0	--	--	--	--	--	--	--	--	--	--	--	--	< 1.0
Pyrene	µg/L	1,000*	3,100	< 10	< 10	4.1	3.8	4.1	4.3	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Laboratory Results - Inorganic Constituents																					
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	< 20
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	< 20
Barium	µg/L	2,000	7,200	90.8	91.5	51	64	58	68	63	87	190	71	82	64	--	--	--	--	--	110	29.0
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	< 4.0
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	< 5.0
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	--	--	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	--	--	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--	--	--	--	< 40	< 40
Zinc	µg/L	4,700	31,000	242	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	< 10	--	--	--	--	--	< 10	< 10

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6a
Summary of Alluvium Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-400	
				4/6/2016	04/29/15
roundwater Quality Parameters					
pH	SU	--	--	5.54	5.90
Specific Conductance	mMhos	--	--	1000	520
Temperature	°Celsius	--	--	21.48	16.72
Dissolved Oxygen (YSI)	mg/L	--	--	0.24	2.71
ORP	mV	--	--	119.7	-7.1
Turbidity	NTU	--	--	4.37	9.2
Laboratory Results - Natural Attenuation Parameters					
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--
Sulfate	mg/L	--	--	--	--
Sulfide	mg/L	--	--	--	--
Ferrous Iron	mg/L	--	--	--	--
Total Iron	mg/L	--	--	--	--
Carbon Dioxide	mg/L	--	--	--	--
Methane	mg/L	--	--	--	--
Dissolved Nitrogen	mg/L	--	--	--	--
Dissolved Oxygen	mg/L	--	--	--	--
Laboratory Results - Organic Constituents					
Volatile Organic Compounds					
Benzene	µg/L	5*	9	11	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0
Semivolatile Organic Compounds					
Acenaphthene	µg/L	2,000*	6,100	1.0	< 10
Acenaphthylene	µg/L	470	3,100	1.30	< 10
Anthracene	µg/L	4,700	31,000	0.15	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	<0.050
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 10
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 10
Chrysene	µg/L	117	392	< 0.050	< 10
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	0.11	< 10
Fluorene	µg/L	1,000*	4,100	0.28	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050
2-Methylphenol	µg/L	780	5,100	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10
Naphthalene	µg/L	20*	20*	1.70	< 10
Phenanthrene	µg/L	470	3,100	< 0.050	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10
Pyrene	µg/L	1,000*	3,100	0.14	< 10
Inorganic Constituents					
Antimony	µg/L	6.3	40	< 20.0	< 20.0
Arsenic	µg/L	50*	50*	< 50.0	< 50.0
Barium	µg/L	2,000	7,200	67.6	38.1
Beryllium	µg/L	31	200	< 10.0	< 10.0
Cadmium	µg/L	7.8	51	< 5.0	< 5.0
Chromium	µg/L	100	310	< 10.0	< 10.0
Copper	µg/L	630	4,100	< 10.0	< 10.0
Lead	µg/L	15*	15*	< 10.0	< 10.0
Nickel	µg/L	100	2,000	< 20.0	< 20.0
Zinc	µg/L	4,700	31,000	88.7	< 20.0
Mercury	µg/L	2*	2*	< 0.20	< 0.20
Total Cyanide	µg/L	310	2,000	< 10	9.9

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6b
Summary of Bedrock Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-08D		
				04/27/15	08/06/14	12/07/06
Field Groundwater Quality Parameters						
pH	SU	--	--	5.61	7.22	--
Specific Conductance	mMhos	--	--	336	338	--
Temperature	°Celsius	--	--	21.31	22.45	--
Dissolved Oxygen (YSI)	mg/L	--	--	0.49	0.95	--
ORP	mV	--	--	-66.2	-105.7	--
Turbidity	NTU	--	--	14.8	2.24	--
Laboratory Results - Natural Attenuation Parameters						
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--
Sulfate	mg/L	--	--	--	--	--
Sulfide	mg/L	--	--	--	--	--
Ferrous Iron	mg/L	--	--	--	--	--
Total Iron	mg/L	--	--	--	--	--
Carbon Dioxide	mg/L	--	--	--	--	--
Methane	mg/L	--	--	--	--	--
Dissolved Nitrogen	mg/L	--	--	--	--	--
Dissolved Oxygen	mg/L	--	--	--	--	--
Laboratory Results - Organic Constituents						
Volatile Organic Compounds						
Benzene	µg/L	5*	9	< 5.0	< 5.0	< 5
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 5
Semivolatile Organic Compounds						
Acenaphthene	µg/L	2,000*	6,100	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 10	< 10	< 10
Anthracene	µg/L	4,700	31,000	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 10
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 10
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 10
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 10	< 10
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 10	< 10
Chrysene	µg/L	117	392	< 10	< 10	< 10
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 10
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 10
2-Methylphenol	µg/L	780	5,100	< 10	< 10	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	--
Naphthalene	µg/L	20*	20*	< 10	< 10	< 10
Phenanthrene	µg/L	470	3,100	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 10	< 10	< 10
Inorganic Constituents						
Antimony	µg/L	6.3	40	< 20.0	< 20.0	--
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	--
Barium	µg/L	2,000	7,200	902	9790	--
Beryllium	µg/L	31	200	< 10.0	< 10.0	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	--
Chromium	µg/L	100	310	< 10.0	< 10.0	--
Copper	µg/L	630	4,100	< 10.0	< 10.0	--
Lead	µg/L	15*	15*	< 10.0	< 10.0	--
Nickel	µg/L	100	2,000	< 20.0	< 20.0	--
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	--
Mercury	µg/L	2*	2*	< 0.20	< 0.20	--
Total Cyanide	µg/L	310	2,000	< 10	12	--

Notes:
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6b
Summary of Bedrock Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-09D (Abandoned)																												
				02/19/14	08/05/14	8/05 DUP	08/07/13	02/07/13	11/07/12	08/09/12	05/16/12	02/07/12	11/16/11	11/16 DUP	08/11/11	08/11 DUP	05/05/11	02/18/11	11/09/10	08/10/10	05/10/10	02/23/10	02/10 DUP	08/13/09	06/08/06	03/10/06	12/22/05	12/05 DUP	09/29/05	02/28/05	02/05 DUP	12/16/04
Field Groundwater Quality Parameters																																
pH	SU	--	--	6.29	6.80		7.31	6.11	6.22	6.37	6.65	6.67	6.58	6.58	6.78	6.78	6.86	6.31	6.41	6.17	6.17	7.18	7.18	7.12	6.82	6.58	6.70	6.70	7.06	8.85	8.85	8.85
Specific Conductance	mMhos	--	--	257	364		419	243	225	400	273	374	385	385	433	433	425	243	270	281	278	404	404	362	320	285	277	277	308	355	355	326
Temperature	°Celsius	--	--	20.80	23.63		23.28	14.62	19.58	25.52	25.18	18.94	23.14	23.14	24.60	24.60	21.24	22.43	24.41	24.69	21.61	20.41	20.41	24.67	22.62	19.72	20.77	20.77	21.94	19.84	19.84	21.20
Dissolved Oxygen (YSI)	mg/L	--	--	0.31	0.34		0.15	0.17	1.65	0.84	1.13	1.32	0.24	0.24	0.70	0.70	0.32	0.12	0.22	0.33	1.16	1.28	1.28	4.31	0.22	0.31	0.46	0.46	0.20	1.53	1.53	1.69
ORP	mV	--	--	78.3	-30.4		-91.6	-82.4	41.8	-35.2	-27.9	-77.6	-88.5	-88.5	150.5	150.5	-104.6	-73.1	-88.3	-60.8	-36.9	-120.6	-120.6	-47.4	-127.8	-105.0	-96.4	-96.4	-70.1	-65.8	-65.8	-47.5
Turbidity	NTU	--	--	0.76	1.37		0.39	0.69	2.51	2.97	2.45	0.54	0.53	0.53	8.82	8.82	5.26	0.63	0.65	0.27	0.71	1.23	1.23	0	0.79	1.2	2.69	2.69	3.14	11.7	11.7	9.19
Laboratory Results - Natural Attenuation Parameters																																
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20	< 0.20	< 0.20
Nitrogen, Nitrate (as N)	mg/L	--	--	< 0.25	--	--	--	< 0.050	--	--	--	< 0.050	--	--	--	--	--	< 0.050	--	--	--	< 0.050	< 0.050	< 0.050	--	--	--	--	--	< 0.0500	< 0.500	< 0.0500
Sulfate	mg/L	--	--	2.1	--	--	--	< 5.0	--	--	--	< 5.0	--	--	--	--	--	< 5.0	--	--	--	< 5.0	< 5.0	< 5.0	--	--	--	--	--	1.32	4.42	3.78
Sulfide	mg/L	--	--	< 1.0	--	--	--	< 1.0	--	--	--	1.1	--	--	--	--	--	< 1.0	--	--	--	< 1.0	< 1.0	< 1.0	--	--	--	--	--	< 1.0	< 1.0	< 1.0
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0868	0.0825	0.0426
Total Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.141	0.142	0.138
Ferrous Iron	mg/L	--	--	< 0.100	--	--	--	<0.100	--	--	--	1.0 HF	--	--	--	--	--	0.55 HF	--	--	--	0.17	< 0.010	0.34	--	--	--	--	--	0.4	0.4	0.7
Total Iron	mg/L	--	--	0.211	--	--	--	0.211	--	--	--	2.7	--	--	--	--	--	1.1	--	--	--	1.1	1.2	1.5	--	--	--	--	--	1.65	1.59	2.40
Carbon Dioxide	mg/L	--	--	45	--	--	--	45	--	--	--	0.63	--	--	--	--	--	0.53	--	--	--	0.26	0.24	0.2	--	--	--	--	--	0.6	2.6	0.52
Methane	mg/L	--	--	15	--	--	--	15	--	--	--	1500	--	--	--	--	--	570	--	--	--	36	<0.19	<0.19	--	--	--	--	--	350	340	600
Dissolved Nitrogen	mg/L	--	--	19	--	--	--	19	--	--	--	5.1	--	--	--	--	--	3.8	--	--	--	3.7	4.3	4.4	--	--	--	--	--	22	20	20
Dissolved Oxygen	mg/L	--	--	4.7	--	--	--	4.7	--	--	--	1.6	--	--	--	--	--	1.3	--	--	--	1.1	1.3	1.5	--	--	--	--	--	4.8	2.6	1.4
Laboratory Results - Organic Constituents																																
Volatile Organic Compounds																																
Benzene	µg/L	5*	9	< 5.0	77	86	350	< 1.0	< 1.0	< 1.0	< 5.0	16	44	38	91	93	13	5.6	13	7.5	7.0	94	88	23	59	58	45	44	120	550	550	560
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	7.7	< 5.0	6.6	7.5	6.1	< 5.0	< 5.0	5.4	6.3	--	--	--	16	14	10	11	7.3	9.6	9.5	11	5.6	5.7	16
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	11	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0	< 5.0	< 5.0	< 5.0	5.0	8.4	8.2	14	44	45	98
Semivolatile Organic Compounds																																
Acenaphthene	µg/L	2,000*	6,100	< 10	< 10	< 10	< 10	0.87	< 0.19	0.71	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 10	< 10	< 10	< 10	< 0.26	< 0.19	< 0.19	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
Anthracene	µg/L	4,700	31,000	< 10	< 10	< 10	< 10	< 0.26	< 0.19	< 0.19	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.20	< 0.26	< 0.19	< 0.19	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.050	< 0.20	< 0.26	< 0.19	< 0.19	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.10	< 0.20	< 0.26	< 0.19	< 0.19	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 10	< 10	< 10	< 0.26	< 0.19	< 0.19	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 10	< 10	< 10	< 0.26	< 0.19	< 0.19	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 10	< 10	< 10	< 0.26	< 0.19	< 0.19	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	< 0.20	< 0.26	< 0.19	< 0.19	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 2.6	< 1.9	< 1.9	4.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	48	44	48
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	< 10	< 10	< 0.26	< 0.19	< 0.19	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 10	< 10	< 10	< 10	< 0.26	< 0.19	0.23	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.20	< 0.26	< 0.19	< 0.19	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 2.6	< 1.9	< 1.9	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 2.6	< 1.9	< 1.9	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 10	130	120	96	2.2	< 0.19	29	0.21	82	120	80	58	58	11	41	6.0	< 10	80	58	54	16	33	< 10	< 10	13	< 10	120	100	140
Phenanthrene	µg/L	470	3,100	< 10	< 10	< 10	< 10	< 0.26	< 0.19	< 0.19	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 1.3	< 0.97	< 0.95	< 1.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 10	< 10	< 10	< 10	< 0.26	< 0.19	< 0.19	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
Inorganic Constituents																																
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	2,290	3,050	3,080	3,250	2,300	2,200	2,900	2,300	3,000	3,100	3,100	2,600	2,600	2,700	2,000	--	--	--	2,100	2,100	2,100	1,650	1,580	1,480	1,470	1,380	1,100	1,110	1,080
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	7.4	< 4.0	5.0	5.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 10.0	< 20	21	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	< 20	< 20	< 20	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--	--	< 40	< 40	< 40	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20	23	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	--	--	16	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6b
Summary of Bedrock Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-12DRR								
				04/05/16	08/13/15	08/15 DUP	02/16/15	02/18/14	02/14 DUP	08/05/14	08/14 DUP	08/06/13
Field Groundwater Quality Parameters												
pH	SU	--	--	6.48	6.36		6.54	6.68		6.41		6.33
Specific Conductance	mMhos	--	--	540	530		438	445		504		521
Temperature	°Celsius	--	--	22.43	25.82		17.65	20.79		23.69		25.49
Dissolved Oxygen (YSI)	mg/L	--	--	0.37	0.32		0.55	0.22		0.38		0.58
ORP	mV	--	--	-108.91	-170.70		-60.0	-56.1		-112.4		-94.7
Turbidity	NTU	--	--	1.84	6.65		4.20	1.45		0.52		9.41
Laboratory Results - Natural Attenuation Parameters												
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--	< 0.25	< 0.25	< 0.25	--	--	--
Sulfate	mg/L	--	--	--	--	--	1.4	1.1	< 1.0	--	--	--
Sulfide	mg/L	--	--	--	--	--	< 1.0	< 1.0	< 1.0	--	--	--
Ferrous Iron	mg/L	--	--	--	--	--	3.98	2.1	1.92	--	--	--
Total Iron	mg/L	--	--	--	--	--	5.19	5.53	5.61	--	--	--
Carbon Dioxide	mg/L	--	--	--	--	--	94	85	84	--	--	--
Carbon Monoxide	mg/L	--	--	--	--	--	< 1.0	< 1.0	< 1.0	--	--	--
Methane	mg/L	--	--	--	--	--	920	840	780	--	--	--
Dissolved Nitrogen	mg/L	--	--	--	--	--	21	20	19	--	--	--
Dissolved Oxygen	mg/L	--	--	--	--	--	2.7	2.6	2.0	--	--	--
Laboratory Results - Organic Constituents												
Volatile Organic Compounds												
Benzene	µg/L	5.0*	9.0	96	250	180	280	280	290	340	370	460
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/L	700*	2,300	36	110	77	100	120	130	130	160	180
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	6.9	7.0	5.4	5.9	9.8
Total Xylenes	µg/L	31,000	200,000	22	60	43	100	94	98	56	65	100
Semivolatile Organic Compounds												
Acenaphthene	µg/L	2,000*	6,100	< 50	39	31	< 10	35	35	39	33	30
Acenaphthylene	µg/L	470	3,100	8.9	9.6	7.5	< 10	12	12	16	14	14
Anthracene	µg/L	4,700	31, 000	1.7	3.7	3.0	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	0.140	0.23	0.30	0.079	0.29	0.27	0.17	0.14	< 0.20
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	0.083	< 0.050	0.087	< 0.050	< 0.050	< 0.050	< 0.20
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	0.11	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 0.10	0.12	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 0.050	0.10	< 10	< 10	< 10	< 10	< 10	< 10
Chrysene	µg/L	117	392	0.12	0.14	0.22	< 10	< 10	< 10	< 10	< 10	< 10
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	0.11	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	4.6	6.3	5.8	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	31	36	28	31	40	41	48	42	35
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	0.11	< 0.050	0.087	< 0.050	< 0.050	< 0.050	< 0.20
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	260	550	550	770	530	570	1,000	870	1,400
Phenanthrene	µg/L	470	3,100	7.6	18	13	13	14	17	25	23	28
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	5.2	7.1	6.2	< 10	< 10	< 10	< 10	< 10	< 10
Laboratory Results - Inorganic Constituents												
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0
Barium	µg/L	2,000	7,200	1,390	1,680	1,620	1,550	1,420	1,430	1,610	1,630	1,530
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Nickel	µg/L	100	2,000	42.1	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20.0	42.8	< 20.0	< 20.0	< 20.0	< 20.0	43.9
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Total Cyanide	µg/L	310	2,000	23	26	37	33	26	20	48	37	40

Notes:

*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.

Only those constituents that are MGP-related and HSRA-regulated are reported on this table.

Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.

Exceeds Type 2 RRS (only indicated for off-site wells)

Exceeds Type 4 RRS

Appendix B-6b
Summary of Bedrock Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-12DR					MW-12D																			
				11/10/10	08/10/10	05/10/10	05/10 DUP	02/23/10	08/14/09	06/07/06	03/09/06	03/06 DUP	12/21/05	12/05 DUP	09/29/05	03/02/05	12/16/04	12/04 DUP	10/01/04	06/09/04	03/04/04	12/17/03	12/03 DUP	09/10/03	06/10/03	03/12/03	12/10/02	09/18/02	11/06/01
Field Groundwater Quality Parameters																												
pH	SU	--	--	12.24	12.31	12.69	12.69	12.13	7.24	8.11	7.41	7.41	6.99	6.99	6.62	6.55	6.45	6.45	6.68	6.90	6.97	6.53	6.53	7.01	7.07	6.73	6.58	6.82	6.80
Specific Conductance	mMhos	--	--	1,327	1,922	1,851	18,510	2,398	376	831	664	664	798	798	760	1,242	1642	1642	1,569	406	440	672	672	288	295	400	393	400	376
Temperature	℃elsius	--	--	22.4	25.55	23.04	23.04	12.87	27.19	24.64	21.77	21.77	19.92	19.92	23.76	21.93	23.15	23.15	24.44	22.52	22.06	21.84	21.84	24.26	23.57	22.36	22.27	24.14	24.49
Dissolved Oxygen (YSI)	mg/L	--	--	0.71	0.76	1.24	1.24	1.08	5.73	0.13	0.31	0.31	0.19	0.19	0.16	1.16	3.67	3.67	3.25	0.55	0.35	0.30	0.30	0.19	0.07	0.04	0.18	0.03	0.09
ORP	mV	--	--	-128.6	-54.2	-108.6	-108.6	-105.0	-85.0	-145.5	-55.9	-55.9	-72.2	-72.2	-76.5	-18.4	12.7	12.7	-2.4	-111.6	-164.0	-191	-191	-177	-156	-118.3	-99.6	-178.4	-135.2
Turbidity	NTU	--	--	6.24	0.65	5.52	5.52	0.62	3.32	4.60	2.8	2.8	0.00#	0.00#	1.29	4.34	4.51	4.51	2.3	3.14	5.63	--	--	11.0	5.1	0.9	4.3	10	31
Laboratory Results - Natural Attenuation Parameters																												
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.84	9.49	10.3	13.0	0.42	0.56	0.47	0.47	0.60	0.546	0.754	0.505	0.724	0.448
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--	--	< 0.050	< 0.050	--	--	--	--	--	--	< 0.500	0.0529	0.162	0.241	< 0.5	< 0.250	< 0.0500	< 0.0500	< 0.0500	< 0.500	< 0.0500	< 0.050	< 0.050	0.454
Sulfate	mg/L	--	--	--	--	--	--	290	26	--	--	--	--	--	--	302	352	486	187	2.19	2.70	3.73	4.16	8.82	3.06	5.81	5.10	4.08	4.28
Sulfide	mg/L	--	--	--	--	--	--	< 1.0	< 1.0	--	--	--	--	--	--	< 1.0	< 1.0	< 1.0	2.8	< 1.0	< 1.0	1.3	1.6	< 1.0	< 1.0	< 1.0	< 1.00	< 1.00	0.500
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.87	2.16	2.15	1.74	0.548	0.584	0.663	0.664	0.474	0.497	0.514	0.525	0.522	0.451
Total Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.90	2.29	2.39	1.77	0.556	0.673	0.669	0.668	0.504	0.543	0.532	0.614	0.483	0.519
Ferrous Iron	mg/L	--	--	--	--	--	--	< 0.010	0.24	--	--	--	--	--	--	0.9	< 0.1	< 0.1	< 0.1	2.4	3.2	1.5	8.6	1.9	1.9	1.69	2.78	1.55	1.89
Total Iron	mg/L	--	--	--	--	--	--	0.14	2.8	--	--	--	--	--	--	6.45	6.01	6.29	2.58	2.13	3.83	2.78	2.77	2.41	2.66	1.72	4.18	1.75	2.67
Carbon Dioxide	mg/L	--	--	--	--	--	--	< 0.050	0.15	--	--	--	--	--	--	120	150	150	130	41	< 0.6	51	49	14	21	40	40	33	23
Methane	mg/L	--	--	--	--	--	--	47	40	--	--	--	--	--	--	360	360	350	470	2,600	120	2,900	3,000	150	2,000	3,300	2,600	3,000	380
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	4	5	--	--	--	--	--	--	15	16	14	14	16	24	20	21	14	17	18	17	20	13
Dissolved Oxygen	mg/L	--	--	--	--	--	--	1.5	1.8	--	--	--	--	--	--	1.3	4.3	3.3	12	0.46	2.7	1.1	1.1	0.66	0.63	0.66	4.9	7.1	0.78
Laboratory Results - Organic Constituents																												
Volatile Organic Compounds																												
Benzene	µg/L	5.0*	9.0	250	190	170	190	200	13	18	38	38	47	84	300	200	240	250	320	4,300	2,900	4,200	3,400	11	920	2,400	2,200	1,500	4,700
Carbon Disulfide	µg/L	329	1,700	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	--	--	--	--	33	5.4	9.3	26	25	10	20	59	44	41	41	20	1,100	620	910	740	< 5.0	390	830	830	510	1,200
Toluene	µg/L	1,000*	1,100	--	--	--	--	130	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	6.8	5.0	< 5.0	< 5.0	48	< 250	24	68	72	< 5.0	6.0	14	19	20	11
Total Xylenes	µg/L	31,000	200,000	--	--	--	--	250	< 5.0	< 5.0	6.4	6.3	7.2	12	60	48	45	47	48	830	170	1,320	1,070	< 5.0	300	740	200	500	92
Semivolatile Organic Compounds																												
Acenaphthene	µg/L	2,000*	6,100	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	78	79	100	100	56	30	< 100	63	49	< 10
Acenaphthylene	µg/L	470	3,100	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	23	23	27	26	13	< 10	< 100	17	17	42
Anthracene	µg/L	4,700	31, 000	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 100	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 100	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 100	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	59	63	78	79	43	24	< 100	48	39	30
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 100	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 100	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	430	790	330	200	890	28	20	220	300	200	240	< 10	240	400	340	< 10	8,400	5,900	9,400	8,900	5,600	3,000	4,400	6,700	5,200	4,500
Phenanthrene	µg/L	470	3,100	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	62	70	80	83	33	21	< 100	50	40	23
Phenol	µg/L	9,390	61,000	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 100	--	--	--
Pyrene	µg/L	1,000*	3,100	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 100	< 10	< 10	< 10
Laboratory Results - Inorganic Constituents																												
Antimony	µg/L	6.3	40	--	--	--	--	--	--	--	--	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	--	--	--	--	--	--	--	--	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	--	--	--	--	400	280	269	243	259	276	257	197	61.2	42.4	43.7	23.8	2,730	2,510	2,490	2,520	851	967	2,850	2,840	2,200	1,420
Beryllium	µg/L	31	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	--	--	--	--	1,500	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	--	--	--	--	< 20	< 20	160	680	76.3	73.9	58.7	261	159	325	337	574	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	--	--	--	--	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	11.4	46.7	47.9	31.9	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	--	--	--	--	< 40	42	158	125	125	195	161	< 20	344	369	379	223	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	--	--	--	--	--	--	--	--	--	--	--	--	648	824	857	693	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Mercury	µg/L	2*	2*	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	--	--	--	--	130	19	25	24	46	19	20	45	24	51	38	27	51	56	81	84	< 10	20	93	86	113	62

