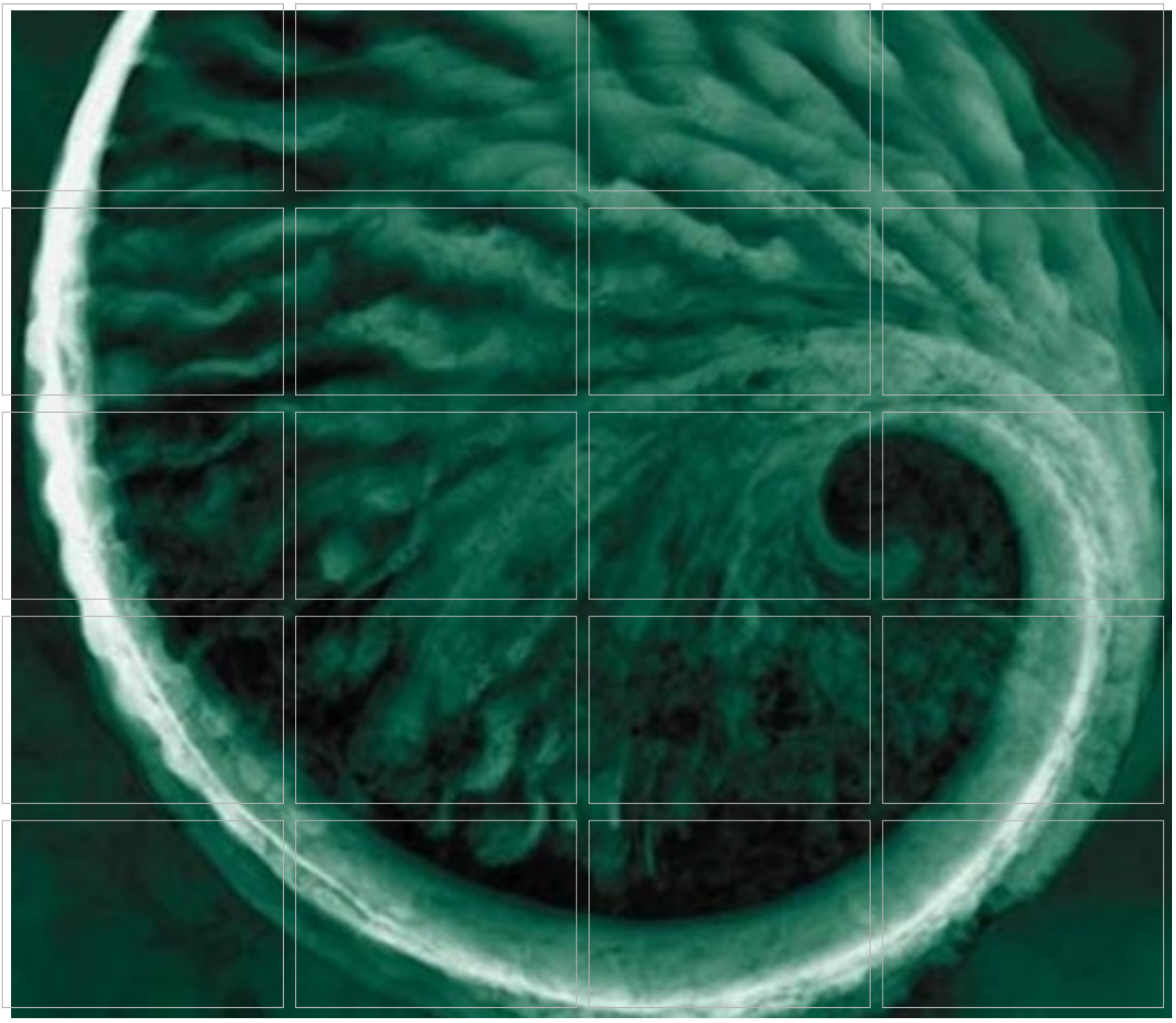


1st Semiannual Progress Report

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

November 23, 2015

www.erm.com

ERM

The world's leading sustainability consultancy

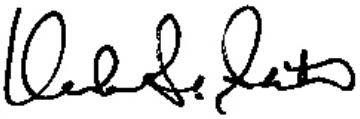
Atlanta Gas Light Company

1st Semiannual Progress Report

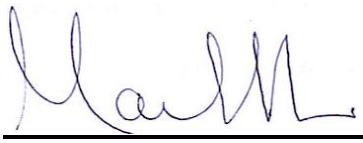
Former Manufactured Gas Plant Site
Macon, Georgia HSI #10511

November 23, 2015

ERM Project No. 0176740



Hunter Sartain
Partner-In-Charge



Mark Fleri
Project Manager

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

TABLE OF CONTENTS

1.0 INTRODUCTION 2

1.1 EPD COMMENTS AND TECHNICAL CORRECTIONS TO THE VIRP AND VRP APPLICATION 2

2.0 ACTIVITIES COMPLETED SINCE VIRP SUBMITTAL 10

2.1 REMEDIATION PROGRESS 10

2.2 GROUNDWATER INVESTIGATIONS AND MONITORING 12

2.3 DNAPL INVESTIGATIONS 12
2.3.1 DNAPL Observations and Measurements 12
2.3.2 DNAPL Recovery (VEFR) 15

2.4 VAPOR INTRUSION EVALUATION 16

2.5 SURFACE WATER 16

2.6 REGISTERED PROFESSIONAL SUPPORTING DOCUMENTATION 17

3.0 PLANNED CORRECTIVE ACTIONS AND INVESTIGATIONS 19

3.1 CORRECTIVE ACTIONS 19

3.2 GROUNDWATER INVESTIGATIONS AND MONITORING 19
3.2.1 Semiannual Groundwater Monitoring 19
3.2.2 Bedrock Well Installations 20

3.3 DNAPL INVESTIGATION AND RECOVERY 20

3.4 VAPOR INTRUSION EVALUATIONS 21

3.5 SURFACE WATER EVALUATION 21

3.6 MODELLING AND POINT OF DEMONSTRATION WELLS 21

3.7 RISK ASSESSMENT AND REPRESENTATIVE EXPOSURE CONCENTRATIONS 22

3.8 UNIFORM ENVIRONMENTAL COVENANTS 23

4.0 REFERENCES 25

TABLE OF CONTENTS continued

TABLES

3-1 ALLUVIAL GROUNDWATER MONITORING NETWORK

3-2 BEDROCK GROUNDWATER MONITORING NETWORK

FIGURES

1-1 TOPOGRAPHIC SITE LOCATION MAP

1-2 SITE MAP

1-3 PROPERTY OWNERSHIP MAP

2-1 ISS COMPLETION MAP

2-2 COMPLETED AND PROPOSED GROUNDWATER & DNAPL INVESTIGATION LOCATIONS

3-1 VIRP PROJECTED MILESTONE SCHEDULE

APPENDICES

A CORRESPONDENCE

B OCMULGEE RIVER SEDIMENT INFORMATION

C REVISED VRP APPLICATION

D LEGAL PARCEL DESCRIPTIONS

E GROUNDWATER MONITORING REPORT: FEBRUARY, APRIL, AND AUGUST 2015 SAMPLING EVENTS

F BORING LOGS AND WELL CONSTRUCTION DIAGRAMS

G VEFR EVENT REPORTS

ACRONYMS AND ABBREVIATIONS

AGLC	Atlanta Gas Light Company
bgs	Below Ground Surface
BPLM	By-Product Like Material
CAP	Corrective Action Plan
CAP A	Corrective Action Plan Addendum
COI	Constituent of Interest
CSM	Conceptual Site Model
CSR	Compliance Status Report
DNAPL	Dense Non-Aqueous Phase Liquid
EPD	Environmental Protection Division
ERM	Environmental Resources Management
GMWP	Groundwater Monitoring Work Plan
HCLO	Hydrocarbon-Like Odor
HSI	Hazardous Site Inventory
HSRA	Hazardous Site Response Act
ITRC	Interstate Technology and Regulatory Council
ISS	In-Situ Solidification
MGP	Manufactured Gas Plant
MUDA	Macon Urban Development Authority
NAPL	Non-Aqueous Phase Liquid
OLM	Oil-Like Material
OSWER	Office of Solid Waste and Emergency Response
POD	Point of Demonstration
POE	Point of Exposure
PVC	Polyvinyl Chloride
PWR	Partially Weathered Rock
RRS	Risk Reduction Standards
ROW	Right-of-Way
TLM	Tar-Like Material
UEC	Uniform Environmental Covenant
USEPA	United States Environmental Protection Agency
VI	Vapor Intrusion
VIRP	Voluntary Investigation and Remediation Plan
VEFR	Vacuum Enhanced Fluid Recovery
VRP	Voluntary Remediation Program
VRPA	Voluntary Remediation Program Act

1.0 INTRODUCTION

This 1st Semiannual Progress Report is being submitted on behalf of Atlanta Gas Light Company (AGLC) for the former Macon Manufactured Gas Plant (MGP) site located in Macon, Bibb County, Georgia (Figure 1-1). Two MGP facilities formerly operated in this area. One of the MGP facilities was located at 137 Mulberry Street (Mulberry Street MGP) and the other was located on what is now Terminal Avenue (Western Portion MGP). Surrounding features and the location of these MGP sites are presented in Figure 1-2.

The former Macon MGP Site was previously listed on the Georgia Environmental Protection Division (EPD) Hazardous Site Inventory (HSI #10511). AGLC has performed a series of investigations and implemented several EPD approved corrective actions and has addressed the unsaturated and saturated materials on several parcels of the Site.

AGLC submitted an application to enter the Georgia Voluntary Remediation Program (VRP) and a Voluntary Investigation and Remediation Plan (VIRP) to EPD in October 2014. The former Macon MGP Site was accepted into the VRP on May 21, 2015 (Appendix A). For the purposes of this document, the term "Site" is defined as the portion of AGLC's contiguous property and any other owner's property potentially impacted by the former MGP operations.

Under the VRP, the schedule for submittal of progress reports is May 21st and November 21st annually. The purpose of this report is to provide EPD with an update of activities completed since submittal of the VIRP in October 2014. In addition, the progress report describes upcoming planned activities. This 1st Progress Report also addresses EPD's comments to the VIRP dated May 26, 2014.

1.1 EPD COMMENTS AND TECHNICAL CORRECTIONS TO THE VIRP AND VRP APPLICATION

In correspondence dated May 26, 2015 (Appendix A) EPD provided comments to the October 2014 VIRP. The comments requested technical/clerical modifications to the VRP application, VIRP and the 2014 CAP Addendum. The following text provides each EPD comment and a response or references the corresponding section of this report which addresses the comment.

Conceptual Site Model

1. *EPD concurs with the Appendix G proposed DNAPL investigation activities that are contingent upon AGLC being granted access to the applicable properties. In addition, according to Appendix G, DNAPL recovery sumps will be installed where applicable during investigation activities in the area of MW-305D. EPD recommends that this same contingency measure be applied site-wide following the installation of the additional in-situ solidification (ISS) mass.*

   AGLC Response: AGLC concurs that DNAPL sumps be installed where potentially recoverable DNAPL is observed. AGLC has installed a recovery sump (SW-1) adjacent to MW-305D. Additional sumps will be installed based on further investigation if necessary. See Section 3.3.

2. *Section 2.3.2 of the VRP Application indicates that the "Lower Outfall of the Ocmulgee River" is "in compliance with the sediment removal and clean-up goals in accordance with the standards, and Type 5 risk reduction standards (RRS), established per the approved January 5, 2001, Corrective Action Plan." However, no data associated with the Ocmulgee River, surface water or sediment, has been presented within the VRP Application to support or demonstrate the elimination of the Ocmulgee River as a surface water exposure pathway. Consequently, the 1st Semi-Annual VRP Progress Report needs the following information for the surface water pathway:*
   a. *A description of the surface water exposure pathway, including surface water and sediment data;*
   b. *A more detailed description of the past corrective actions completed in the Ocmulgee River; and,*
   c. *Please ensure that any necessary monitoring and maintenance activities that are applicable to the remediated portion of the Ocmulgee River are included as part of the continued monitoring and maintenance associated with the site specific Uniform Environmental Covenant(s) (UEC).*

AGLC Response: A summary of activities that have been completed to support that the surface water exposure pathway associated with the Ocmulgee River has been eliminated is included in Section 2.5 and detailed information is provided in Appendix B. Specific information regarding EPD Comment #2a can be found in Appendix B - Ocmulgee River Sediment History and Summary, Section B.1 Current Surface Water Exposure Pathway. Information to respond to Comment #2b can be found in Appendix B - Ocmulgee River Sediment History and Summary, Section B.2 Past Corrective Actions.

Appendix B also includes section B.3 Current Condition and Regulatory Status; Section B.4 Results of Historical Monitoring and Maintenance; and Section B.5 Future Monitoring and Maintenance. Also included in Appendix B as supporting documentation are:

- Appendix B-1 - applicable regulatory correspondence
- Appendix B-2 - excerpts from the 2004 Compliance Status Report (dated January 16, 2004) describing both the residual contamination and ongoing monitoring requirements at that time
- Appendix B-3 – excerpts from the *Scour Protection Placement Completion Report*, dated July 9, 2004)
- Appendix B-4 – Ocmulgee River survey reports documenting surveys completed in 2009 and 2015.

  Please note that a UEC cannot be filed for the Ocmulgee River or riverbank.

3. *Please ensure that the following information is included as part of the final VRP Compliance Status Report documentation to demonstrate that the exposure pathway for soil has been remediated and is in compliance with established standards:*
   a. *Please include any applicable figure(s) and data table(s) for the Mulberry Street MGP and surrounding properties, similar to those figures included in the CAP Addendum in Appendix C for the Western Portion, that were used from previous report submittals to demonstrate compliance.*

   AGLC Response: The final VRP CSR will include documentation of compliance certifications.

   b. *According to Section 3.4, "delineation for all media at the site has been complete." In support of addressing the delineation requirements included in Section 12-8-1-8 of the Act, please provide additional information (tables, figures, etc.) that illustrates which particular constituents of interest (COI), and associated exposure pathway(s), are in compliance for each certified property illustrated in Figure 2-1. Please ensure that this documentation (tables, figures, etc.) references the formal EPD letter(s) approving the criteria and/or cleanup standard.*

   AGLC Response: The final VRP CSR will include the required documentation showing completion of delineation for all media and approved criteria and/or cleanup standards.

c. *Please ensure that the delineation and corrective action requirements are met for those impacts noted in Appendix C and designated as "Inorganic Type 1 RRS exceedances not related to MGP impacts."*

AGLC Response: At the time of the 2004 CSR submission, AGLC and EPD agreed that the contamination associated with these properties (R074-0218, R074-0216, and associated railroad property [no parcel ID]) was not MGP-related. Therefore, AGLC does not intend to delineate and/or perform corrective actions on impacts not associated with MGP operations.

4. *While EPD may be deferring comments related to additional horizontal groundwater delineation requirements in accordance with Section 12-8-1-8 of the Act until after the completion of the ISS remedy and the installation of the associated performance monitoring network, please note that vertical delineation to the extent that will be influential to the established corrective action objectives will need to be completed for the site prior to the completion of the VRP CSR. In addition, please ensure that the following comments are addressed within the 1st semi-annual VRP Progress Report submittal:*
   a. *Section 5.3.1 references Figure 5-l, Point of Demonstration Wells, please provide a description of the established point of exposure (POE) and the threshold values that will be utilized at the POD wells to demonstrate compliance. Please note that groundwater modeling will be needed to demonstrate the viability of these wells as demonstration wells for the POE.*

   AGLC Response: A description of the POE for groundwater, establishing POD well locations, and the discussion of the methodology for threshold value computations at POD wells is provided in Section 3.6.

   b. *EPD will defer concurrence with the Bedrock POD wells until after completion of the investigation activities included in Appendix H, Bedrock Groundwater Investigation Work Plan.*

   AGLC Response: Noted.

5. *Please note that as part of future site related institutional controls that may be implemented as part of the VIRP, new UECs will need to be executed for all parcels where source materials will be left in place, in particular the parcels associated with the ISS remedy. For any additional parcels not associated with the ISS remedy but overlying the groundwater*

plume (above risk reduction standards), pre-existing groundwater use deed restrictions that were implemented as part of prior institutional controls will be acceptable. However, EPD is recommending that for any parcels that are found to overly the groundwater plume without pre-existing deed restrictions in place that all practical attempts be made to enact new UECs for these applicable parcels.

AGLC Response: Noted.

6. *The following comments pertain to technical/clerical issues noted within the VRP Application:*
    a. *Section 1.1 states that the VRP Application is being submitted on behalf of AGLC and Georgia Power Company, however the Georgia Power Company information was not included in the VRP Application and Checklist in Appendix A. Please revise Appendix A and provide additional information regarding Georgia Power Company and their association with the site property.*

AGLC Response: Section 1 of this report and the 2014 VIRP application (Section 1.1) is revised as follows "…is being submitted on behalf of Atlanta Gas Light Company (AGLC) for the former Macon Manufactured Gas Plant (MGP) site located…..". The VRP application has been revised to include additional parcels and the revised VRP Application is included in this report as Appendix C.

    b. *Please revise Figure 1-3, Property Ownership Map, to include the parcel and property owner information for the parcels adjacent to the site and north/northeast of Walnut Street, and adjacent and west of the Norfolk Southern Railroad.*

AGLC Response: The Revised Property Ownership Map is included as Figure 1-3 in this report.

    c. *According to Section 5.1, "final exposure and compliance certification will be established on the basis of "representative exposure concentrations," please provide additional information describing how the "representative exposure concentrations" will be determined.*

AGLC Response: A summary of the methods and guidance that may be utilized to determine representative exposure concentrations is included in Section 3.7.

    d. *Section 5.2, indicates that monitoring of DNAPL will be conducted during planned monitoring events "see Section 6.3." There is no Section 6.3 in the report, please revise.*

AGLC Response: The correct reference in the VIRP document for monitoring of DNAPL is Section 5.3. Section 3.3 of this report summarizes the planned DNAPL monitoring, as discussed in Sectoin 5.3 of the VIRP.

e. *Section 5.2, indicates that vacuum enhanced fluid recovery events (VEFR) would be conducted at wells where DNAPL accumulation is greater than 0.5 feet. EPD requests that for wells with less than 0.5 feet of measurable DNAPL that absorbent socks, or similar remedial technology, be placed in these wells.*

AGLC Response: AGLC will install absorbent socks in wells where DNAPL is observed but accumulation has stalled (for a period of 3 months or more) with less than 0.5 feet of measurable DNAPL. Trace amounts of DNAPL have historically been observed in MW-302D with no accumulation. Should DNAPL continue to be observed in MW-302D without measurable accumulation during the next reporting period an absorbent sock will be installed.

f. *Appendix A - parcel R073-0384 is listed as being 2.52 acres; however, the tax assessor information for the parcel lists 1.73 acres, please explain and revise as necessary. In addition, acreage information for the remaining parcels indicates that "final parcel segregation to provide definitive metes and bounds," please provide this information to complete the application for the qualifying properties. Also, the tax parcel ID for the 122 Walnut St. should be revised to R07-205 in accordance with the online tax assessor information.*

AGLC Response:

a - The 2.52 acres listed is based off of the actual survey and legal description provided as Appendix D. AGLC believes these legal descriptions to be more accurate than the tax accessor information.
b - The definitive metes and bounds surveys for both the Norfolk Southern Qualifying property and the City of Macon Qualifying property will be provided when the UECs are filed.
c - The tax parcel ID on the VRP application has been corrected to R074-0205 (for the 122 Walnut St. parcel - see Figure 1-3).

7. *The following comments pertain to technical/clerical issues noted within Appendix C, Western Portion and MW-101 Area Groundwater CAP Addendum:*
   a. *EPD understands that the extent of the planned ISS corrective measure will be limited to the south and west due to the presence of*

adjacent structures and associated property use; however, EPD requests that the VIRP activities include a proposed remedial measure to address the potentially complete vapor intrusion pathway and future soil exposures for the identified MGP impacts beneath the Prodigy Woodworks structure in the areas of soil boring locations VIB-11 through -13.

AGLC Response: The existing structure on the Prodigy Woodworks property is scheduled for demolition in 2016. A UEC will be placed on the parcel requiring control measures (e.g., installation of a vapor barrier, restrictions on subsurface disturbance, etc.) as needed to mitigate the potential for complete exposure pathways to exist at the property. Additional information is provided in Section 2.0 and Section 3.0

b. *According to Appendix C, daily construction quality assurance reports would be prepared during the corrective actions (ISS and soil removal). In addition to these reports, please ensure that EPD is immediately notified by email of any failed columns and the actions taken to remedy the failure(s).*

AGLC Response: AGLC will notify EPD by email of any failed columns and the actions taken to remedy the failure(s) as requested.

c. *Please revise the reporting schedule to include semi-annual VRP progress reports rather than Annual Corrective Action Effectiveness Reports.*

AGLC Response: Revised reporting schedule is discussed in the last paragraph of Section 1.0 and presented in the Project Schedule, Figure 3-1.

8. *Appendix H, Bedrock Groundwater Investigation Plan, indicated that 10- or 20-ft. screen lengths would be used during the installation of the planned bedrock investigation wells. Please ensure that proper justification is provided for the use of a screen length greater than 10- ft. In addition, please provide a figure illustrating the proposed locations for the bedrock groundwater investigation wells as part of the 1st Semiannual Progress Report.*

AGLC Response: AGLC will use 10-ft screen intervals (or open corehole zones of 10-ft, if bedrock appears sufficiently competent) for bedrock wells if fractures identified as potentially water-bearing are observed within that interval. Shorter screen intervals (or open corehole interval) may be used, if appropriate. If no potentially

water-bearing fractures are observed within the first 10 ft, the screen length (or open corehole interval) may be increased as needed to ensure a water-bearing well, and justification for the use of an interval greater than 10 ft will be provided. See Section 2.1 detailing the installation details of MW-309D (10-ft open corehole installed in July 2015), and Section 3.2 and Figure 2-2 for proposed locations for bedrock groundwater investigation wells.

9. *Appendix I, Section 3.3, the rejected data (Section 3.3) should be noted as so, but not removed from the tables as future sampling may confirm a trend that may initially be perceived as anomalous data.*

   AGLC Response: Agreed. All data collected will be reported, and flagged as appropriate.

10. *Appendix I, Bedrock Groundwater Monitoring Plan: While natural attenuation (NA) can be utilized as an ongoing component of the corrective measures as the site nears the point of compliance, NA is not typically built into remedial strategies until the non-aqueous phase liquid (NAPL) is removed to the extent practicable. In addition, based on the proposal to utilize a UEC to prevent future groundwater use and eliminate the groundwater exposure pathway, implementing NA aspects, as part of the future corrective action may not provide a significant contribution to the future remedial objectives for groundwater. Therefore, EPD suggests that NA parameters could be incorporated into the post ISS evaluation monitoring, or into the monitoring activities associated with the groundwater modeling, in the event that any of the planned NA parameters be useful/applicable to these lines of investigation.*

    AGLC Response: Comments noted. NA parameters will be utilized as suggested.

2.0 ACTIVITIES COMPLETED SINCE VIRP SUBMITTAL

This section describes all activities that have been completed since the VIRP was submitted in October 2014 through October 2015. These activities include implementation of the corrective actions detailed in the 2014 CAP Addendum, groundwater monitoring and sampling events, and initiation of the DNAPL investigation detailed in *DNAPL Investigation Work Plan* provided in Appendix G of the VIRP.

2.1 REMEDIATION PROGRESS

The following activities have been conducted at the site, since the time of the VIRP and VRP application submission:

Primary Site Activity	Estimated % Complete*	Completion Date**
Planning, Permits, and Coordination	100	05/15/2015
Mobilization	100	05/18/2015
Site Prep and Baseline Air Monitoring	100	06/05/2015
Excavation, Stockpiling, T&D	75	12/20/2015
In Situ Stabilization/Solidification	100	11/18/2015
Utility Removal (Gas, Electric, Phone)	100	10/15/2015
Site Backfill and Grading	0	01/27/2016
Site Vegetation Restoration	0	03/30/2016
Utility Restoration	0	03/30/2016
Roadway Restoration	0	03/30/2016

* As of October 31^{3t}, 2015

* *Estimated completion date if not 100% complete

Figure 2-1 presents the ISS diagram showing the amount of progress and dates of ISS activities at the Site through November 21, 2015. A Corrective Action Completion Report will be provided upon completion of the activities providing details of the associated activities as needed. A brief summary, in the interim, is provided below to reflect the substantial progress at the site since entry into the VRP program.

- Final contracts with the remediation contractor (Geo-Solutions, Inc.) was executed and work plans and health and safety plans were completed prior to mobilization. GSI obtained permits with the City of Macon, including water discharge permit.
- Mobilization of the ISS crane, excavators, all terrain transport vehicles, water treatment system, foam application system, and

supporting equipment, along with a total of 20 oversight and construction staff was completed in May 2015.

- Numerous utility relocations have been conducted to allow the work to continue as follows: 2 high pressure gas lines serving City of Macon residents; overhead power lines at Mulberry and 6th street serving local consumers; overhead power line along Terminal Avenue (serving the downtown Macon Hospital); and numerous phone and cable lines within the street rights of way.
- Excavation of soils above the water table and excavation of ISS spoils above the high water table resulting in the stockpiling, transportation and disposal of 31,200 tons of impacted soils.
- Excavation of "clean soils" resulting in the stockpiling and stockpile management of 14,200 cubic yards (CY) of soils. The soils will be utilized in backfilling and site grading operations once ISS activities have been completed.
- A total of 990 ISS columns were completed through 10/31, with a total of 135 columns remaining (reflecting 88% complete). The total estimated volume of ISS completed through October 31, 2015 is 39,300 CY, with an estimated 4,400 CY of ISS remaining (reflecting 90% complete). ISS operations are estimated to be complete prior to November 24, 2015.
- During the ISS operations the sequence selected was intended to provide protection against downgradient migration of contaminants. The approach was only altered where required by ongoing utility removal activities and/or property owner negotiation.
- During the work at the south-west corner of the site, a former gas holder was identified during the pre-excavation activities. Portions of the holder were removed and disposed off-site, with the remainder of the holder remaining intact until ISS and batch plant operations are concluded. The excavation of the remaining portion of the holder (on Prodigy Holdings property) will be completed once the ISS batch plant has been removed.
- Quality Control activities have been conducted throughout the project, including but not limited to the following:
    - UCS testing
    - Permeability testing
    - Wet/Dry testing
    - Confirmation sampling and analytical testing
    - Stockpile sampling and analytical testing
    - Field observations

- 3rd Party perimeter air monitoring support
- Vibration monitoring

2.2 *GROUNDWATER INVESTIGATIONS AND MONITORING*

As indicated in the *Bedrock Investigation Work Plan* (Appendix H of the VIRP), installation of additional bedrock groundwater monitoring wells is anticipated as part of ongoing investigations. Planned well MW-309D was installed in July 2015, in the 7th Street Right-of-Way (ROW) (Figure 1-2) adjacent to tax parcel ID R074-0209 (Figure 1-3). The well was installed in accordance with the *Bedrock Investigation Work Plan* as provided in Appendix H of the VIRP.

The well was installed using a mini-sonic rig with a 6 inch PVC casing set 5 feet into bedrock, which was encountered at 30 feet below ground surface (bgs). The grout was allowed to cure for approximately 24 hours prior to coring into bedrock. A 10 foot corehole was advanced from 35 feet bgs to 45 feet bgs and logged for fractures. The well was completed as an open borehole to allow for future geophysical investigations, if warranted. Fractures were observed between 37 and 40 feet bgs, and at approximately 43 feet bgs. The boring log and well completion log for MW-309D are included in Appendix F. Details of monitoring activities completed at MW-309D are provided in Section 2.3.

Semiannual groundwater sampling of bedrock monitoring wells and three alluvium wells on the Macon Urban Development Authority (MUDA) property occurred in February and August 2015. In addition, a supplemental groundwater event was completed in April 2015. A groundwater monitoring report summarizing the results of these sampling events is included as Appendix E.

2.3 *DNAPL INVESTIGATIONS*

2.3.1 *DNAPL Observations and Measurements*

MW-111D

DNAPL accumulation monitoring was conducted at MW-111D during routine groundwater monitoring events in February and August 2015. In additional, DNAPL thickness was gauged prior to the two VEFR events completed during this monitoring period (May and August 2015). Details

of the VERF events are provided in Section 2.3.1. The following summarizes DNAPL monitoring and recovery efforts at MW-111D.

MW-111D		
Date	**Event**	**Observations – DNAPL Thickness (feet)/Estimated DNAPL Removed (gallons)**
February 16, 2015	Semiannual Monitoring	0.80 ft
May 1, 2015	Pre-VEFR Monitoring	0.98 ft
May 1, 2015	VEFR	0.5 equivalent gallons of DNAPL
August 10, 2015	Semiannual Monitoring	0.00 ft
August 26, 2015	Pre-VEFR Monitoring	0.13 ft
August 26, 2015	VEFR	3.2 equivalent gallons of DNAPL**
October 4, 2015	DNAPL Monitoring/ VEFR Followup Event	0.00 ft

** Estimated removal of 28 pounds of hydrocarbons, including approximately 3.2 equivalent gallons of DNAPL, during the August 2015 event, which represents combined volume removed from MW-111D and MW-309D. Rate of hydrocarbon removal ranged from estimated 2.9 to 3.3 pounds per hour during three hour extraction at MW-111D.

DNAPL Investigation Borings and MW-309D

DNAPL was observed in the partially weathered rock (PWR) at the saprolite/bedrock interface at 29 feet bgs during the drilling and installation of monitoring well MW-305D in 2013. As a result, additional DNAPL investigation activities were performed along 7th Street to refine the Conceptual Site Model (CSM) regarding DNAPL presence and extent. The work was performed in accordance with the *DNAPL Investigation Work Plan* provided in Appendix G of the VIRP.

Six DNAPL investigation borings (DIB-1-DIB-6) were completed to top of bedrock in July 2015 with the objective of identifying evidence of DNAPL pooling at the bedrock surface so that a sump well could be installed for DNAPL recovery. Three of the investigation borings were completed in

the vicinity of MW-305D in attempt to assess the DNAPL observed during the well installation and to install a sump for recovery. The first location (DIB-1) was installed approximately 4.5 feet southeast of MW-305D. Bedrock was encountered at 33 feet bgs and no DNAPL was observed; however, grout was observed in the PWR from 30 – 33 feet bgs. The grout resulted from the installation of the surface casing at MW-305D.

A second location (DIB-2) was installed approximately 6 feet northwest of MW-305D to avoid the grout and to evaluate extent of DNAPL in PWR in the vicinity of MW-305D. Bedrock was encountered at 30 feet bgs and no DNAPL was observed during drilling. A third boring (DIB-3) was installed approximately 7.5 feet southeast from MW-305D. Bedrock was encountered at 33.5 feet bgs, and no DNAPL was observed in the boring. The boring was converted into a sump well (SW-1) by coring 3 feet into bedrock. A five foot screen was installed terminating at the bedrock interface with a three foot sump below to capture potential DNAPL accumulation.

Two more locations (DIB-4 and DIB-5) were installed to the northwest of MW-305D at approximately 30 foot intervals from MW-305D toward MW-111D, where DNAPL has historically been observed. Both borings encountered bedrock at 34 feet bgs. No DNAPL was observed at either location.

Finally, DIB-6 was installed approximately 100 feet to the southeast of MW-305D. No DNAPL was observed at the bedrock surface, and the boring was converted to MW-309D, as described above in Section 2.2.

DNAPL was first observed in MW-309D during well development in July 2015. The accumulation measured in August 2015 triggered the August VEFR event. Details of the VERF event are provided in Section 2.3.1. The following table provides a summary of DNAPL thickness monitoring and DNAPL recovery efforts during this reporting period at MW-309D.

MW-309D		
Date	**Event**	**Observations - DNAPL Thickness (feet)/Estimated DNAPL Removed (gallons)**
July 8-9, 2015	Well Installation	No DNAPL observed during drilling
July 17, 2015	Well Development	0.33 ft

MW-309D		
Date	**Event**	**Observations - DNAPL Thickness (feet)/Estimated DNAPL Removed (gallons)**
August 10, 2015	Semiannual Monitoring	Estimated 6 ft of DNAPL with NAPL globules suspended in water column
August 26, 2015	Pre-VEFR Monitoring	Estimated 10 ft of DNAPL with NAPL globules suspended in water column
August 26, 2015	VEFR	3.2 equivalent gallons of DNAPL**
October 4, 2015	DNAPL Monitoring/ VEFR Followup Event	Estimated 1.1 ft of DNAPL with minor NAPL globules suspended in bottom 2 ft of well

** Estimated removal of 28 pounds of hydrocarbons, including approximately 3.2 equivalent gallons of DNAPL, during the August 2015 event, which represents combined volume removed from MW-111D and MW-309D. Rate of hydrocarbon removal ranged from estimated 3.1 to 5.0 pounds per hour during five hour extraction at MW-309D. Extraction was performed at SW-1 and MW-309D simultaneously; however, the lack of DNAPL in the well prior to and following the event, and observations of the liquids removed during the event, indicate that any contribution of recovered DNAPL from SW-1 was likely minor compared to MW-309D.

Additional bedrock wells are planned to further investigate the presence of DNAPL in the vicinity of MW-305D and MW-309D (see Section 3.3).

2.3.2 *DNAPL Recovery (VEFR)*

AGLC performed an interim corrective action for DNAPL observed in MW-111D on May 1, 2015 and for DNAPL observed in MW-111D and MW-309D on August 26, 2015. A summary of the VERF results was provided in the previous section. The 1st extraction event was conducted for approximately 7.5 hours at MW-111D and approximately 4.3 pounds of hydrocarbons were extracted during the event, including approximately 0.5 equivalent gallons of DNAPL (described as OLM in the VEFR event report - Appendix G). Approximately 1,149 gallons of liquid (DNAPL and groundwater) was extracted and transported to Environmental Remedies (Atlanta, Georgia) for disposal. The VEFR event report is included in Appendix G.

The second extraction event was conducted for approximately 5 hours at MW-305D and SW-1 and 3 hours at MW-111D. A total of 28 pounds of hydrocarbons were extracted during the event, including approximately 3.2 equivalent gallons of DNAPL (described as OLM in the VEFR event report - Appendix G). Approximately 690 gallons of liquid (DNAPL and groundwater) was extracted and transported to Environmental Remedies (Atlanta, Georgia) for disposal. The VEFR event report is in Appendix G.

2.4 VAPOR INTRUSION EVALUATION

No vapor intrusion investigation activities were conducted during this monitoring period. The small unused building located on the corner of 6th and Mulberry (Prodigy Woodworks parcel) will be demolished in the 1st quarter of 2016. A UEC will be placed on the parcel requiring control measures, (e.g., installation of a vapor barrier) as part of the construction of any future structures on the property. The UEC will eliminate the concern for the vapor instrusion pathway to be complete at the Prodigy Woodworks parcel.

2.5 SURFACE WATER

Per Comment 2 of the May 26, 2015 EPD correspondence, a summary of the history of investigations and corrective actions completed for the Ocmulgee River near the Site is provided in Appendix B. A description of the surface water exposure pathway, including surface water and sediment data, is included.

River armoring of a portion of the Ocmulgee River was completed in 2004 as part of the EPD-approved corrective action. The Compliance Status Report dated January 16, 2004 and subsequent Sediment CAP Addendum (Revised, May 2005) provided the summary (Appendix B) of the regulatory status of the Ocmulgee River Sediments and described both the residual contamination and ongoing monitoring requirements.