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6b
Summary of Bedrock Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-12DD															
				04/06/16	02/16/15	08/05/14	02/19/14	08/07/13	02/06/13	11/07/12	08/09/12	05/16/12	02/09/12	11/16/11	08/11/11	05/04/11	05/11 DUP	02/17/11	11/10/10	08/10/10
Field Groundwater Quality Parameters																			
pH	SU	--	--	7.37	7.32	7.78	8.13	6.05	7.32	7.02	6.87	7.58	7.31	7.44	7.29	6.98	6.98	7.62	7.80	6.12
Specific Conductance	mMhos	--	--	200	209	227	241	225	225	220	231	231	230	239	256	284	284	294	280	508
Temperature	°Celsius	--	--	23.01	18.44	24.35	24.24	23.72	19.70	21.02	22.89	22.09	18.16	23.11	23.56	23.02	23.02	23.55	23.00	26.84
Dissolved Oxygen (YSI)	mg/L	--	--	0.85	0.81	0.34	0.26	1.08	2.23	0.50	1.12	1.29	0.56	0.43	0.28	0.97	0.97	0.30	1.05	19.74
ORP	mV	--	--	-94.8	-53.0	-161.4	-172.8	-59.4	-19.4	-74.6	0.3	-90.2	-114.4	-103.4	174.0	-402.6	-402.6	-153.4	-4.4	-91.1
Turbidity	NTU	--	--	1.16	0.99	6.00	15.6	2.12	2.69	3.61	17.2	5.90	0.98	2.21	11.8	7.95	7.95	1.34	1.17	2.42
Laboratory Results - Natural Attenuation Parameters																			
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	< 0.050	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--	< 0.25	--	< 5.0	--	--	--	< 0.050	--	--	--	--	< 0.050	--	--
Sulfate	mg/L	--	--	--	--	--	6.3	--	1.0	--	--	--	7.4	--	--	--	--	24	--	--
Sulfide	mg/L	--	--	--	--	--	1.6	--	--	--	--	--	< 1.0	--	--	--	--	< 1.0	--	--
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Manganese	mg/L	--	--	--	--	--	--	--	< 0.10 HF	--	--	--	--	--	--	--	--	--	--	--
Ferrous Iron	mg/L	--	--	--	--	--	0.258	--	0.22	--	--	--	< 0.10 HF	--	--	--	--	< 0.010	--	--
Total Iron	mg/L	--	--	--	--	--	0.161	--	2.7 J	--	--	--	0.11	--	--	--	--	0.12	--	--
Carbon Dioxide	mg/L	--	--	--	--	--	< 5.0	--	< 1.0	--	--	--	100	--	--	--	--	0.081	--	--
Carbon Monoxide	mg/L			--	--	--	< 1.0	--	--	--	--	--	--	--	--	--	--	--	--	--
Methane	mg/L	--	--	--	--	--	260	--	160	--	--	--	< 0.58	--	--	--	--	1.6	--	--
Dissolved Nitrogen	mg/L	--	--	--	--	--	14	--	--	--	--	--	5000	--	--	--	--	4.8	--	--
Dissolved Oxygen	mg/L	--	--	--	--	--	1.4	--	6.8	--	--	--	1500	--	--	--	--	1.6	--	--
Laboratory Results - Organic Constituents																			
Volatile Organic Compounds																			
Benzene	µg/L	5*	9	15	44	140	130	8.0	150	29	41	35	71	81	25	15	27	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	10	28	19	< 5.0	16	7.9	7.4	7.0	8.4	18	< 5.0	< 5.0	< 5.0	< 5.0	--	--
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	6	6	< 5.0	5.2	1.4	1.7	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--
Total Xylenes	µg/L	31,000	200,000	< 5.0	11	21	13	< 5.0	12	6.0	8.4	8.4	10	22		< 5.0	< 5.0	< 5.0	--	--
Semivolatile Organic Compounds																				
Acenaphthene	µg/L	2,000*	6,100	0.73	< 10	< 10	< 10	< 10	0.45	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 1.0	< 10	< 10	< 10	< 10	0.24	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 0.050	< 10	< 10	< 10	< 10	< 0.19	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20	< 0.19	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20	< 0.19	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.19	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 10	< 10	< 10	< 10	< 0.19	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 10	< 10	< 10	< 10	< 0.19	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 0.050	< 10	< 10	< 10	< 10	< 0.19	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.19	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	< 1.9	< 1.9	< 20	< 2.3	--	--	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 0.10	< 10	< 10	< 10	< 10	< 0.19	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	0.32	< 10	< 10	< 10	< 10	0.21	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20	< 0.19	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	< 1.9	< 1.9	< 20	< 2.3	--	--	--	--	--	--	--	--
4-Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10	< 1.9	< 1.9	< 20	< 2.3	--	--	--	--	--	--	--	--
Naphthalene	µg/L	20*	20*	< 0.50	13	62	< 10	< 10	0.44	< 0.19	< 2.0	< 0.23	46	110	7.6	< 5.0	9.4	< 5.0	< 5.0	< 5.0
Phenanthrene	µg/L	470	3,100	0.10	< 10	< 10	< 10	< 10	< 0.19	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10	9.6	< 0.97	< 9.9	< 1.1	--	--	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 0.050	< 10	< 10	< 10	< 10	< 0.19	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--
Inorganic Constituents																				
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--
Barium	µg/L	2,000	7,200	93.6	94.8	66.1	92.1	86.4	89	85	86	75	77	83	73	64	67	39	--	--
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	6.3	6.3	6.3	6.3	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--
Nickel	µg/L	100	2,000	26.0	< 20.0	< 20.0	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--
Zinc	µg/L	4,700	31,000	22.4	312	62.7	87.8	312	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 10	< 10	12	< 10	10	20	28	24	21	24	--	--	--	--	15	--	--

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6b
Summary of Bedrock Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-12DD (Continued)																		
				05/10/10	02/25/10	08/14/09	06/07/06	03/09/06	12/21/05	09/30/05	03/02/05	12/14/04	10/05/04	06/11/04	03/05/04	12/18/03	09/10/03	06/12/03	06/03 DUP	03/13/03	03/03 DUP	12/12/02	09/18/02	11/07/01
Field Groundwater Quality Parameters																						
pH	SU	--	--	5.86	8.62	11.65	9.79	9.88	9.80	8.95	7.75	8.18	7.90	9.99	8.37	10.32	10.54	12.01	12.01	11.67	11.67	11.89	11.97	12.00
Specific Conductance	mMhos	--	--	506	216	173	266	215	209	161	122	102	98	248	154	222	683	1057	1057	1,195	1,195	2,711	4,196	4,630
Temperature	°Celsius	--	--	23.54	22.12	27.75	25.03	24.40	23.91	23.22	22.99	24.98	26.9	27.48	--	22.34	23.94	24.58	24.58	22.75	22.75	21.50	26.32	22.80
Dissolved Oxygen (YSI)	mg/L	--	--	0.72	0.54	1.15	0.26	0.27	0.23	0.35	1.27	2.76	1.50	1.61	3.81	0.31	0.82	0.76	0.76	0.19	0.19	0.30	0.13	0.24
ORP	mV	--	--	-45.2	-3.1	158.7	-143.3	-142.5	-150.3	-22.4	-60.1	-111.6	-62.7	-78.8	-60.8	-177.2	-204.1	-150.4	-150.4	-199.9	-199.9	-213.5	-209.3	-194.8
Turbidity	NTU	--	--	21.8	2.71	9.89	43.1	45	4.36	51.7	--	35.6	59	22	--	13.40	14.2	15	15	9.61	9.61	7.70	13.0	9.81
Laboratory Results - Natural Attenuation Parameters																						
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	0.21	< 0.20	< 0.20	0.28	0.27	0.32	0.36	0.303	0.358	0.484	0.414	0.557	0.573	0.691
Nitrogen, Nitrate (as N)	mg/L	--	--	--	< 0.050	< 0.050	--	--	--	--	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	0.0579	< 0.0500	0.0828	0.0817	0.0749	< 0.0500	< 0.0500	< 0.0500	0.525
Sulfate	mg/L	--	--	--	19	< 5.0	--	--	--	--	1.50	21.2	1.79	2.63	5.18	3.09	4.54	10.8	8.56	6.82	6.39	4.85	4.97	3.08
Sulfide	mg/L	--	--	--	< 1.0	< 1.0	--	--	--	--	2.0	1.4	< 1.0	2.3	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.00	< 1.00	2.74
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	< 0.0050	0.0071	< 0.005	< 0.005	< 0.005	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Total Manganese	mg/L	--	--	--	--	--	--	--	--	--	0.0204	0.0166	0.0240	0.0152	0.0111	0.0083	< 0.0050	0.0052	< 0.0050	< 0.0050	0.0111	< 0.005	< 0.005	< 0.005
Ferrous Iron	mg/L	--	--	--	< 0.010	< 0.010	--	--	--	--	0.4	0.1	0.2	< 0.1	< 0.1	0.8	< 0.1	0.2	0.3	0.137	0.154	< 0.200	< 0.200	< 2.00
Total Iron	mg/L	--	--	--	0.2	0.23	--	--	--	--	1.97	0.345	1.12	0.932	0.435	0.525	< 0.100	0.212	0.168	0.187	0.303	0.126	< 0.100	< 0.100
Carbon Dioxide	mg/L	--	--	--	< 0.050	< 50	--	--	--	--	< 0.60	< 0.60	< 0.60	< 0.6	180	< 0.60	< 0.60	< 0.60	< 0.60	< 0.60	< 0.60	< 0.60	0.40	< 0.60
Carbon Monoxide	mg/L			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methane	mg/L	--	--	--	120	150	--	--	--	--	280	160	120	200	25	94	170	180	190	200	200	220	200	220
Dissolved Nitrogen	mg/L	--	--	--	4.1	4.5	--	--	--	--	22	16	16	19	21	23	19	20	20	23	23	19	23	16
Dissolved Oxygen	mg/L	--	--	--	1.5	1.5	--	--	--	--	2.4	1.7	2.0	0.61	1.6	5.4	1.6	1.3	1.4	1.4	1.3	6.7	6.5	2.8
Laboratory Results - Organic Constituents																						
Volatile Organic Compounds																						
Benzene	µg/L	5*	9	< 5.0	310	68	180	38	40	40	290	430	230	560	190	130	630	390	400	680	740	1,000	1,800	1,800
Carbon Disulfide	µg/L	329	1,700	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	--	40	< 5.0	14	< 5.0	< 5.0	< 5.0	19	31	21	40	13	14	31	17	16	9.0	42	41	45	38
Toluene	µg/L	1,000*	1,100	--	10	< 5.0	5.3	< 5.0	< 5.0	< 5.0	8.0	11	6.7	16	5.7	6.2	13	8.6	8.2	6.1	15	14	16	13
Total Xylenes	µg/L	31,000	200,000	--	46	< 5.0	15	< 5.0	< 5.0	< 5.0	28	35	20	38	5.0	13.8	30	17	17	6.2	46	21	61	23
Semivolatile Organic Compounds																						
Acenaphthene	µg/L	2,000*	6,100	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31,000	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	--	--	--	--	--	--	--	16	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 5.0	< 9.7	< 9.7	55	< 10	18	< 10	39	71	< 10	< 10	< 10	< 10	89	17	16	150	180	160	220	150
Phenanthrene	µg/L	470	3,100	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	--	--	--	--	--	--	--	18	< 10	< 10	< 10	< 10	< 10	< 10	< 10	19	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Inorganic Constituents																						
Antimony	µg/L	6.3	40	--	--	--	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	--	--	--	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	--	31	390	130	109	109	102	76.0	110	164	208	136	161	287	287	281	382	404	932	1,490	1,860
Beryllium	µg/L	31	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	--	< 10	< 10	< 10	< 10	< 10.0	< 10	21.5	< 10	32.1	116	10.4	< 10	< 10	< 10	< 10	< 10	< 10	10	< 10	< 10
Copper	µg/L	630	4,100	--	< 20	< 20	< 10	< 10	< 10.0	< 10	< 10	< 10	< 10	16.1	< 10	< 10	< 10	10.1	10.4	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	--	< 10	< 10	< 10	< 10	15.1	12.3	< 10	< 10	< 10	< 10	< 10	< 10	< 10	23.4	21.9	< 10	12	< 10	< 10	< 10
Nickel	µg/L	100	2,000	--	< 40	< 40	< 20	< 20	< 20.0	< 20	< 20	< 20	< 20	97.7	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	--	--	--	--	--	--	--	44.0	< 20	25.3	< 20	27.9	< 20	< 20	21.7	21.2	22	30	< 20	< 20	< 20
Mercury	µg/L	2*	2*	--	--	--	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	--	12	88	23	19	27	28	18	10	< 10	< 10	36	< 10	< 10	< 10	< 10	16	15	< 10	< 10	< 10

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6b
Summary of Bedrock Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-22D				MW-23D								
				04/05/16	08/12/15	04/29/15	03/01/05	04/05/16	08/11/15	02/16/15	08/04/14	02.18/14	08/05/13	02/28/05	10/06/04	06/10/03
Field Groundwater Quality Parameters																
pH	SU	--	--	9.07	7.69	6.83	6.66	6.17	5.93	5.87	6.38	6.15	5.55	6.07	5.91	6.17
Specific Conductance	mMhos	--	--	300	327	475	423	400	304	369	374	372	363	378	388	399
Temperature	ºCelsius	--	--	22.98	26.29	19.41	19.85	23.34	27.58	17.45	26.22	20.60	26.06	22.07	24.18	23.37
Dissolved Oxygen (YSI)	mg/L	--	--	3.83	0.31	0.50	1.03	0.26	0.26	0.82	0.36	0.58	1.09	2.78	0.11	0.14
ORP	mV	--	--	106.5	-169.1	-74.0	-87.4	121.5	149.7	200.9	72.9	163.0	-105.6	148.6	85.0	113.8
Turbidity	NTU	--	--	1.78	9.73	1.90	2.76	1.42	9.92	2.01	1.27	0.36	9.12	12.5	5.19	3.3
Laboratory Results - Natural Attenuation Parameters																
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	< 0.20	--	--	--	--	--	--	< 0.20	< 0.20	< 0.200
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--	< 0.500	--	--	--	--	< 0.25	--	< 0.0500	< 0.0500	< 0.0500
Sulfate	mg/L	--	--	--	--	--	2.67	--	--	--	--	49.0	--	28.0	55.2	39.7
Sulfide	mg/L	--	--	--	--	--	< 1.0	--	--	--	--	< 1.0	--	< 1.0	< 1.0	< 1.0
Dissolved Manganese	mg/L	--	--	--	--	--	1.45	--	--	--	--	< 0.100	--	0.596	0.510	0.637
Total Manganese	mg/L	--	--	--	--	--	1.43	--	--	--	--	< 0.100	--	0.622	0.529	0.651
Ferrous Iron	mg/L	--	--	--	--	--	6.7	--	--	--	--	78	--	< 0.1	< 0.1	0.7
Total Iron	mg/L	--	--	--	--	--	6.43	--	--	--	--	< 1.0	--	0.375	< 0.1	1.35
Carbon Dioxide	mg/L	--	--	--	--	--	31	--	--	--	--	17	--	140	150	170
Methane	mg/L	--	--	--	--	--	24	--	--	--	--	16	--	31	22	23
Dissolved Nitrogen	mg/L	--	--	--	--	--	21	--	--	--	--	5.3	--	16	15	14
Dissolved Oxygen	mg/L	--	--	--	--	--	1.5	--	--	--	--	--	--	1.1	1.5	1.0
Laboratory Results - Organic Constituents																
Volatile Organic Compounds																
Benzene	µg/L	5.0*	9.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Naphthalene	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds																
Acenaphthene	µg/L	2,000*	6,100	< 0.50	< 10	< 0.50	< 10	< 0.50	< 10	< 0.50	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 1.0	< 10	< 1.0	< 10	< 1.0	< 10	< 1.0	< 10	< 10	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31, 000	< 0.050	< 10	< 0.050	< 10	< 0.050	< 10	< 0.050	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	--	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.050	--	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.10	--	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 10	< 0.10	--	< 0.10	< 10	< 0.10	< 10	< 10	< 10	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 10	< 0.050	--	< 0.050	< 10	< 0.050	< 10	< 10	< 10	--	--	--
Chrysene	µg/L	117	392	< 0.050	< 10	< 0.050	--	< 0.050	< 10	< 0.050	< 10	< 10	< 10	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	--	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 0.10	< 10	< 0.10	< 10	< 0.10	< 10	< 0.10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 0.10	< 10	< 0.10	< 10	< 0.10	< 10	< 0.10	< 10	< 10	< 10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	--	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 0.50	< 10	< 0.50	< 10	< 0.50	< 10	< 0.50	< 10	< 10	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	470	3,100	< 0.050	< 10	< 0.050	< 10	< 0.050	< 10	< 0.050	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 0.050	< 10	< 0.050	< 10	< 0.050	< 10	< 0.050	< 10	< 10	< 10	< 10	< 10	< 10
Laboratory Results - Inorganic Constituents																
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 40	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	469	907	1,440	1,290	57.5	64.4	66.1	56.6	52.2	54.3	52.2	48.2	50
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	--	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 20.0	< 20	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20.0	< 20	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.5	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6b
Summary of Bedrock Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-24D																							
				04/05/16	08/13/15	02/17/15	08/06/14	02/18/14	02/04/13	02/06/12	02/15/11	02/22/10	08/14/09	06/06/06	03/09/06	12/20/05	09/30/05	03/01/05	12/14/04	09/30/04	06/08/04	03/03/04	12/16/03	09/09/03	06/10/03	03/11/03	12/11/02	09/18/02	11/08/01
Field Groundwater Quality Parameters																											
pH	SU	--	--	6.33	6.08	6.03	6.16	6.56	5.84	5.9	5.77	6.05	6.14	5.68	5.74	5.83	5.88	5.83	9.78	5.91	5.71	5.91	6.16	4.79	6.13	5.92	5.84	6.03	5.89
Specific Conductance	mMhos	--	--	46	484	64	325	45	195	247	198	69	324	368	350	379	450	348	461	536	478	436	381	468	466	404	486	568	538
Temperature	°Celsius	--	--	17.78	21.66	15.75	22.39	16.26	15.89	16.64	18.33	14.62	23.77	19.70	18.80	18.48	21.33	19.27	19.28	21.05	21.91	18.16	17.34	21.04	20.5	18.52	20.06	21.98	21.50
Dissolved Oxygen (YSI)	mg/L	--	--	4.46	0.21	1.45	0.58	6.58	0.74	0.31	1.49	4.73	5.12	0.71	1.26	0.40	0.80	1.57	0.5	0.27	0.23	0.61	2.46	0.37	0.11	0.37	0.17	0.04	0.18
ORP	mV	--	--	78.4	-80.8	100.1	-58.6	162.0	55.4	57.5	79.1	135.4	214.6	4.3	35.3	-8.7	-16.8	103.4	-110.3	-35.1	-27.6	47.7	146.8	-51	-9.5	22.0	0.2	-32.5	-31.6
Turbidity	NTU	--	--	22.6	34	9.47	1.68	8.72	7.53	27.7	7.31	9.51	0.95	35.7	33.8	23.4	48.3	56.6	24.5	6.1	60	75.6	--	22.7	100	35	60.0	29.0	28.6
Laboratory Results - Natural Attenuation Parameters																											
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	0.26	0.287	0.253	< 0.200	< 0.200	0.110
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--	--	< 0.25	0.073	0.057	< 0.050	0.46	< 0.050	--	--	--	--	< 0.500	< 0.0500	< 0.0500	< 0.5	< 0.250	0.258	0.206	< 0.0500	< 0.0500	< 0.050	0.056	< 0.0500
Sulfate	mg/L	--	--	--	--	--	--	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	1.32	1.26	2.43	1.92	2.32	3.36	< 2.00	< 1.00	2.05	1.88	1.82	< 1.00
Sulfide	mg/L	--	--	--	--	--	--	< 1.0	< 1.0	1.8	< 1.0	< 1.0	< 1.0	--	--	--	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1.00	< 1.00	< 1.00
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.71	2.15	2.32	2.33	2.12	1.63	2.32	2.24	1.68	2.45	2.55	2.56
Total Manganese	mg/L	--	--	--	--	--	--	< 0.100	--	--	--	--	--	--	--	--	--	1.67	2.14	2.35	2.39	2.34	1.67	2.33	2.2	1.74	2.36	2.26	2.54
Ferrous Iron	mg/L	--	--	--	--	--	--	0.791	18 HF	16	12	< 0.010	4.9	--	--	--	--	13.7	38.6	38.3	38.1	25.1	0.2	11.6	14.6	15.7	49.5	36.0	41.3
Total Iron	mg/L	--	--	--	--	--	--	5.2	18	2.7	15	0.73	5.8	--	--	--	--	15.4	37.4	38.7	33.5	29.3	6.07	39.7	37.5	18.0	40.3	38.3	43.0
Carbon Dioxide	mg/L	--	--	--	--	--	--	< 1.0	140	3.5	1.8	0.23	0.94	--	--	--	--	140	200	180	200	190	79	200	200	200	230	190	170
Methane	mg/L	--	--	--	--	--	--	< 4	140	120	72	0.29	56	--	--	--	--	120	410	420	290	250	3.5	500	300	210	300	390	300
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	17	18	3.9	4.3	4.1	4.5	--	--	--	--	18	20	16	20	22	17	21	19	20	16	19	17
Dissolved Oxygen	mg/L	--	--	--	--	--	--	9.0	4.7	0.99	1.4	1.5	1.6	--	--	--	--	3.0	2.3	0.98	0.51	0.83	5.1	0.64	0.62	0.58	4.6	6.0	1.1
Laboratory Results - Organic Constituents																											
Volatile Organic Compounds																											
Benzene	µg/L	5.0*	9.0	100	39	< 5.0	15	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	7.5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1700.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	44	31	< 5.0	7.2	< 5.0	1.9	< 5.0	< 5.0	< 5.0	< 5.0	5.6	< 5.0	< 5.0	5.1	< 5.0	11	< 5.0	57	84	< 5.0	12	16	5.2	110	24	130
Toluene	µg/L	1,000*	1,100	8.6	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Naphthalene	µg/L	31,000	200,000	8.3	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds																											
Acenaphthene	µg/L	2,000*	6,100	< 0.50	15	< 10	< 10	< 10	2.3	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	13	< 10	13	< 10	< 10	15	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 1.0	< 1.0	< 10	< 10	< 10	0.32	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	15
Anthracene	µg/L	4,700	31, 000	0.27	0.41	< 10	< 10	< 10	< 0.19	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	0.053	< 0.050	< 0.050	< 0.050	< 0.050	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	0.14	< 0.10	< 0.10	< 0.10	< 0.10	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 0.10	< 10	< 10	< 10	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	0.074	< 0.050	< 10	< 10	< 10	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	0.077	< 0.050	< 10	< 10	< 10	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	< 1.9	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 0.10	< 0.10	< 10	< 10	< 10	< 0.19	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 0.10	1.5	< 10	< 10	< 10	0.48	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	0.064	< 0.050	< 0.050	< 0.050	< 0.050	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	< 1.9	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10	< 1.9	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 0.50	220	< 10	37	< 10	3.5	< 5.0	< 5.0	< 9.4	< 10	13	< 10	< 10	< 10	< 10	17	11	36	66	< 10	35	35	< 10	98	23	130
Phenanthrene	µg/L	470	3,100	< 0.050	2.4	< 10	< 10	< 10	< 0.19	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10	< 0.97	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	0.075	0.11	< 10	< 10	< 10	< 0.19	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Laboratory Results - Inorganic Constituents																											
Antimony	µg/L	6.3	40	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	1,250	4,370	422	2,270	149	2,300	2,600	2,200	470	2,800	3,510	3,040	3,910	4,170	2,870	3,850	4,120	3,940	4,060	3,080	4,210	2,600	3,550	3,940	4,130	4,400
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Mercury	µg/L	2*	2*	< 20	< 20	< 20	< 20.0	< 20	< 40	--	--	--	--	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	µg/L	100	2,000	58.4	197	39.8	< 20.0	27.2	20	< 40	< 40	< 40	< 40	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	25.4	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	15	< 10	< 10	< 10	< 10	< 10	< 10	17	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6b
Summary of Bedrock Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-25D																
				08/12/15	02/16/15	08/04/14	02/18/14	08/05/13	02/04/13	11/06/12	08/07/12	05/14/12	02/07/12	11/18/11	08/08/11	05/02/11	02/16/11	11/09/10	08/09/10	05/10/10	02/23/10
Field Groundwater Quality Parameters																				
pH	SU	--	--	5.40	5.60	5.69	5.69	4.65	5.53	5.62	5.09	5.41	5.22	5.46	5.49	5.06	5.40	5.49	7.14	5.43	5.59
Specific Conductance	mMhos	--	--	0.446	0.371	0.461	0.461	441	408	416	484	464	426	403	489	485	418	471	502	470	493
Temperature	ºCelsius	--	--	26.25	17.09	23.64	23.64	23.67	16.81	19.04	22.92	24.02	19.76	17.02	27.36	19.96	22.49	22.74	24.74	20.35	15.21
Dissolved Oxygen (YSI)	mg/L	--	--	0.59	2.67	0.76	0.76	3.01	1.83	1.75	2.72	2.01	0.57	0.75	0.64	0.84	2.63	1.67	0.87	0.97	4.26
ORP	mV	--	--	4.2	129.2	116.1	116.1	-2.3	258.2	195.5	109.9	138.7	78.1	243.7	226.5	-15.6	282.5	241.2	-145.3	203.8	161.5
Turbidity	NTU	--	--	0.52	2.43	8.36	8.36	0.75	0.78	1.17	2.56	0.93	1.29	1.46	5.75	2.54	2.31	0.10	6.08	1.18	2.33
Laboratory Results - Natural Attenuation Parameters																				
Nitrogen, Ammonia (as N	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--	3.9	--	3.4	--	--	--	4.2	--	--	--	4.2	--	--	--	3.7
Sulfate	mg/L	--	--	--	--	--	< 1.0	--	< 5.0	--	--	--	< 5.0	--	--	--	< 5.0	--	--	--	< 5.0
Sulfide	mg/L	--	--	--	--	--	< 1.0	--	< 1.0	--	--	--	< 1.0	--	--	--	< 1.0	--	--	--	< 1.0
Dissolved Manganese	mg/L	--	--	--	--	--	< 0.100	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ferrous Iron	mg/L	--	--	--	--	--	< 0.100	--	< 0.10 HF	--	--	--	< 0.10 HF	--	--	--	< 0.010	--	--	--	< 0.010
Total Iron	mg/L	--	--	--	--	--	91	--	< 0.10	--	--	--	< 0.10	--	--	--	< 0.010	--	--	--	< 0.010
Carbon Dioxide	mg/L	--	--	--	--	--	< 1.0	--	76	--	--	--	1.6	--	--	--	2.1	--	--	--	0.93
Methane	mg/L	--	--	--	--	--	< 4	--	< 0.58	--	--	--	< 0.58	--	--	--	<0.58	--	--	--	<0.19
Dissolved Nitrogen	mg/L	--	--	--	--	--	20	--	18	--	--	--	5.6	--	--	--	4.4	--	--	--	3.8
Dissolved Oxygen	mg/L	--	--	--	--	--	6.6	--	6.2	--	--	--	1.8	--	--	--	1.4	--	--	--	1.3
Laboratory Results - Organic Constituents																				
Volatile Organic Compounds																				
Benzene	µg/L	5*	9	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0
Semivolatile Organic Compounds																				
Acenaphthene	µg/L	2,000*	6,100	< 0.50	< 10	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 1.0	< 10	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 0.050	< 10	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 10	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 10	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 0.050	< 10	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	< 1.9	< 2.0	< 2.0	< 2.1	--	--	--	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 0.10	< 10	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	< 0.10	< 10	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	< 1.9	< 2.0	< 2.0	< 2.1	--	--	--	--	--	--	--	--	--
4-Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10	< 1.9	< 2.0	< 2.0	< 2.1	--	--	--	--	--	--	--	--	--
Naphthalene	µg/L	20*	20*	< 0.50	< 10	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.21	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<9.4
Phenanthrene	µg/L	470	3,100	< 0.050	< 10	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10	< 0.97	< 0.99	< 1.0	< 1.1	--	--	--	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 0.050	< 10	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Inorganic Constituents																				
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--
Barium	µg/L	2,000	7,200	3,790	3,500	3,960	3,700	3,150	3,800	3,700	4,100	3,600	4,200	4,000	3,700	4,000	3,500	--	--	--	3,900
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 4.0	5.7	< 4.0	5.3	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	< 20
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--	--	< 40
Zinc	µg/L	4,700	31,000	< 20.0	29.2	< 20.0	29.3	< 20.0	< 20	25	< 20	< 20	--	--	--	--	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	--	--	--	< 10