The CSR excerpts (provided in Appendix B-2) presents the Compliance Certification for the Ocmulgee River Outfalls, as follows:

> *The following property is in compliance with sediment removal and clean-up goals in accordance with the standards established per the approved Corrective Action Plan for Sediments in the Ocmulgee River dated January 5, 2001.*

- *Lower Outfall of the Ocmulgee River*

  The following property is in compliance with the sediment removal and clean-up goals in accordance with the standards established per the approved Corrective Action Plan for Sediments in the Ocmulgee River dated January 5, 2001 and is also in compliance with the Type 5 risk reduction standards.

- *Upper Outfall of the Ocmulgee River*

The EPD commented on the CSR on February 25, 2004 and AGL responded to CSR comments in correspondence dated March 29, 2004. The 2005 Sediment CAP-A (Revision) and associated EPD correspondence approving the Sediment CAP-A (Revision) governed the obligations for ongoing monitoring. Since the Sediment CAP Addendum submission no further regulatory correspondence regarding the Ocmulgee River Sediments has been received, until the May 26, 2015 response to the VIRP (noted at the beginning of this section.)

A baseline river bottom survey and two subsequent surveys to monitor for erosion and scouring of the armored portion have been conducted since 2004, with the most recent event completed in October 2015. The armoring event conducted in 2004 was quite substantial and covered sediment that continues to have a minimum of three (3) feet or more of sediment cover over the excavated areas where TLM remains deep below the sediment. Based on the history of the investigation, remediation, and subsequent monitoring of the Ocmulgee River sediments near the Upper and Lower Outfalls provided herein, the compliance certifications previously provided, and the historical monitoring, the sediments and surface water are recommended to be excluded from further evaluation. Additional details are included in Appendix B.

Rainfall monitoring was completed on a monthly basis during this reporting period to identify whether a significant rainfall event occurred (i.e. 100-year event). Review of the data indicated that no 100-year rainfall events have occurred during the review period.

2.6 REGISTERED PROFESSIONAL SUPPORTING DOCUMENTATION

To document the direct oversight of the development of the Voluntary Remediation Plan, implementation of corrective action and long-term monitoring, a monthly summary of hours invoiced and description of

services provided by Hunter Sartain, P.E. (Georgia No. 032318) to the VRP participant since the pervious submittal to EPD is shown in the table below:

Month	Hours Invoiced	Work Completed
November 2014	13	Oversight of the work summarized in this report
December 2014	27	
January 2015	11	
February 2015	36.5	
March 2015	52	
April 2015	61	
May 2015	68.5	
June 2015	75.5	
July 2015	33.5	
August 2015	64.5	
September 2015	58	
October 2015	66.5	

3.0 PLANNED CORRECTIVE ACTIONS AND INVESTIGATIONS

The following sections describe corrective actions and investigations that are planned to be initiated and/or completed during the next monitoring period.

3.1 CORRECTIVE ACTIONS

As presented in Section 2.1, AGLC intends to complete the majority of corrective action activities at the Site prior to the end of calendar year 2015. Outstanding activities include the following:

- Completion of excavation, stockpiling, transportation & disposal
- Completion of holder excavation and confirmation sampling
- Completion of ISS activities
- Completion of site restoration activities
- Completion of Corrective Action Completion Report

Figure 3-1 presents the currently proposed schedule for the completion of the outstanding corrective actions, as well as additional planned activities for investigations as provided below.

3.2 GROUNDWATER INVESTIGATIONS AND MONITORING

3.2.1 Semiannual Groundwater Monitoring

As approved by EPD, groundwater monitoring of alluvial wells has been suspended during the ISS and excavation activities. Semiannual monitoring will recommence in February 2016 in accordance with the *Alluvial Groundwater Monitoring Work Plan* (GMWP) provided in Appendix H of the 2014 CAP Addendum. The GMWP is intended to provide data regarding constituents of interest (COIs) in wells to monitor corrective action conditions, the NA results (an inherent part of the corrective action), and outline overall effectiveness of the remedy at the site. The alluvium groundwater monitoring network is shown in Table 3-1. Bedrock groundwater monitoring will continue per the *Bedrock Groundwater Monitoring Plan* (Appendix I of the VIRP). The bedrock groundwater monitoring network is shown in Table 3-2.

The objective of the groundwater monitoring program is to collect data necessary to evaluate remedy effectiveness, monitor impacts to the dissolved phase plume and DNAPL impacts, and provide information to

update the CSM as necessary. After four post remediation semiannual bedrock and alluvial groundwater sampling events, the need and/or value of continued performance verification monitoring will be assessed for VRP regulatory compliance. The analytical schedule and frequency will be adjusted, as needed to continue compliance demonstrations. The next groundwater monitoring event is scheduled for February 2016.

3.2.2 Bedrock Well Installations

As discussed in Section 2.2, one bedrock groundwater monitoring well was installed during this monitoring period. AGLC will be installing additional wells to better define the extent of DNAPL in bedrock. The total number and location of additional bedrock wells will be determined based on results of the ongoing bedrock investigation and monitoring program. These wells and any others installed to refine understanding of the extent of dissolved phase impacts will be incorporated into the semiannual groundwater monitoring schedule upon installation, and the results documented in future VRP progress reports.

3.3 DNAPL INVESTIGATION AND RECOVERY

DNAPL was observed during the drilling and installation of monitoring well MW-305D in 2013; however, to date, no DNAPL has been detected in the well or at the adjacent sump well, SW-1, which was installed in July 2015. Recoverable DNAPL was not observed during the drilling and installation of MW-309D in July 2015; however, DNAPL has been observed and recovered from the well during this reporting period. As a result, additional DNAPL investigation activities are being planned to refine the CSM in regard to DNAPL presence, extent, and recoverability. The proposed investigation locations are shown on Figure 2-2. Access to one of the parcels has not been obtained due to complex property ownership issues related to historical railroad properties.

The investigation will be completed in accordance with the methods described in the DNAPL Investigation Work Plan provided in Appendix G of the VIRP. Two primary investigatory borings (DIB-7 and DIB-8) will be advanced, with a contingent boring to be advanced northeast of DIB-7 if DNAPL is detected at DIB-7. Sump wells are proposed for installation at locations where potentially recoverable DNAPL is encountered. Two additional locations (proposed locations MW-310D and MW-311D shown on Figure 2-2) will be advanced to investigate the extent of DNAPL identified at MW-309D and to provide groundwater quality information

southwest and east of MW-309D. If recoverable DNAPL is detected in PWR during the drilling of these wells, a sump will be installed and a second borehole will be advanced adjacent to the sump in order to install a shallow bedrock well. If DNAPL is not encountered, only the shallow bedrock well will be drilled and installed.

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

3.4 VAPOR INTRUSION EVALUATIONS

Following implementation of proposed remediation, if warranted based upon COI concentrations and Site conditions, current and applicable vapor intrusion guidance will be used to determine whether the vapor intrusion pathway may be complete at the Macon MGP site where a building is located or is planned and whether reported concentrations may pose an unacceptable risk for existing buildings or future construction.

General vapor intrusion guidance documents that may be consulted include OSWER's 2002 Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils, EPA's 2013 Evaluation of Empirical Data to Support Soil Vapor Intrusion Screening Criteria for Petroleum Hydrocarbon Compounds, and ITRC's 2007 Vapor Intrusion Pathway: A Practical Guideline. Alternatively, control methods (e.g., barriers or specific construction design) may be utilized to mitigate the potential for vapors to enter indoor air in existing buildings or future construction.

3.5 SURFACE WATER EVALUATION

No surface water evaluations are planned to occur during the upcoming reporting period. Routine monitoring of rainfall in the Macon area will continue on a monthly basis, and if the Ocmulgee River incurs a 100-year flood event, supplemental river surveys will be conducted by AGLC.

3.6 MODELLING AND POINT OF DEMONSTRATION WELLS

As discussed in section 2.1 of this report, corrective actions for alluvial groundwater are ongoing, with anticipated completion in 2016 (Section 3.1). Investigations of dissolved phase impacts and DNAPL presence in bedrock are also ongoing (Sections 3.3 and 3.4). Upon completion of the

corrective actions described in the 2014 VIRP (Appendix C-2014 CAP Addendum) alluvial groundwater modelling will be completed. Upon completion of the bedrock investigations described in the 2014 VIRP (Appendix G and Appendix H) and Section 3.0 bedrock groundwater modelling will be completed. The modelling will validate the POD well locations.

Alluvial Groundwater Point of Exposures

Numerous UECs, including "groundwater use restrictions" will be placed on properties on, near, and around the former MGP site and its associated in-situ remedies (engineering controls). Based on the conceptual site model (where in-situ remedies are in place) the potential points of exposures (to receptors) for groundwater include (a) groundwater use outside of the groundwater use restriction areas and (b) Vapor intrusion where buildings are placed in the future (above dissolved phase plumes). Since no buildings are currently within areas where the dissolved phase plume is located, future vapor intrusion issues will be addressed in the "land use restriction" in the UEC. As a result, the current potential POE for alluvial groundwater for the site is through groundwater use.

Threshold Values

Standard groundwater modelling techniques applicable for porous media flow (e.g. *EPA's Composite Model for Leachate Migration with Transformation Products, 1997*). The output of the modelling effort will be utilized to estimate both the current and future concentrations at the points of exposure. The modelling effort will also confirm the location of POD wells, or make appropriate adjustments where necessary to be protective of human health and the environment.

The concentrations at the POE will be used as inputs into the Risk Assessment process (described in Section 3.7) to establish acceptable Threshold Values.

3.7 RISK ASSESSMENT AND REPRESENTATIVE EXPOSURE CONCENTRATIONS

Section 3.6 of the 2014 VIRP included a conceptual human health exposure assessment for the properties being entered into the VRP. Potential receptors were identified based on existing and potential future land use and the physical setting of the Site (e.g., soil characteristics, hydrogeology, and groundwater use). Potential exposure pathways and exposure routes

(ingestion, dermal contact, inhalation) for COIs in soil and groundwater for each property, if applicable, were also identified.

After implementation of the Western Portion remedy, post-remedy groundwater monitoring data and data collected as part of the ongoing bedrock investigations will be evaluated and groundwater monitoring wells will be installed and sampled as necessary to comply with VRPA delineation requirements. If warranted, additional properties may be entered into the VRP. Upon completion of the ongoing corrective actions described in the 2014 CAP Addendum, the bedrock investigations described in the 2014 VIRP and herein, and inclusion of any additional property into the VRP, the exposure pathway assessment and risk evaluation outlined conceptually in the VIRP for COIs in soil and groundwater will be completed.

USEPA recommends using the average concentration to represent "a reasonable estimate of the concentration likely to be contacted over time" (USEPA, 1989). The exposure point concentration (EPC) is a conservative estimate of the average chemical concentration in an environmental medium within a specific area anticipated to be contacted by the same receptor group for the duration of exposure. USEPA states that, "because of the uncertainty associated with estimating the true average concentration at a site, the 95 percent upper confidence limit (UCL) of the arithmetic mean should be used for this variable" (USEPA, 1992). USEPA provides recommended statistical procedures and software (e.g., ProUCL) for estimating the EPC based on various data distributions and dataset characteristics. "Representative exposure concentrations" will be determined in accordance with USEPA methods and guidance (USEPA 2014a, USEPA 2014b) for estimating EPCs, including, but not limited to the following documents and software:

- EPA, 1989. Risk Assessment Guidance for Superfund (RAGS), Volume 1 – Human Health Evaluation Manual.
- EPA, 1992. Supplemental Guidance to RAGS: Calculating the Concentration Term.
- EPA, 2002. Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites.
- EPA, 2013. ProUCL Version 5.0.00 User Guide, Technical Guide, and Software.

3.8 UNIFORM ENVIRONMENTAL COVENANTS

Continued monitoring and maintenance activities, and/or restrictions on disturbance of soil, and/or restrictions to groundwater use at VRP-

qualifying properties will be implemented as needed in the form of UECs. Existing UECs (e.g., current restriction on groundwater use at the MUDA property) will be revised if appropriate and new UECs will be enacted as necessary based on post-remedy conditions and the results of the risk evaluation.

4.0 REFERENCES

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

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

USEPA, 1989. *Risk Assessment Guidance for Superfund (RAGS) Part A.* Washington, D.C.; Office of Solid Waste and Emergency Response, US Environmental Protection Agency.

USEPA, 1992. *RSupplemental Guidance to RAGS: Calculating the Concentration Term.* Washington, D.C.; Office of Solid Waste and Emergency Response, US Environmental Protection Agency.

USEPA, 2002. *Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites.* Washington, D.C.; Office of Solid Waste and Emergency Response, US Environmental Protection Agency

EPA, 2013. ProUCL Version 5.0.00 User Guide, Technical Guide, and Software.

USEPA, 2014a. *USEPA Regional Screening Levels (RSL) User's Guide (November 2014) and Generic Tables.* US Environmental Protection Agency.

USEPA, 2014b. *Determining Groundwater Exposoure Point Concentrations, Supplemental Guidance.* Washington, D.C.; Office of Solid Waste and Emergency Response Directive 9283.1-42, US Environmental Protection Agency.

Tables

Project No. 0176740
Atlanta Gas Light Company

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

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

Monitoring Well I.D.	Hydrogeologic Unit	Screened Interval ft bgs	Existing Program	Proposed Schedule
AMW-1	Alluvium	9.7 - 19.7	Semiannual Sampling	Semiannual Sampling
AMW-2	Alluvium	4.6 - 14.6	Semiannual Sampling	Annual Sampling
AMW-3	Alluvium	5.7 - 15.7	Semiannual Sampling	Abandoned - Inside ISS Footprint
AMW-4	Alluvium	11.3 - 21.3	Semiannual Sampling	Abandoned - Inside ISS Footprint
AMW-5	Alluvium	12.7 - 22.7	Semiannual Sampling	Abandoned - Inside ISS Footprint
AMW-6	Alluvium	11 - 21	Semiannual Sampling	Semiannual Sampling
AMW-7	Alluvium	8.1 - 18.1	Semiannual Sampling	Abandoned - Inside ISS Footprint
AMW-8	Alluvium	8.2 - 18.2	Semiannual Sampling	Abandoned - Inside ISS Footprint
AMW-9	Alluvium	8.4 - 18.4	Semiannual Sampling	Semiannual Sampling
AMW-10	Alluvium	18.4 - 28.4	Semiannual Sampling	Abandoned - Inside ISS Footprint
AMW-11	Alluvium	5 - 15	New Well	Annual Sampling
AMW-12	Alluvium	10 - 20	New Well	Annual Sampling
AMW-13	Alluvium	10 - 20	New Well	Annual Sampling
AMW-14	Alluvium	5 - 20	New Well	Annual Sampling
AMW-15	Alluvium	6 - 21	New Well	Annual Sampling
MW-07	Alluvium	5 - 15.5	Gauge Only	Gauge Only
MW-08	Alluvium	9 - 19	Gauge Only	Annual Sampling
MW-09	Alluvium	8 - 13	Semiannual Sampling	Abandoned - Inside ISS Footprint
MW-10	Alluvium	7.5 - 17.5	Gauge Only	Gauge Only
MW-11	Alluvium	5 - 12	Annual Sampling	Gauge Only
MW-12R	Alluvium	4.5 - 14.5	Annual Sampling	Annual Sampling
MW-14	Alluvium	3 - 15	Annual Sampling	Annual Sampling
MW-15	Alluvium	3 - 14.5	Annual Sampling	Semiannual Sampling
MW-21	Alluvium	3 -10	Gauge Only	Abandon
MW-23	Alluvium	5 - 20	Annual Sampling	Gauge Only
MW-25	Alluvium	10 -25	Annual Sampling	Gauge Only
MW-26	Alluvium	5 - 20	Gauge Only	Gauge Only
MW-28	Alluvium	2 - 17	Gauge Only	Gauge Only
MW-101	Alluvium	5 - 15	Semiannual Sampling	Semiannual Sampling
MW-102	Alluvium	5 - 10	Semiannual Sampling	Semiannual Sampling
MW-103	Alluvium	10 - 20	Annual Sampling	Annual Sampling
MW-104	Alluvium	5 - 20	Annual Sampling	Gauge Only
MW-105	Alluvium	15 - 25	Gauge Only	Gauge Only
MW-106	Alluvium	9 - 19	Gauge Only	Gauge Only
MW-107	Alluvium	8 - 18	Gauge Only	Gauge Only
MW-108	Alluvium	10 - 20	Annual Sampling	Semiannual Sampling
MW-109	Alluvium	13.5 - 23.5	Annual Sampling	Annual Sampling
MW-201	Alluvium	10 - 20	Semiannual Sampling	Abandoned - Inside ISS Footprint
MW-202	Alluvium	10 - 20	Gauge Only	Abandoned - Inside ISS Footprint
MW-203	Alluvium	10 - 20	Semiannual Sampling	Well Destroyed
MW-204	Alluvium	13 - 23	Semiannual Sampling	Annual Sampling
MW-205	Alluvium	14 - 29	Semiannual Sampling	Semiannual Sampling
MW-206	Alluvium	16 - 31	Gauge Only	Gauge Only
MW-207	Alluvium	15 - 30	Gauge Only	Abandoned - Inside ISS Footprint
MW-400 (formerly DTW-9)	Alluvium	6 - 16	New Well	Semiannual Sampling
MW-401 (formerly DTW-12)	Alluvium	6 - 16	New Well	Annual Sampling
MW-12IR	Intermediate	11 - 21	Semiannual Sampling	Annual Sampling
MW-14I	Intermediate	19 - 24	Annual Sampling	Annual Sampling
MW-104I	Intermediate	15 - 20	Annual Sampling	Gauge Only

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

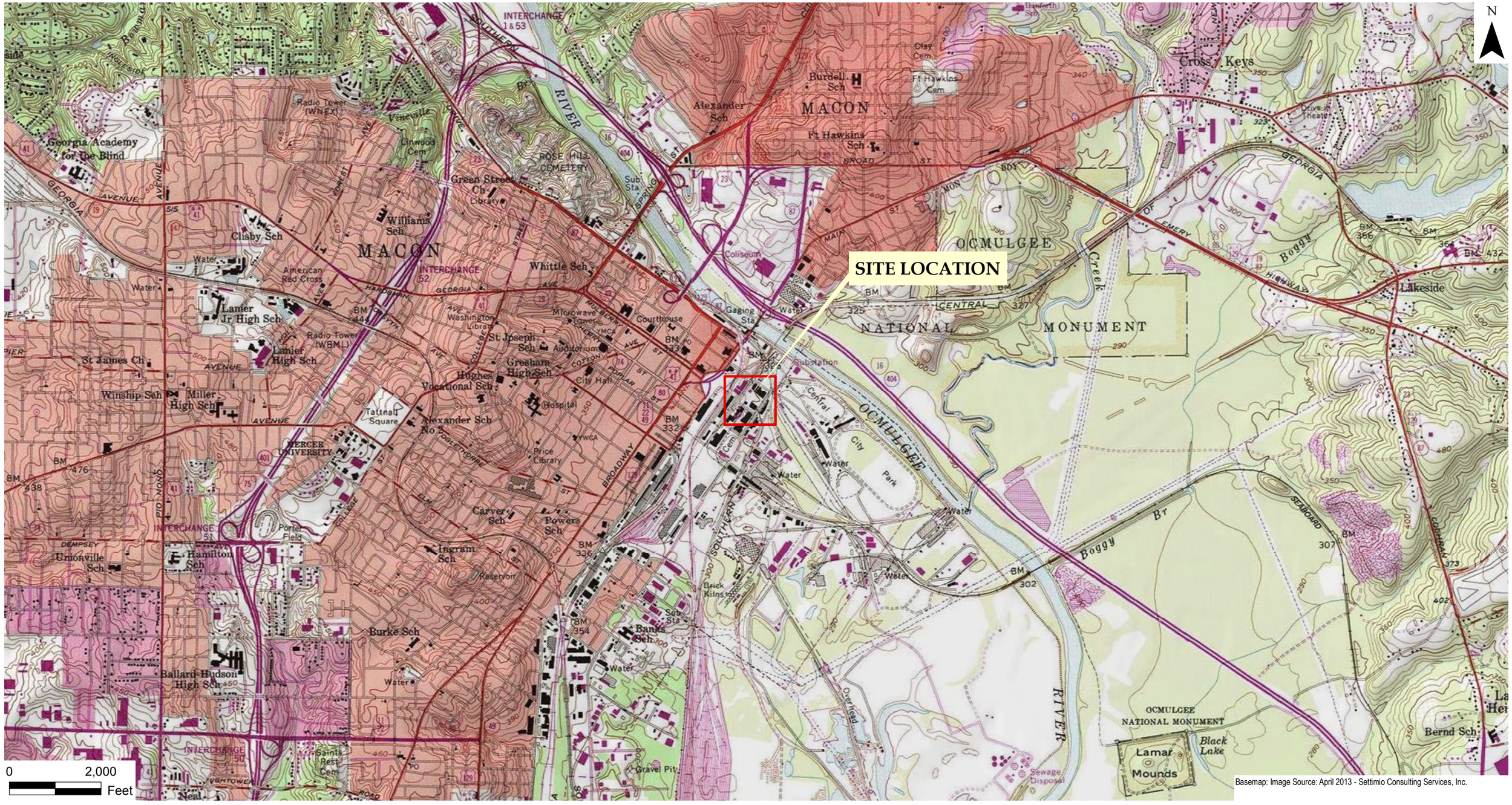
Table 3-2
Bedrock Groundwater Monitoring Network
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Monitoring Well I.D.	Hydrogeologic Unit	Screened Interval ft bgs	Sampling Schedule
MW-08D	Shallow Bedrock	38 - 53.5	Gauge only
MW-09D	Shallow Bedrock	46.5 - 56.5	Abandoned - Inside ISS Footprint
MW-12DRR	Shallow Bedrock	37 - 52	Semiannual
MW-12DD	Deep Bedrock	87 - 97	Annual
MW-22D	Shallow Bedrock	44 - 66	Annual
MW-23D	Shallow Bedrock	23 - 36	Semiannual
MW-24D	Shallow Bedrock	30.5 - 40.5	Semiannual
MW-25D	Shallow Bedrock	50 - 57.5	Semiannual
MW-26D	Shallow Bedrock	31 - 42	Annual
MW-27D	Shallow Bedrock	43.5 - 48.5	Annual
MW-27DD	Deep Bedrock	105 - 115	Gauge only
MW-108D	Shallow Bedrock	48.5 - 58.5	Annual
MW-110D	Shallow Bedrock	28 - 43	Semiannual
MW-111D	Shallow Bedrock	33 - 46.5	Semiannual
MW-112D	Shallow Bedrock	26 - 36	Annual
MW-113D	Shallow Bedrock	29.5 - 39.5	Annual
MW-114D	Shallow Bedrock	45 - 55	Gauge only
MW-115D	Shallow Bedrock	45.5 - 55.5	Abandoned - Inside ISS Footprint
MW-200DR	Shallow Bedrock	29.5 - 39.5	Semiannual
MW-204D	Shallow Bedrock	30.5 - 45.5	Semiannual
MW-205D	Shallow Bedrock	28 - 43	Semiannual
MW-205DD	Deep Bedrock	90 - 100	Semiannual
MW-206D	Shallow Bedrock	31 - 46	Annual
MW-207D	Shallow Bedrock	34 - 46.5	Annual
MW-300D	Shallow Bedrock	33 - 43	Annual
MW-301D	Shallow Bedrock	36 - 46	Semiannual
MW-302D	Shallow Bedrock	35 - 45	Semiannual
MW-302DD	Deep Bedrock	70 - 100	Semiannual
MW-303D	Shallow Bedrock	50 - 60	Abandoned - Inside ISS Footprint
MW-304D	Shallow Bedrock	41 - 61	Annual
MW-305D	Shallow Bedrock	34.5 - 41.5	Semiannual
MW-306D	Shallow Bedrock	32.5 - 51	Semiannual
MW-307D	Shallow Bedrock	34 - 58	Semiannual
MW-308D	Shallow Bedrock	72 - 110	Semiannual
MW-309D*	Shallow Bedrock	35 - 45	Semiannual
MW-310D*	Shallow Bedrock	TBD	Semiannual
MW-311D*	Shallow Bedrock	TBD	Semiannual
MW-312D*	Shallow Bedrock	TBD	Semiannual
MW-313D*	Shallow Bedrock	TBD	Semiannual

Figures

Project No. 0176740
Atlanta Gas Light Company

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



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

ERM

Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	10/19/2015	SCALE:	AS SHOWN	REVISION:	0
FILE:	S:\AGL\AGL_Macon\MXD\10 2015 VRP PrgRpt #1\AGLMcn_F1-1_Topo.mxd				

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

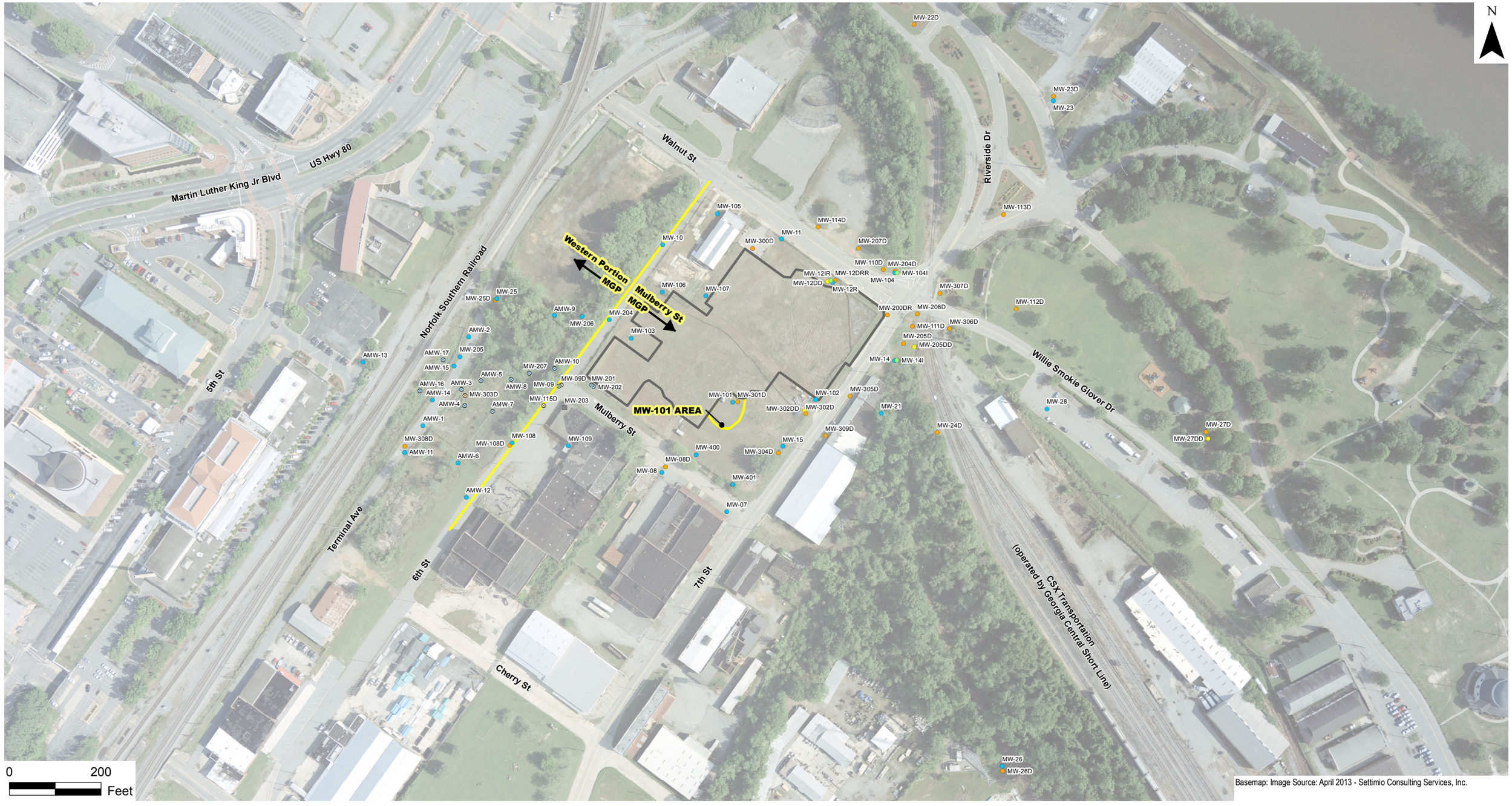


FIGURE 1-1 - TOPOGRAPHIC SITE LOCATION MAP

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



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

ERM

Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	10/20/2015	SCALE:	AS SHOWN	REVISION:	0
FILE:	S:\AGL\AGL_Macon\MXD\10 2015 VRP PrgRpt #1\AGLMcn_F1-2_SiteMap.mxd				

- Shallow Well
- Abandoned Shallow Well
- Intermediate Well
- Destroyed Well
- Shallow Bedrock Well
- Abandoned Shallow Bedrock Well
- Deep Bedrock Well
- Existing ISS Area

FIGURE 1-2
SITE MAP

Atlanta Gas Light Company

Former Manufactured Gas Plant

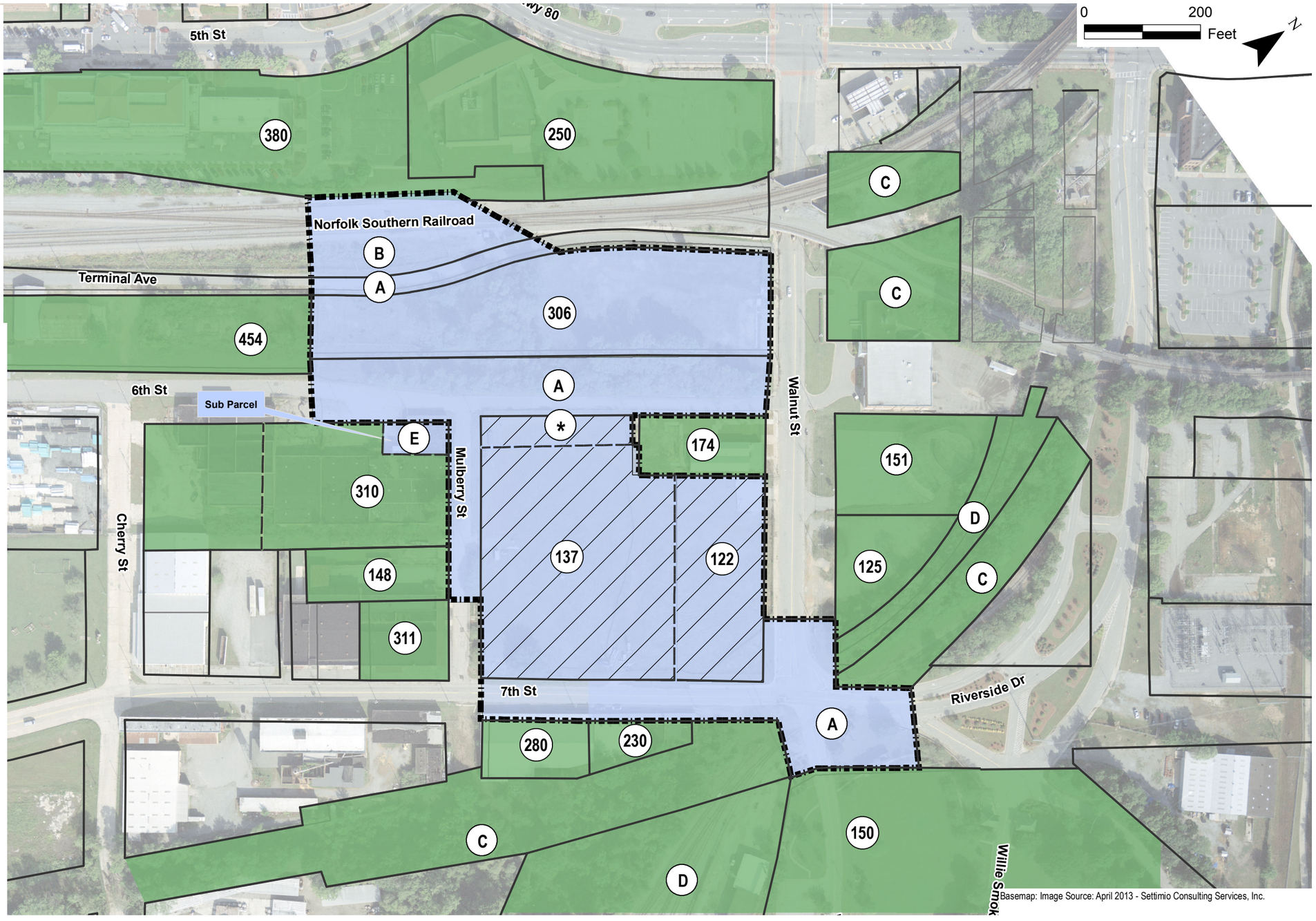
Macon, Bibb County, Georgia

APPLICANT & QUALIFYING PROPERTIES

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

ADJOINING PROPERTIES

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



ERM

Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	10/27/2015	SCALE:	AS SHOWN	REVISION:	0
FILE:	S:\AGL\AGL_Macon\MXD\10 2015 VRP PrgRpt #1\AGLMcn_F1-3_ParcelMap.mxd				

Macon-Bibb County Urban Development Authority Propoerty (Agreement Pending)

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

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

Property Line

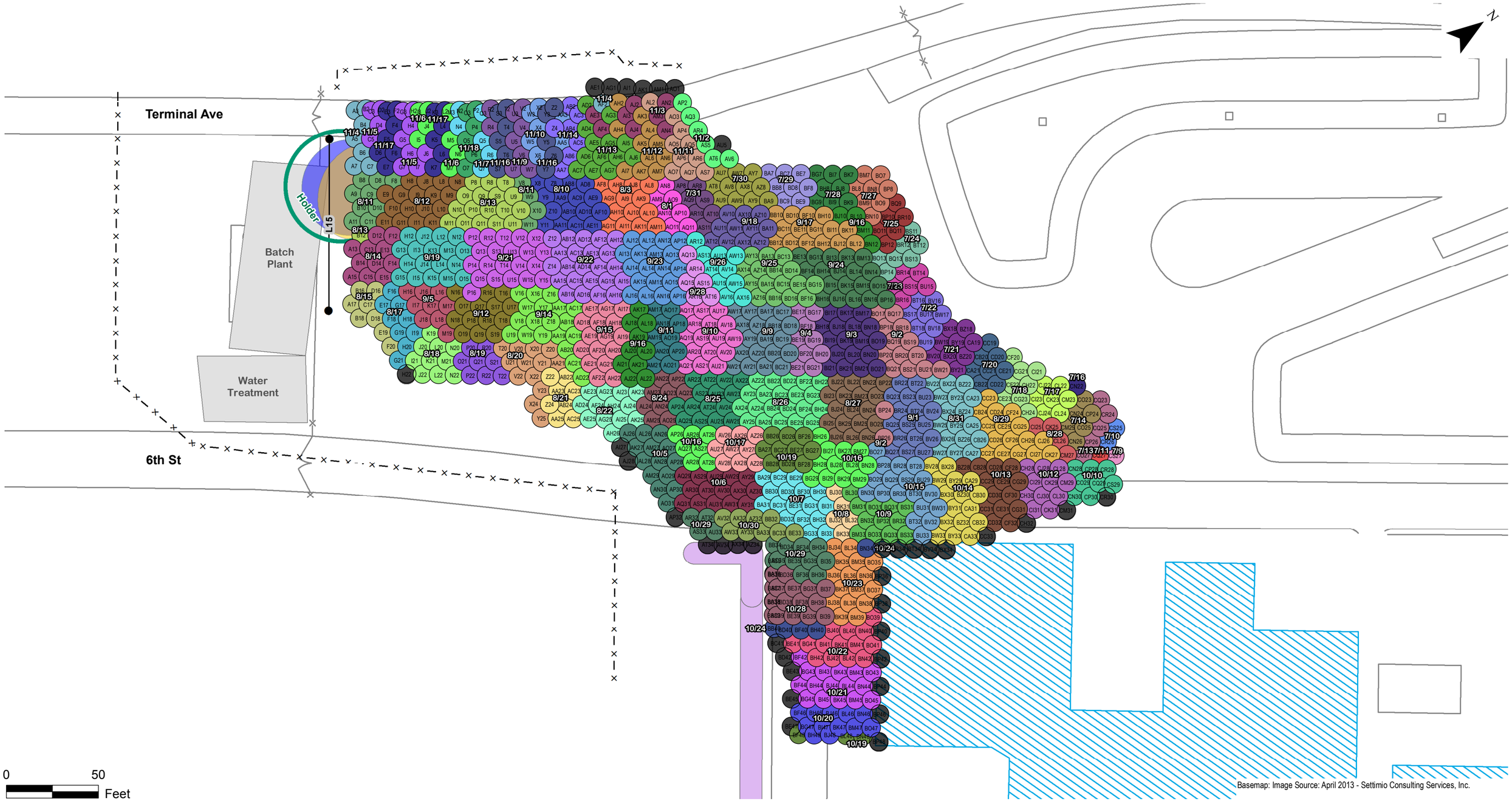
VRP Applicant & Qualifying Properties Boundary