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6b
Summary of Bedrock Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-26D			MW-27D													
				04/11/16	03/01/05	03/05/04	04/05/16	08/11/15	04/30/15	03/01/05	12/15/04	10/04/04	06/10/04	03/04/04	12/17/03	09/09/03	06/12/03	03/12/03	12/11/02	09/19/02	11/09/01
Field Groundwater Quality Parameters																				
pH	SU	--	--	11.89	12.05	11.81	6.52	6.80	7.16	6.32	7.18	6.06	6.28	6.34	6.12	5.29	6.35	6.32	6.09	6.27	9.24
Specific Conductance	mMhos	--	--	2,170	2,066	2,362	200	254	266	182	206	213	242	209	335	212	202	222	190	219	230
Temperature	°Celsius	--	--	16.6	17.67	18.69	19.73	25.40	18.9	18.96	20.18	21.34	24.06	21.77	20.85	23.16	21	20.12	20.44	21.07	19.98
Dissolved Oxygen (YSI)	mg/L	--	--	2.22	1.38	1.22	0.42	1.29	3.7	1.29	0.21	0.05	1.78	0.45	0.48	0.32	0.38	0.12	0.18	0.13	0.29
ORP	mV	--	--	13.3	-444.4	8.6	-3.0	-14.5	-14.8	-13.1	-130.6	-19.6	-36.8	44.0	-101.4	-74.3	-59	-29.6	2.3	-31.9	-14.5
Turbidity	NTU	--	--	4.36	2.95	1.41	8.77	1.03	2.97	0.72	0.53	0.92	1.80	2.72	1.81	3.27	0.0	1.2	0.0	0.0	2.06
Laboratory Results - Natural Attenuation Parameters																				
Nitrogen, Ammonia (as N	mg/L	--	--	--	0.25	--	--	--	--	< 0.20	0.23	0.26	0.29	< 0.20	< 0.20	0.39	0.327	0.336	0.260	< 0.200	< 0.200
Nitrogen, Nitrate (as N)	mg/L	--	--	--	< 0.0500	--	--	--	--	< 0.500	< 0.0500	< 0.0500	< 0.5	< 0.250	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.050	0.561	0.091
Sulfate	mg/L	--	--	--	5.88	--	--	--	--	3.25	3.49	5.24	3.13	4.05	4.21	3.62	3.06	3.43	3.18	3.78	4.12
Sulfide	mg/L	--	--	--	1.5	--	--	--	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.00	< 1.00	< 1.00
Dissolved Manganese	mg/L	--	--	--	< 0.0050	--	--	--	--	1.40	1.41	1.48	1.5	1.48	1.52	1.51	1.49	1.51	1.47	1.4	1.35
Total Manganese	mg/L	--	--	--	0.0351	0.0067	--	--	--	1.44	1.44	1.48	1.5	1.5	1.48	1.53	1.49	1.52	1.55	1.32	1.26
Ferrous Iron	mg/L	--	--	--	< 0.1	--	--	--	--	3.0	3.1	3.0	5.4	3.5	1.4	< 2.5	2.4	2.6	1.88	2.21	1.66
Total Iron	mg/L	--	--	--	0.126	< 0.1	--	--	--	3.04	2.95	2.73	2.67	2.87	2.37	2.86	2.31	2.5	2.92	2.07	1.97
Carbon Dioxide	mg/L	--	--	--	< 0.60	--	--	--	--	62	67	61	68	72	65	59	72	75	67	68	42
Methane	mg/L	--	--	--	140	--	--	--	--	220	270	300	120	3.8	5.6	0.66	220	280	0.75	96	33
Dissolved Nitrogen	mg/L	--	--	--	22	--	--	--	--	26	31	24	20	31	26	20	23	25	19	25	18
Dissolved Oxygen	mg/L	--	--	--	3.6	--	--	--	--	1.7	3.0	1.4	1.0	1.6	1.5	2.4	1.8	1.2	6.8	7.7	1.9
Laboratory Results - Organic Constituents																				
Volatile Organic Compounds																				
Benzene	µg/L	5.0*	9	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1700	< 5.0	--	--	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Naphthalene	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds																				
Acenaphthene	µg/L	2,000*	6,100	--	< 10	< 10	< 0.50	< 0.50	< 0.50	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	--	< 10	< 10	< 1.0	< 1.0	< 1.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31, 000	--	< 10	< 10	< 0.050	< 0.050	< 0.050	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	--	--	--	< 0.050	< 0.050	< 0.050	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	--	--	--	< 0.050	< 0.050	< 0.050	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	--	--	--	< 0.10	< 0.10	< 0.10	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	--	--	--	< 0.10	< 0.10	< 0.10	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	--	--	--	< 0.050	< 0.050	< 0.050	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	--	--	--	< 0.050	< 0.050	< 0.050	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	--	--	--	< 0.10	< 0.10	< 0.10	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	--	< 10	< 10	< 0.10	< 0.10	< 0.10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	--	< 10	< 10	< 0.10	< 0.10	< 0.10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	--	--	--	< 0.050	< 0.050	< 0.050	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 5.0	< 10	< 10	< 0.50	< 0.50	< 0.50	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	470	3,100	--	< 10	< 10	< 0.050	< 0.050	< 0.050	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	--	< 10	< 10	< 0.050	< 0.050	< 0.050	< 10	< 10	< 10	< 10	< 10	< 10	12	< 10	< 10	< 10	< 10	< 10
Laboratory Results - Inorganic Constituents																				
Antimony	µg/L	6.3	40	< 20.0	< 40	< 40	< 20	< 20	< 20	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	1,740	1,450	1,720	961	813	813	869	862	878	865	954	904	921	600	910	968	825	859
Beryllium	µg/L	31	200	< 10	--	--	< 10	< 10	< 10	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 50	--	--	< 50	< 50	< 50	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	12.9	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20	< 20	< 20	23	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	22.7	< 20	< 20	< 20	< 20	22	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.5	< 0.5	< 0.20	< 0.20	<0.20	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6b
Summary of Bedrock Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-27DD												
				04/30/15	03/01/05	12/15/04	10/04/04	06/10/04	03/04/04	12/17/03	09/10/03	06/12/03	03/13/03	12/12/02	09/19/02	11/9/2001
Field Groundwater Quality Parameters																
pH	SU	--	--	7.24	7.44	7.22	7.48	7.25	9.74	7.06	6.91	9.53	7.22	7.67	10.59	7.62
Specific Conductance	mMhos	--	--	602	507	515	575	604	481	864	465	525	564	516	663	548
Temperature	°Celsius	--	--	19.02	19.59	20.32	21.87	21.58	20.20	20.53	21.42	22.68	20.19	19.78	21.36	21.91
Dissolved Oxygen (YSI)	mg/L	--	--	0.52	1.39	0.39	0.21	0.12	0.62	0.35	0.83	0.09	0.18	0.22	0.35	1.70
ORP	mV	--	--	-82.7	-144.2	-220.5	-168.5	-141.5	-9.1	-207.3	-190.2	-204.5	-159.1	-215.3	-40.6	-122.1
Turbidity	NTU	--	--	16.9	2.83	3.0	5.8	4.30	1.18	0.00	6.81	0.5	49	1.40	8.50	4.64
Laboratory Results - Natural Attenuation Parameters																
Nitrogen, Ammonia (as N	mg/L	--	--	--	0.22	0.32	0.37	0.48	1.01	0.23	0.47	0.699	0.379	0.345	0.315	0.343
Nitrogen, Nitrate (as N)	mg/L	--	--	--	< 0.500	< 0.0500	< 0.0500	< 0.5	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Sulfate	mg/L	--	--	--	41.1	1.21	38.9	28.5	3.40	37.2	35.3	28.6	38.6	43.0	46.2	37.3
Sulfide	mg/L	--	--	--	1.5	< 1.0	< 1.0	< 1.0	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.00	< 1.00	< 1.00
Dissolved Manganese	mg/L	--	--	--	0.862	0.826	0.915	0.882	0.0166	0.932	0.687	0.294	0.901	0.908	0.856	0.805
Total Manganese	mg/L	--	--	--	0.853	0.857	0.913	0.905	0.0537	0.950	0.673	0.298	0.971	0.954	0.811	0.795
Ferrous Iron	mg/L	--	--	--	3.4	4.1	4.5	6.3	< 0.1	2.9	1.7	0.1	4.56	4.08	2.67	2.03
Total Iron	mg/L	--	--	--	3.55	4.63	3.80	3.72	< 0.1	3.73	2.10	0.209	4.96	3.96	3.98	2.22
Carbon Dioxide	mg/L	--	--	--	8.9	12	13	11	< 0.6	15	3.9	< 0.60	14	14	0.60	6.0
Methane	mg/L	--	--	--	5.3	5.7	4.1	6.6	3.4	5.8	8.8	5.3	5.2	4.6	2.5	2.9
Dissolved Nitrogen	mg/L	--	--	--	24	19	18	20	22	20	22	19	23	18	20	17
Dissolved Oxygen	mg/L	--	--	--	3.9	1.0	0.91	0.83	2.0	1.2	3.0	1.0	1.1	7.3	7.2	14
Laboratory Results - Organic Constituents																
Volatile Organic Compounds																
Benzene	µg/L	5.0*	9	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1700	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Naphthalene	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds																
Acenaphthene	µg/L	2,000*	6,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31, 000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	470	3,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Laboratory Results - Inorganic Constituents																
Antimony	µg/L	6.3	40	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	544	423	447	424	421	205	429	337	278	424	407	342	273
Beryllium	µg/L	31	200	< 10.0	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10	< 10	< 10	< 10	26	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	< 20.0	< 20	< 20	< 20	< 20	39.2	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	64	25	18	55	< 10	< 10	55	< 10	< 10	39	< 10	39	37

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6b
Summary of Bedrock Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-108D											
				4/8/2016	2/17/2015	8/5/2014	2/17/2014	02/06/13	02/07/12	02/23/11	02/23/10	08/12/09	03/02/05	12/16/04
Field Groundwater Quality Parameters															
pH	SU	--	--	7.04	6.96	6.92	7.01	6.73	5.22	6.47	6.51	8.89	8.21	10.15
Specific Conductance	mMhos	--	--	200	140	158	151	151	426	115	111	141	169	246
Temperature	ºCelsius	--	--	20.92	19.07	24.23	20.99	21.85	19.76	20.30	19.35	25.18	21.11	22.59
Dissolved Oxygen (YSI)	mg/L	--	--	0.54	2.00	1.68	2.16	0.65	0.57	2.19	3.67	5.94	0.87	0.58
ORP	mV	--	--	-66.4	86.3	27.8	76.1	-76.5	78.1	150.10	155.70	32.6	-191.4	-141.1
Turbidity	NTU	--	--	13.9	2.11	0.82	0.43	0.31	1.29	3.42	0.62	0	1.64	6.41
Laboratory Results - Natural Attenuation Parameters															
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	< 0.20	< 0.20
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--	0.43	< 0.050	4.2	< 0.050	< 0.050	< 0.050	< 0.0500	< 0.0500
Sulfate	mg/L	--	--	--	--	--	2.6	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	2.73	4.31
Sulfide	mg/L	--	--	--	--	--	< 1.0	< 1.0	< 1.0	1.60	< 1.0	< 1.0	< 1.0	< 1.0
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	0.198	0.0439
Total Manganese	mg/L	--	--	--	--	--	< 0.100	--	--	--	--	--	0.193	0.0984
Ferrous Iron	mg/L	--	--	--	--	--	0.139	< 0.10 HF	< 0.10 HF	< 0.010	< 0.010	< 0.010	0.3	0.1
Total Iron	mg/L	--	--	--	--	--	< 5.0	0.29	< 0.10	0.22	< 0.010	0.330	0.360	0.446
Carbon Dioxide	mg/L	--	--	--	--	--	< 1.0	7.2	1.6	0.18	0.16	< 0.050	0.71	< 0.60
Methane	mg/L	--	--	--	--	--	< 4	70	< 0.58	<0.58	<0.19	4.1	69	240
Dissolved Nitrogen	mg/L	--	--	--	--	--	22	--	5.6	4.7	4.0	4.8	18	17
Dissolved Oxygen	mg/L	--	--	--	--	--	12	7.0	1.8	1.6	1.4	1.7	1.2	1.5
Laboratory Results - Organic Constituents															
Volatile Organic Compounds															
Benzene	µg/L	5*	9	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds															
Acenaphthene	µg/L	2,000*	6,100	< 0.50	< 10	< 10	< 10	< 0.25	--	--	--	--	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 1.0	< 10	< 10	< 10	< 0.25	--	--	--	--	< 10	< 10
Anthracene	µg/L	4,700	31,000	< 0.050	< 10	< 10	< 10	< 0.25	--	--	--	--	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.25	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.050	< 0.050	< 0.25	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.10	< 0.10	< 0.25	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 10	< 10	< 10	< 0.25	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 10	< 10	< 10	< 0.25	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 0.050	< 10	< 10	< 10	< 0.25	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	< 0.10	< 0.25	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 2.5	--	--	--	--	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 0.10	< 10	< 10	< 10	< 0.25	--	--	--	--	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 0.10	< 10	< 10	< 10	< 0.25	--	--	--	--	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.25	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 2.5	--	--	--	--	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 2.5	--	--	--	--	< 10	< 10
Naphthalene	µg/L	20*	20*	< 0.50	< 10	< 10	< 10	< 0.25	< 5.0	< 5.0	<9.9	<9.4	< 10	< 10
Phenanthrene	µg/L	470	3,100	< 0.050	< 10	< 10	< 10	< 0.25	--	--	--	--	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 1.2	--	--	--	--	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 0.050	< 10	< 10	< 10	< 0.25	--	--	--	--	< 10	< 10
Inorganic Constituents															
Antimony	µg/L	6.3	40	< 20	< 20	< 20	< 20	< 20	--	--	--	--	< 40	< 40
Arsenic	µg/L	50*	50*	< 50	< 50	< 50	< 50	< 20	--	--	--	--	< 50	< 50
Barium	µg/L	2,000	7,200	783	631	632	465	600	4,200	540	470	620	513	416
Beryllium	µg/L	31	200	< 10	< 10	< 10	< 10	< 4.0	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5	6.6	13.1	9.3	< 5.0	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10	< 10	< 10	< 10	< 20	< 20	< 20	< 20	< 20	< 10	< 10
Lead	µg/L	15*	15*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	44	< 20	< 20	< 20	< 40	< 40	< 40	< 40	< 40	< 20	< 20
Zinc	µg/L	4,700	31,000	< 20	43.3	50.1	113	< 20	--	--	--	--	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6b
Summary of Bedrock Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-110D												
				04/07/16	4/16 DUP	08/13/15	08/15 DUP	02/16/15	08/06/14	02/20/14	08/07/13	08/13 DUP	02/08/13	02/13 DUP	11/07/12	11/12 DUP
Field Groundwater Quality Parameters																
pH	SU	--	--	6.43		6.14		6.18	6.21	6.28	5.07		6.27		6.32	
Specific Conductance	mMhos	--	--	0.50		0.565		0.495	0.533	0.495	492		503		503	
Temperature	ºCelsius	--	--	20.39		26.45		17.20	27.75	19.80	25.46		20.28		23.88	
Dissolved Oxygen (YSI)	mg/L	--	--	0.19		0.38		1.68	0.52	0.67	0.71		1.38		0.2	
ORP	mV	--	--	-60.20		-146.7		-145.9	-52.6	-34.6	-142.9		-40.4		-113.2	
Turbidity	NTU	--	--	8.30		2.42		9.26	2.51	0.66	0.28		9.8		0.95	
Laboratory Results - Natural Attenuation Parameters																
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--	--	< 0.25	--	< 0.25	--	--	0.34 *	< 0.050	--	--
Sulfate	mg/L	--	--	--	--	--	--	1.1	--	< 1.0	--	--	7.0	< 5.0	--	--
Sulfide	mg/L	--	--	--	--	--	--	< 1.00	--	< 1.0	--	--	< 1.0	< 1.0	--	--
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Manganese	mg/L	--	--	--	--	--	--	--	--	5.00	--	--	--	--	--	--
Ferrous Iron	mg/L	--	--	--	--	--	--	5.60	--	5.89	--	--	4.6 HF	4.8 HF	--	--
Total Iron	mg/L	--	--	--	--	--	--	6.61	--	140	--	--	6.8	4.4	--	--
Carbon Dioxide	mg/L	--	--	--	--	--	--	150	--	< 1.0	--	--	120	66	--	--
Methane	mg/L	--	--	--	--	--	--	960	--	770	--	--	620	520	--	--
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	21	--	17	--	--	--	--	--	--
Dissolved Oxygen	mg/L	--	--	--	--	--	--	3.9	--	3.0	--	--	2.8	5.7	--	--
Laboratory Results - Organic Constituents																
Volatile Organic Compounds																
Benzene	µg/L	5*	9	96	94	120	120	340	480	480	580	620	150	150	430	280
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 40	< 40	< 40	< 40
Ethylbenzene	µg/L	700*	2,300	290	280	420	450	560	620	540	390	460	310	320	550	440
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	5.3	5.1	5.2	5.7	< 20	< 20	< 20	< 20
Total Xylenes	µg/L	31,000	200,000	7.0	6.8	11	11	47	60	48	64	45	< 40	< 40	< 40	< 40
Semivolatile Organic Compounds																
Acenaphthene	µg/L	2,000*	6,100	76	60	77	70	97	120	81	100	96	81	17	89	99
Acenaphthylene	µg/L	470	3,100	2.8	< 1.0	3.0	2.4	< 10	< 10	< 10	< 10	< 10	3.9	1.9	4.5	4.4
Anthracene	µg/L	4,700	31,000	7.1	6.3	8.1	5.9	< 10	< 10	< 10	< 10	< 10	6.4	0.34	6.8	6.7
Benzo[a]anthracene	µg/L	1.17	3.92	0.20	0.15	0.32	0.23	0.20	0.40	0.18	0.27	0.3	< 1.9	< 1.9	< 2.0	< 0.20
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20	< 0.20	< 1.9	< 1.9	< 2.0	< 0.20
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.20	< 1.9	< 1.9	< 2.0	< 0.20
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 0.10	< 0.10	< 0.10	< 10	< 10	< 10	< 10	< 10	< 1.9	< 1.9	< 2.0	< 0.20
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 0.050	< 0.050	< 0.050	< 10	< 10	< 10	< 10	< 10	< 1.9	< 1.9	< 2.0	< 0.20
Chrysene	µg/L	117	392	0.18	0.13	0.23	0.17	< 10	< 10	< 10	< 10	< 10	< 1.9	< 1.9	< 2.0	< 0.20
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.20	< 1.9	< 1.9	< 2.0	< 0.20
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 19	< 19	< 20	< 2.0
Fluoranthene	µg/L	1,000*	4,100	4.4	4.0	6.5	4.8	< 10	< 10	< 10	< 10	< 10	5.3	2.1	5.2	5.5
Fluorene	µg/L	1,000*	4,100	21	19	19	16	33	40	25	32	31	25	14	28	29
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20	< 0.20	< 1.9	< 1.9	< 2.0	< 0.20
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 19	< 19	< 20	< 2.0
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 19	< 19	< 20	< 2.0
Naphthalene	µg/L	20*	20*	1,600	1300 E	2,200	1,500	3,400	4,400	1,100	4,400	4,200	2,300	15	5,000	1,400
Phenanthrene	µg/L	470	3,100	40	33	43	37	53	69	40	59	60	42	42	49	58
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 9.7	< 9.7	< 10	2.4
Pyrene	µg/L	1,000*	3,100	5.9	5.2	8.3	6.1	< 10	< 10	< 10	< 10	< 10	8.1	2.2	6.4	6.1
Inorganic Constituents																
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 20	< 20	< 20	< 20
Barium	µg/L	2,000	7,200	2,510	2,490	2,800	3,780	4,007	4,850	4,770	5,100	5,210	3,200	800	5,000	4,800
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 20	< 20	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	177	181	104	103	107	110	125	138	140	160	< 40	160	160
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Total Cyanide	µg/L	310	2,000	< 10.0	0.020	0.015	0.012	< 0.010	0.024	0.021	18	18	20	32	24	25

Notes:
E - Estimated value
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6b
Summary of Bedrock Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-110D (continued)																				
				08/09/12	05/17/12	02/15/12	02/12 DUP	11/17/11	08/10/11	05/05/11	02/21/11	11/10/10	08/10/10	05/11/10	02/24/10	02/10 DUP	08/12/09	06/07/06	03/09/06	12/22/05	09/30/05	03/02/05	03/05 DUP	12/16/04	09/30/04
Field Groundwater Quality Parameters																								
pH	SU	--	--	5.62	6.57	6.2		6.32	6.31	6.17	6.23	6.07	6.12	5.86	6.13		6.05	6.13	6.16	6.38	6.17	6.24		5.62	6.10
Specific Conductance	mMhos	--	--	548	527	488		547	577	467	489	504	508	506	432		507	521	475	449	524	523		509	472
Temperature	°Celsius	--	--	26.84	24.06	20.97		21.39	30.14	19.43	21.38	24.66	26.84	23.54	16.26		26.32	24.43	21.19	20.93	25.21	21.1		22.39	24.79
Dissolved Oxygen (YSI)	mg/L	--	--	0.17	0.83	2.11		0.48	0.25	0.86	0.53	0.11	19.74	0.72	1.67		3.46	0.24	0.28	0.61	0.34	1.42		0.16	0.04
ORP	mV	--	--	-47.8	-61.2	-65.8		-59	-81.8	-69.0	-74.4	-108.6	-91.1	-45.2	-102.3		-131.6	-96.1	-87.0	-55.6	-99.3	-112.8		-150.9	-234.3
Turbidity	NTU	--	--	7.21	4.63	3.93		4.6	29.0	8.59	7.58	0.24	2.42	21.8	0.61		3.19	1.02	0.90	4.29	2.10	1.62		5.32	2.98
Laboratory Results - Natural Attenuation Parameters																								
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20	< 0.20	< 0.20	< 0.20
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	< 0.050	< 0.050	--	--	--	< 0.050	--	--	--	< 0.050	< 0.050	0.19	--	--	--	--	< 0.500	< 0.500	< 0.0500	< 0.0500
Sulfate	mg/L	--	--	--	--	< 5.0	< 5.0	--	--	--	< 5.0	--	--	--	< 5.0	< 5.0	< 5.0	--	--	--	--	2.38	< 1.00	1.97	4.95
Sulfide	mg/L	--	--	--	--	1.0	< 1.0	--	--	--	< 1.0	--	--	--	< 1.0	< 1.0	< 1.0	--	--	--	--	1.3	< 1.0	< 1.0	< 1.0
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.760	0.762	0.584	1.36
Total Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.754	0.748	0.635	1.36
Ferrous Iron	mg/L	--	--	--	--	5.3 HF	4.9 HF	--	--	--	1.0	--	--	--	3	2.8	1.7	--	--	--	--	3.8	3.7	3.8	5.3
Total Iron	mg/L	--	--	--	--	7.3	7.5	--	--	--	6.7	--	--	--	4.1	4.3	3.6	--	--	--	--	4.09	4.07	3.98	5.51
Carbon Dioxide	mg/L	--	--	--	--	2.3	2.3	--	--	--	1.6	--	--	--	1.8	1.8	1.5	--	--	--	--	140	150	170	160
Methane	mg/L	--	--	--	--	480	480	--	--	--	720	--	--	--	720	780	230	--	--	--	--	1,500	1,700	2700	1,500
Dissolved Nitrogen	mg/L	--	--	--	--	4.8	5.5	--	--	--	4.1	--	--	--	4	4.1	4.1	--	--	--	--	17	18	16	16
Dissolved Oxygen	mg/L	--	--	--	--	1.5	1.6	--	--	--	1.4	--	--	--	1.2	1.3	1.4	--	--	--	--	3.4	2.8	0.88	0.86
Laboratory Results - Organic Constituents																								
Volatile Organic Compounds																								
Benzene	µg/L	5*	9	380	400	< 250	< 250	<250	370	290	310	430	450	610	620	580	< 25	790	1,100	1,200	1,900	1,900	1,900	1,600	950
Carbon Disulfide	µg/L	329	1,700	< 40	< 40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	480	480	340	340	<250	<250	<250	350	--	--	--	490	460	440	710	770	350	950	900	950	900	820
Toluene	µg/L	1,000*	1,100	< 20	< 20	<250	<250	<250	<250	<250	<250	--	--	--	< 50	< 50	<25	18	31	79	100	220	230	170	71
Total Xylenes	µg/L	31,000	200,000	< 40	< 40	<250	<250	<250	<250	<250	<250	--	--	--	91	82	29	330	370	370	490	480	520	570	410
Semivolatile Organic Compounds																								
Acenaphthene	µg/L	2,000*	6,100	100	110	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	110	100	120	83
Acenaphthylene	µg/L	470	3,100	5.3	6.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	43	42	30	49
Anthracene	µg/L	4,700	31,000	9.5	12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11	11	10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 1.9	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 1.9	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 1.9	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 1.9	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 1.9	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 1.9	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 1.9	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 19	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	7.7	8.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	35	38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	44	42	47	49
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 1.9	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 19	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	< 19	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	1,900	4,100	4,500	4,600	2,700	2,600	2,700	5,500	6,400	6,800	4,900	3,600	4,100	4,000	4,400	4,600	3,000	6,300	6,000	5,500	7,200	4,400
Phenanthrene	µg/L	470	3,100	69	71	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	73	70	74	64
Phenol	µg/L	9,390	61,000	< 9.6	< 9.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	13
Pyrene	µg/L	1,000*	3,100	9.9	8.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10
Inorganic Constituents																								
Antimony	µg/L	6.3	40	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	5,000	4,600	4,100	4,200	4,200	5,500	4,300	5,000	--	--	--	5,300	5,400	6,500	6,740	6,600	6,740	7,270	6,120	6,050	7,090	4,060
Beryllium	µg/L	31	200	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10	< 10	< 10.0	< 10.0	< 10	< 10	< 10	< 10.0	--	--	--	< 10	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	< 20	< 20	< 20	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10	< 10	< 10.0	< 10.0	< 10	< 10	< 10	< 10.0	--	--	--	< 10	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	160	170	170	180	170	190	200	200	--	--	--	230	230	280	121	130	106	97	24.6	24.7	< 20	< 20
Zinc	µg/L	4,700	31,000	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 20	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	19	23	15	22	--	--	--	24	--	--	--	25	24	12	42	55	15	41	48	50	115	27