FIGURE 1-3 - PROPERTY OWNERSHIP MAP

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



Environmental Resources Management

DESIGN:	M Fleri	DRAWN:	A Freeman	CHKD.:	H Sartain
DATE:	11/23/2015	SCALE:	AS SHOWN	REVISION:	S Vizuete
FILE:	S:\AGL\AGL_Macon\MXD\10 2015 VRP PrgRpt #1\AGLMcn_F2-1_ISSProgress.mxd				

- Excluded
- Holder
- L15 Line (property line)
- Former ISS Mass
- 6' Buffer from Building
- Batch Plant / Water Treatment

FIGURE 2-1
ISS COMPLETION MAP
11/17/2015

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



ERM

Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	10/20/2015	SCALE:	AS SHOWN	REVISION:	0
FILE:	S:\AGL\AGL_Macon\MXD\10 2015 VRP PrgRpt #1\AGLMcn_F2-2_PropInvBrng.mxd				

- Deep Bedrock Well
- Shallow Bedrock Well
- Completed DNAPL Investigation Boring
- Proposed DNAPL Investigation Boring
- Proposed Contingency DNAPL Investigation Boring
- Proposed Shallow Bedrock Well
- DNAPL Recovery Sump
- Existing ISS Area

NOTE:

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

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

FIGURE 2-2
COMPLETED & PROPOSED DNAPL INVESTIGATION BORING LOCATIONS

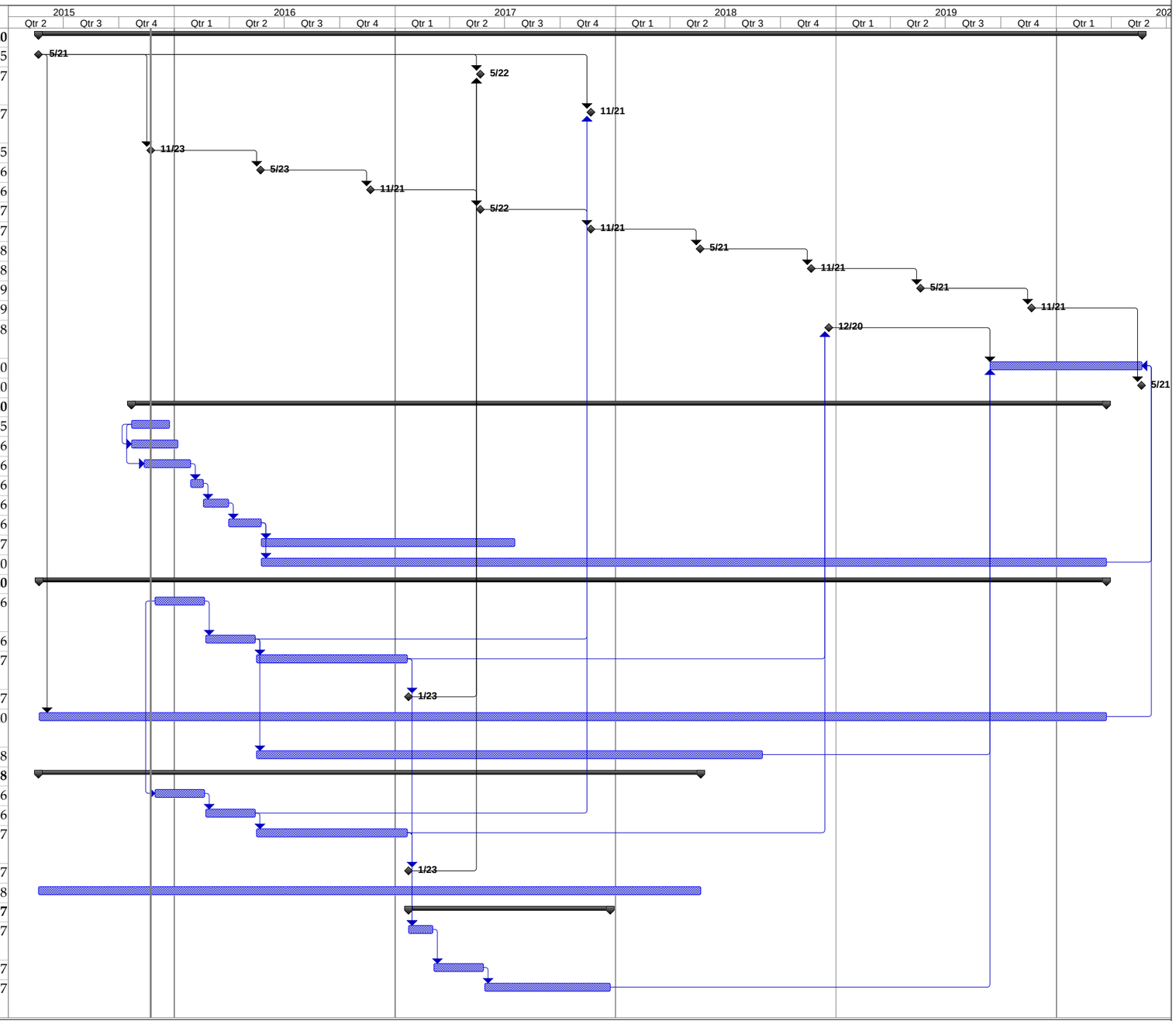
Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia

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

ID	Task Name	Duration	Start	Finish
1	**VRP Schedule and Deadlines**	**1306 days**	**Thu 5/21/15**	**Thu 5/21/20**
2	Acceptance Into VRP	1 day	Thu 5/21/15	Thu 5/21/15
3	Completion of Horizontal Delineation of Release for All Affected Parcels	1 day	Mon 5/22/17	Mon 5/22/17
4	Update CSM to include Vertical delineation (if required) and Final Remediation Plans, and Costs	1 day	Tue 11/21/17	Tue 11/21/17
5	1st Semiannual Progress Report	1 day	Mon 11/23/15	Mon 11/23/15
6	2nd Semiannual Progress Report	1 day	Mon 5/23/16	Mon 5/23/16
7	3rd Semiannual Progress Report	1 day	Mon 11/21/16	Mon 11/21/16
8	4th Semiannual Progress Report	1 day	Mon 5/22/17	Mon 5/22/17
9	5th Semiannual Progress Report	1 day	Tue 11/21/17	Tue 11/21/17
10	6th Semiannual Progress Report	1 day	Mon 5/21/18	Mon 5/21/18
11	7th Semiannual Progress Report	1 day	Wed 11/21/18	Wed 11/21/18
12	8th Semiannual Progress Report	1 day	Tue 5/21/19	Tue 5/21/19
13	9th Semiannual Progress Report	1 day	Thu 11/21/19	Thu 11/21/19
14	Update VIRP Application and Incorporate all Qualifying Parcels and Associated Documentation	1 day	Thu 12/20/18	Thu 12/20/18
15	Prepare Compliance Status Report	180 days	Fri 9/13/19	Thu 5/21/20
16	Submit Compliance Status Report	1 day	Thu 5/21/20	Thu 5/21/20
17	**Alluvial Groundwater**	**1153 days**	**Thu 10/22/15**	**Mon 3/23/20**
18	Compete ISS	45 days	Thu 10/22/15	Wed 12/23/15
19	T&D all Waste Materials	55 days	Thu 10/22/15	Wed 1/6/16
20	Backfill and Compaction	55 days	Thu 11/12/15	Wed 1/27/16
21	Site Grading	15 days	Thu 1/28/16	Wed 2/17/16
22	Site Restoration	30 days	Thu 2/18/16	Wed 3/30/16
23	Corrective Action Completion Report	38 days	Thu 3/31/16	Mon 5/23/16
24	Modelling, POD Adjustments, TV Adjustments	300 days	Tue 5/24/16	Mon 7/17/17
25	Alluvial GW Monitoring (including POD Wells)	1000 days	Tue 5/24/16	Mon 3/23/20
26	**Bedrock Groundwater**	**1262 days**	**Fri 5/22/15**	**Mon 3/23/20**
27	Obtain Site Access for Bedrock Groundwater Investigation	60 days	Mon 11/30/15	Fri 2/19/16
28	Conduct Bedrock Groundwater Investigation	60 days	Mon 2/22/16	Fri 5/13/16
29	Incorporate Additional Parcels into VRP Qualifying Properties as Required	180 days	Mon 5/16/16	Fri 1/20/17
30	Completion of Delineation of Bedrock Groundwater	1 day	Mon 1/23/17	Mon 1/23/17
31	Bedrock Groundwater Monitoring (including POD Wells)	1262 days	Fri 5/22/15	Mon 3/23/20
32	Groundwater Modelling and Risk Evaluations	600 days	Mon 5/16/16	Fri 8/31/18
33	**DNAPL Investigations and Remediation**	**783 days**	**Thu 5/21/15**	**Mon 5/21/18**
34	Obtain Site Access for DNAPL Investigation	60 days	Mon 11/30/15	Fri 2/19/16
35	Conduct DNAPL Investigations	60 days	Mon 2/22/16	Fri 5/13/16
36	Incorporate Additional Parcels into VRP Qualifying Properties as Required	180 days	Mon 5/16/16	Fri 1/20/17
37	Completion of Delineation of DNAPL	1 day	Mon 1/23/17	Mon 1/23/17
38	Passive DNAPL Recovery	783 days	Thu 5/21/15	Mon 5/21/18
39	**Vapor Intrusion Evaluation**	**240 days**	**Mon 1/23/17**	**Fri 12/22/17**
40	Complete VI Screening based on Investigations (as required)	30 days	Mon 1/23/17	Fri 3/3/17
41	Evaluate VI Control via UEC	60 days	Mon 3/6/17	Fri 5/26/17
42	Prepare VI Investigation and Risk Evaluation, if required	150 days	Mon 5/29/17	Fri 12/22/17



Project: Macon MGP Site VRP
Date: Mon 11/23/15

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

Correspondence

Appendix A

Project No. 0176740
Atlanta Gas Light Company

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

Georgia Department of Natural Resources
Environmental Protection Division
2 Martin Luther King Jr. Drive, Suite 1456, Atlanta, Georgia 30334
Judson H. Turner, Director
(404) 656-4713; Fax. (404) 651-9425

May 21, 2015

VIA EMAIL & REGULAR MAIL

Atlanta Gas Light Company
c/o Mr. Greg Corbett, Director of Environment & Sustainability
Ten Peachtree Place
Atlanta, Georgia 30309

Re: October 2014 Voluntary Remediation Program Application
Macon MGP Site, HSI Site No. 10511
Macon, Bibb County, Georgia

Dear Mr. Corbett:

The Georgia Environmental Protection Division (EPD) has received the October 14, 2014, Voluntary Investigation and Remediation Plan (VIRP) that has been submitted pursuant to the Georgia Voluntary Remediation Program Act (the Act) O.C.G.A. 12-8-100. EPD acknowledges that this VIRP was submitted in accordance with the EPD Consent Order EPD-VRP-12. EPD is approving your VIRP, which specifies investigation and corrective action consisting of the following:

- Remediate remaining source material and soil impacts through excavation of unsaturated soils and in-situ stabilization (ISS) for saturated source materials in the Western Portion MGP.
- Conduct routine groundwater monitoring to verify effectiveness and sustainability of the ISS remedy, and in support of a post ISS monitored natural attenuation remedial approach for groundwater.
- Conduct additional investigation activities to characterize the extent of dense non-aqueous phase liquids (DNAPL) and bedrock groundwater impacts, and if warranted conduct vacuum enhanced fluid recovery for the DNAPL impacted area(s).
- Evaluate the vapor intrusion pathway following remedy implementation and employ any necessary vapor mitigation control methods should the potential for the migration of volatile contaminants to indoor air exist.
- Utilization of the institutional controls, in the form of Uniform Environmental Covenants (UEC), to ensure future control of the site related exposure pathway(s).

Therefore, EPD is accepting Atlanta Gas Light Company (AGLC) as a participant as defined in the Act for the following qualifying properties provided AGLC implements the VIRP in compliance with the following schedule and conditions:

Qualifying properties:

Atlanta Gas Light Company August MGP Site
Owner: Atlanta Gas Light Company
Main Site Property: 306 Terminal Avenue
Macon, Bibb County, Georgia 31201

Qualifying Property Tax Parcel ID #s: Macon-Bibb County Urban Development Authority (MUDA) R074-UTIL, MUDA R073-0384, MUDA R074-0223/R074-0205, City of Macon 6th St. Right of Way (ROW), City of Macon 7th St. ROW, City of Macon Mulberry St. ROW, City of Macon Walnut St. ROW, City of Macon Terminal Ave. ROW, Norfolk Southern Railroad.

Schedule

- Semiannual progress reports are to be submitted to EPD. Each progress report must describe all actions taken since the last submittal, and include certification by the professional engineer/geologist specified in the VIRP along with a monthly summary of hours invoiced and description of services provided since the last submittal.
- The reporting schedule will be May 21th and November 21th annually, beginning in 2015 and ending in 2020, unless a compliance status report (CSR) is submitted and approved prior to 2020.
- A CSR including certifications should be submitted on or before November 21th, 2020.

Within six months of detecting regulated substance(s) on a non-qualifying property, the participant must apply to EPD to include the affected property as a qualifying property under the Act or notify EPD that the non-qualifying property is not included under the Act.

Since AGLC is performing corrective action at the qualifying property in accordance with an approved VIRP, the qualifying property will be reclassified from Class II to Class V and designated as needing corrective action as provided for in §12-8-107(b) of the Act. Within 45 days of this letter, you are required to file an affidavit, if not previously filed, stating that your property has been listed on the state's hazardous site inventory and has been designated as needing corrective action. This affidavit is to be filed with the clerk of the Superior Court of Bibb County and recorded in the clerk's deed records pursuant to O.C.G.A. § 44-2-20. AGLC must also place the following notice, or revise previous notices recorded pursuant to the Georgia Hazardous Site Response Rules, Chapter 391-3-19-.08.

Within 30 days of recording the affidavit or revised affidavit, please send a copy of the receipt of the recorded affidavit to the Response and Remediation Program, Georgia Environmental Protection Division, 2 Martin Luther King Jr. Drive, SE, Suite 1054 East, Atlanta, GA 30334.

EPD may terminate enrollment of the participant and the qualifying property from the voluntary remediation program in accordance with the Georgia Voluntary Remediation Act Section 12-8-107(d). Should you have any question or concerns regarding this site, please contact Mr. Kevin Collins of the Response and Remediation Program at (404) 657-8660.

Sincerely,

Charles D. Williams

Charles D. Williams
Program Manager
Response and Remediation Program

cc: Carol Geiger, KMCL
Erik Rolle, Georgia Power Company
File: VRP – Macon MPG Site #10511

Georgia Department of Natural Resources
Environmental Protection Division
2 Martin Luther King Jr. Drive, Suite 1456, Atlanta, Georgia 30334
Judson H. Turner, Director
(404) 656-4713; Fax. (404) 651-9425

May 26, 2015

VIA EMAIL & REGULAR MAIL

Atlanta Gas Light Company
c/o Mr. Greg Corbett, Director of Environment & Sustainability
Ten Peachtree Place
Atlanta, Georgia 30309

Re: October 2014 Voluntary Remediation Program Application
Macon MGP Site, HSI Site No. 10511
Macon, Bibb County, Georgia

Dear Mr. Corbett:

The Georgia Environmental Protection Division (EPD) has received the October 14, 2014, Voluntary Investigation and Remediation Plan (VIRP), that has been submitted pursuant to the Georgia Voluntary Remediation Program Act (the Act) O.C.G.A. 12-8-100, by ERM on behalf of Atlanta Gas Light Company (AGLC) and Georgia Power Company. After completing its review of the application, EPD has prepared the following comments:

Conceptual Site Model

1) EPD concurs with the Appendix G proposed DNAPL investigation activities that are contingent upon AGLC being granted access to the applicable properties. In addition, according to Appendix G, DNAPL recovery sumps will be installed where applicable during investigation activities in the area of MW-305D. EPD recommends that this same contingency measure be applied site-wide following the installation of the additional in-situ stabilization (ISS) mass.