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6b
Summary of Bedrock Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-111D															
				8/13/2015	8/7/2014	11/08/12	11/18/11	08/13/09	08/09 DUP	06/07/06	06/06 DUP	03/10/06	03/06 DUP	12/22/05	09/30/05	09/05 DUP	03/02/05	12/16/04	09/30/04
Field Groundwater Quality Parameters																			
pH	SU	--	--	6.21	6.48	6.62	6.48	6.47		6.42		6.58		6.60	6.41		6.67	6.51	6.51
Specific Conductance	mMhos	--	--	542	559	547	540	598		691		772		618	683		673	739	719
Temperature	°Celsius	--	--	26.85	27.81	21.46	22.4	24.99		22.58		20.87		22.81	25.35		20.05	19.5	24.06
Dissolved Oxygen (YSI)	mg/L	--	--	0.23	0.23	0.20	0.24	4.97		0.49		0.36		0.37	0.22		1.45	1.62	0.39
ORP	mV	--	--	-204.5	-134.3	-151.6	-124.3	-184.8		-107.7		-93.1		-85.0	-114.2		-84.4	-102.1	-127.5
Turbidity	NTU	--	--	5.59	5.64	0.73	2.40	2.52		1.05		2.86		2.37	0.00		1.24	6.02	2.8
Laboratory Results - Natural Attenuation Parameters																			
Nitrogen, Ammonia (as N)	mg/L	--	--	--		--	--	--	--	--	--	--	--	--	--	--	0.51	0.61	< 0.20
Nitrogen, Nitrate (as N)	mg/L	--	--	--		--	--	< 0.050	< 0.050	--	--	--	--	--	--	--	< 0.500	< 0.0500	< 0.0500
Sulfate	mg/L	--	--	--		--	--	< 5.0	< 5.0	--	--	--	--	--	--	--	1.85	1.44	1.67
Sulfide	mg/L	--	--	--		--	--	2.3	2.3	--	--	--	--	--	--	--	1.1	< 1.0	< 1.0
Dissolved Manganese	mg/L	--	--	--		--	--	--	--	--	--	--	--	--	--	--	1.02	0.941	0.941
Total Manganese	mg/L	--	--	--		--	--	--	--	--	--	--	--	--	--	--	1.02	0.989	0.987
Ferrous Iron	mg/L	--	--	--		--	--	< 0.010	< 0.010	--	--	--	--	--	--	--	4.6	5.4	4.7
Total Iron	mg/L	--	--	--		--	--	1.8	1.9	--	--	--	--	--	--	--	4.54	4.97	4.72
Carbon Dioxide	mg/L	--	--	--		--	--	0.76	0.88	--	--	--	--	--	--	--	110	130	140
Methane	mg/L	--	--	--		--	--	28	29	--	--	--	--	--	--	--	3,100	2100	2,600
Dissolved Nitrogen	mg/L	--	--	--		--	--	5.3	4.5	--	--	--	--	--	--	--	18	18	18
Dissolved Oxygen	mg/L	--	--	--		--	--	1.9	1.6	--	--	--	--	--	--	--	0.78	3.6	0.97
Laboratory Results - Organic Constituents																			
Volatile Organic Compounds																			
Benzene	µg/L	5*	9	1,700	2,700	570	1,700	3,900	3,800	4,600	4,700	6,100	6,000	2,600	6,500	6,400	6,900	5,700	7,300
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	820	930	240	920	1,300	1,200	1,200	1,100	1,600	1,600	300	1,200	1,800	1,500	1,200	1,400
Toluene	µg/L	1,000*	1,100	380	1200	320	1,400	1,800	1,700	38	39	60	59	28	40	53	170	120	190
Xylene	µg/L	31,000	200,000	330	670	220	940	900	850	1,200	1,100	1,400	1,400	570	1,100	1,600	980	780	830
Semivolatile Organic Compounds																			
Acenaphthene	µg/L	2,000*	6,100	53	59	84	--	--	--	--	--	--	--	--	--	--	140	150	150
Acenaphthylene	µg/L	470	3,100	44	70	14	--	--	--	--	--	--	--	--	--	--	12	< 10	< 10
Anthracene	µg/L	4,700	31,000	9.6	14	13	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	0.73	2.0	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	0.15	1.4	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	0.20	1.2	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 10	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	0.057	< 10	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	0.53	< 10	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	0.13	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 10	< 21	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	8.2	16	11	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	35	64	68	--	--	--	--	--	--	--	--	--	--	34	31	42
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	0.62	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 21	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	< 10	< 10	< 21	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	3.8	3,000	1,800	9,300	5,100	5,300	4,400	4,300	3,600	3,600	< 10	5,800	6,600	5,400	4,800	5,800
Phenanthrene	µg/L	470	3,100	58	92	100	--	--	--	--	--	--	--	--	--	--	39	37	46
Phenol	µg/L	9,390	61,000	15	11	< 10	--	--	--	--	--	--	--	--	--	--	19	< 10	42
Pyrene	µg/L	1,000*	3,100	12	20	13	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
Laboratory Results - Inorganic Constituents																			
Antimony	µg/L	6.3	400	< 20.0	< 20.0	< 20	--	--	--	--	--	--	--	--	--	--	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 20	--	--	--	--	--	--	--	--	--	--	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	1,009	910	550	500	160	170	3,470	3,510	3,410	3,480	3,430	3,430	2,720	2,720	2,730	2,660
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10.0	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 10	< 10	< 10	< 10	10.1	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10.0	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 20.0	40	49	< 40	< 40	< 10	< 10	< 10	< 10	< 20.0	< 10	< 10	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20	--	--	--	--	--	--	--	--	--	--	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	13	10	19	--	< 10	10	< 10	< 10	< 10	< 10	< 10	11	< 10	< 10	25	< 10

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6b
Summary of Bedrock Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-112D																						
				4/5/2016	2/16/2015	8/5/2014	2/17/2014	08/06/13	02/05/13	11/06/12	08/07/12	05/14/12	02/15/12	11/17/11	08/08/11	05/05/11	02/24/11	11/10/10	08/09/10	05/10/10	02/23/10	08/11/09	06/07/06	03/09/06	12/20/05	09/29/05	03/01/05
Groundwater Quality Parameters																										
pH	SU	--	--	9.70	9.77	9.12	8.95	10.26	10.93	10.75	9.91	10.59	10.40	10.72	10.08	10.67	10.98	10.43	8.86	10.83	11.03	11.43	11.01	11.09	11.01	10.60	6.89
Specific Conductance	mMhos	--	--	301	306	304	288	296	390	366	382	389	318	372	391	426	355	327	435	427	407	536	558	585	422	464	489
Temperature	°Celsius	--	--	21.24	16.81	22.55	19.28	22.84	15.87	16.66	24.41	24.2	19.10	21.27	23.99	20.66	16.40	20.17	24.52	19.69	16.70	29.32	20.50	20.07	19.36	22.09	20.26
Dissolved Oxygen (YSI)	mg/L	--	--	5.41	4.70	0.89	0.43	0.15	4.60	0.75	2.14	4.40	6.64	0.47	1.74	4.39	4.23	2.77	1.20	3.29	4.10	4.99	0.68	2.10	0.56	0.16	0.82
ORP	mV	--	--	34.9	146.3	-4.2	40.1	-70.3	101.7	55.7	7.4	15.3	-70.2	-100.9	9.3	-103.2	-32.4	-40.3	61.2	29.3	5.4	22.6	-102.1	-99.0	-92.4	-20.3	-423.6
Turbidity	NTU	--	--	6.21	7.99	1.45	1.22	1.01	1.43	1.27	7.20	2.08	3.29	4.00	5.06	9.17	6.89	3.15	2.37	1.24	4.92	0.75	2.98	2.14	3.16	16.04	8.78
Laboratory Results - Natural Attenuation Parameters																										
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Nitrogen, Nitrate (as N)	mg/L	--	--	--	1.0	--	< 0.25	--	0.29	--	--	--	0.29	--	--	--	0.27	--	--	--	0.32	0.21	--	--	--	--	< 0.0500
Sulfate	mg/L	--	--	--	4.1	--	3.1	--	< 5.0	--	--	--	< 5.0	--	--	--	5.7	--	--	--	7.3	7.3	--	--	--	--	10.6
Sulfide	mg/L	--	--	--	< 1.00	--	< 1.0	--	< 1.0	--	--	--	1.8	--	--	--	1.2	--	--	--	< 1.0	< 1.0	--	--	--	--	1.1
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.287
Total Manganese	mg/L	--	--	--	--	--	< 0.100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.302
Ferrous Iron	mg/L	--	--	--	< 0.100	--	< 0.100	--	< 0.10 HF	--	--	--	< 0.10 HF	--	--	--	< 0.010	--	--	--	< 0.010	< 0.010	--	--	--	--	0.5
Total Iron	mg/L	--	--	--	0.266	--	< 5.0	--	< 0.10	--	--	--	0.10	--	--	--	0.16	--	--	--	0.26	0.27	--	--	--	--	1.09
Carbon Dioxide	mg/L	--	--	--	< 5.0	--	< 1.0	--	< 5.0	--	--	--	< 0.050	--	--	--	< 0.050	--	--	--	0.14	< 0.050	--	--	--	--	35
Methane	mg/L	--	--	--	6	--	5	--	5.4	--	--	--	< 0.58	--	--	--	<0.58	--	--	--	4.8	20	--	--	--	--	26
Dissolved Nitrogen	mg/L	--	--	--	20	--	18	--	18	--	--	--	5.2	--	--	--	4.2	--	--	--	3.9	4.5	--	--	--	--	19
Dissolved Oxygen	mg/L	--	--	--	8.0	--	9.6	--	9.0	--	--	--	1.9	--	--	--	1.5	--	--	--	1.4	1.6	--	--	--	--	2.5
Laboratory Results - Organic Constituents																										
Volatile Organic Compounds																										
Benzene	µg/L	5*	9	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	--	--	< 5.0	--	--	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	--	--	< 5.0	--	--	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	--	--	< 5.0	--	--	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds																										
Acenaphthene	µg/L	2,000*	6,100	< 0.50	< 10	< 10	< 10	< 10	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Acenaphthylene	µg/L	470	3,100	< 1.0	< 10	< 10	< 10	< 10	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Anthracene	µg/L	4,700	31,000	< 0.050	< 10	< 10	< 10	< 10	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 10	< 10	< 10	< 10	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 10	< 10	< 10	< 10	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 0.050	< 10	< 10	< 10	< 10	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	< 2.1	< 2.2	< 1.9	< 2.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Fluoranthene	µg/L	1,000*	4,100	< 0.10	< 10	< 10	< 10	< 10	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Fluorene	µg/L	1,000*	4,100	< 0.10	< 10	< 10	< 10	< 10	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	< 2.1	< 2.2	< 1.9	< 2.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10	< 2.1	< 2.2	< 1.9	< 2.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Naphthalene	µg/L	20*	20*	< 0.50	< 10	< 10	< 10	< 10	< 0.21	< 0.22	< 0.19	< 0.23	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<9.9	<9.8	< 10	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	470	3,100	< 0.050	< 10	< 10	< 10	< 10	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10	< 1.1	< 1.1	< 0.95	< 1.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Pyrene	µg/L	1,000*	3,100	< 0.050	< 10	< 10	< 10	< 10	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Inorganic Constituents																										
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 50
Barium	µg/L	2,000	7,200	179	218	152	225	93.4	110	110	130	100	100	130	120	150	130	--	--	--	95	111	179	163	185	211	550
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	< 10	< 10.0	< 10.0	< 10.0	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	< 20	< 20	< 10.0	< 10.0	< 10.0	< 10	< 10
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	< 10	< 10.0	< 10.0	< 10.0	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--	--	< 40	< 40	< 20.0	< 20.0	< 20.0	< 10	< 20
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	12	< 10	--	--	--	< 10	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6b
Summary of Bedrock Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-113D																							
				2/17/2015	8/5/2014	2/17/2014	08/05/13	02/04/13	11/06/12	08/06/12	05/14/12	02/13/12	11/16/11	08/09/11	05/04/11	02/24/11	11/09/10	08/09/10	05/10/09	02/24/10	08/11/09	06/06/06	03/10/06	12/21/05	09/29/05	03/25/05	03/01/05
Groundwater Quality Parameters																											
pH	SU	--	--	5.63	6.09	5.92	6.36	5.76	5.82	5.64	5.79	5.71	5.75	5.81	5.43	5.79	5.76	5.33	5.25	5.73	6.55	5.68	5.73	5.85	6.0	5.87	5.87
Specific Conductance	mMhos	--	--	354	349	353	357	362	363	366	363	295	351	368	369	321	356	360	352	363	368	373	374	321	370	357	385
Temperature	°Celsius	--	--	15.85	23.30	21.42	25.35	18.82	19.51	27.04	24.98	19.98	23.81	25.79	22.04	19.16	24.04	27.65	21.26	17.13	25.47	23.37	18.78	17.41	23.61	21.69	22.41
Dissolved Oxygen (YSI)	mg/L	--	--	1.14	0.41	7.06	0.14	0.36	1.30	1.56	0.84	5.86	0.70	0.86	0.31	1.07	0.15	0.19	0.62	2.32	2.89	0.33	0.46	1.43	0.20	0.07	1.01
ORP	mV	--	--	162.9	149.3	143.1	101.2	138.3	78.9	82.6	-125.7	11.9	126.7	87.5	-22.0	136.0	148.7	72.4	123.5	114.6	-171.4	126.3	151.4	157.0	69.1	184.5	134.5
Turbidity	NTU	--	--	0.63	1.32	0.37	0.19	0.64	0.31	1.29	1.15	0.86	1.09	1.94	0.70	6.6	0.21	0.71	0.54	1.03	0.29	0.42	0.35	0.23	0.5	2.46	31.0
Laboratory Results - Natural Attenuation Parameters																											
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.99
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	< 0.25	--	< 0.050	--	--	--	3.0	--	--	--	< 0.050	--	--	--	1.2	< 0.050	--	--	--	--	--	< 0.0500
Sulfate	mg/L	--	--	--	--	46	--	41	--	--	--	52	--	--	--	53	--	--	--	20	61	--	--	--	--	--	70.9
Sulfide	mg/L	--	--	--	--	< 1.0	--	< 1.0	--	--	--	1.2	--	--	--	< 1.0	--	--	--	< 1.0	< 1.0	--	--	--	--	--	< 1.0
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.22
Total Manganese	mg/L	--	--	--	--	< 0.100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.22
Ferrous Iron	mg/L	--	--	--	--	< 0.100	--	0.29 HF	--	--	--	< 0.10 HF	--	--	--	0.18	--	--	--	0.2	0.28	--	--	--	--	--	0.3
Total Iron	mg/L	--	--	--	--	110	--	0.40	--	--	--	< 0.10	--	--	--	0.29	--	--	--	0.25	0.38	--	--	--	--	--	2.86
Carbon Dioxide	mg/L	--	--	--	--	< 1.0	--	160	--	--	--	2.1	--	--	--	1.8	--	--	--	1.9	1.4	--	--	--	--	--	170
Methane	mg/L	--	--	--	--	25	--	32	--	--	--	< 0.58	--	--	--	8.2	--	--	--	25	37	--	--	--	--	--	140
Dissolved Nitrogen	mg/L	--	--	--	--	19	--	18	--	--	--	4.4	--	--	--	4.1	--	--	--	3.8	4.2	--	--	--	--	--	19
Dissolved Oxygen	mg/L	--	--	--	--	10	--	7.1	--	--	--	1.5	--	--	--	1.4	--	--	--	1.3	1.4	--	--	--	--	--	1.9
Laboratory Results - Organic Constituents																											
Volatile Organic Compounds																											
Benzene	µg/L	5*	9	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	6.5
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	< 5.0
Semivolatile Organic Compounds																											
Acenaphthene	µg/L	2,000*	6,100	< 10	< 10	< 10	< 10	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Acenaphthylene	µg/L	470	3,100	< 10	< 10	< 10	< 10	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Anthracene	µg/L	4,700	31,000	< 10	< 10	< 10	< 10	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.20	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.050	< 0.20	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.10	< 0.20	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 10	< 10	< 10	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 10	< 10	< 10	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 10	< 10	< 10	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	< 0.20	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 2.5	< 2.2	< 2.2	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	< 10	< 10	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Fluorene	µg/L	1,000*	4,100	< 10	< 10	< 10	< 10	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.20	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 2.5	< 2.2	< 2.2	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 2.5	< 2.2	< 2.2	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Naphthalene	µg/L	20*	20*	< 10	< 10	< 10	< 10	< 0.25	< 0.22	< 0.22	< 0.22	< 5.0	< 5.0	< 5.0	5.0	< 5.0	< 5.0	< 5.0	< 5.0	<9.4	<9.8	< 10	< 10	< 10	< 10	9.1	24
Phenanthrene	µg/L	470	3,100	< 10	< 10	< 10	< 10	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 1.3	< 1.1	< 1.1	< 1.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Pyrene	µg/L	1,000*	3,100	< 10	< 10	< 10	< 10	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Inorganic Constituents																											
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 50
Barium	µg/L	2,000	7,200	75	80.3	72.7	72.3	65	110	67	72	48	72	71	84	65	--	--	--	65	69	63.8	60.9	47	65.0	--	87.7
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10.0	--	--	--	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10	--	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 10.0	< 20	< 20	< 20	< 20	27	< 20	< 20	< 20	< 20	--	--	--	< 20	< 20	< 10.0	< 10.0	< 10.0	< 10	--	14.2
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10.0	--	--	--	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10	--	< 10
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--	--	< 40	< 40	< 20.0	< 20.0	< 20.0	< 10	--	< 20
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	68.4
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	10	15	11	< 10	--	--	--	10	--	--	--	< 10	< 10	< 10	< 10	< 10	10	--	< 10

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6b
Summary of Bedrock Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-114D							
				04/29/15	02/25/10	08/13/09	06/07/06	03/09/06	12/22/05	09/29/05	03/01/05
Field Groundwater Quality Parameters											
pH	SU	--	--	7.9	9.51	9.99	7.12	7.00	7.26	7.77	7.02
Specific Conductance	mMhos	--	--	395	291	383	500	432	422	431	462
Temperature	°Celsius	--	--	20.12	19.01	29.57	26.90	20.57	22.10	24.89	20.89
Dissolved Oxygen (YSI)	mg/L	--	--	6.23	7.22	5.85	0.37	0.45	0.31	0.09	0.72
ORP	mV	--	--	-29.8	23.2	-169.8	-154.2	-157.9	162.3	142.6	-86.9
Turbidity	NTU	--	--	1.45	0.7	0.98	0.74	2.6	3.11	3.94	23.1
Laboratory Results - Natural Attenuation Parameters											
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--		--	--	--	--	< 0.20
Nitrogen, Nitrate (as N)	mg/L	--	--	--	< 0.050	0.93	--	--	--	--	< 0.500
Sulfate	mg/L	--	--	--	20	20	--	--	--	--	4.54
Sulfide	mg/L	--	--	--	< 1.0	< 1.0	--	--	--	--	< 1.0
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	0.809
Total Manganese	mg/L	--	--	--	--	--	--	--	--	--	0.845
Ferrous Iron	mg/L	--	--	--	< 0.010	< 0.010	--	--	--	--	2.4
Total Iron	mg/L	--	--	--	< 0.010	< 0.010	--	--	--	--	2.85
Carbon Dioxide	mg/L	--	--	--	< 0.050	< 0.050	--	--	--	--	18
Methane	mg/L	--	--	--	1.2	1.2	--	--	--	--	99
Dissolved Nitrogen	mg/L	--	--	--	3.9	4.6	--	--	--	--	22
Dissolved Oxygen	mg/L	--	--	--	1.5	1.7	--	--	--	--	1.9
Laboratory Results - Organic Constituents											
Volatile Organic Compounds											
Benzene	µg/L	5*	9	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	5.2
Carbon Disulfide	µg/L	329	1,700	< 5.0	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds											
Acenaphthene	µg/L	2,000*	6,100	< 10	--	--	--	--	--	--	< 10
Acenaphthylene	µg/L	470	3,100	< 10	--	--	--	--	--	--	< 10
Anthracene	µg/L	4,700	31,000	< 10	--	--	--	--	--	--	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	--	--	--	--	--	--	< 10
Fluoranthene	µg/L	1,000*	4,100	< 10	--	--	--	--	--	--	< 10
Fluorene	µg/L	1,000*	4,100	< 10	--	--	--	--	--	--	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	--	--	--	--	--	--	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10	--	--	--	--	--	--	< 10
Naphthalene	µg/L	20*	20*	< 10	< 10	<9.4	< 10	< 10	< 10	< 10	88
Phenanthrene	µg/L	470	3,100	< 10	--	--	--	--	--	--	< 10
Phenol	µg/L	9,390	61,000	< 10	--	--	--	--	--	--	< 10
Pyrene	µg/L	1,000*	3,100	< 10	--	--	--	--	--	--	< 10
Inorganic Constituents											
Antimony	µg/L	6.3	40	< 20.0	--	--	--	--	--	--	< 40
Arsenic	µg/L	50*	50*	< 50.0	--	--	--	--	--	--	< 50
Barium	µg/L	2,000	7,200	493	140	140	558	613	636	763	1,260
Beryllium	µg/L	31	200	< 10.0	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	--	--	--	--	--	--	--
Cadmium	µg/L	100	310	< 10.0	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 20	< 20	< 10.0	< 10.0	< 10.0	< 10	< 10
Lead	µg/L	15*	15*	< 10.0	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 40	< 40	< 20.0	< 20.0	< 20.0	< 10	< 20
Zinc	µg/L	4,700	31,000	< 20.0	--	--	--	--	--	--	147
Mercury	µg/L	2*	2*	< 0.20	--	--	--	--	--	--	< 0.5
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6b
Summary of Bedrock Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-115D (Abandoned)																	
				08/05/14	02/20/14	08/06/13	02/07/13	11/08/12	08/08/12	05/14/12	02/13/12	11/16/11	08/11/11	05/05/11	02/24/11	11/09/10	11/10 DUP	08/10/10	05/11/10	02/24/10	2/10 DUP
Field Groundwater Quality Parameters																					
pH	SU	--	--	7.22	7.38	6.66	7.37	7.47	7.33	7.53	7.56	7.88	7.98	8.69	8.70	7.71		6.49	9.09	10.45	
Specific Conductance	mMhos	--	--	257	344	217	228	258	256	244	198	213	222	225	222	208		200	209	235	
Temperature	°Celsius	--	--	24.47	22.62	23.70	13.83	22.04	24.15	23.00	19.84	22.03	25.82	20.28	21.23	23.64		24.65	22.71	17.06	
Dissolved Oxygen (YSI)	mg/L	--	--	0.42	0.40	1.77	2.23	0.66	0.65	1.24	4.39	0.22	0.48	0.34	0.27	0.17		0.22	0.86	1.58	
ORP	mV	--	--	34.4	-33.5	-68.6	20.1	-26	-9.5	65.7	-88.1	-169.4	119.4	-91.3	-46.1	-154.3		11.1	-57.4	-134.4	
Turbidity	NTU	--	--	0.00	9.47	1.47	2.06	1.27	2.99	0.93	2.42	4.16	9.89	1.09	5.24	0.76		0.62	1.79	0.50	
Laboratory Results - Natural Attenuation Parameters																					
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Nitrate (as N)	mg/L	--	--	--	< 0.25	--	< 0.050	--	--	--	< 0.050	--	--	--	< 0.050	--	--	--	--	0.2	< 0.050
Sulfate	mg/L	--	--	--	19	--	< 5.0	--	--	--	< 5.0	--	--	--	< 5.0	--	--	--	--	< 5.0	< 5.0
Sulfide	mg/L	--	--	--	< 1.0	--	< 1.0	--	--	--	< 1.0	--	--	--	2.1	--	--	--	--	< 1.0	< 1.0
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Manganese	mg/L	--	--	--	< 0.100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ferrous Iron	mg/L	--	--	--	0.727	--	< 0.10 HF	--	--	--	< 0.10 HF	--	--	--	< 0.010	--	--	--	--	< 0.010	< 0.010
Total Iron	mg/L	--	--	--	6.9	--	0.27	--	--	--	1.0	--	--	--	1.9	--	--	--	--	0.16	0.17
Carbon Dioxide	mg/L	--	--	--	< 1.0	--	7.5	--	--	--	0.052	--	--	--	< 0.050	--	--	--	--	< 0.050	< 0.050
Methane	mg/L	--	--	--	83	--	21	--	--	--	9.9	--	--	--	<0.58	--	--	--	--	<0.19	<0.19
Dissolved Nitrogen	mg/L	--	--	--	18	--	--	--	--	--	4.7	--	--	--	4.7	--	--	--	--	3.1	3.5
Dissolved Oxygen	mg/L	--	--	--	3.9	--	7.6	--	--	--	1.6	--	--	--	1.6	--	--	--	--	1.2	1.3
Laboratory Results - Organic Constituents																					
Volatile Organic Compounds																					
Benzene	µg/L	5*	9	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	11	8.9	5.6	< 5.0	15	15	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	9.8	< 5.0	< 5.0	< 5.0	--	--	--	--	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	9.2	13	7.6	< 5.0	--	--	--	--	< 5.0	< 5.0
Semivolatile Organic Compounds																					
Acenaphthene	µg/L	2,000*	6,100	< 10	< 10	< 10	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 10	< 10	< 10	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 10	< 10	< 10	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	0.24	< 0.20	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	0.47	< 0.20	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	0.33	< 0.20	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 10	< 10	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 10	< 10	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 10	< 10	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	0.63	< 0.20	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 2.4	< 2.1	< 1.9	< 2.2	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	< 10	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	< 10	< 10	< 10	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	0.53	< 0.20	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 2.4	< 2.1	< 1.9	< 2.2	--	--	--	--	--	--	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 2.4	< 2.1	< 1.9	< 2.2	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	µg/L	20*	20*	< 10	< 10	< 10	0.24	< 0.21	< 0.19	< 0.22	< 5.0	14	5.2	< 5.0	< 5.0	54	57	7.7	< 5.0	< 9.7	< 9.7
Phenanthrene	µg/L	470	3,100	< 10	< 10	< 10	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 1.2	< 1.0	< 0.95	< 1.1	--	--	--	--	--	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	< 10	< 10	< 0.24	< 0.21	< 0.19	< 0.22	--		--	--	--	--	--	--	--	--	--
Inorganic Constituents																					
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--
Barium	µg/L	2,000	7,200	2,490	80	1,430	1,400	1,800	1,800	1,400	1,400	1,500	1,300	1,200	1,200	--	--	--	--	930	930
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	--	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	--	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--	--	--	< 40	< 40
Zinc	µg/L	4,700	31,000	36	< 20.0	< 20.0	< 20	22	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	--	--	--	--	17	< 10

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6b
Summary of Bedrock Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-200DR																		
				4/7/2016	8/12/2015	8/15 DUP	2/17/2015	2/15 DUP	8/7/2014	2/20/2014	08/07/13	02/08/13	11/07/12	08/08/12	05/17/12	02/16/12	11/18/11	08/11/11	05/04/11	04/18/11	11/09/10	08/10/10	05/11/10	02/24/10
Field Groundwater Quality Parameters																								
pH	SU	--	--	6.77	6.33		6.68		7.41	6.75	6.23	6.61	6.44	6.36	6.88	6.43	6.61	6.50	6.06	6.26	6.55	6.42	6.33	6.42
Specific Conductance	mMhos	--	--	590	529		488		633	569	526	452	510	576	526	535	509	515	512	558	519	506	550	534
Temperature	°Celsius	--	--	24.09	25.23		17.44		25.53	22.50	24.75	18.74	22.76	27.09	23.94	23.15	20.28	26.67	23.60	23.78	25.94	28.69	26.09	17.09
Dissolved Oxygen (YSI)	mg/L	--	--	0.36	0.12		2.38		0.51	0.36	0.21	1.10	0.06	0.66	0.71	0.28	0.59	1.38	0.05	1.04	0.10	0.24	0.73	3.66
ORP	mV	--	--	-866.7	-180.4		94.7		-85.9	-99.2	-137.6	2.7	-89	-46.4	-75.6	-45.8	-90.7	-64.5	-113.4	-106.0	-260.1	-108.9	-110.5	-85.5
Turbidity	NTU	--	--	4.38	0.7		1.22		4.19	1.22	0.45	3.5	1.61	2.36	2.97	1.40	3.91	2.00	1.25	3.07	4.01	0.17	2.55	2.35
Laboratory Results - Natural Attenuation Parameters																								
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--	--	--	--	< 0.25	--	0.073 *	--	--	--	< 0.050	--	--	--	< 0.050	--	--	--	< 0.050
Sulfate	mg/L	--	--	--	--	--	--	--	--	< 1.0	--	< 5.0	--	--	--	< 5.0	--	--	--	< 5.0	--	--	--	5.6
Sulfide	mg/L	--	--	--	--	--	--	--	--	< 1.0	--	< 1.0	--	--	--	1.6	--	--	--	7.5	--	--	--	< 1.0
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Manganese	mg/L	--	--	--	--	--	--	--	--	0.618	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ferrous Iron	mg/L	--	--	--	--	--	--	--	--	4.48	--	0.83 HF	--	--	--	0.84 HF	--	--	--	0.68	--	--	--	1.3
Total Iron	mg/L	--	--	--	--	--	--	--	--	97	--	6.9	--	--	--	4.3	--	--	--	4.3	--	--	--	4.8
Carbon Dioxide	mg/L	--	--	--	--	--	--	--	--	< 1.0	--	120	--	--	--	1.4	--	--	--	1.1	--	--	--	1.1
Methane	mg/L	--	--	--	--	--	--	--	--	1600	--	1100	--	--	--	1400	--	--	--	460	--	--	--	770
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	--	--	21	--	--	--	--	--	5.5	--	--	--	4.3	--	--	--	4.1
Dissolved Oxygen	mg/L	--	--	--	--	--	--	--	--	2.3	--	4.4	--	--	--	1.8	--	--	--	1.3	--	--	--	1.3
Laboratory Results - Organic Constituents																								
Volatile Organic Compounds																								
Benzene	µg/L	5*	9	29	36	34	< 5.0	< 5.0	19	7.5	14	3.9	2.3	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	26
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	20	26	24	< 5.0	< 5.0	8.1	< 5.0	5.3	< 1.0	16	< 1.0	< 1.0	< 5.0	< 5.0	5.6	< 5.0	< 5.0	--	--	--	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	16	< 5.0	< 5.0	< 1.0	4.7	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	7.2	< 5.0	< 5.0	2.0	13	2.0	< 2.0	< 5.0	< 5.0	< 5.0	6.0	< 5.0	--	--	--	6.8
Semivolatile Organic Compounds																								
Acenaphthene	µg/L	2,000*	6,100	1.5	5.0	< 0.50	< 10	< 10	14	21	35	81	25	25	15	--	--	--	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 1.0	< 1.0	< 1.0	< 10	< 10	< 10	< 10	< 10	4.9	2.8	2.8	1.8	--	--	--	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	0.069	0.058	< 0.050	< 10	< 10	< 10	< 10	< 10	6.5	0.47	0.38	< 0.22	--	--	--	--	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	0.052	0.12	< 0.20	< 1.9	< 0.20	< 0.20	< 0.22	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	0.12	< 0.20	< 1.9	< 0.20	< 0.20	< 0.22	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.11	< 0.20	< 1.9	< 0.20	< 0.20	< 0.22	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 0.10	< 0.10	< 10	< 10	< 10	< 10	< 10	< 1.9	< 0.20	< 0.20	< 0.22	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 0.050	< 0.050	< 10	< 10	< 10	< 10	< 10	< 1.9	< 0.20	< 0.20	< 0.22	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 0.050	< 0.050	< 0.050	< 10	< 10	< 10	< 10	< 10	< 1.9	< 0.20	< 0.20	< 0.22	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.15	< 0.20	< 1.9	< 0.20	< 0.20	< 0.22	--	--	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 19	< 2.0	< 2.0	< 2.2	--	--	--	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	0.7	2.0	< 0.10	< 10	< 10	< 10	< 10	< 10	5.2	2.9	2.7	1.6	--	--	--	--	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	1.40	0.79	< 0.10	< 10	< 10	10	15	26	25	18	20	11	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	0.11	< 0.20	< 1.9	< 0.20	< 0.20	< 0.22	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 19	< 2.0	< 2.0	< 2.2	--	--	--	--	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 19	< 2.0	< 2.0	< 2.2	--	--	--	--	--	--	--	--	--
Naphthalene	µg/L	20*	20*	< 0.50	< 0.50	< 0.50	< 10	< 10	< 10	140	160	2,300	140	4.6	2.0	5.6	< 5.0	48	100	33	24	27	6.3	25
Phenanthrene	µg/L	470	3,100	0.055	0.077	< 0.050	< 10	< 10	< 10	< 10	< 10	39	1.2	< 0.20	< 0.22	--	--	--	--	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 9.7	< 0.99	< 0.98	< 1.1	--	--	--	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	0.5	2.3	< 0.050	< 10	< 10	< 10	< 10	< 10	7.6	2.9	3.2	1.9	--	--	--	--	--	--	--	--	--
Inorganic Constituents																								
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--
Barium	µg/L	2,000	7,200	1,190	1,730	1,710	682	738	938	948	1,230	3,200	900	810	690	750	810	730	810	670	--	--	--	540
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	< 20
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10
Nickel	µg/L	100	2,000	37	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	160	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--	--	< 40
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	16	< 10.0	43	34	34	21	54	43	< 10	61	54	24	42	--	--	--	54	--	--	--	42

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6b
Summary of Bedrock Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-205D											
				04/07/16	08/12/15	02/16/15	08/06/14	02/19/14	02/14 DUP	08/06/13	08/13 DUP	02/07/13	02/13 DUP	11/07/12	11/12 DUP
Field Groundwater Quality Parameters															
pH	SU	--	--	6.71	6.60	6.81	7.38	6.79		6.20		6.89		6.70	
Specific Conductance	mMhos	--	--	580	740	855	869	485		770		625		794	
Temperature	ºCelsius	--	--	18.30	26.72	18.66	23.60	21.24		25.48		17.75		18.64	
Dissolved Oxygen (YSI)	mg/L	--	--	0.42	0.28	2.01	0.35	0.30		1.38		0.47		0.53	
ORP	mV	--	--	-65.2	-163.5	-90.1	-68.9	-82.0		-184.4		-90.6		-17.8	
Turbidity	NTU	--	--	0.88	2.67	3.41	5.79	1.16		1.87		2.72		0.78	
Laboratory Results - Natural Attenuation Parameters															
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	< 2.5	--	< 2.5	< 2.5	--	--	< 0.050	< 0.050	--	--
Sulfate	mg/L	--	--	--	--	< 10	--	< 10	< 10	--	--	< 5.0	< 5.0	--	--
Sulfide	mg/L	--	--	--	--	< 1.00	--	< 1.0	< 1.0	--	--	< 1.0	< 1.0	--	--
Ferrous Iron	mg/L	--	--	--	--	0.844	--	< 0.100	< 0.100	--	--	< 0.10 HF	< 0.10 HF	--	--
Total Iron	mg/L	--	--	--	--	4.37	--	3.23	3.25	--	--	4.8	4.9	--	--
Carbon Dioxide	mg/L	--	--	--	--	77	--	49	48	--	--	93	88	--	--
Methane	mg/L	--	--	--	--	3000	--	1700	2000	--	--	2600	2100	--	--
Dissolved Nitrogen	mg/L	--	--	--	--	20	--	15	16	--	--	--	--	--	--
Dissolved Oxygen	mg/L	--	--	--	--	4.7	--	3.9	3.9	--	--	2.0	2.8	--	--
Laboratory Results - Organic Constituents															
Volatile Organic Compounds															
Benzene	µg/L	5*	9	5,100	5,200	4,400	6,700	1,700	1,600	5,700	5,400	3,400	4,000	3,300	3,200
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 250	< 5.0	< 5.0	< 5.0	< 5.0	< 250	< 250	< 100	< 100	< 100	< 40
Ethylbenzene	µg/L	700*	2,300	990	1,100	990	1,200	330	320	1,400	1,200	820	890	930	890
Toluene	µg/L	1,000*	1,100	< 50	< 250	12	< 5.0	< 5.0	< 5.0	< 250	< 250	< 50	< 50	< 50	< 20
Total Xylenes	µg/L	31,000	200,000	620	580	560	720	300	290	960	820	400	460	250	240
Semivolatile Organic Compounds															
Acenaphthene	µg/L	2,000*	6,100	140	160	130	200	54	57	220	200	89	95	150	170
Acenaphthylene	µg/L	470	3,100	1.7	1.8	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 2.3	< 0.21
Anthracene	µg/L	4,700	31,000	4.5	5.6	< 10	< 10	< 10	< 10	< 10	< 10	2.9	3.1	4.4	4.4
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20	< 0.20	< 2.0	< 2.0	< 2.3	< 0.21
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20	< 0.20	< 2.0	< 2.0	< 2.3	< 0.21
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.20	< 2.0	< 2.0	< 2.3	< 0.21
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 0.10	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 2.3	< 0.21
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 0.050	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 2.3	< 0.21
Chrysene	µg/L	117	392	< 0.050	< 0.050	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 2.3	< 0.21
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.20	< 2.0	< 2.0	< 2.3	< 0.21
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 50	< 10	< 10	< 10	< 10	< 10	< 10	< 20	< 20	< 23	< 2.1
Fluoranthene	µg/L	1,000*	4,100	1.0	1.3	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 2.3	1.1
Fluorene	µg/L	1,000*	4,100	29	34	31	47	13	13	43	44	24	26	34	38
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20	< 0.20	< 2.0	< 2.0	< 2.3	< 0.21
2-Methylphenol	µg/L	780	5,100	< 10	< 50	< 10	< 10	< 10	< 10	< 10	< 10	< 20	< 20	< 23	< 2.1
3 & 4 Methylphenol	µg/L	78	510	< 10	< 50	< 10	< 10	< 10	< 10	< 10	< 10	< 20	< 20	< 23	< 2.1
Naphthalene	µg/L	20*	20*	4,900	4,600	4,200	6,000	< 10	< 10	8,100	7,500	1,500	1,700	6,400	5,700
Phenanthrene	µg/L	470	3,100	30	35	29	44	11	11	43	43	20	22	34	39
Phenol	µg/L	9,390	61,000	18	< 50	< 10	18	26	23	< 10	< 10	< 10	< 9.9	11	14
Pyrene	µg/L	1,000*	3,100	1.1	1.4	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 2.3	1.1
Inorganic Constituents															
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 20	< 20	< 20	< 20
Barium	µg/L	2,000	7,200	3,080	3,130	3,160	3,020	2,130	2,150	3,790	3,900	3,200	3,300	3,100	3,000
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 20	< 20	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	43.4	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 40	< 40	< 40	< 40
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	0.020	< 10	< 10	12	17	10	< 10	< 10	17

Notes:

*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.

Only those constituents that are MGP-related and HSRA-regulated are reported on this table.

Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.

Exceeds Type 2 RRS (only indicated for off-site wells)

Exceeds Type 4 RRS

Appendix B-6b
Summary of Bedrock Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-205D (Continued)														
				08/09/12	05/17/12	05/12 DUP	02/15/12	02/12 DUP	11/18/11	11/18 DUP	08/11/11	05/05/11	02/22/11	02/11 DUP	11/10/10	08/11/10	05/11/10	02/24/10
Field Groundwater Quality Parameters																		
pH	SU	--	--	6.14	7.13		6.65		5.9		5.60	6.57	6.6		6.47	6.56	6.41	6.55
Specific Conductance	mMhos	--	--	801	766		791		372		778	615	664		679	701	690	733
Temperature	℃elsius	--	--	25.15	24.5		21.58		20.37		24.51	19.50	22.88		23.74	23.66	21.86	11.89
Dissolved Oxygen (YSI)	mg/L	--	--	0.31	1.93		0.63		1.19		1.36	0.88	0.31		0.17	1.77	0.36	0.55
ORP	mV	--	--	-58.9	-96.2		-95.2		-22		-9.5	-77.3	-91.1		-86.1	-92.4	-71.0	-145.5
Turbidity	NTU	--	--	6.16	3.68		1.05		8.86		4.10	2.94	3.65		0.91	0.1	1.06	0.87
Laboratory Results - Natural Attenuation Parameters																		
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--	< 0.050	< 0.050	--	--	--	--	< 0.050	< 0.050	--	--	--	< 0.050
Sulfate	mg/L	--	--	--	--	--	< 5.0	< 5.0	--	--	--	--	< 5.0	< 5.0	--	--	--	< 5.0
Sulfide	mg/L	--	--	--	--	--	1.8	1.8	--	--	--	--	< 1.0	< 1.0	--	--	--	< 1.0
Ferrous Iron	mg/L	--	--	--	--	--	0.25 HF	0.25 HF	--	--	--	--	< 0.010	< 0.010	--	--	--	1.1
Total Iron	mg/L	--	--	--	--	--	3.7	3.7	--	--	--	--	4.4	4.5	--	--	--	3.6
Carbon Dioxide	mg/L	--	--	--	--	--	1.4	1.4	--	--	--	--	1.1	1.2	--	--	--	1.1
Methane	mg/L	--	--	--	--	--	2600	2500	--	--	--	--	2100	2200	--	--	--	1700
Dissolved Nitrogen	mg/L	--	--	--	--	--	4.9	5.4	--	--	--	--	4.2	4.4	--	--	--	3.9
Dissolved Oxygen	mg/L	--	--	--	--	--	1.7	1.8	--	--	--	--	1.2	1.2	--	--	--	1.2
Laboratory Results - Organic Constituents																		
Volatile Organic Compounds																		
Benzene	µg/L	5*	9	5,800	4,700	4,600	3,200	3,500	< 250	< 250	3,900	3,500	1,900	2,300	3,500	3,700	3,800	4,000
Carbon Disulfide	µg/L	329	1,700	< 100	< 100	< 100	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	1,400	1,100	1,000	900	1,000	< 250	< 250	970	840	390	720	--	--	--	1,500
Toluene	µg/L	1,000*	1,100	< 50	< 50	< 50	< 250	< 250	< 250	< 250	<250	<250	<250	<250	--	--	--	280
Total Xylenes	µg/L	31,000	200,000	750	660	630	410	350	< 250	< 250	450	530	<250	360	--	--	--	1300
Semivolatile Organic Compounds																		
Acenaphthene	µg/L	2,000*	6,100	140	150	120	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 1.9	< 2.0	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	0.55	4.0	2.3	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 1.9	< 2.0	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 1.9	< 2.0	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 1.9	< 2.0	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 1.9	< 2.0	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 1.9	< 2.0	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 1.9	< 2.0	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 1.9	< 2.0	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 19	< 20	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 1.9	< 2.0	0.35	--	--	--	--	--	--	--	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	38	34	26	--	--	--	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 1.9	< 2.0	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 19	< 20	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 19	< 20	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	µg/L	20*	20*	3,900 D	2,100	35	5,500	5,300	< 250	690	7,100	6,900	3,500	5,700	10,000	7,900	4,800	5,600
Phenanthrene	µg/L	470	3,100	36	28	21	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 9.5	< 10	9.8	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 1.9	< 2.0	0.47	--	--	--	--	--	--	--	--	--	--	--	--
Inorganic Constituents																		
Antimony	µg/L	6.3	40	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--
Barium	µg/L	2,000	7,200	3,000	2,800	2,900	2,900	2,900	130	130	3,100	2,900	3,200	3,200	--	--	--	2,900
Beryllium	µg/L	31	200	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10
Copper	µg/L	630	4,100	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	< 20
Lead	µg/L	15*	15*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10
Nickel	µg/L	100	2,000	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--	--	< 40
Zinc	µg/L	4,700	31,000	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	13	12	13	11	13	--	--	--	--	< 10	13	--	--	--	12

Notes:

*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.

Only those constituents that are MGP-related and HSRA-regulated are reported on this table.

Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.

Exceeds Type 2 RRS (only indicated for off-site wells)

Exceeds Type 4 RRS

Appendix B-6b
Summary of Bedrock Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-205DD							
				4/6/2016	8/11/2015	2/17/2015	2/17 DUP	8/6/2014	08/14 DUP	2/19/2014	8/8/2013
Field Groundwater Quality Parameters											
pH	SU	--	--	9.31	9.17	9.65		8.95		7.64	11.65
Specific Conductance	mMhos	--	--	300	246	229		194		141	1,302
Temperature	℃elsius	--	--	20.84	24.87	14.74		23.84		22.08	22.80
Dissolved Oxygen (YSI)	mg/L	--	--	1.06	1.01	0.91		0.96		3.42	0.25
ORP	mV	--	--	50.8	-101.4	-49.8		-49.2		114.6	-155.1
Turbidity	NTU	--	--	6.89	2.4	29.9		1.38		5.31	7.61
Laboratory Results - Natural Attenuation Parameters											
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--	--	--	--	0.28	--
Sulfate	mg/L	--	--	--	--	--	--	--	--	9.3	--
Sulfide	mg/L	--	--	--	--	--	--	--	--	< 1.0	--
Ferrous Iron	mg/L	--	--	--	--	--	--	--	--	< 0.100	--
Total Iron	mg/L	--	--	--	--	--	--	--	--	0.289	--
Carbon Dioxide	mg/L	--	--	--	--	--	--	--	--	< 5.0	--
Methane	mg/L	--	--	--	--	--	--	--	--	< 4	--
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	--	--	17	--
Dissolved Oxygen	mg/L	--	--	--	--	--	--	--	--	7.9	--
Laboratory Results - Organic Constituents											
Volatile Organic Compounds											
Benzene	µg/L	5*	9	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	84
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	6.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds											
Acenaphthene	µg/L	2,000*	6,100	0.83	< 0.50	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 1.0	< 1.0	< 10	< 10	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31,000	< 0.050	< 0.050	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 0.10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 0.050	< 10	< 10	< 10	< 10	< 10	< 10
Chrysene	µg/L	117	392	< 0.050	< 0.050	< 10	< 10	< 10	< 10	< 10	< 10
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 0.10	< 0.10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 0.10	< 0.10	< 10	< 10	< 10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	1.1	< 0.50	< 10	< 10	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	470	3,100	< 0.050	< 0.050	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 0.050	< 0.050	< 10	< 10	< 10	< 10	< 10	< 10
Inorganic Constituents											
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	44.2
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0
Barium	µg/L	2,000	7,200	44.8	24.7	33.1	29.8	22.9	21.2	< 20.0	103
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	14.6
Copper	µg/L	630	4,100	0.0119	12	< 10.0	< 10.0	< 10.0	< 10.0	12.4	11.4
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	23.3
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	43.3	29.3	23.8	22.8	78.1	26.5
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:

*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.

Only those constituents that are MGP-related and HSRA-regulated are reported on this table.

Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.

Exceeds Type 2 RRS (only indicated for off-site wells)

Exceeds Type 4 RRS

Appendix B-6b
Summary of Bedrock Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-206D														
				4/6/2016	02/17/15	08/05/14	02/18/14	08/08/13	02/08/13	11/08/12	08/09/12	08/12 DUP	05/15/12	02/14/12	11/18/11	08/11/11	05/05/11	02/23/11
Field Groundwater Quality Parameters																		
pH	SU	--	--	6.13	6.10	6.10	6.05	5.94	6.11	6.00	5.99		6.18	6.25	6.33	5.95	6.08	6.05
Specific Conductance	mMhos	--	--	530	560	481	453	463	441	456	665		477	500	473	328	368	440
Temperature	°Celsius	--	--	22.36	13.62	24.50	21.60	26.53	21.19	21.75	29.12		24.98	20.30	21.99	27.97	20.45	21.61
Dissolved Oxygen (YSI)	mg/L	--	--	0.35	0.77	0.51	0.33	1.42	0.27	0.25	0.2		0.22	0.22	0.31	0.93	0.58	0.19
ORP	mV	--	--	18.1	17.5	-0.2	11.6	-196.8	10.6	-6.8	-65.6		-74.4	-75.7	-69.8	22.1	-19.2	-15.4
Turbidity	NTU	--	--	5.1	55.7	2.29	4.31	3.22	22.8	4.83	5.42		1.42	36.9	9.82	57.3	9.9	15.9
Laboratory Results - Natural Attenuation Parameters																		
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--	< 0.25	--	< 0.050	--	--	--	--	< 0.050	--	--	--	< 0.050
Sulfate	mg/L	--	--	--	--	--	110	--	99	--	--	--	--	5.6	--	--	--	78
Sulfide	mg/L	--	--	--	--	--	< 1.0	--	< 1.0	--	--	--	--	8.8	--	--	--	< 1.0
Ferrous Iron	mg/L	--	--	--	--	--	4.00	--	15 HF	--	--	--	--	4.3 HF	--	--	--	12
Total Iron	mg/L	--	--	--	--	--	12.8	--	< 0.10	--	--	--	--	7.5	--	--	--	22
Carbon Dioxide	mg/L	--	--	--	--	--	110	--	70	--	--	--	--	2.3	--	--	--	1.3
Methane	mg/L	--	--	--	--	--	54	--	100	--	--	--	--	690	--	--	--	100
Dissolved Nitrogen	mg/L	--	--	--	--	--	20	--	--	--	--	--	--	4.3	--	--	--	4.5
Dissolved Oxygen	mg/L	--	--	--	--	--	4.4	--	8.0	--	--	--	--	1.4	--	--	--	1.5
Laboratory Results - Organic Constituents																		
Volatile Organic Compounds																		
Benzene	µg/L	5*	9	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	1.6	< 1.0	2.7	2.7	19	60	50	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	3.3	< 1.0	1.1	1.1	43	120	100	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 50	21	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	3.8	< 50	34	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds																		
Acenaphthene	µg/L	2,000*	6,100	3.3	< 10	< 10	< 10	< 10	< 0.20	13	22	34	18	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	4.3	< 10	< 10	< 10	< 10	< 0.20	18	1.4	2.1	2.9	--	--	--		--
Anthracene	µg/L	4,700	31,000	0.10	< 10	< 10	< 10	< 10	< 0.20	< 0.20	0.55	1.1	0.52	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	0.11	0.10	0.14	0.13	< 0.20	< 0.20	0.23	< 0.19	< 0.20	< 0.21	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20	< 0.20	< 0.20	< 0.19	< 0.20	< 0.21	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.20	< 0.20	< 0.19	< 0.20	< 0.21	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 10	< 10	< 10	< 10	< 0.20	< 0.20	< 0.19	< 0.20	< 0.21	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 10	< 10	< 10	< 10	< 0.20	< 0.20	< 0.19	< 0.20	< 0.21	--	--	--	--	--
Chrysene	µg/L	117	392	0.084	< 10	< 10	< 10	< 10	< 0.20	< 0.20	< 0.19	< 0.20	< 0.21	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.20	< 0.20	< 0.19	< 0.20	< 0.21	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 1.9	< 2.0	< 2.1	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	0.54	< 10	< 10	< 10	< 10	< 0.20	1.0	1.3	1.8	1.1	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	1.9	< 10	< 10	< 10	< 10	< 0.20	8.3	8.0	13	5.3	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20	< 0.20	< 0.20	< 0.19	< 0.20	< 0.21	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 1.9	< 2.0	< 2.1	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 1.9	< 2.0	< 2.1	--	--	--	--	--
Naphthalene	µg/L	20*	20*	< 0.50	< 10	< 10	< 10	< 10	< 0.20	3.4	28	170 D	180	1,300	990	< 5.0	54	< 5.0
Phenanthrene	µg/L	470	3,100	0.059	< 10	< 10	< 10	< 10	< 0.20	1.1	0.52	2.9	1.8	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10	< 0.98	< 1.0	< 0.96	< 0.99	< 1.1	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	3.6	< 10	< 10	< 10	< 10	< 0.20	4.2	1.9	2.4	3.3	--	--	--	--	--
Inorganic Constituents																		
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--
Barium	µg/L	2,000	7,200	49	120	143	62	86	< 89	62	1,900	1,900	470	2,700	1,900	55	250	170
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 40	< 40	110	110	52	130	110	< 40	44	< 40
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	23	18	15	42	--	--	--	15

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6b
Summary of Bedrock Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-207D																
				04/06/16	02/17/15	08/05/14	02/20/14	08/08/13	02/11/13	11/06/12	08/09/12	05/17/12	02/15/12	11/17/11	08/10/11	05/05/11	02/23/11	02/11 DUP	11/09/11	08/10/10	05/11/10	03/17/10
Field Groundwater Quality Parameters																				
pH	SU	--	--	7.01	6.85	7.26	7.00	6.31	6.57	10.62	5.91	6.92	6.63	6.54	6.37	6.65	6.48	6.48	9.74	6.50	6.24	6.51
Specific Conductance	mMhos	--	--	0.500	0.499	0.584	0.493	506	526	326	529	469	473	452	494	473	394	394	231	482	467	485
Temperature	℃elsius	--	--	18.23	18.85	26.61	19.20	24.43	22.17	22.25	26.91	24.10	20.66	21.49	26.36	19.18	18.29	18.29	26.91	28.31	23.02	17.29
Dissolved Oxygen (YSI)	mg/L	--	--	0.78	1.67	1.03	0.59	1.28	0.83	0.11	0.25	0.34	3.96	0.35	0.54	0.71	0.45	0.45	1.02	2.82	0.29	0.5
ORP	mV	--	--	-67.9	-58.5	-82.2	183.5	-212.1	-94.9	-46.7	-81.2	-77.3	-83.4	-83.3	-77.2	-112.4	-81.6	-81.6	-14.8	-74.6	-58.7	-75.4
Turbidity	NTU	--	--	9.4	45.9	5.38	10.4	1.32	8.71	25	32.0	50.1	9.17	7.83	9.41	7.49	9.41	9.41	5.4	2.3	0.65	22.6
Laboratory Results - Natural Attenuation Parameters																				
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--	< 0.25	--	< 0.050	--	--	--	< 0.050	--	--	--	< 0.050	< 0.050	--	--	--	< 0.050
Sulfate	mg/L	--	--	--	--	--	4.4	--	< 5.0	--	--	--	< 5.0	--	--	--	< 5.0	< 5.0	--	--	--	< 5.0
Sulfide	mg/L	--	--	--	--	--	< 1.0	--	< 1.0	--	--	--	2.2	--	--	--	< 1.0	1.3	--	--	--	< 1.0
Ferrous Iron	mg/L	--	--	--	--	--	< 0.100	--	2.5 HF	--	--	--	1.1 HF	--	--	--	0.96	0.55	--	--	--	1.1
Total Iron	mg/L	--	--	--	--	--	0.687	--	8.8	--	--	--	5.4	--	--	--	4.1	4.5	--	--	--	5.4
Carbon Dioxide	mg/L	--	--	--	--	--	22	--	59	--	--	--	1.1	--	--	--	0.79	0.88	--	--	--	0.67
Methane	mg/L	--	--	--	--	--	48	--	2000	--	--	--	1200	--	--	--	470	530	--	--	--	58
Dissolved Nitrogen	mg/L	--	--	--	--	--	19	--	--	--	--	--	4.9	--	--	--	4.9	4.3	--	--	--	4.0
Dissolved Oxygen	mg/L	--	--	--	--	--	5.4	--	7.4	--	--	--	1.7	--	--	--	1.6	1.4	--	--	--	1.3
Laboratory Results - Organic Constituents																				
Volatile Organic Compounds																				
Benzene	µg/L	5*	9	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	2.9	< 1.0	1.8	1.2	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	18
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	1.8	< 1.0	1.8	1.8	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0
Semivolatile Organic Compounds																				
Acenaphthene	µg/L	2,000*	6,100	1.4	< 10	< 10	< 10	14	8.0	2.7	7.0	9.3	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 1.0	< 10	< 10	< 10	< 10	0.69	0.50	0.76	1.5	--	--	--	--	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	0.055	< 10	< 10	< 10	< 10	0.24	< 0.20	0.24	0.25	--	--	--	--	--	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	0.21	< 0.050	< 0.050	< 0.050	< 0.20	< 0.20	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	0.29	< 0.050	< 0.050	< 0.050	< 0.20	< 0.20	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	0.30	< 0.10	< 0.10	< 0.10	< 0.20	< 0.20	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	0.43	< 10	< 10	< 10	< 10	< 0.20	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	0.38	< 10	< 10	< 10	< 10	< 0.20	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	0.23	< 10	< 10	< 10	< 10	< 0.20	< 0.20	< 0.19	0.22	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	0.35	< 0.10	< 0.10	< 0.10	< 0.20	< 0.20	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 1.9	< 2.2	--	--	--	--	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	0.68	< 10	< 10	< 10	< 10	2.0	1.4	2.0	1.7	--	--	--	--	--	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	0.28	< 10	< 10	< 10	11	6.5	2.0	5.4	3.1	--	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	0.38	< 0.050	< 0.050	< 0.050	< 0.20	< 0.20	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 1.9	< 2.2	--	--	--	--	--	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 1.9	< 2.2	--	--	--	--	--	--	--	--	--	--
Naphthalene	µg/L	20*	20*	< 0.50	< 10	< 10	< 10	< 10	7.8	2.7	8.4	3.3	21	15	< 5.0	8.8	61	64	< 5.0	< 5.0	< 5.0	22
Phenanthrene	µg/L	470	3,100	0.061	< 10	< 10	< 10	< 10	< 0.20	< 0.20	0.22	0.28	--	--	--	--	--	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10	< 0.99	< 0.99	< 0.97	< 1.1	--	--	--	--	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	1.1	< 10	< 10	< 10	< 10	2.9	1.9	2.6	2.9	--	--	--	--	--	--	--	--	--	--
Inorganic Constituents																				
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	40	41	< 20	< 20	--	--	--	--	--	--	--	--	--	--
Barium	µg/L	2,000	7,200	2,450	2,890	2,950	1,980	2,920	3,300	230	2,600	2,200	2,400	2,400	2,400	2,300	2,300	2,100	--	--	--	2,300
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 20	37	27	44	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	< 20
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	12	19	25	36	< 10	19	< 10	< 10	< 10	< 10	--	--	--	< 10
Nickel	µg/L	100	2,000	54	< 20.0	< 20.0	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--	--	< 40
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	31	62	57	98	--	--	--	--	--	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 10.0	3.6	4.3	2	23	22	< 10	29	24	14	--	--	--	19	19	--	--	--	53