2) Section 2.3.2 of the VRP Application indicates that the "Lower Outfall of the Ocmulgee River" is "in compliance with the sediment removal and clean-up goals in accordance with the standards, and Type 5 risk reduction standards (RRS), established per the approved January 5, 2001, Corrective Action Plan." However, no data associated with the Ocmulgee River, surface water or sediment, has been presented within the VRP Application to support or demonstrate the elimination of the Ocmulgee River as a surface water exposure pathway. Consequently, the first Semi-Annual VRP Progress Report needs the following information for the surface water pathway:

   a. A description of the surface water exposure pathway, including surface water and sediment data;
   b. A more detailed description of the past corrective actions completed in the Ocmulgee River; and,
   c. Please ensure that any necessary monitoring and maintenance activities that are applicable to the remediated portion of the Ocmulgee River are included as part of the continued monitoring and maintenance associated with the site specific Uniform Environmental Covenant(s) (UEC).

3) Please ensure that the following information is included as part of the final VRP Compliance Status Report documentation to demonstrate that the exposure pathway for soil has been remediated and is in compliance with established standards:

   a. Please include any applicable figure(s) and data table(s) for the Mulberry Street MGP and surrounding properties, similar to those figures included in the CAP Addendum in Appendix C for the Western Portion, that were used from previous report submittals to demonstrate compliance.
   b. According to Section 3.4, "delineation for all media at the site has been complete." In support of addressing the delineation requirements included in Section 12-8-1-8 of the Act, please provide additional information (tables, figures, etc.) that illustrates which particular constituents of interest (COI), and associated exposure pathway(s), are in compliance for each certified property illustrated in Figure 2-1. Please ensure that this documentation (tables, figures, etc.) references the formal EPD letter(s) approving the criteria and/or cleanup standard.
   c. Please ensure that the delineation and corrective action requirements are met for those impacts noted in Appendix C and designated as "Inorganic Type 1 RRS exceedances not related to MGP impacts."

4) While EPD may be deferring comments related to additional horizontal groundwater delineation requirements in accordance with Section 12-8-1-8 of the Act until after the completion of the ISS remedy and the installation of the associated performance monitoring network, please note that vertical delineation to the extent that will be influential to the established corrective action objectives will need to be completed for the site prior to the completion of the VRP CSR. In addition, please ensure that the following comments are addressed within the first semi-annual VRP Progress Report submittal:

   a. Section 5.3.1 references Figure 5-1, Point of Demonstration Wells, please provide a description of the established point of exposure (POE) and the threshold values that will be utilized at the POD wells to demonstrate compliance. Please note that groundwater modeling will be needed to demonstrate the viability of these wells as demonstration wells for the POE.
   b. EPD will defer concurrence with the Bedrock POD wells until after completion of the investigation activities included in Appendix H, Bedrock Groundwater Investigation Work Plan.

5) Please note that as part of future site related institutional controls that may be implemented as part of the VIRP, new UECs will need to be executed for all parcels where source materials will be left in place, in particular the parcels associated with the ISS remedy. For any additional parcels not associated with the ISS remedy but overlying the groundwater plume (above risk reduction standards), pre-existing groundwater use deed restrictions that were implemented as part of prior institutional controls will be acceptable. However, EPD is recommending that for any parcels that are found to overly the groundwater plume without pre-existing deed restrictions in place that all practical attempts be made to enact new UECs for these applicable parcels.

6) The following comments pertain to technical/clerical issues noted within the VRP Application:

   a. Section 1.1 states that the VRP Application is being submitted on behalf of AGLC and Georgia Power Company, however the Georgia Power Company information was not included in the VRP Application and Checklist in Appendix A. Please revise Appendix A and provide additional information regarding Georgia Power Company and their association with the site property.
   b. Please revise Figure 1-3, Property Ownership Map, to include the parcel and property owner information for the parcels adjacent to the site and north/northeast of Walnut Street, and adjacent and west of the Norfolk Southern Railroad.
   c. According to Section 5.1, "final exposure and compliance certification will be established on the basis of "representative exposure concentrations,"" please provide additional information describing how the "representative exposure concentrations" will be determined.
   d. Section 5.2, indicates that monitoring of DNAPL will be conducted during planned monitoring events "see Section 6.3." There is no Section 6.3 in the report, please revise.
   e. Section 5.2 indicates that vacuum enhanced fluid recovery events (VEFR) would be conducted at wells where DNAPL accumulation is greater than 0.5 feet. EPD requests that for wells with less than 0.5 feet of measurable DNAPL that absorbent socks, or similar remedial technology, be placed in these wells.
   f. Appendix A – parcel R073-0384 is listed as being 2.52 acres; however, the tax assessor information for the parcel lists 1.73 acres, please explain and revise as necessary. In addition, acreage information for the remaining parcels indicates that "final parcel segregation to provide definitive metes and bounds," please provide this information to complete the application for the qualifying properties. Also, the tax parcel ID for the 122 Walnut St. should be revised to R07-205 in accordance with the online tax assessor information.

7) The following comments pertain to technical/clerical issues noted within Appendix C, Western Portion and MW-101 Area Groundwater CAP Addendum:

   a. EPD understands that the extent of the planned ISS corrective measure will be limited to the south and west due to the presence of adjacent structures and associated property use; however, EPD requests that the VIRP activities include a proposed remedial measure to address the potentially complete vapor intrusion pathway and future soil exposures for the identified MGP impacts beneath the Prodigy Woodworks structure in the areas of soil boring locations VIB-11through -13.
   b. According to Appendix C, daily construction quality assurance reports would be prepared during the corrective actions (ISS and soil removal). In addition to these reports, please ensure that EPD is immediately notified by email of any failed columns and the actions taken to remedy the failure(s).
   c. Please revise the reporting schedule to include semi-annual VRP progress reports rather than Annual Corrective Action Effectiveness Reports.

8) Appendix H, Bedrock Groundwater Investigation Plan, indicated that 10- or 20-ft. screen lengths would be used during the installation of the planned bedrock investigation wells. Please ensure that proper justification is provided for the use of a screen length greater than 10-ft. In addition, please provide a figure illustrating the proposed locations for the bedrock groundwater investigation wells as part of the 1st Semiannual Progress Report.

9) Appendix I, Section 3.3, the rejected data (Section 3.3) should be noted as so, but not removed from the tables as future sampling may confirm a trend that may initially be perceived as anomalous data.

10) Appendix I, Bedrock Groundwater Monitoring Plan: While natural attenuation (NA) can be utilized as an ongoing component of the corrective measures as the site nears the point of compliance, NA is not typically built into remedial strategies until the non-aqueous phase liquid (NAPL) is removed to the extent practicable. In addition, based on the proposal to utilize a UEC to prevent future groundwater use and eliminate the groundwater exposure pathway, implementing NA aspects as part of the future corrective action may not provide a significant contribution to the future remedial objectives for groundwater. Therefore, EPD suggests that NA parameters could be incorporated into the post ISS evaluation monitoring, or into the monitoring activities associated with the groundwater modeling, in the event that any of the planned NA parameters be useful/applicable to these lines of investigation.

The above listed comments must be addressed to EPD's satisfaction in order to demonstrate compliance with the provisions, purposes, standards and policies of the Act. EPD may, at its sole discretion, review and comment on documents submitted by AGLC. However, failure of EPD to respond to a submittal within any timeframe does not relieve AGLC from complying with the provisions, purposes, standards, and policies of the Act.

Please ensure that the above listed comments are addressed and documented in accordance with schedule established by Conditions 3 and 4 of the EPD-VRP-CO-12. Should you have any additional questions or concerns please contact Mr. Kevin Collins of the Response and Remediation Program at (404) 463-0530.

Sincerely,

David Brownlee
Unit Coordinator
Response and Remediation Program

cc: Carol Geiger, KMCL
Erik Rolle, Georgia Power Company
File: VRP – Macon MPG Site #10511

Ocmulgee River Sediment Information

Appendix B

Project No. 0176740
Atlanta Gas Light Company

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

Appendix B
Ocmulgee River Sediment History and Summary

EPD correspondence dated May 26, 2015 regarding the October 14, 2014 VIRP submission offered the following comments:

"Section 2.3.2 of the VRP Application indicates that the "Lower Outfall of the Ocmulgee River" is "in compliance with the sediment removal and clean-up goals in accordance with the standards, and Type 5 risk reduction standards (RRS), established per the approved January 5, 2001, Corrective Action Plan." However, no data associated with the Ocmulgee River, surface water or sediment, has been presented within the VRP Application to support or demonstrate the elimination of the Ocmulgee River as a surface water exposure pathway. Consequently, the first Semi-Annual VRP Progress Report needs the following information for the surface water pathway:

a) *A description of the surface water exposure pathway, including surface water and sediment data;*
b) *A more detailed description of the past corrective actions completed in the Ocmulgee River; and,*
c) *Please ensure that any necessary monitoring and maintenance activities that are applicable to the remediated portion of the Ocmulgee River are included as part of the continued monitoring and maintenance associated with the site specific Uniform Environmental Covenant(s) (UEC)."*

The following sections provide the response to EPD comment noted above and provide the current recommendations for the Ocmulgee River sediments.

B.1 Current Surface Water Exposure Pathway

As documented in the CSR, residual contaminants, in the form of TLM, reside with depth in the sediments of the Ocmulgee River. There are two primary pathways for these residuals to impact surface water 1) through scouring and displacement or 2) through dissolution through the water column vertically to the surface water. As mentioned previously, a cover composed of armor stone (6-inch rip-rap) was placed following sediment excavation in 2001 that provided scour protection to eliminate the potential for surface impacts via this pathway. Based on results of the first two (2) annual river survey events (prior to 2004), additional armoring was placed to ensure future protection of human health and the environment, and the ecosystem. This protection has been routinely monitored and has been determined to be protective since the re-armoring event in 2004. No additional work has been needed to maintain this protection for the last eleven (11) years.

Therefore, the potential for contaminant dissolution vertically through the water column and impacting the surface water is low. Numerous studies and correspondence have been provided regarding this topic between AGL and EPD in the past, prior to and after the CSR submission in 2004. Water quality samples were collected at 6 locations in the river during the investigation phase in July 1999 prior to the installation of the protective measures. Results from these water quality samples are provided in Appendix B-2, Tables 7-2a, b, and c. No VOCS or SVOCs were detected in any of the 6 water quality samples. Inorganic analysis showed some detections of inorganic contaminants may be present in the surface water, but were not specifically attributed to the Former MGP Macon site.

Additional analytical samples were collected during the re-armoring or scour protection placement project in 2004. Table 2 of Appendix B-3 presents the results of the surface water monitoring for the 3 surface water samples collected during the project. All samples were below reporting limits for VOCs, SVOCs, Pesticides, and PCBs. Thus, future surface water monitoring was not warranted or included in the sediment monitoring plan(s).

Based on quantitative data verifying the lack of "organic contaminants" that may be attributed to the former MGP operations or the presence of TLM in deep sediments, the dissolution pathway for organic contaminants to surface waters is incomplete.

B.2 Past Corrective Actions

To date, AGLC has conducted two significant corrective actions and subsequent monitoring to remediate the MGP-related impacts observed in the sediment located near the Upper and Lower Outfalls in the Ocmulgee River. The "*Corrective Action Plan for Sediments in the Ocmulgee River - October 2000, Revised December 2000*" (Sediment CAP) was approved and work was conducted during September and October 2001. Corrective actions conducted at that time included the following:

- Removal of accessible, impacted sediments to a depth of four feet below existing sediment interface;
- Backfill where sediment removal was conducted; and
- Site Restoration

Subsequent monitoring was conducted in the river as part of the approved Sediment CAP. Between 2001 and 2003, the amount of sediment cover in the TLM areas had been reduced in some areas, as identified during the river monitoring (surveying events). As a result, the second corrective action was conducted and included additional armoring to ensure further scour protection in affected and surrounding areas of the Upper Outfall of the Ocmulgee River. The scour protection placement event was conducted during May through June 2004. Corrective actions conducted at that time included the following:

- Placement of rip-rap (armor) stone, with a median diameter of 6 inches (D_{50}) for the purpose of scour protection over the affected and surrounding areas of the existing sediment cap in the Upper Outfall to restore armoring to baseline conditions;
- An additional one foot of D_{50} stone was placed over the entire monitoring area for extra scour protection; and
- Site Restoration

Both of the sediment removal and armoring completion reports have been previously approved by EPD as evidenced by correspondence dated May 14, 2004 (for the original *Sediment Remediation Closure Report, Upper and Lower Outfalls*, dated March 6, 2002) and July 22, 2004 (for the *Scour Protection Placement Completion Report*, dated July 9, 2004). This correspondence is provided in Appendix B-1.

A *Sediment CAP Addendum for Sediments in the Ocmulgee River (Revision)* [Sediment CAP-A (Revision)] was submitted to EPD on May 13, 2005. The May 2005 Sediment CAP-A (Revision) included a revised schedule for monitoring the areas of sediment remediation and a revised criteria to monitoring the sediment cap effectiveness. This revision changed the trigger criterion of one foot of scour from the baseline (post-remediation) survey data to the *trigger criterion of maintaining a minimum of 3 feet of cover above any areas with TLM at depth as a point of evaluating additional corrective actions.*

The Sediment CAP-A (Revision) stated that the areas where TLM remains will be covered by at least three feet of un-impacted sediment (called the critical sediment depth of cover in the 2005 Sediment CAP-A [Revision]), so TLM is not directly exposed to the river water. The critical depth of three feet of clean cover was selected to be protective, consistent with risk assessment standards of practice where direct exposure to impacts from soil and sediments are normally considered for the upper 2-foot horizon.

The following actions were also included as recommendations in the 2005 Sediment CAP-A (Revision), which AGL subsequently completed:

- Two survey events would be conducted (5 and 10 years [i.e. 2009 and 2014])
- Comparisons to baseline, post-armoring (2004) survey
- Engineering evaluation if less than three feet of sediment cover was detected in the areas of remaining TLM
- Survey results submission to EPD
- Future considerations in the event of a 100-year flood or reduction in sediment cover.

EPD correspondence dated May 31, 2005 (regarding the final, revised version of the Sediment CAP Addendum) approved these actions regarding the Ocmulgee River Sediments. Correspondence is provided in Appendix B-1.

B.3 Current Condition and Regulatory Status

The Compliance Status Report dated January 16, 2004 and subsequent Sediment CAP Addendum (Revised, May 2005) provides the summary of the regulatory status of the Ocmulgee River Sediments and describes both the residual contamination and ongoing monitoring requirements, summarized as follows:

Residual MGP materials in the Ocmulgee River Sediments remain present at depth. The 2004 CSR figures in Appendix B-2 present the latest data reflecting site conditions. TLM that are within 6 feet of the current sediment surface are protected by the previous corrective actions. Additional TLM are present greater than 6 feet below sediment interface to a depth of 20 feet (see Figure 7-10).

The CSR excerpts (provided in Appendix B-2) presents the Compliance Certification for the Ocmulgee River Outfalls, as follows:

> *The following property is in compliance with sediment removal and clean-up goals in accordance with the standards established per the approved Corrective Action Plan for Sediments in the Ocmulgee River dated January 5, 2001.*
>
> - *Lower Outfall of the Ocmulgee River*
>
> *The following property is in compliance with the sediment removal and clean-up goals in accordance with the standards established per the approved Corrective Action Plan for Sediments in the Ocmulgee River dated January 5, 2001 and is also in compliance with the Type 5 risk reduction standards.*
>
> - *Upper Outfall of the Ocmulgee River*

The EPD commented on the CSR on February 25, 2004 and AGL responded to CSR comments in correspondence dated March 29, 2004. The 2005 Sediment CAP-A (Revision) and associated EPD correspondence approving the Sediment CAP-A (Revision) governed the obligations for ongoing monitoring.

The armoring event conducted in 2004 was quite substantial and covered sediment that continues to have a minimum of three (3) feet or more of sediment cover over the excavated areas where TLM remains deep below the sediment.

Since the Sediment CAP Addendum (Revision) approval (dated May 31, 2005), no further regulatory correspondence regarding the Ocmulgee River Sediments has been received, until the May 26, 2015 response to the VIRP (noted at the beginning of this section.)

B.4 Historical Monitoring and Maintenance

AGL has been conducting monitoring and maintenance on the Ocmulgee River Sediments since the original corrective action in 2001. The commitment in the 2005 Sediment CAP Addendum (Revision) was to conduct two additional river bottom elevation surveys and provide the data to the EPD, along with proposed recommendations (see B.1 above).

Two river surveys have been completed as required in the 2005 Sediment CAP Addendum. The first was conducted by AECOM in June 2009 and submitted to EPD in September 2009. The second was conducted by ERM in October 2015 and is being submitted with this 1st Semiannual Progress Report. The results of both river elevation surveys are provide in Appendix B-4.

Results of the survey indicated the following:

- Scour protection is effective
- The required, minimum of three feet of sediment cover remain over the areas with TLM at depth.

B.5 Future Monitoring and Maintenance

Based on the history of the investigation, remediation, and subsequent monitoring of the Ocmulgee River sediments near the Upper and Lower Outfalls provided herein, the compliance certifications previously provided, and the historical monitoring, the sediments and surface water are recommended to be excluded from further evaluation.

The following describes additional lines of evidence that additional monitoring is not necessary:

- The area was re-armored with 6-inch stone to protect human health and the environment, as well as the ecosystem and to prevent scour;
- Ten years of monitoring has shown the armored sediment cap to be working to prevent scour and the 3-foot required sediment cover remains over all TLM-impacted areas;
- The ecological risk has been removed;
- There is net deposition in the armored remediation area;
- The sediments are certified to site-specific clean-up criteria for sediments developed with the EPD during the development of the CAPs for the Site; and
- All historical data shows no impact to surface water.