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6b
Summary of Bedrock Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-300D												
				04/06/16	02/17/15	08/04/15	02/18/14	02/05/13	11/06/12	08/07/12	05/15/12	02/09/12	11/18/11	08/11/11	05/04/11	02/22/11
Field Groundwater Quality Parameters																
pH	SU	--	--	6.13	6.05	6.03	6.02	6.04	5.98	5.46	6.66	6.53	6.2	6.16	6.13	6.23
Specific Conductance	mMhos	--	--	0.292	0.384	0.378	0.158	399	396	420	431	518	390	453	419	421
Temperature	°Celsius	--	--	17.77	16.29	24.89	20.89	20.37	20.90	22.72	23.84	16.90	19.76	25.76	21.39	21.81
Dissolved Oxygen (YSI)	mg/L	--	--	0.79	0.88	0.37	0.86	1.00	2.41	1.12	0.13	1.11	0.32	0.33	0.24	0.16
ORP	mV	--	--	66.1	21.6	14.2	96.1	23.6	-18.6	16.3	-78.8	-55.7	-63.6	150.5	-90.6	-32.6
Turbidity	NTU	--	--	0.83	0.44	2.67	0.88	2.48	3.12	0.90	0.21	9.72	5.06	9.12	4.20	0.79
Laboratory Results - Natural Attenuation Parameters																
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--	< 0.25	< 0.050	--	--	--	< 0.050	--	--	--	< 0.050
Sulfate	mg/L	--	--	--	--	--	2.0	< 5.0	--	--	--	< 5.0	--	--	--	5.1
Sulfide	mg/L	--	--	--	--	--	< 1.0	< 1.0	--	--	--	1.4	--	--	--	< 1.0
Ferrous Iron	mg/L	--	--	--	--	--	< 0.100	6.8 HF	--	--	--	9.1 HF	--	--	--	3.8
Total Iron	mg/L	--	--	--	--	--	0.425	6.3	--	--	--	9.5	--	--	--	4.6
Carbon Dioxide	mg/L	--	--	--	--	--	< 5.0	55	--	--	--	0.98	--	--	--	0.63
Methane	mg/L	--	--	--	--	--	5	32	--	--	--	650	--	--	--	1.2
Dissolved Nitrogen	mg/L	--	--	--	--	--	19	23	--	--	--	5.7	--	--	--	4.2
Dissolved Oxygen	mg/L	--	--	--	--	--	9.5	7.4	--	--	--	1.7	--	--	--	1.4
Laboratory Results - Organic Constituents																
Volatile Organic Compounds																
Benzene	µg/L	5*	9	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds																
Acenaphthene	µg/L	2,000*	6,100	< 0.50	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 1.0	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 0.050	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.050	< 0.050	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.10	< 0.10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Chrysene	µg/L	117	392	< 0.050	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	< 0.10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 1.9	< 2.0	< 2.0	< 2.2	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 0.10	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	< 0.10	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 1.9	< 2.0	< 2.0	< 2.2	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 1.9	< 2.0	< 2.0	< 2.2	--	--	--	--	--
Naphthalene	µg/L	20*	20*	< 0.50	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.22	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Phenanthrene	µg/L	470	3,100	< 0.050	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 0.97	< 1.0	< 1.0	< 1.1	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 0.050	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Inorganic Constituents																
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--
Barium	µg/L	2,000	7,200	1,270	1,550	1,520	619	1,500	1,600	1,700	1,500	1,700	1,600	1,600	1,700	1,500
Beryllium	µg/L	31	200	< 10.0	15.1	11.3	< 10.0	18	19	19	17	--	--	--	--	--
Cadmium	µg/L	7.8	51	52.1	< 5.0	< 5.0	20.3	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	55.8	25.3	25.1	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Zinc	µg/L	4,700	31,000	770	52.2	88.4	39.1	28	22	27	25	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	< 0.00020	< 0.00020	< 0.00020	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 10.0	< 0.010	< 0.010	< 0.010	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6b
Summary of Bedrock Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-301D																	
				04/07/16	08/13/15	02/17/15	08/07/14	02/20/14	08/07/13	02/07/13	02/13 DUP	11/07/12	11/12 DUP	08/09/12	05/16/12	05/12 DUP	02/16/12	02/12 DUP	11/15/11	08/10/11	05/04/11	02/24/11
Field Groundwater Quality Parameters																					
pH	SU	--	--	6.07	6.13	6.10	7.28	6.26	5.62	6.33		6.12		5.82	6.38		5.96		6.07	6.07	5.99	6.29
Specific Conductance	mMhos	--	--	0.842	0.586	0.747	0.748	0.598	572	526		566		619	637		547		529	478	459	402
Temperature	°Celsius	--	--	17.10	22.07	13.45	23.12	18.36	22.03	16.68		18.79		24.00	24.49		20.44		23.5	24.18	20.40	21.09
Dissolved Oxygen (YSI)	mg/L	--	--	0.29	0.05	3.51	0.18	0.48	0.41	0.64		0.21		1.27	0.25		1.98		0.37	1.31	0.54	0.29
ORP	mV	--	--	-82.9	-104.9	-98.3	-160.5	-78.2	-190.8	-82.6		-167.4		3.0	-65.8		-65.9		-128.9	-98.1	-71.8	-25.7
Turbidity	NTU	--	--	3.24	0.86	1.41	0.00	7.12	0.4	0.68		0.91		4.32	5.56		3.23		7.68	4.96	4.38	9.27
Laboratory Results - Natural Attenuation Parameters																					
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--	--	< 0.25	--	< 0.050	< 0.050	--	--	--	--	--	< 0.050	< 0.050	--	--	--	< 0.050
Sulfate	mg/L	--	--	--	--	--	--	18	--	32	55	--	--	--	--	--	27	23	--	--	--	26
Sulfide	mg/L	--	--	--	--	--	--	2.6	--	2.0	2.4	--	--	--	--	--	12	12	--	--	--	< 1.0
Ferrous Iron	mg/L	--	--	--	--	--	--	4.31	--	7.0 HF	7.1 HF	--	--	--	--	--	5.7 HF	4.9 HF	--	--	--	2.8
Total Iron	mg/L	--	--	--	--	--	--	5.20	--	7.3	7.0	--	--	--	--	--	5.9	5.8	--	--	--	3.5
Carbon Dioxide	mg/L	--	--	--	--	--	--	91	--	58	56	--	--	--	--	--	1.3	1.2	--	--	--	0.51
Methane	mg/L	--	--	--	--	--	--	43	--	26	24	--	--	--	--	--	47	44	--	--	--	4.7
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	20	--	--	--	--	--	--	--	--	6.0	5.8	--	--	--	4.6
Dissolved Oxygen	mg/L	--	--	--	--	--	--	2.0	--	5.4	3.8	--	--	--	--	--	1.9	1.9	--	--	--	1.6
Laboratory Results - Organic Constituents																					
Volatile Organic Compounds																					
Benzene	µg/L	5*	9	< 5.0	< 5.0	9.2	6.0	< 5.0	< 5.0	2.3	2.3	2.7	< 5.0	2.2	< 10	< 5.0	< 50	< 50	< 10	12	270	84
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 10	< 2.0	< 10	< 5.0	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	17	24	24	43	49	13	36	37	< 50	< 50	22	18	<25	< 10
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	1.2	< 5.0	< 1.0	< 10	< 5.0	< 50	< 50	< 10	< 10	<25	58
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 10	< 2.0	< 10	< 5.0	< 50	< 50	< 10	< 10	130	51
Semivolatile Organic Compounds																					
Acenaphthene	µg/L	2,000*	6,100	0.58	0.51	< 10	< 10	< 10	< 10	< 2.0	< 2.0	0.26	0.24	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 1.0	< 1.0	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 0.20	< 0.20	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	0.17	0.13	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 0.20	< 0.20	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20	< 2.0	< 2.0	< 0.20	< 0.20	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20	< 2.0	< 2.0	< 0.20	< 0.20	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 2.0	< 2.0	< 0.20	< 0.20	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 0.10	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 0.20	< 0.20	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 0.050	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 0.20	< 0.20	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 0.050	< 0.050	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 0.20	< 0.20	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 2.0	< 2.0	< 0.20	< 0.20	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	< 10	< 20	< 20	< 2.0	< 2.1	< 1.9	< 22	< 22	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 0.10	< 0.10	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 0.20	< 0.21	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	2.7	2.3	< 10	< 10	< 10	< 10	< 2.0	< 2.0	1.3	1.8	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20	< 2.0	< 2.0	< 0.20	< 0.21	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	< 10	< 20	< 20	< 2.0	< 2.0	< 1.9	< 22	< 22	--	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10	< 10	< 20	< 20	< 2.0	< 2.0	< 1.9	< 22	< 22	--	--	--	--	--	--
Naphthalene	µg/L	20*	20*	81	< 0.50	< 10	120	< 10	< 10	410	460	1,400	< 0.20	1,300 D	3,500	1,400	1,400	1,200	1,100	720 *	900	390
Phenanthrene	µg/L	470	3,100	0.87	0.23	< 10	< 10	< 10	< 10	< 2.0	< 2.0	1.0	1.2	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.99	< 0.99	< 0.97	< 11	< 11	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	0.070	0.080	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 0.20	< 0.20	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
Inorganic Constituents																					
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	--
Barium	µg/L	2,000	7,200	264	771	713	851	1870	2100	1700	1600	2500	2200	2400	2400	2400	2500	2600	2500	2100	2300	1400
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	43.4	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	121	43	87	106	62	83	84	81	93	96	< 10	85	91	96	86	--	--	--	97

Notes:

*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.

Only those constituents that are MGP-related and HSRA-regulated are reported on this table.

Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.

Exceeds Type 2 RRS (only indicated for off-site wells)

Exceeds Type 4 RRS

Appendix B-6b
Summary of Bedrock Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-302D										MW-302DD							
				04/07/16	08/12/15	02/18/15	08/07/14	02/19/14	08/08/13	02/08/13	11/07/12	11/15/11	02/24/11	04/07/16	08/12/15	02/17/15	08/07/14	02/19/14	02/19/14 DUP	08/08/13	08/13 DUP
Field Groundwater Quality Parameters																					
pH	SU	--	--	5.72	5.67	5.67	5.93	5.79	5.73	5.91	5.83	6.11	6.51	7.50	7.47	7.77	7.54	7.58		7.31	
Specific Conductance	mMhos	--	--	1202	1.068	1.173	0.957	1.052	1690	1502	1862	1432	1069	0.732	0.616	0.665	0.678	0.595		677	
Temperature	°Celsius	--	--	24.69	26.87	15.17	28.41	23.33	24.19	13.32	20.79	21.39	21.05	21.98	26.20	14.48	29.20	20.22		23.24	
Dissolved Oxygen (YSI)	mg/L	--	--	0.20	0.18	0.58	0.55	0.54	0.45	0.94	0.17	0.22	0.09	0.16	0.26	1.18	0.56	0.20		0.87	
ORP	mV	--	--	-113.3	-64.0	-45.4	3.2	-12.0	-32.5	-8.3	-77.1	-89	-74	-240.1	-215.9	-169.5	-136.6	-141.5		-202.9	
Turbidity	NTU	--	--	5.22	4.07	4.33	15.3	8.87	9.42	9.2	2.25	6.67	8.62	2.96	31.9	4.42	2.85	1.95		4.82	
Laboratory Results - Natural Attenuation Parameters																					
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--	--	< 2.5	--	< 0.050	--	--	< 0.050	--	--	--	--	< 0.25	< 0.25	--	--
Sulfate	mg/L	--	--	--	--	--	--	470	--	1.0	--	--	400	--	--	--	--	28.0	27.0	--	--
Sulfide	mg/L	--	--	--	--	--	--	< 1.0	--	< 1.0	--	--	< 1.0	--	--	--	--	< 1.0	< 1.0	--	--
Ferrous Iron	mg/L	--	--	--	--	--	--	6.04	--	31 HF	--	--	9.3	--	--	--	--	0.112	0.112	--	--
Total Iron	mg/L	--	--	--	--	--	--	6.84	--	< 0.10	--	--	15	--	--	--	--	1.25	1.27	--	--
Carbon Dioxide	mg/L	--	--	--	--	--	--	190	--	30	--	--	0.99	--	--	--	--	6.4	5.6	--	--
Methane	mg/L	--	--	--	--	--	--	35	--	44	--	--	24	--	--	--	--	100	98	--	--
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	24	--	--	--	--	4.2	--	--	--	--	16	17	--	--
Dissolved Oxygen	mg/L	--	--	--	--	--	--	2.4	--	10	--	--	1.4	--	--	--	--	2.2	2.9	--	--
Laboratory Results - Organic Constituents																					
Volatile Organic Compounds																					
Benzene	µg/L	5*	9	< 5.0	15	12	< 5.0	550	< 5.0	15	5.9	34	25	20	11	13	7.6	35	35	810	780
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	--	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/L	700*	2,300	< 5.0	5.8	< 5.0	32	31	11	12	5.4	< 5.0	< 5.0	48	30	45	< 5.0	15	14	55	55
Toluene	µg/L	1,000*	1,100	< 5.0	19	12	< 5.0	610	49	1.4	16	36	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	17	16
Total Xylenes	µg/L	31,000	200,000	6.8	16	13	< 5.0	170	39	10	15	21	< 5.0	5.4	< 5.0	< 5.0	7.2	17	16	61	63
Semivolatile Organic Compounds																					
Acenaphthene	µg/L	2,000*	6,100	0.75	4.6	< 10	< 10	< 10	< 10	< 0.24	7.0	--	--	1.1	1.0	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	1.5	21	17	< 10	< 10	42	< 0.24	29	--	--	< 1.0	1.8	< 10	< 10	< 10	< 10	< 10	
Anthracene	µg/L	4,700	31,000	< 0.050	4.1	< 10	< 10	< 10	< 10	< 0.24	3.5	--	--	0.057	0.083	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	0.053	0.26	0.069	0.18	0.31	< 0.24	0.21	--	--	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20	< 0.20
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	0.28	0.053	0.19	0.27	< 0.24	< 0.20	--	--	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20	< 0.20
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	0.22	< 0.10	0.17	< 0.20	< 0.24	< 0.20	--	--	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.20
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 0.10	< 10	< 10	< 10	< 10	< 0.24	< 0.20	--	--	< 0.10	< 0.10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 0.050	< 10	< 10	< 10	< 10	< 0.24	< 0.20	--	--	< 0.050	< 0.050	< 10	< 10	< 10	< 10	< 10	< 10
Chrysene	µg/L	117	392	< 0.050	< 0.050	< 10	< 10	< 10	< 10	< 0.24	0.21	--	--	< 0.050	< 0.050	< 10	< 10	< 10	< 10	< 10	< 10
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.24	< 0.20	--	--	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.13	< 0.20	< 0.20
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	< 10	< 2.4	< 2.0	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	0.20	2.2	< 10	< 10	< 10	< 10	< 0.24	2.1	--	--	< 0.10	< 0.10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	0.11	9.0	12	< 10	< 10	15	< 0.24	18	--	--	0.55	0.68	< 10	< 10	< 10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	0.087	< 0.050	0.080	< 0.20	< 0.24	< 0.20	--	--	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	0.072	< 0.20	< 0.20
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	< 10	< 2.4	< 2.0	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10	< 10	< 2.4	< 2.0	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 0.50	170	120	130	300	200	< 0.24	250	170	13	73	< 0.050	< 10	< 10	< 10	< 10	180	140
Phenanthrene	µg/L	470	3,100	0.058	21	15	< 10	17	21	< 0.24	26	--	--	0.19	0.17	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10	< 10	< 1.2	< 0.99	--	--	< 10	< 10	< 10	< 10	< 10	< 10	19	28
Pyrene	µg/L	1,000*	3,100	0.39	2.7	< 10	< 10	< 10	< 10	< 0.24	2.6	--	--	0.066	0.058	< 10	< 10	< 10	< 10	< 10	< 10
Inorganic Constituents																					
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	--	--	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 20	< 20	--	--	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0
Barium	µg/L	2,000	7,200	55.3	60.6	68.7	71.5	48	26.3	24	26	130	210	865	819	757	654	546	554	601	613
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 4.0	< 4.0	--	--	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Nickel	µg/L	100	2,000	73.1	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 40	< 40	< 40	< 40	35.8	< 0.0200	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Zinc	µg/L	4,700	31,000	< 20.0	35	124	< 20.0	31.2	43.3	< 20	< 20	--	--	< 20.0	0.0686	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Total Cyanide	µg/L	310	2,000	< 10.0	< 10.0	0.017	0.189	0.425	382	< 10	< 10	--	32	< 10.0	42	24	69	38	39	70	63

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6b
Summary of Bedrock Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-303D (Abandoned)									
				08/07/13	03/13/13	11/08/12	08/09/12	05/17/12	02/16/12	11/16/11	08/09/11	05/03/11	03/14/11
Field Groundwater Quality Parameters													
pH	SU	--	--	6.61	6.94	6.45	6.44	7.01	6.94	6.81	6.43	6.42	5.64
Specific Conductance	mMhos	--	--	147	133	125	176	170	152	183	172	156	194
Temperature	ºCelsius	--	--	26.22	19.19	18.9	25.32	25.72	20.25	23.04	23.71	20.77	21.97
Dissolved Oxygen (YSI)	mg/L	--	--	0.12	2.72	0.71	0.48	3.49	3.17	0.18	0.11	0.07	0.08
ORP	mV	--	--	-75.6	-104.1	-65.1	-85.4	72.5	-88.1	-120.3	158.5	-87.2	13.0
Turbidity	NTU	--	--	2.32	9.97	0.72	1.79	2.36	9.85	9.8	6.52	20.1	21.4
Laboratory Results - Natural Attenuation Parameters													
Nitrogen, Nitrate (as N)	mg/L	--	--	--	< 0.050	--	--	--	< 0.050	--	--	--	< 0.050
Sulfate	mg/L	--	--	--	5.0	--	--	--	< 5.0	--	--	--	< 5.0
Sulfide	mg/L	--	--	--	1.2	--	--	--	1.9	--	--	--	< 1.0
Ferrous Iron	mg/L	--	--	--	< 0.10 HF	--	--	--	0.90 HF	--	--	--	0.38
Total Iron	mg/L	--	--	--	1.6	--	--	--	2.6	--	--	--	1.7
Carbon Dioxide	mg/L	--	--	--	10	--	--	--	0.33	--	--	--	0.18
Methane	mg/L	--	--	--	130	--	--	--	680	--	--	--	6.9
Dissolved Nitrogen	mg/L	--	--	--	18	--	--	--	6000	--	--	--	4.8
Dissolved Oxygen	mg/L	--	--	--	8.5	--	--	--	1.8	--	--	--	1.5
Laboratory Results - Organic Constituents													
Volatile Organic Compounds													
Benzene	µg/L	5*	9	31	5.0	30	3.1	< 1.0	16	20	34	40	56
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	6.0	1.2	6.3	< 1.0	< 1.0	< 5.0	< 5.0	6.2	8.6	10
Toluene	µg/L	1,000*	1,100	< 5.0	< 1.0	3.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	5.2	9.1
Total Xylenes	µg/L	31,000	200,000	14	< 2.0	14	< 2.0	< 2.0	8.8	15	30	49	54
Semivolatile Organic Compounds													
Acenaphthene	µg/L	2,000*	6,100	< 10	0.33	1.8	< 0.19	< 0.23	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 10	< 0.19	< 0.19	< 0.19	< 0.23	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 10	< 0.19	< 0.19	< 0.19	< 0.23	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.20	< 0.19	< 0.19	< 0.19	< 0.23	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.20	< 0.19	< 0.19	< 0.19	< 0.23	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.20	< 0.19	< 0.19	< 0.19	< 0.23	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 0.19	< 0.19	< 0.19	< 0.23	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 0.19	< 0.19	< 0.19	< 0.23	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 0.19	< 0.19	< 0.19	< 0.23	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.20	< 0.19	< 0.19	< 0.19	< 0.23	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 1.9	3.2	< 1.9	< 2.3	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 10	< 0.19	< 0.19	< 0.19	< 0.23	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	< 10	< 0.19	0.3	< 0.19	< 0.23	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.20	< 0.19	< 0.19	< 0.19	< 0.23	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 1.9	< 1.9	< 1.9	< 2.3	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 1.9	< 1.9	< 1.9	< 2.3	--	--	--	--	--
Naphthalene	µg/L	20*	20*	31	< 0.19	43	< 0.19	< 0.23	28	42	110 *	170	140
Phenanthrene	µg/L	470	3,100	< 10	< 0.19	1.8	< 0.19	< 0.23	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 0.97	< 0.97	< 0.97	< 1.1	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	< 0.19	< 0.19	< 0.19	< 0.23	--	--	--	--	--
Inorganic Constituents													
Antimony	µg/L	6.3	40	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--
Barium	µg/L	2,000	7,200	649	630	610	760	640	730	830	760	830	850
Beryllium	µg/L	31	200	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	11	< 10
Copper	µg/L	630	4,100	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Zinc	µg/L	4,700	31,000	32.5	< 20	< 20	< 20	< 20	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 10	66	< 10	< 10	< 10	< 10	--	--	--	< 10

Notes:
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix B-6b
Summary of Bedrock Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-305D				
				04/07/16	08/13/15	02/18/15	08/07/14	02/20/14
Groundwater Quality Parameters								
pH	SU	--	--	12.13	12.28	12.56	12.30	11.97
Specific Conductance	mMhos	--	--	5,247	2,966	3,696	2,987	2,224
Temperature	°Celsius	--	--	23.92	26.30	11.21	23.22	22.08
Dissolved Oxygen (YSI)	mg/L	--	--	4.63	0.34	3.06	0.29	0.46
ORP	mV	--	--	-44.3	-183.3	13.1	-152.2	-161.3
Turbidity	NTU	--	--	2.89	2.3	2.48	3.15	2.09
Laboratory Results - Natural Attenuation Parameters								
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--	--	< 2.5
Sulfate	mg/L	--	--	--	--	--	--	< 10
Sulfide	mg/L	--	--	--	--	--	--	< 1.0
Ferrous Iron	mg/L	--	--	--	--	--	--	< 0.100
Total Iron	mg/L	--	--	--	--	--	--	< 0.100
Carbon Dioxide	mg/L	--	--	--	--	--	--	< 5.0
Methane	mg/L	--	--	--	--	--	--	13
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	17
Dissolved Oxygen	mg/L	--	--	--	--	--	--	4.1
Laboratory Results - Organic Constituents								
Volatile Organic Compounds								
Benzene	µg/L	5*	9	14,000	3,700	11,000	9,300	12,000
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 500	< 500	< 500
Ethylbenzene	µg/L	700*	2,300	290	49	< 500	< 500	< 500
Toluene	µg/L	1,000*	1,100	6,900	1,600	4,500	3,900	5,600
Total Xylenes	µg/L	31,000	200,000	1100	270	< 500	< 500	**810**
Semivolatile Organic Compounds								
Acenaphthene	µg/L	2,000*	6,100	2.5	2.7	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	51	12	73	79	78
Anthracene	µg/L	4,700	31,000	9.1	3.4	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	0.14	1.3	0.64	2.6	0.45
Benzo[a]pyrene	µg/L	0.2*	0.39	0.077	0.91	0.49	1.90	0.16
Benzo[b]fluoranthene	µg/L	1.17	3.92	0.16	1.1	0.45	1.6	0.18
Benzo[g,h,i]perylene	µg/L	10	10	< 1.0	0.36	< 10	< 10	< 10
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	0.24	< 10	< 10	< 10
Chrysene	µg/L	117	392	0.11	1.0	< 10	< 10	< 10
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 1.0	0.32	< 0.10	< 0.10	< 0.10
2,4-Dimehylphenol	µg/L	700*	700*	< 50	< 50	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	1.1	4.3	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	7.2	7.8	21	24	22
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	0.32	0.13	0.56	< 0.050
2-Methylphenol	µg/L	780	5,100	< 50	< 50	< 10	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	< 50	< 50	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	3600	220	1,300	1,100	2,000
Phenanthrene	µg/L	470	3,100	10	16	33	39	37
Phenol	µg/L	9,390	61,000	< 10	< 50	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	1.5	5.7	< 10	< 10	< 10
Inorganic Constituents								
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0
Barium	µg/L	2,000	7,200	450	140	236	136	130
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Cadmium	µg/L	7.8	51	< 10.0	< 50.0	< 50.0	< 50.0	< 50.0
Chromium	µg/L	100	310	< 5.0	169	107	112	245
Copper	µg/L	630	4,100	< 10.0	139	< 10.0	< 10.0	< 10.0
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Nickel	µg/L	100	2,000	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10

Notes:

*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.

Only those constituents that are MGP-related and HSRA-regulated are reported on this table.

Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.

Exceeds Type 2 RRS (only indicated for off-site wells)

Exceeds Type 4 RRS

Appendix B-6b
Summary of Bedrock Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-306D				
				04/07/16	08/14/15	02/18/15	08/06/14	02/19/14
Groundwater Quality Parameters								
pH	SU	--	--	12.03	12.01	12.23	11.91	11.97
Specific Conductance	mMhos	--	--	3,670	3,275	2,321	3,425	2,351
Temperature	°Celsius	--	--	22.10	24.76	16.24	25.73	22.44
Dissolved Oxygen (YSI)	mg/L	--	--	4.89	3.40	7.05	1.02	3.09
ORP	mV	--	--	10.1	-114.5	41.8	-133.0	-99.4
Turbidity	NTU	--	--	0.79	1.75	4.17	1.29	0.48
Laboratory Results - Natural Attenuation Parameters								
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	< 2.5	--	< 2.5
Sulfate	mg/L	--	--	--	--	< 10	--	< 10
Sulfide	mg/L	--	--	--	--	< 1.0	--	< 1.0
Ferrous Iron	mg/L	--	--	--	--	< 0.100	--	< 0.100
Total Iron	mg/L	--	--	--	--	< 0.100	--	< 0.100
Carbon Dioxide	mg/L	--	--	--	--	< 5.0	--	< 5.0
Methane	mg/L	--	--	--	--	96	--	460
Dissolved Nitrogen	mg/L	--	--	--	--	22	--	20
Dissolved Oxygen	mg/L	--	--	--	--	9.7	--	7.6
Laboratory Results - Organic Constituents								
Volatile Organic Compounds								
Benzene	µg/L	5*	9	440	570	790	1,200	1,400
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/L	700*	2,300	87	110	130	230	360
Toluene	µg/L	1,000*	1,100	18	32	37	60	96
Total Xylenes	µg/L	31,000	200,000	61	79	130	190	340
Semivolatile Organic Compounds								
Acenaphthene	µg/L	2,000*	6,100	< 50	23	29	41	28
Acenaphthylene	µg/L	470	3,100	< 1.0	< 1.0	< 10	< 10	< 10
Anthracene	µg/L	4,700	31,000	0.31	0.51	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 0.10	< 10	< 10	< 10
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 0.050	< 10	< 10	< 10
Chrysene	µg/L	117	392	< 0.050	< 0.050	< 10	< 10	< 10
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	0.19	0.32	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	2.5	5.5	< 10	10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	14	11
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	63	6.5	31	< 10	190
Phenanthrene	µg/L	470	3,100	2.3	5.0	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	97
Pyrene	µg/L	1,000*	3,100	0.25	0.39	< 10	< 10	< 10
Inorganic Constituents								
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0
Barium	µg/L	2,000	7,200	170	349	229	415	271
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chromium	µg/L	100	310	278	29.6	296	264	20
Copper	µg/L	630	4,100	28.8	26.3	16.8	12.8	< 10.0
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Nickel	µg/L	100	2,000	21.9	< 20.0	< 20.0	< 20.0	< 20.0
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Total Cyanide	µg/L	310	2,000	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0

Notes:

*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.

Only those constituents that are MGP-related and HSRA-regulated are reported on this table.

Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.

Exceeds Type 2 RRS (only indicated for off-site wells)

Exceeds Type 4 RRS

Appendix B-6b
Summary of Bedrock Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-307D				
				04/06/16	08/14/15	02/18/15	08/06/14	02/20/14
Field Groundwater Quality Parameters								
pH	SU	--	--	12.46	12.39	13.85	12.43	12.27
Specific Conductance	mMhos	--	--	9983	7857	9568	9533	7342
Temperature	°Celsius	--	--	22.8	23.76	15.28	24.29	23.38
Dissolved Oxygen (YSI)	mg/L	--	--	1.92	5.24	1.08	2.24	4.92
ORP	mV	--	--	-18.63	-110.9	-80.7	-131.1	-115.7
Turbidity	NTU	--	--	3.12	4.18	2.46	9.69	1.58
Laboratory Results - Natural Attenuation Parameters								
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	< 2.5	--	< 12
Sulfate	mg/L	--	--	--	--	< 10	--	< 50
Sulfide	mg/L	--	--	--	--	< 1.00	--	< 1.0
Ferrous Iron	mg/L	--	--	--	--	< 0.100	--	< 0.100
Total Iron	mg/L	--	--	--	--	< 0.100	--	< 0.100
Carbon Dioxide	mg/L	--	--	--	--	< 5.0	--	< 5.0
Methane	mg/L	--	--	--	--	79	--	21
Dissolved Nitrogen	mg/L	--	--	--	--	24	--	20
Dissolved Oxygen	mg/L	--	--	--	--	8.2	--	9.4
Laboratory Results - Organic Constituents								
Volatile Organic Compounds								
Benzene	µg/L	5*	9	< 5.0	< 5.0	< 5.0	< 5.0	6
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 5.0	14
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	15
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 5.0	16
Semivolatile Organic Compounds								
Acenaphthene	µg/L	2,000*	6,100	2.1	2.2	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 1.0	< 1.0	< 10	< 10	< 10
Anthracene	µg/L	4,700	31,000	0.26	0.25	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	0.27
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.050	< 0.050	0.3
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.10	< 0.10	0.16
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 0.10	< 10	< 10	< 10
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 0.050	< 10	< 10	< 10
Chrysene	µg/L	117	392	< 0.050	< 0.050	< 10	< 10	< 10
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	< 0.10	0.58
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	0.25	0.24	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	0.61	0.78	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	0.32
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	3.5	5.7	< 10	11	47
Phenanthrene	µg/L	470	3,100	3.2	3.0	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	0.28	0.29	< 10	< 10	< 10
Inorganic Constituents								
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0
Barium	µg/L	2,000	7,200	1,140	1,140	1,140	1,140	1,140
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chromium	µg/L	100	310	68.4	65.4	33.9	78.3	68.8
Copper	µg/L	630	4,100	14.4	14.7	< 10.0	< 10.0	< 10.0
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Total Cyanide	µg/L	310	2,000	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0

Notes:

*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.

Only those constituents that are MGP-related and HSRA-regulated are reported on this table.

Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constitue

Exceeds Type 2 RRS (only indicated for off-site wells)

Exceeds Type 4 RRS

Appendix B-6b
Summary of Bedrock Groundwater Analytical Data
November 2001 through April 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-308D				
				04/05/16	08/12/15	02/16/15	08/06/14	02/19/14
Field Groundwater Quality Parameters								
pH	SU	--	--	12.25	12.40	13.35	12.14	11.66
Specific Conductance	mMhos	--	--	3.898	2.905	2.920	2.026	1.612
Temperature	°Celsius	--	--	19.99	25.43	17.87	22.47	23.89
Dissolved Oxygen (YSI)	mg/L	--	--	4.24	3.17	3.50	2.38	0.94
ORP	mV	--	--	55.8	-88.4	-12.7	-107.9	-112.6
Turbidity	NTU	--	--	236	0.49	3.42	3.53	102
Laboratory Results - Natural Attenuation Parameters								
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	< 2.5	--	< 2.5
Sulfate	mg/L	--	--	--	--	19	--	12
Sulfide	mg/L	--	--	--	--	< 1.00	--	< 1.0
Ferrous Iron	mg/L	--	--	--	--	< 0.100	--	< 0.100
Total Iron	mg/L	--	--	--	--	< 0.100	--	1.65
Carbon Dioxide	mg/L	--	--	--	--	< 5.0	--	< 5.0
Methane	mg/L	--	--	--	--	47	--	140
Dissolved Nitrogen	mg/L	--	--	--	--	17	--	18
Dissolved Oxygen	mg/L	--	--	--	--	5.6	--	4.1
Laboratory Results - Organic Constituents								
Volatile Organic Compounds								
Benzene	µg/L	5*	9	24	23	8.2	< 5.0	6.8
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 5.0	5.8
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 5.0	5.4
Semivolatile Organic Compounds								
Acenaphthene	µg/L	2,000*	6,100	< 0.50	< 0.50	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 1.0	< 1.0	< 10	< 10	< 10
Anthracene	µg/L	4,700	31,000	0.051	< 0.050	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	0.087	< 0.050	< 0.050	< 0.050	< 0.050
Benzo[a]pyrene	µg/L	0.2*	0.39	0.12	< 0.050	< 0.050	< 0.050	< 0.050
Benzo[b]fluoranthene	µg/L	1.17	3.92	0.15	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	µg/L	10	10	0.21	< 0.10	< 10	< 10	< 10
Benzo[k]fluoranthene	µg/L	11.7	39.2	0.15	< 0.050	< 10	< 10	< 10
Chrysene	µg/L	117	392	0.091	< 0.050	< 10	< 10	< 10
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	0.16	< 0.10	< 0.10	< 0.10	< 0.10
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	16	25
Fluoranthene	µg/L	1,000*	4,100	< 0.10	< 0.10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 0.10	< 0.10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	0.19	< 0.050	< 0.050	< 0.050	< 0.050
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	0.87	< 0.50	< 10	< 10	< 10
Phenanthrene	µg/L	470	3,100	0.058	0.086	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 0.050	< 0.050	< 10	< 10	< 10
Inorganic Constituents								
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0
Barium	µg/L	2,000	7,200	189	115	124	99.2	106
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chromium	µg/L	100	310	31.4	30.7	33.9	26.8	25.7
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Zinc	µg/L	4,700	31,000	37.7	< 20.0	< 20.0	< 20.0	< 20.0
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Total Cyanide	µg/L	310	2,000	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0

Notes:

*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.

Only those constituents that are MGP-related and HSRA-regulated are reported on this table.

Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.

Exceeds Type 2 RRS (only indicated for off-site wells)

Exceeds Type 4 RRS

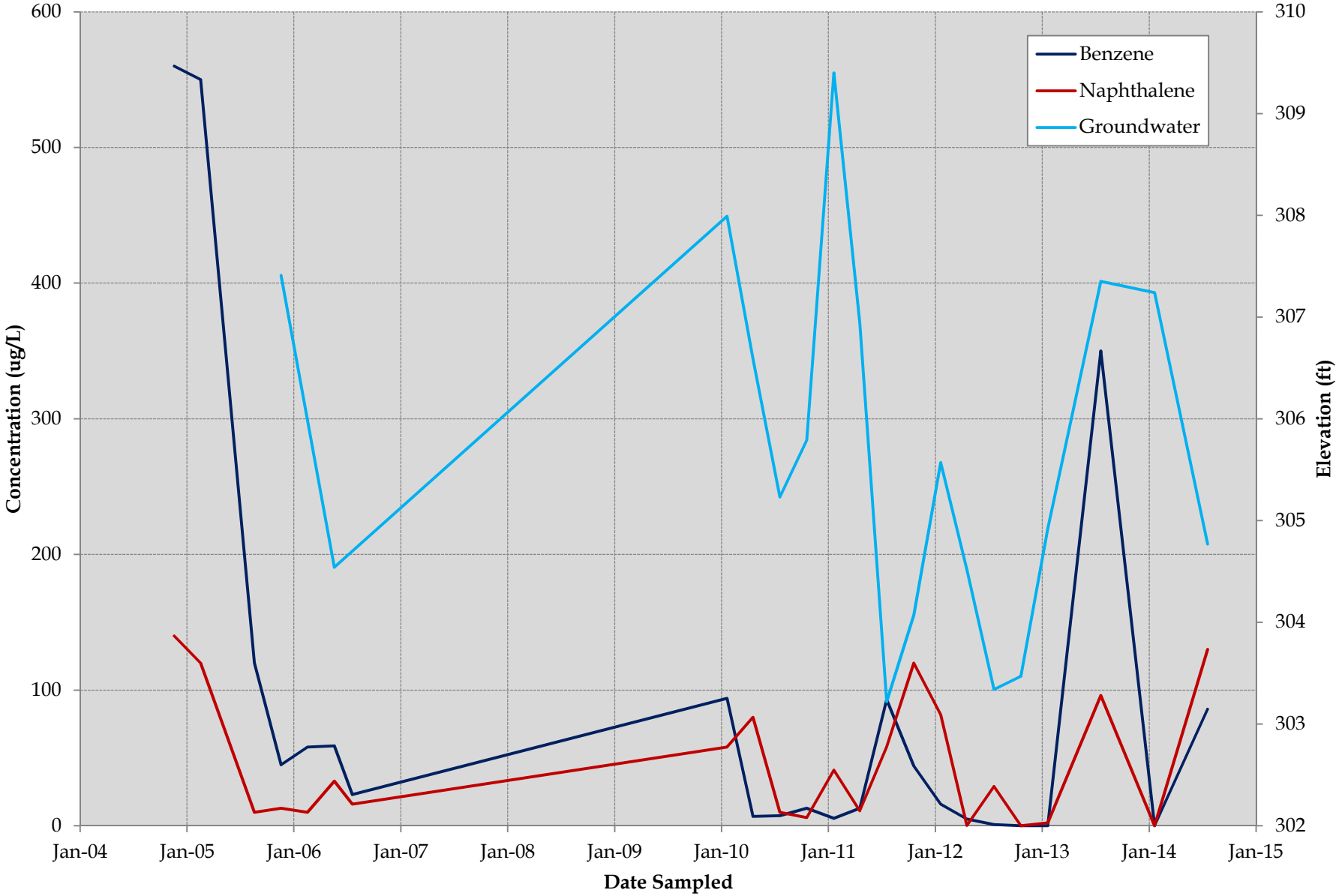
Bedrock Monitoring Wells: Concentration and Groundwater Elevation Trend Graphs

Appendix B-7

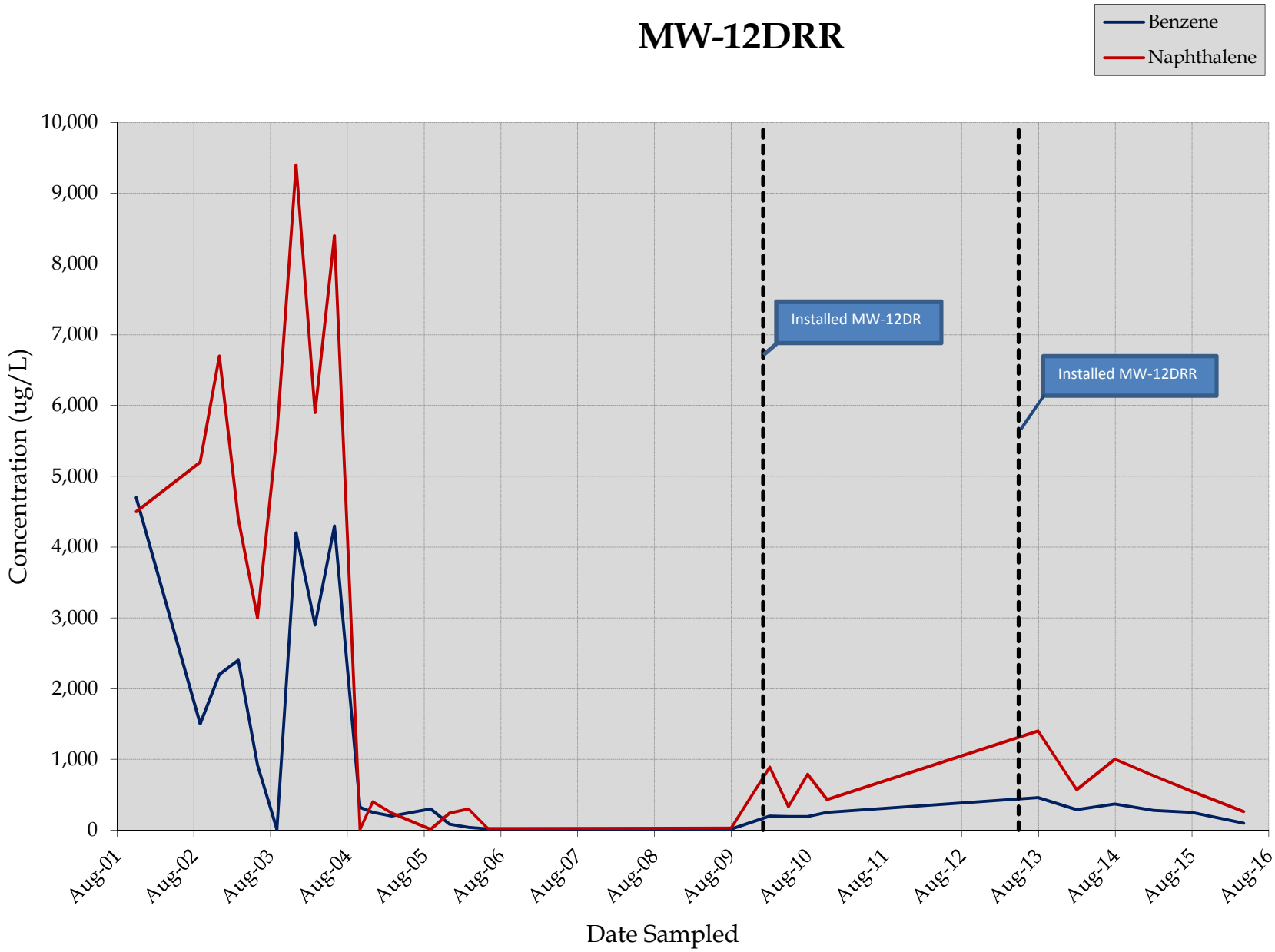
May 21, 2016
Project No. 0176740
Atlanta Gas Light Company

Environmental Resources Management Southeast, Inc.
3200 Windy Hill Rd. Suite 1500W
Atlanta, GA 30339
(678) 486-2700

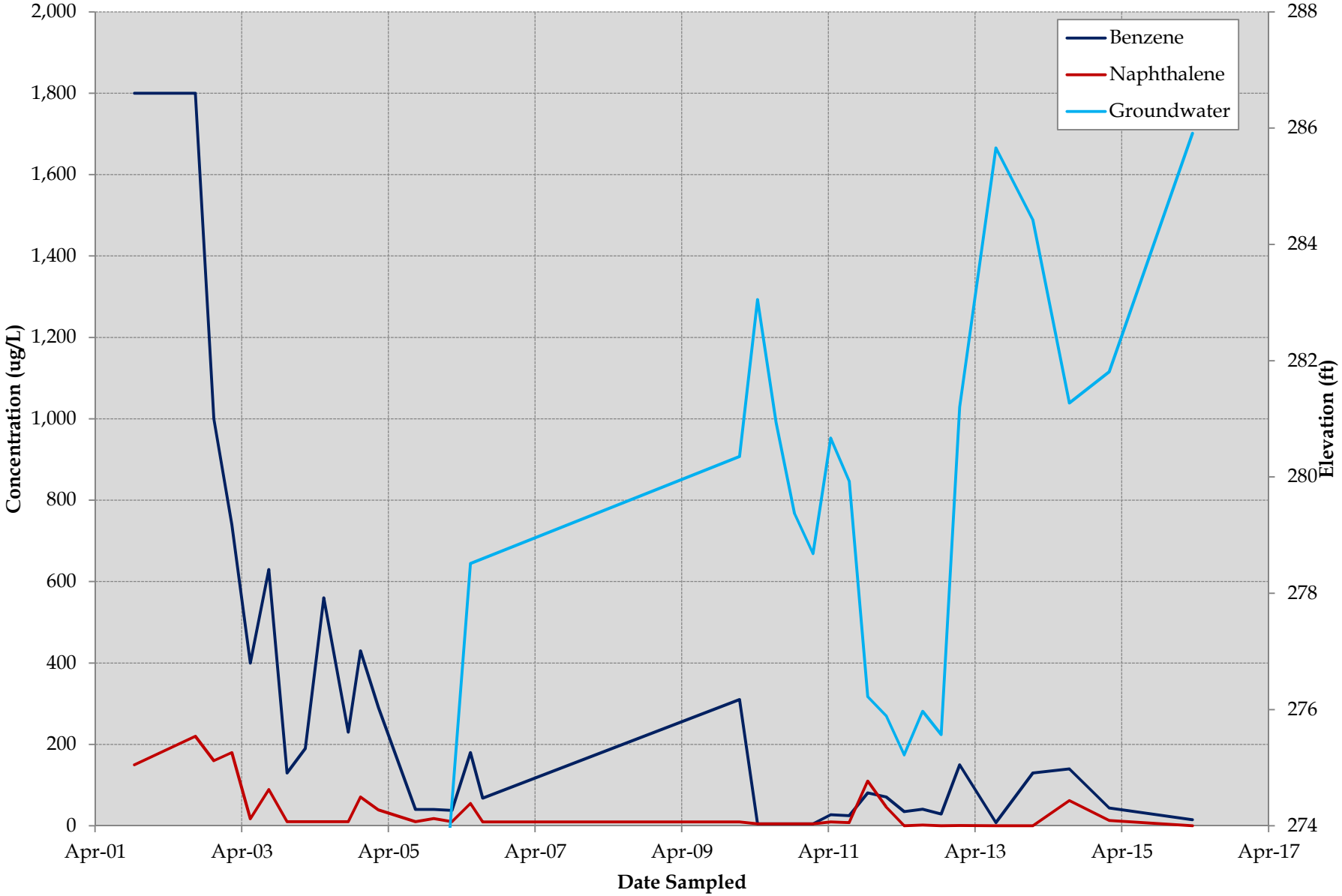
MW-9D (Abandoned)



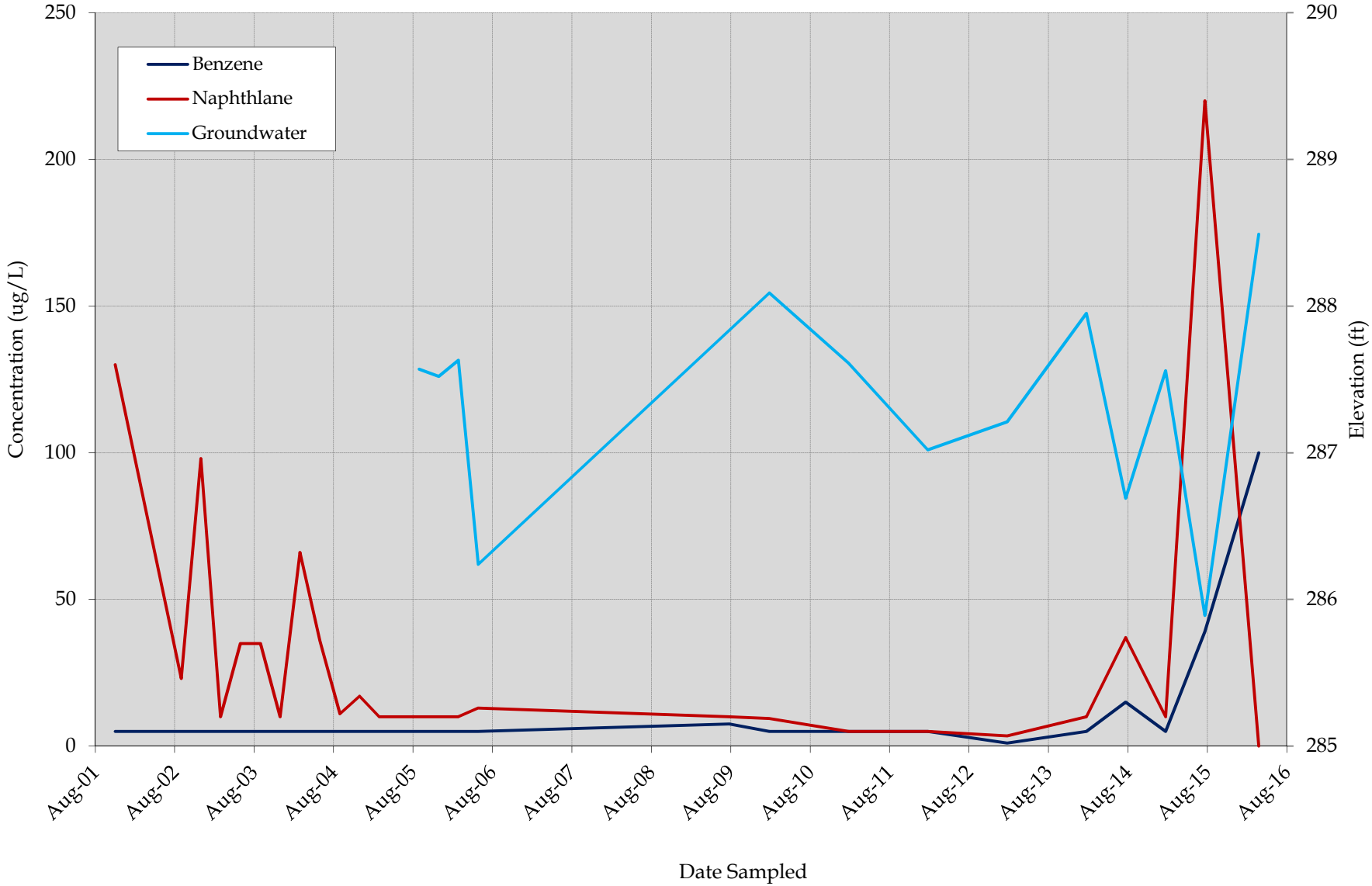
MW-12DRR


Benzene
Naphthalene
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
Concentration (ug/L)
Installed MW-12DR
Installed MW-12DRR
Aug-01
Aug-02
Aug-03
Aug-04
Aug-05
Aug-06
Aug-07
Aug-08
Aug-09
Aug-10
Aug-11
Aug-12
Aug-13
Aug-14
Aug-15
Aug-16
Date Sampled

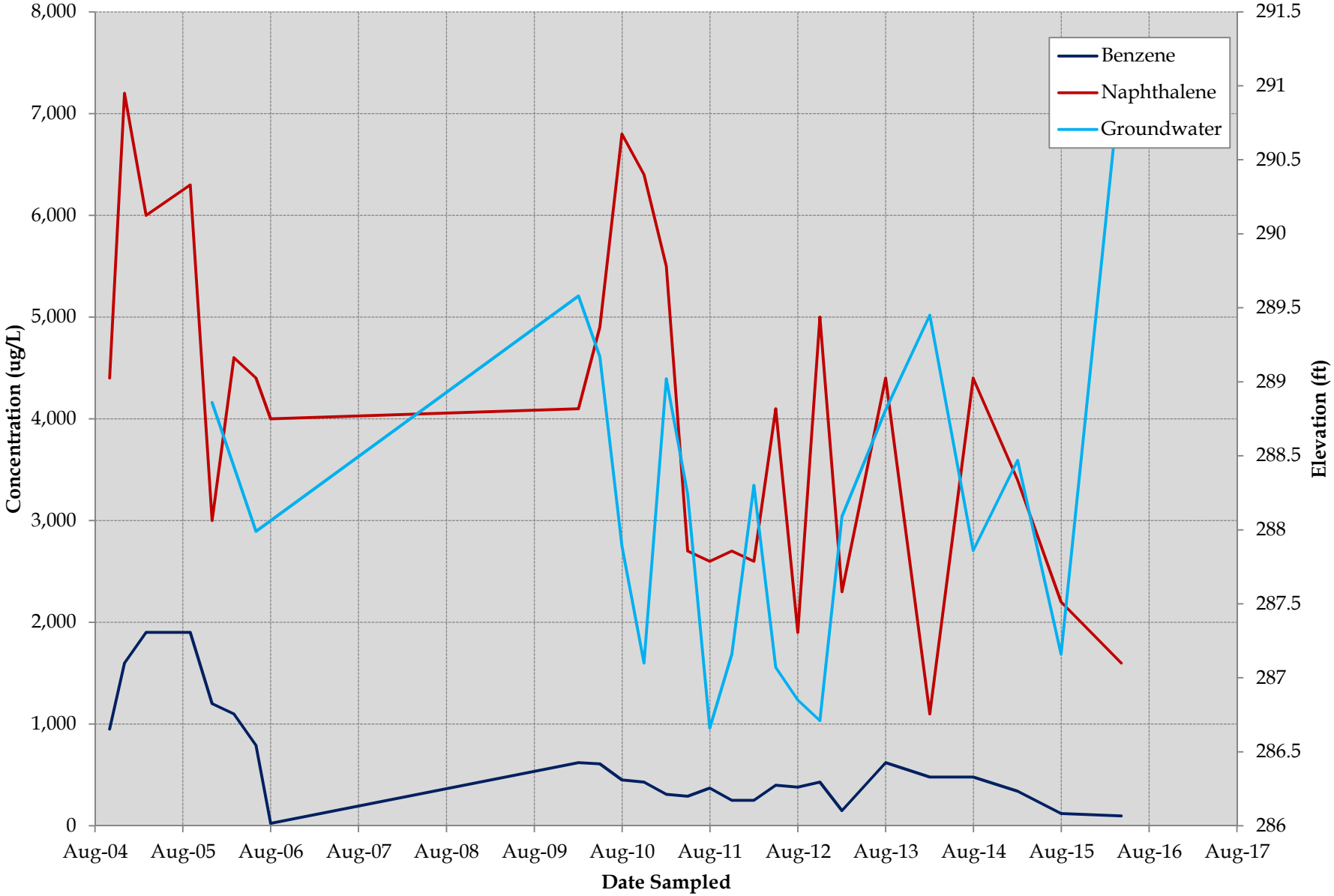
MW-12DD


Benzene
Naphthalene
Groundwater
Concentration (ug/L)
Elevation (ft)
Date Sampled
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0
288
286
284
282
280
278
276
274
Apr-01
Apr-03
Apr-05
Apr-07
Apr-09
Apr-11
Apr-13
Apr-15
Apr-17