Appendix B-1 Previous Correspondence

Georgia Department of Natural Resources

2 Martin Luther King, Jr. Drive SE, Suite 1462 East, Atlanta, Georgia 30334
Lonice C. Barrett, Commissioner
Environmental Protection Division
Carol A. Couch, Ph.D., Director
Hazardous Waste Management Branch
404/657-8600



May 13, 2004

Mr. Ralph Cleveland
Director, Engineering Services
Atlanta Gas Light Company
P.O. Box 4569
Atlanta, Georgia 30302

Re: Sediment Remediation Closure Report
Upper and Lower Outfalls – Ocmulgee River
Macon MGP Site, HSI Site #10511

Dear Mr. Cleveland:

The Georgia Environmental Protection Division (EPD) has reviewed the Sediment Remediation Closure Report dated March 6, 2002 for the Upper and Lower Outfalls in the Ocmulgee River. EPD concurs that the remediation was generally completed in accordance with the approved corrective action plan for the sediment remediation. EPD did not generate a response earlier to this submittal because there were no deficiencies noted and the CAP is still active due to the on-going monitoring requirements. However, with this letter, we are acknowledging the closure report is complete and acceptable to EPD.

If you have any questions regarding this letter, please contact David Brownlee at (404) 657-8600.

Sincerely,

Jane Hendricks
Unit Coordinator
Hazardous Sites Response Program

c: James Oosterhoudt

File: HSI# 10511

S:\RDRIVE\DAVIDB\CSR\Macon MGP\Sediment Closure Report Approval Letter.doc

The RETEC Group, Inc.
8605 W. Bryn Mawr Avenue, Suite 301
Chicago, IL 60631

RETEC

(773) 714-9900 Phone
(773) 714-9805 Fax
www.retec.com

June 10, 2004

Ms. Jane Hendricks
Unit Coordinator
Hazardous Sites Response Program
Georgia Department of Natural Resources
Environmental Protection Division
2 Martin Luther King, Jr. Drive SE,
Suite 1462 East
Atlanta, Georgia 30334-9000

RECEIVED
JUN 11 2004
HAZ. SITES RESPONSE PROG.

RE: Atlanta Gas Light Company
Former Manufactured Gas Plant Site, Macon, Georgia
Response to Notice of Deficiency
Comments on Draft Corrective Action Plan Addendum
for Ocmulgee River Sediment Remediation
RETEC Project No.: AGLC2-17857-522
HSI # 10511, Consent Order EPD-HSR-227

Dear Ms. Hendricks:

On May 11, 2004, the Department of Natural Resources, Environmental Protection Division (EPD) completed its review of our Response to Comments on the *Draft Corrective Action Plan (CAP) Addendum for the Ocmulgee River Sediment Remediation* (CAP Addendum) prepared by The RETEC Group, Inc. (RETEC) and submitted to the EPD on behalf of Atlanta Gas Light Company (AGLC) on March 1, 2004. The CAP Addendum was dated December 11, 2003. Due to the recent armoring of the Ocmulgee River using 6-inch stone overlying the river sediments, the CAP Addendum submitted in December 2003 is no longer relevant; therefore, individual responses to EPD's comments were not prepared.

The armoring of the Upper Outfall Type 5 area in the Ocmulgee River was completed in accordance with the requirements of the U.S. Army Corps of Engineers Permit. An armoring completion report will be submitted on or about June 21, 2004, detailing the work performed in accordance with the existing approved CAP, and including pre- and post-armoring survey maps. If you have any questions regarding this response, please contact me at (773) 714-9900 ext. 16 or Jim Oosterhoudt at (912) 232-2306 ext. 15.

Sincerely,

The RETEC Group, Inc.

Randal J. MacKay, P.G.
Project Manager

cc: Tim Goodson, AGLC
Jim Oosterhoudt, P.E., RETEC
Brett Mitchell, Georgia Power

Georgia Department of Natural Resources
2 Martin Luther King, Jr. Drive SE, Suite 1462 East, Atlanta, Georgia 30334
Lonice C. Barrett, Commissioner
Environmental Protection Division
Carol A. Couch, Ph.D., Director
Hazardous Waste Management Branch
404/657-8600

July 22, 2004

COPY

RECEIVED
JUL 2 9 2004
BY:

Mr. Ralph Cleveland
Director, Engineering Services
Atlanta Gas Light Company
P.O. Box 4569
Atlanta, Georgia 30302

Re: Scour Protection Placement Completion Report
Upper and Lower Outfalls – Ocmulgee River
Macon MGP Site, HSI Site #10511

Dear Mr. Cleveland:

The Georgia Environmental Protection Division (EPD) has reviewed the Scour Protection Placement Completion Report dated July 9, 2004 for the Upper and Lower Outfalls in the Ocmulgee River. EPD concurs that the "armoring" of the river sediments was generally completed in accordance with the approved corrective action plan for the sediments. The new "As Built" baseline elevations contained in Figure 3 of the report will constitute the new baseline for further annual surveys and will be used to determine if additional corrective action is ever required.

If you have any questions regarding this letter, please contact David Brownlee at (404) 657-8600.

Sincerely,

Jane Hendricks
Unit Coordinator
Hazardous Sites Response Program

c: James Oosterhoudt

File: HSI# 10511

S:\RDRIVE\DAVIDB\CSR\Macon MGP\Scour Protection Placement Completion Report Approval Letter.doc

Georgia Department of Natural Resources
2 Martin Luther King, Jr. Drive, S[illegible] 1462 East, Atlanta, Georgia 30334-9000
Noel Holcomb, Commissioner
Environmental Protection Division
Carol A. Couch, Ph.D., Director
404/657-8600

May 31, 2005

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

FILE COPY

Mr. Ralph Cleveland, Vice President, Engineering
Atlanta Gas Light Company
Post Office Box 4569
Atlanta, Georgia 30302

Re: Revisions to the Corrective Action Plan Addendum for Sediments in the Ocmulgee River
Macon MGP Site, HSI # 10511

Dear Mr. Cleveland:

The Georgia Environmental Protection Division (EPD) has completed its review of your Revisions to the Corrective Action Plan Addendum for Sediments in the Ocmulgee River (Revision) dated May 13, 2005. The Revision proposes two additional annual river surveys to complete the monitoring requirements for the Ocmulgee River. EPD concurs that two additional river surveys are sufficient following the "armoring" of the Ocmulgee River. However, the two surveys should be conducted at the 5-year and 10-year intervals. This would be consistent with the river survey requirements for the Rome Coal Tar Pit Site and with the currently approved corrective action plan (CAP) for the River (i.e., 10-year monitoring period). If scouring relative to the new baseline, post-armoring, is found that exceeds the allowable criteria in the CAP, additional monitoring may be required following any corrective action performed by AGL.

Please submit two copies of a revised monitoring section for the CAP addendum that addresses our comments above within thirty days of your receipt of this letter. Since this change is a reduced frequency for monitoring, AGL must provide public notice pursuant to Section 391-3-19-.06(5)(b) of the Rules for Hazardous Site Response. If you have any questions, please contact David Brownlee at (404) 657-8600.

Sincerely,

Jane Hendricks
Unit Coordinator
Hazardous Site Response Program

C: Tim Goodson
Christie Battenhouse

File: HSI 10511

S:\RDRIVE\DAVIDB\CSR\Macon MGP\Comments on AGL Revisions to CAP Addendum for Sediments.doc

Appendix B-2 – Excerpts of 2004 Compliance Status Report

Compliance Status Report

Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Prepared by:

The RETEC Group, Inc.
1150 Hammond Drive, Suite B-2290
Atlanta, Georgia 30328

RETEC Project Number: AGLC2-17857-013

Prepared for:

Atlanta Gas Light Company
#10 Peachtree Place
Atlanta, Georgia 30309

January 16, 2004
(Addendum to Revise March 23, 2000 CSIR)

Compliance Status Report

Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Prepared by:

The RETEC Group, Inc.
1150 Hammond Drive, Suite B-2290
Atlanta, Georgia 30328

RETEC Project Number: AGLC2-17857-013

Prepared for:

Atlanta Gas Light Company
#10 Peachtree Place
Atlanta, Georgia 30309

Prepared by:

Randal J. MacKay

Randal J. MacKay, P.G., Project Manager

Reviewed by:

T. H. Goodson

Timothy H. Goodson, Program Director

January 16, 2004
(Addendum to Revise March 23, 2000 CSIR)

CERTIFICATION OF COMPLIANCE WITH RISK REDUCTION STANDARDS

I certify under penalty of law that this report and all attachments were prepared under my direction in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Based on my review of the findings of this report, the Fifth Quarterly Groundwater Monitoring Report, the Soil Remediation Closure Report for OU2 and OU4, and the Sediment Remediation Closure Report with respect to the risk reduction standards of the Rules for Hazardous Site Response, Rule 391-3-19-07, I have determined that the following properties (identified by Bibb County, Georgia, Tax Parcel ID numbers, if applicable, and as outlined in this report) are in compliance with the following respective risk reduction standards for soil and groundwater.

Certifications for Soil

The following properties are in compliance with Type 1 risk reduction standards for soil:

Parcel No. OC-27-1A
Parcel No. OC-27-1C
Parcel No. OC-107-1A

The following properties are in compliance with Type 2 risk reduction standards for soil:

Parcel No. OC-14-1A
Parcel No. OC-14-1AA
Parcel No. OC-26-3A
Parcel No. OC-107-1B
Portions of Railroad Switching Yard and Right-of-Way of CSX Transportation (leased by Georgia Central)

The following properties are in compliance with Type 3 risk reduction standards for soil:

Central City Park

The following properties are in compliance with Type 4 risk reduction standards for soil:

Parcel No. OC-15-5A
Parcel No. OC-26-7A
Parcel No. OC-26-8C
Parcel No. OC-107-2A
Parcel No. OC-107-3A
Sixth Street and Right-of-Ways between Walnut and Mulberry Streets
Seventh Street and Right-of-Ways between Walnut and Mulberry Streets
Mulberry Street and Right-of-Ways between Sixth and Seventh Streets
Walnut Street and Right-of-Ways between Sixth and Seventh Streets

The following properties are in compliance with Type 5 risk reduction standards for soil:

Parcel No. OC-15-1A
Parcel No. OC-15-4A
Parcel No. OC-15-6A

The soil impacts on the following parcels are not associated with the MGP operations (Soil and Groundwater Corrective Action Plan, RETEC, 2001):

Parcel No. OC-6-3A
Parcel No. OC-6-3B

The soil impacts on the following property are not in compliance with any risk reduction standards; however, the impacts are not considered associated with MGP operations:

Portions of Right-of-Way of Central of Georgia/Norfolk Southern Railroad

Certifications for Groundwater
The following properties are in compliance with Type 1 risk reduction standards for groundwater:

Parcel No. OC-6-3A
Parcel No. OC-6-3B
Parcel No. OC-14-1AA
Parcel No. OC-26-7A
Parcel No. OC-26-8C
Parcel No. OC-27-1A
Parcel No. OC-28-1C
Parcel No. OC-107-1B
Parcel No. OC-107-1A
Parcel No. OC-107-2A
Parcel No. OC-107-3A
Central City Park
Right-of-Way of Riverside Drive

The following properties are not in compliance with any type of risk reduction standards for groundwater:

Parcel No. OC-14-1A
Parcel No. OC-15-1A
Parcel No. OC-15-4A
Parcel No. OC-15-5A
Parcel No. OC-15-6A
Parcel No. OC-26-3A
Portions of Right-of-Way of Sixth Street adjacent to MGP Site
Portions of Right-of-Way of Seventh Street adjacent to MGP Site
Portions of Right-of-Way of Mulberry Street adjacent to MGP Site
Portions of Right-of-Way of Walnut Street adjacent to MGP Site
Portions of Right-of-Way of Central of Georgia/Norfolk Southern Railroad near MW-24D
Portions of Railroad Switching Yard and Right-of-Way of CSX Transportation (leased by Georgia Central)

Certifications for River Sediments
The following property is in compliance with sediment removal and clean-up goals in accordance with the standards established per the approved Corrective Action Plan for Sediments in the Ocmulgee River dated January 5, 2001.

Lower Outfall of the Ocmulgee River

The following property is in compliance with sediment removal and clean-up goals in accordance with the standards established per the approved Corrective Action Plan for Sediments in the Ocmulgee River dated January 5, 2001 and is also in compliance with Type 5 risk reduction standards:

Upper Outfall of the Ocmulgee River

Certified by: Date:

Ralph Cleveland, Vice President of Engineering
Atlanta Gas Light Company

Chris Hobson, Vice President of Environmental Affairs
Georgia Power Company

1/16/04

CERTIFICATION OF COMPLIANCE WITH RISK REDUCTION STANDARDS

I certify under penalty of law that this report and all attachments were prepared under my direction in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Based on my review of the findings of this report, the Fifth Quarterly Groundwater Monitoring Report, the Soil Remediation Closure Report for OU2 and OU4, and the Sediment Remediation Closure Report with respect to the risk reduction standards of the Rules for Hazardous Site Response, Rule 391-3-19-07, I have determined that the following properties (identified by Bibb County, Georgia, Tax Parcel ID numbers, if applicable, and as outlined in this report) are in compliance with the following respective risk reduction standards for soil and groundwater.

Certifications for Soil

The following properties are in compliance with Type 1 risk reduction standards for soil:

Parcel No. OC-27-1A
Parcel No. OC-27-1C
Parcel No. OC-107-1A

The following properties are in compliance with Type 2 risk reduction standards for soil:

Parcel No. OC-14-1A
Parcel No. OC-14-1AA
Parcel No. OC-26-3A
Parcel No. OC-107-1B
Portions of Railroad Switching Yard and Right-of-Way of CSX Transportation (leased by Georgia Central)

The following properties are in compliance with Type 3 risk reduction standards for soil:

Central City Park

The following properties are in compliance with Type 4 risk reduction standards for soil:

Parcel No. OC-15-5A
Parcel No. OC-26-7A
Parcel No. OC-26-8C
Parcel No. OC-107-2A
Parcel No. OC-107-3A
Sixth Street and Right-of-Ways between Walnut and Mulberry Streets
Seventh Street and Right-of-Ways between Walnut and Mulberry Streets
Mulberry Street and Right-of-Ways between Sixth and Seventh Streets
Walnut Street and Right-of-Ways between Sixth and Seventh Streets

The following properties are in compliance with Type 5 risk reduction standards for soil:

Parcel No. OC-15-1A
Parcel No. OC-15-4A
Parcel No. OC-15-6A

The soil impacts on the following parcels are not associated with the MGP operations (Soil and Groundwater Corrective Action Plan, RETEC, 2001):

Parcel No. OC-6-3A
Parcel No. OC-6-3B

The soil impacts on the following property are not in compliance with any risk reduction standards; however, the impacts are not considered associated with MGP operations:

Portions of Right-of-Way of Central of Georgia/Norfolk Southern Railroad

Professional Geologist Certification

"I certify that I am a qualified groundwater scientist who has received a baccalaureate and post-graduate degree in geology and have sufficient training and experience in groundwater hydrology and related fields, as demonstrated by Georgia registration and completion of accredited university courses, that enable me to make sound professional judgments regarding groundwater monitoring and contaminant fate and transport. I further certify that this report was prepared by myself or by a subordinate working under my direction."

Randal J. MacKay

Randal J. MacKay, P.G.
Registered Professional Geologist
Georgia Registration #001355

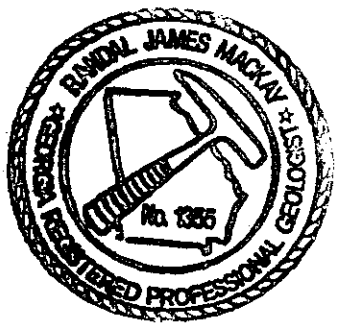


Table of Contents

1 Introduction 1-1
1.1 Purpose 1-1
1.2 Chronology of Investigation and Remediation 1-1

2 Site Background 2-1
2.1 Site Description 2-1
2.2 History of the Former Manufactured Gas Plant Facility 2-1
2.3 Previous Investigations 2-3
2.4 Site-Specific Constituents of Interest 2-4
2.5 Potential Sources 2-4
2.5.1 Potential Sources on the Former Manufactured Gas Plant Facility 2-5
Database Search 2-6
2.5.2 Surrounding Land Use 2-6

3 Scope of Compliance Status Investigation and Environmental Setting 3-1
3.1 General Scope of Compliance Status Investigation 3-1
3.2 Environmental Setting 3-1
3.2.1 Regional Geology and Hydrogeology 3-1
3.2.2 Site Geology 3-2
3.2.3 Site Hydrology 3-3
3.2.4 Hydrogeology 3-4
3.2.5 Groundwater Flow 3-6

4 Soil Investigation 4-1
4.1 General Approach and Rationale 4-1
4.1.1 Environmental Assessment and Compliance Status Investigation 4-1
4.1.2 Source Delineation Investigation 4-2
4.2 Sampling and Analysis Methods 4-2
4.2.1 Sampling Methods 4-2
4.2.2 Field Screening 4-4
4.2.3 Sample Handling and Preservation Techniques 4-4
4.2.4 Decontamination Procedures 4-4
4.2.5 Laboratory Methods 4-4
4.3 Background Concentration Study 4-5
4.4 Horizontal and Vertical Extent of Constituents of Interest 4-6
4.4.1 Visual Indications of Tar-Like Material and Oil-Like Material 4-8
4.4.2 Volatile Organic Compounds 4-8
4.4.3 Semivolatile Organic Compounds 4-9
4.4.4 Inorganics 4-10
4.4.5 Heptachlor 4-10

5 Groundwater Investigation 5-1

Table of Contents

5.1 General Approach and Rationale 5-1
5.2 Groundwater Characterization During Site Investigations 5-1
5.2.1 Groundwater Monitoring Well Installation and Rationale 5-1
5.2.2 Direct-Push Technology Sample Points and Rationale 5-2
5.2.3 Sampling and Analysis 5-2
5.2.4 Background Concentrations 5-2
5.3 Groundwater Monitoring Program 5-3
5.3.1 Groundwater Monitoring Well Installation and Rationale 5-3
5.3.2 Sampling and Analysis 5-4
5.4 Horizontal and Vertical Extent of Constituents of Interest in Groundwater 5-5
5.4.1 Horizontal Extent of Volatile Organic Compounds in Groundwater 5-5
5.4.2 Horizontal Extent of Semivolatile Organic Compounds in Groundwater 5-5
5.4.3 Horizontal Extent of Inorganics in Groundwater 5-6
5.4.4 Vertical Extent of Constituent of Interest in Groundwater 5-6