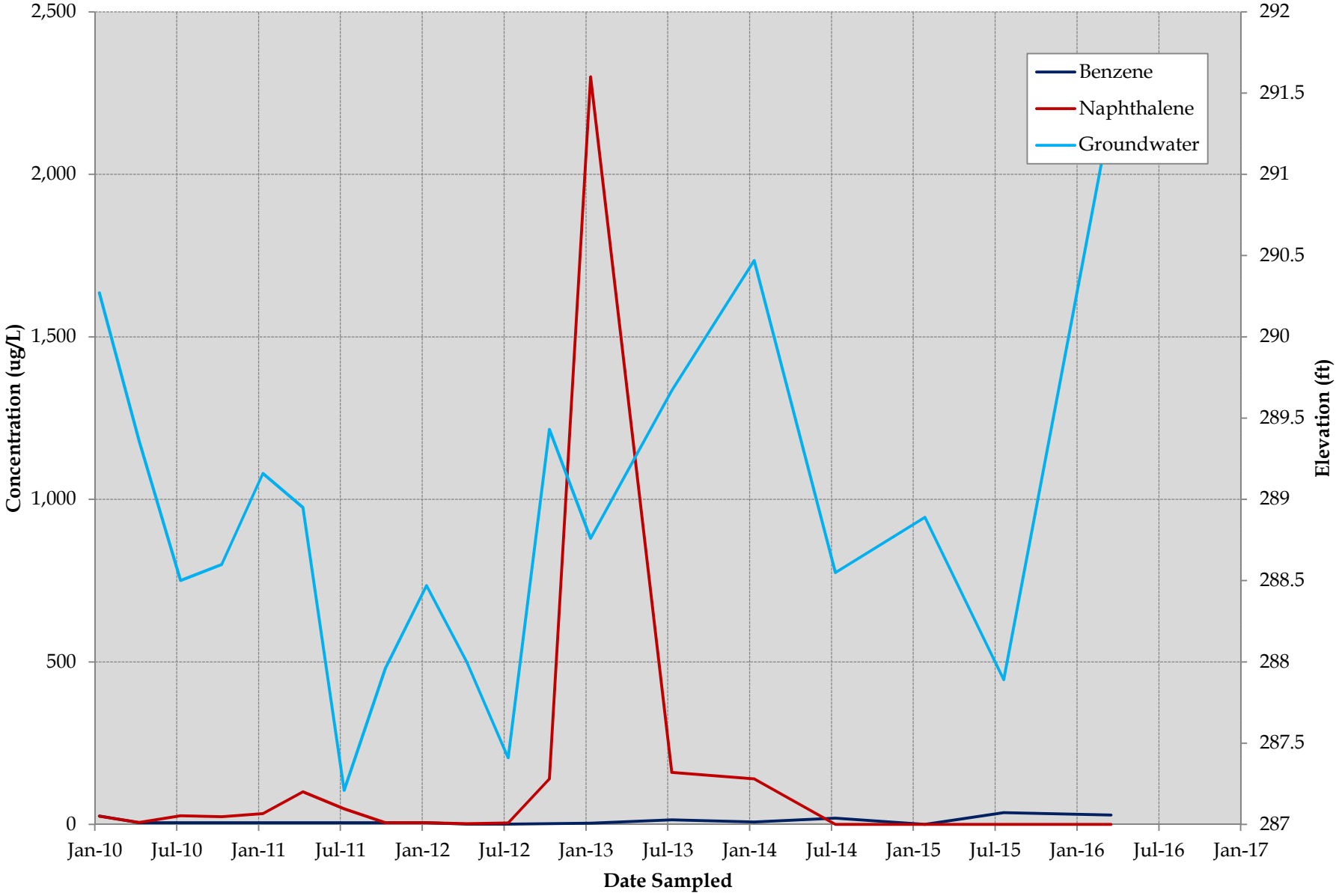
MW-24D


Benzene
Naphthlane
Groundwater
Concentration (ug/L)
Elevation (ft)
250
200
150
100
50
0
290
289
288
287
286
285
Aug-01
Aug-02
Aug-03
Aug-04
Aug-05
Aug-06
Aug-07
Aug-08
Aug-09
Aug-10
Aug-11
Aug-12
Aug-13
Aug-14
Aug-15
Aug-16
Date Sampled

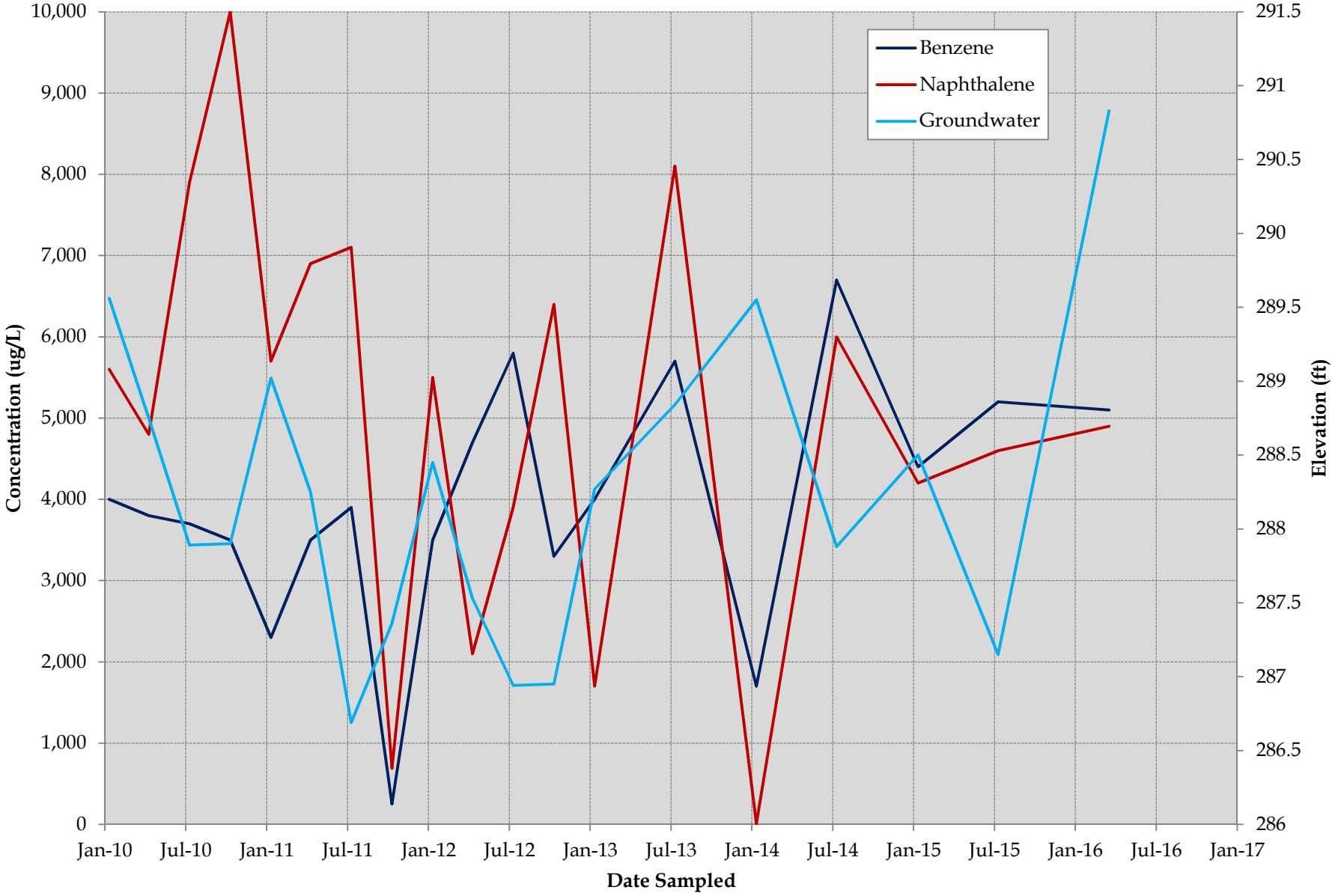
MW-110D


Benzene
Naphthalene
Groundwater
Concentration (ug/L)
Elevation (ft)
Date Sampled
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
291.5
291
290.5
290
289.5
289
288.5
288
287.5
287
286.5
286
Aug-04
Aug-05
Aug-06
Aug-07
Aug-08
Aug-09
Aug-10
Aug-11
Aug-12
Aug-13
Aug-14
Aug-15
Aug-16
Aug-17

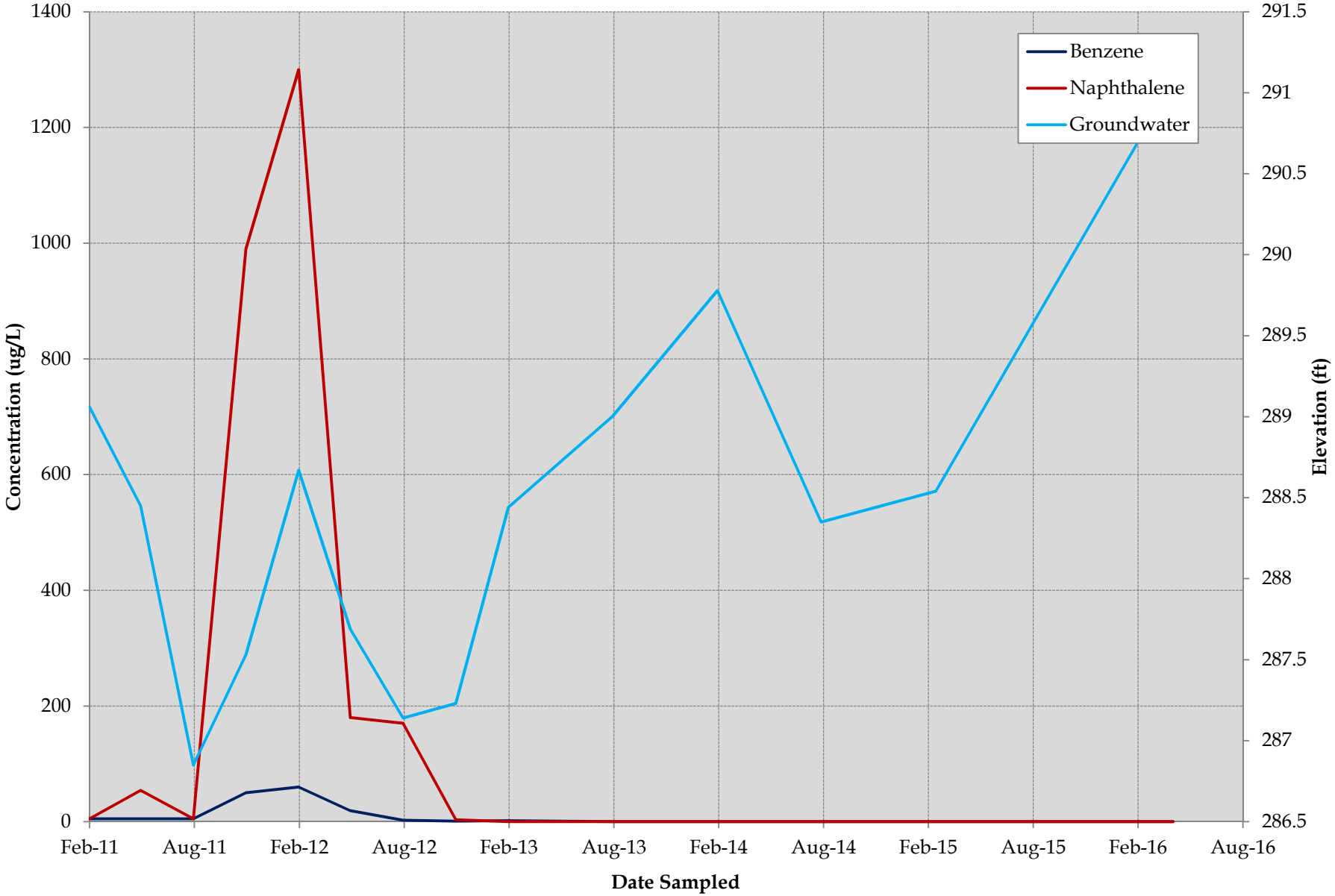
MW-200DR


2,500
2,000
1,500
1,000
500
0
Concentration (ug/L)
292
291.5
291
290.5
290
289.5
289
288.5
288
287.5
287
Elevation (ft)
Benzene
Naphthalene
Groundwater
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Jul-14
Jan-15
Jul-15
Jan-16
Jul-16
Jan-17
Date Sampled

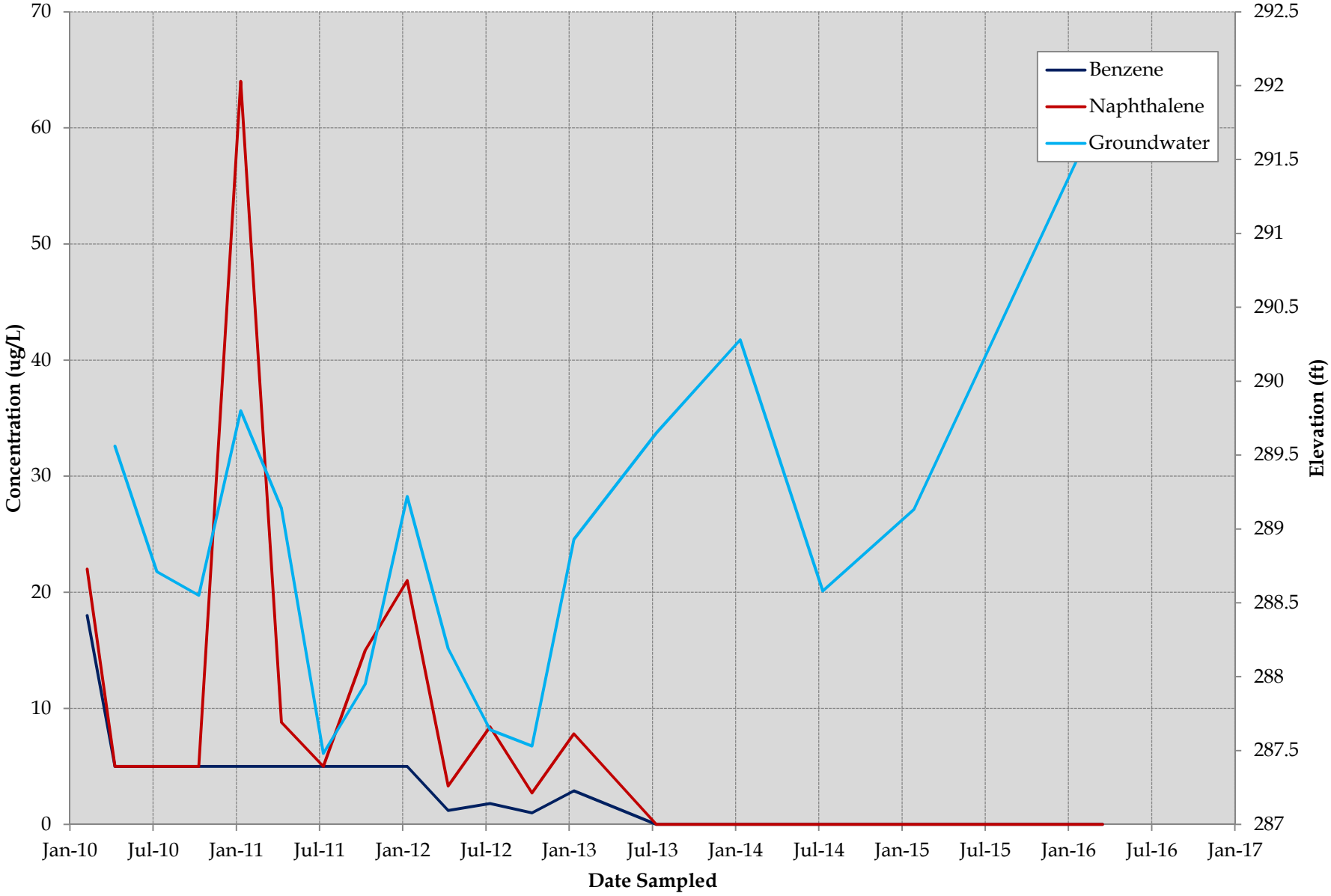
MW-205D


Benzene
Naphthalene
Groundwater
Concentration (ug/L)
Elevation (ft)
Date Sampled
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
291.5
291
290.5
290
289.5
289
288.5
288
287.5
287
286.5
286
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Jul-14
Jan-15
Jul-15
Jan-16
Jul-16
Jan-17

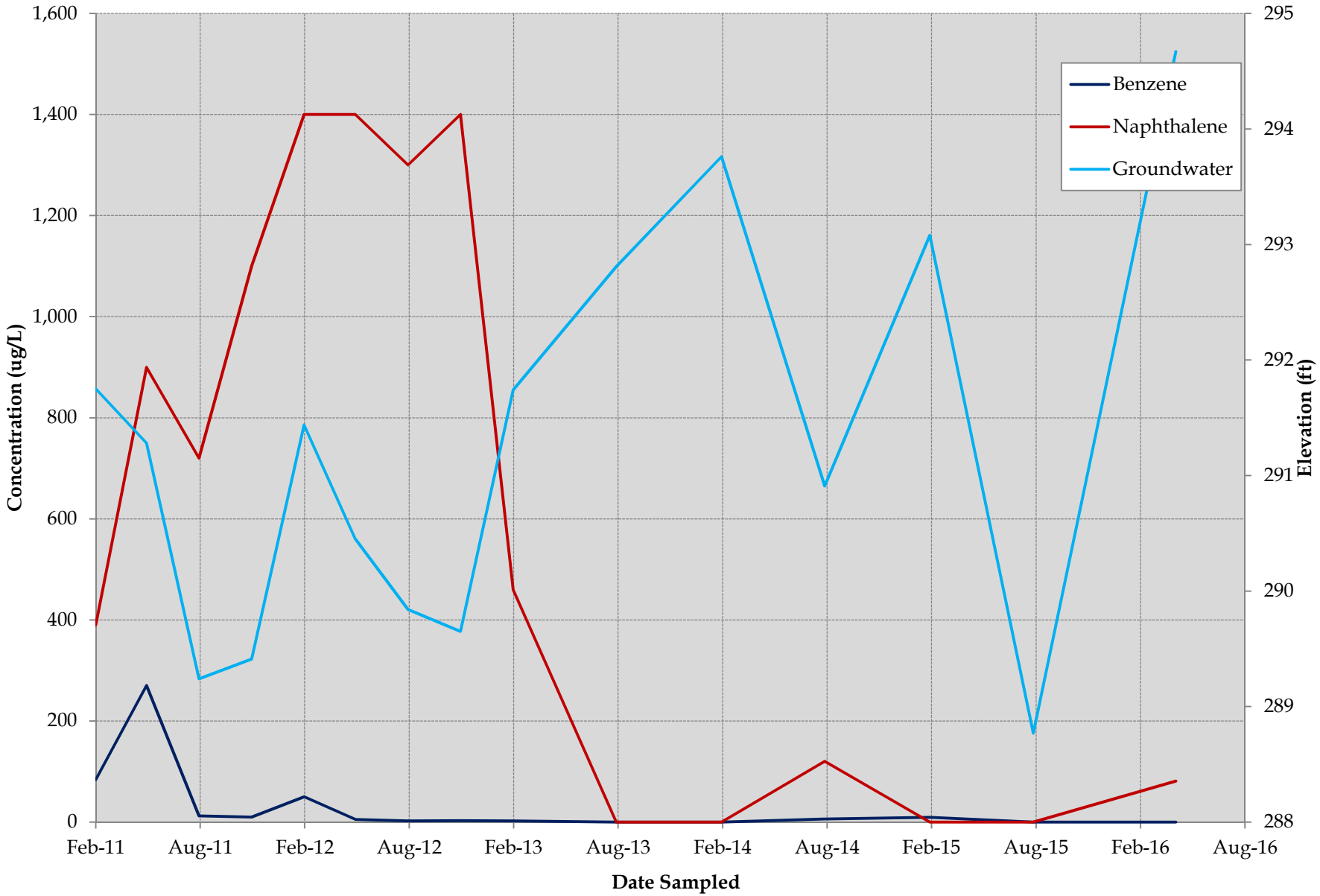
MW-206D


Benzene
Naphthalene
Groundwater
Concentration (ug/L)
Elevation (ft)
Date Sampled
1400
1200
1000
800
600
400
200
0
291.5
291
290.5
290
289.5
289
288.5
288
287.5
287
286.5
Feb-11
Aug-11
Feb-12
Aug-12
Feb-13
Aug-13
Feb-14
Aug-14
Feb-15
Aug-15
Feb-16
Aug-16

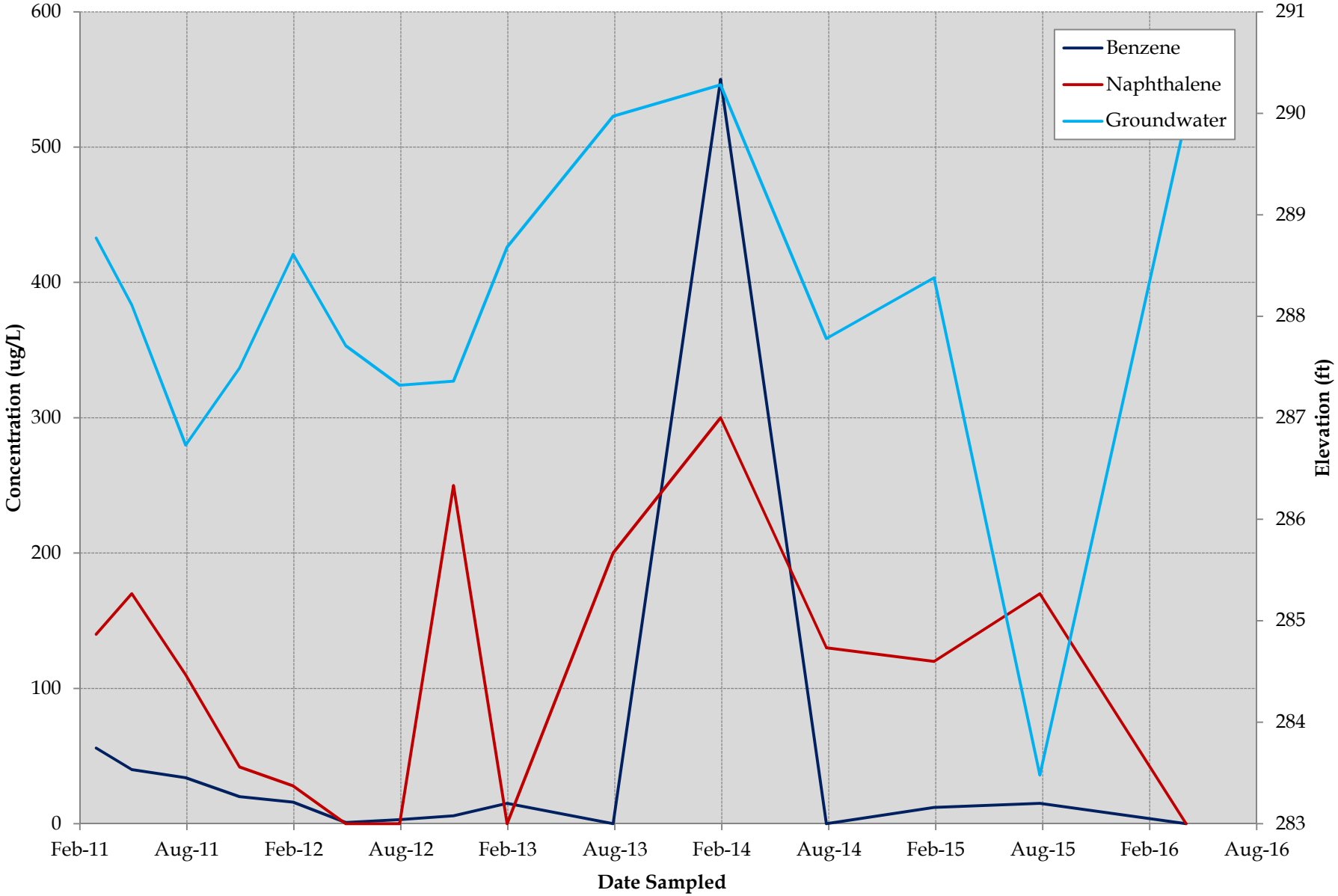
MW-207D


Benzene
Naphthalene
Groundwater
Concentration (ug/L)
Elevation (ft)
Date Sampled
70
60
50
40
30
20
10
0
292.5
292
291.5
291
290.5
290
289.5
289
288.5
288
287.5
287
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Jul-14
Jan-15
Jul-15
Jan-16
Jul-16
Jan-17

MW-301D


1,600
1,400
1,200
1,000
800
600
400
200
0
Concentration (ug/L)
295
294
293
292
291
290
289
288
Elevation (ft)
Benzene
Naphthalene
Groundwater
Feb-11
Aug-11
Feb-12
Aug-12
Feb-13
Aug-13
Feb-14
Aug-14
Feb-15
Aug-15
Feb-16
Aug-16
Date Sampled

MW-302D


Benzene
Naphthalene
Groundwater
Concentration (ug/L)
Elevation (ft)
Date Sampled
600
500
400
300
200
100
0
291
290
289
288
287
286
285
284
283
Feb-11
Aug-11
Feb-12
Aug-12
Feb-13
Aug-13
Feb-14
Aug-14
Feb-15
Aug-15
Feb-16
Aug-16

MW-303D (Abandoned)