6 Investigation of Non-Aqueous Phase Liquids 6-1
6.1 General Observations 6-1
6.2 Soil Borings 6-1
6.3 Structure Wells 6-1
6.4 Monitoring Wells 6-2

7 Sediments and Surface Water Investigation 7-1
7.1 Preliminary Visual Reconnaissance 7-1
7.2 Sediment/Surface Water Investigation 7-1
7.2.1 Upgradient Limits Concentration Study 7-1
7.2.2 Horizontal and Vertical Extent of Constituents of Interest in Sediments 7-2
7.2.3 Surface Water Results 7-5
7.3 Completed Corrective Actions 7-5

8 Properties Potentially Affected by a Release and Other Potentially Responsible Parties 8-1
8.1 Properties Potentially Affected by a Release 8-1
8.2 Other Potentially Responsible Parties 8-1

9 Potential Receptor Study and Risk Reduction Standards 9-1
9.1 Chemical Source and Release Mechanisms 9-1
9.2 Environmental Transport Media 9-1
9.2.1 Persistence of Constituents of Interest 9-1
9.2.2 Potential Routes of Migration 9-2
9.3 Potential Receptors at Exposure Points 9-6
9.3.1 Water Wells 9-6

Table of Contents

9.3.2 Surface Water 9-6
9.3.3 Crops and Hunting 9-8
9.3.4 Environmental Receptors 9-8
9.4 Exposure Routes 9-8
9.5 Hazardous Site Response Act Evaluation 9-9

10 Status of Corrective Action 10-1
10.1 Soil 10-1
10.2 Sediment 10-2
10.3 Groundwater 10-2

11 References 11-1

List of Tables

Table 2-1	Site Sepcification Contituent of Interest
Table 3-1	Depths to Water and Groundwater Elevations, November 2001 through September 2003
Table 3-2	Summary of Hydraulic Conductivity Data
Table 3-3	Grain Size Distribution
Table 3-4	Summary of Other Physical Soil Tests
Table 4-1	Calculated Background Concentrations in Soil
Table 5-1	Monitoring Well Construction Data and Status
Table 5-2	Calculated Background Concentrations
Table 5-3	Summary of Groundwater Analytical Data, November 2001 through September 2003
Table 7-1a	Volatile Organic Compounds, Sediment Samples – Compliance Status Investigation
Table 7-1b	Semivolatile Organic Compounds, Sediment Samples – Compliance Status Investigation
Table 7-1c	Inorganic Compounds, Sediment Samples – Compliance Status Investigation
Table 7-2a	Volatile Organic Compounds, Surface Water Samples – Compliance Status Investigation
Table 7-2b	Semivolatile Organic Compounds, Surface Water Samples – Compliance Status Investigation
Table 7-2c	Inorganic Compounds, Surface Water Samples – Compliance Status Investigation
Table 7-3	Calculated Upgradient Limits in Sediment
Table 8-1	Owners of Potentially Affected Properties
Table 9-1	Physical and Chemical Characteristics of Select Constituents of Interest
Table 9-2	Type 3 Risk Reduction Standards for Soil Remediation at the Central City Park
Table 9-3	Type 2 and 4 Risk Reduction Standards for Soil Remediation of OU-2 and OU-4
Table 9-4	Risk Reduction Standards for Groundwater

List of Figures

Figure 2-1 Site Location Map
Figure 2-2 Ownership Map
Figure 2-3 Site Map
Figure 3-1 Generalized Stratigraphic Section
Figure 3-2 Transect Map For Cross Sections A-A', B-B', and C-C'
Figure 3-3 Cross Section A-A'
Figure 3-4 Cross Section B-B'
Figure 3-5 Cross Section C-C'
Figure 3-6 Top of Saprolite
Figure 3-7 Base of Lower Alluvial Sands and Gravels
Figure 3-8 Shallow Groundwater Elevation Contour Map
Figure 4-1 Visual Indications of Oil-Like Material and Tar-Like Material in Soil
Figure 4-2 Background Delineation of VOCs and SVOCs in Soil
Figure 4-3 Background Delineation of Inorganics in Soil
Figure 5-1 Transect Map for Cross Sections D-D', E-E', F-F', and G-G'
Figure 5-2 Cross Section D-D'
Figure 5-3 Cross Section E-E'
Figure 5-4 Cross Section F-F'
Figure 5-5 Cross Section G-G'
Figure 5-6 Benzene Concentrations in Groundwater, September 2003
Figure 5-7 Naphthalene Concentrations in Groundwater, September 2003
Figure 5-8 Concentrations of BTEX and SVOCs in Groundwater, September 2003
Figure 5-9 Total Cyanide Concentrations in Groundwater, September 2003
Figure 7-1 Cross Section H-H'
Figure 7-2 Cross Section I-I'
Figure 7-3 Cross Sections J-J' and K-K'
Figure 7-4 Visual Indications of Tar-Like Material in Sediment
Figure 7-5 Total VOCs in Sediment
Figure 7-6 Total Detected SVOCs In Sediment
Figure 7-7 Arsenic and Nickel in Sediment
Figure 7-8 Beryllium and Cyanide in Sediment
Figure 7-9 Cadmium and Mercury in Sediment
Figure 7-10 Sediment Thickness Overlying Tar-Like Material

List of Acronyms and Abbreviations

AES	Analytical Environmental Services
AGLC	Atlanta Gas Light Company
BDWP	Basis of Design Work Plan
bgs	below ground surface
BIPS	Borehole Image Processing System
BPLM	by-product like material
bss	below sediment surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
BTU	British thermal unit
CAP	Corrective Action Plan
CCI	Christian, Carmichael, Inc.
CCP	Central City Park
CERCLIS	Comprehensive Environmental Responsibility, Compensation, and Liability Information System
CLP	Contract Laboratory Program
COC	chain-of-custody
COI	constituent of interest
CPAH	carcinogenic polynuclear aromatic hydrocarbon
CRQL	Contract Required Quantitation Limit
CSI	Compliance Status Investigation
CSR	Compliance Status Report
DNAPL	dense non-aqueous phase liquid
DO	dissolved oxygen
DPT	direct-push technology
EA	Environmental Assessment
EISOPQAM	Environmental Investigation Standard Operating Procedures and Quality Assurance Manual
EPD	Environmental Protection Division
ERIIS	Environmental Risk Information and Imaging Services
FID	flame ionization detector
ft	feet or foot
ft^3	cubic feet
ft/day	feet per day
ft/ft	foot per foot
ft/min	feet per minutes
ft/yr	feet per year
G&M	Geraghty & Miller, Inc.
GPC	Georgia Power Company
HSA	hollow-stem augering
HSRA	Hazardous Site Response Act
in	inch
ISS	*in situ* stabilization
ISWQC	In-Stream Water Quality Criteria
kg	kilogram
LAW	LAW Engineering Services

List of Acronyms and Abbreviations

LNAPL	light nonaqueous phase liquid
LUST	leaking under storage tank
MEP	Monitoring Evaluation Plan
mg/kg	milligram per kilogram
mg/L	milligrams per liter
MGP	manufactured gas plant
MSL	mean sea level
mV	millivolt
NAPL	nonaqueous phase liquid
NFRAP	No Further Remedial Action Planned
NTU	nephelometric turbidity units
O.C.G.A.	Official Code of Georgia Annotated
OD	outside diameter
OLM	organic leaching model
ORP	oxidation-reduction potential
PA	preliminary assessment
PAH	polynuclear aromatic hydrocarbon
PARCC	precision, accuracy, representativeness, completeness, and comparability
PFT	preliminary fate-and transport
PID	photoionization detector
PQL	practical quanititation level
PVC	polyvinyl chloride
QA/QC	quality assurance/quality control
RCRIS-LG	Resource Conservation and Recovery Information System – Large Quantity Generators
RETEC	The RETEC Group, Inc.
RRS	risk reduction standard
SCI	source control investigation
SDG	sample delivery group
SDI	Source delineation investigation
SDIR	Source Delineation Investigation Report
SESOIL	Seasonal Soil Compartment Model
SI	Site Inspection
SPLP	synthetic precipitation leaching procedure
SVOC	semivolatile organic compound
TCLP	Toxicity Characteristics Leaching Procedure
TLM	tar-like material
TOC	total organic carbon
TSA	treatabililty study assessment
UBL	upper background limit
µg/L	microgram per liter
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UST	underground storage tank

List of Acronyms and Abbreviations

UUL	upper upgradient limit
Validata	Validata Chemical Services
VOC	volatile organic compound
WILLIAMS	Williams Environment Services, Inc.

7 Sediments and Surface Water Investigation

The CSI assessed the potential impact of the COI on sediments in the Ocmulgee River. The river is located approximately 1,000 ft northeast of the former MGP facility. Section 3.2.3 describes surface water flow across the MGP property and surrounding area.

7.1 Preliminary Visual Reconnaissance

On March 16 and 17, 1999, WILLIAMS performed a visual preliminary reconnaissance of the riverine sediments at various locations along the western bank near the upper and lower outfall. This section of the Ocmulgee River is approximately 280 ft wide and, at the time of the reconnaissance, approximately 11 ft deep. The visual preliminary reconnaissance of the riverine sediments was conducted to investigate the possible impact of MGP-related COI on sediments. WILLIAMS collected sediment samples using a hand auger through a PVC casing. This method allowed for samples to be collected at a maximum sediment depth of approximately 2.5 ft. TLM stringers, globules, layers, and sand containing a TLM matrix were observed immediately downstream of the upper outfall at sediment depths of up to 2.5 ft. No TLM was observed in sediments near the lower outfall.

7.2 Sediment/Surface Water Investigation

WILLIAMS performed a sediment investigation of the sediments of the Ocmulgee River between July 13, and August 5, 1999 in the area of the upper and lower outfalls. The investigation was performed to define the extent of COI in sediments and to determine up-gradient limits. Collection of data from the USGS and from the field was performed during the course of the investigation to ensure accurate measurements of hydrological conditions of the river. Sediment samples were collected at 73 locations (Figure 2-3). Selected samples were analyzed for the COI, Toxicity Characteristic Leaching Procedure (TCLP) benzene, ignitability, and total organic carbon. Surface water samples were collected at six locations in the Ocmulgee River on July 16, 1999; these locations are also shown on Figure 2-3. The samples were collected in the area of the upper and lower outfalls to determine if possible surface water impacts have occurred. Surface water samples were analyzed for the COI and hardness as $CaCO_3$. Summary tables of analytical results for the COI in sediment and surface water samples are located in Tables 7-1 and 7-2, respectively. Sampling methods, handling, and analytical procedures are presented in detail in the March 2000 CSR.

7.2.1 Upgradient Limits Concentration Study

The upgradient limits concentration study included the collection of sediment samples from areas hydraulically upgradient from the upper outfall. Sediment

borings included in the study were SD-A-1, SD-A-5, and SD-A-10. Ten sediment samples were collected from these borings and were used to calculate the upgradient limits. Table 7-3 lists the calculated upgradient concentrations for the COI. The upgradient limit for SVOCs was determined to be the detection limit.

The sediment data was statistically evaluated to determine the upper upgradient limit (UUL) for each analyte. First, the data was evaluated to determine the percentage of detected values. If the percentage of non-detects was greater than 15 percent and the data set contained at least one detected value, a nonparametric UUL was calculated. The nonparametric UUL equaled the greatest detected value. If there were no detected values, the UUL was determined to be the detection limit.

If the percentage of non-detects was 15 percent or less, non-detect values were substituted with one-half the detection limit. Next, the underlying distributional assumption was tested using the Shapiro-Wilk Test. Then, the data set (log transformed for lognormally distributed data) was tested for outliers by calculating the 99% confidence outlier value. If a value in the data set was greater than the 99% confidence outlier value, an outlier was suspected. The collection and analysis of the suspect value was then reviewed to determine if a definitive reason for the magnitude of the suspect value could be determined. If so, the value in question was removed from the data set. If not, the value was included in the data set as an extreme but true value. Using the appropriate distribution of normality or lognormality determined by the Shapiro-Wilk Test, the UUL was calculated as the mean plus two standard deviations. All data fit a normal distribution or a lognormal distribution. The data set and calculations for upgradient limits are detailed in Appendix J of the March 2000 CSR.

7.2.2 Horizontal and Vertical Extent of Constituents of Interest in Sediments

Figures 7-1, 7-2, and7-3 display cross sections and Figures 7-4 through 7-9 display plan view maps depicting the vertical and horizontal relationship of the TLM, VOCs, SVOCs, and inorganics in sediments near the upper outfalls. All of these figures were updated to show the extent of remedial activities performed at the outfalls.

Visual Indications of Tar-Like Material

Figures 7-1, 7-2, and 7-3 contain cross sections showing the horizontal and vertical distribution of visual indications of TLM in relation to the upper outfall. Figures 7-4 contains a plan view map illustrating the horizontal extent of visual indications of TLM in sediments. Visual observations indicate the primary area of impact extended approximately 65 ft up stream, 60 ft down stream, and 95 ft towards the river center from the upper outfall. TLM in the

area of the upper outfall extends outward from the outfall outward while thinning and increasing in depth down stream and toward the river center. Sediment boring SD-C-1 (closest to the upper outfall) contained TLM from 0.5 to 2 ft bss. Borings located closer to the edge of the TLM plume in the downstream and toward the river center contained less TLM, and the TLM was encountered at greater depths. SD-C-3 contained TLM from 5.5 to 6.5 ft bss. SD-D-7 and SD-D-9 contained a thin stringer at 15 ft and 17 ft bss, respectively. SD-E-1 contained a TLM globule at eight ft bss and SD-E-4 contained TLM from 11 ft to 12 ft bss. Borings upstream of the upper outfall indicated that TLM slightly increased in thickness in the up-stream direction. SD-AC-4.5 contained TLM from 4-ft to 7-ft bss, and SD-B-3 contained TLM from 5.5 ft to 8.5 ft bss; however, no TLM was observed upstream of these two sample locations. No TLM was observed in the vicinity of the lower outfall.

Volatile Organic Compounds

Figure 7-5 contains a contour map of the horizontal extent of VOCs above upgradient limits in sediments. The primary area of impact of VOCs in sediments extended approximately 35 ft upstream, 35 ft downstream, and 100 ft towards the river center from the upper outfall. This area was horizontally defined to upgradient limits in the upstream direction by sediment borings SD-A-1, SD-A-5, SD-A-10, and SD-AD-2.5. Downstream delineation of VOCs was accomplished by SD-E-2 and SD-E-5. Horizontal delineation of VOCs towards the river center was not been achieved only because carbon disulfide was detected above upgradient limits in borings SD-D-6 and SD-D-10. One location at the lower outfall (SD-M-5) and one location downstream of the lower outfall (SD-R-1) also contained only carbon disulfide above an upgradient limit.

The area located near the lower outfall is horizontally defined by SD-M-2, SD-L-4, SD-M-6, and, SD-O-2. The area located south of the lower outfall was defined in the upstream direction by SD-O-2. VOCs in sediment were detected in the 0.5 to 5.5 ft interval, with the exception of locations that contained carbon disulfide only. Carbon disulfide above upgradient limits was detected from 10.5 to 17.5 ft bss. Sediment samples SD-B-1-5.5-10.5 and SD-C-1-5.5-10.5 vertically delineated VOCs to upgradient limits.

Semivolatile Organic Compounds

Figure 7-6 contains a contour map of the horizontal extent of detected SVOCs in sediments. SVOCs were detected in two primary areas (the upper and lower outfalls). The upper outfall was horizontally delineated in the upgradient direction by sediment borings SD-AB-3 and SD-AB-7.5. The downgradient direction was delineated by SD-FA-3. Sediment boring SD-D-10 delineated a portion of the area towards the river center.

The upstream delineation of SVOCs at the lower outfall was achieved by SD-I-1. Towards the river center, detected SVOCs were delineated by SD-M-6. SVOCs detected in sediments were distributed similar to the distribution of TLM near the upper outfall. Sediment borings SD-B-1 and SD-C-2 contained detected SVOCs from 0.5 to 5.5 ft bss. SVOCs were detected from 5.5 to 10.5 ft bss in SD-AD-2.5 and SD-E-2. SD-B-5 and SD-D-6 contained detected SVOCs from 10.5 to 15.5 ft bss. In the area of the lower outfall, SVOCs were detected at SD-M-2 from 0 to 5.5 ft bss, at SD-K-1 and SD-R-1 at 0.5 to 5.5 ft bss, and at SD-M-5 from 10.5 to 15.5 ft.

Inorganics

Figure 7-7 contains the horizontal delineation of arsenic and nickel concentrations above upgradient limits in sediments. Arsenic and nickel were detected in sediment above upgradient limits near the upper outfall. Arsenic and nickel were horizontally delineated to upgradient limits in all directions by sediment borings SD-C-1, SD-C-4, SD-D-6, SD-E-5, SD-F-7, and SD-I-1. Arsenic and nickel detected above upgradient limits were found from 0 to 0.5 ft only and were vertically delineated by sediment samples SD-E-2-5.5-10.5 and SD-FA-3-0.5-5.5.

Figure 7-8 contains the horizontal delineation of beryllium and cyanide concentrations in sediments. Beryllium in sediments was detected above upgradient limits at the upper, middle, and lower outfall. The upper outfall contained two areas of beryllium above upgradient limits. These areas were horizontally delineated by sediment borings SD-AB-3, SD-AB-7.5, SD-B-5, SD-C-4, SD-E-2, and SD-F-7. The lower outfall had one area with beryllium above upgradient limits. This area was horizontally defined towards the river center and in the downstream direction by SD-L-3, SD-L-4, and SD-M-5. Beryllium was also detected above an upgradient limit at SD-I-1 located near the middle outfall. Cyanide was detected at four locations (SD-AD-2.5, SD-C-1, SD-E-5, and SD-L-3). The area located near the upper outfall was horizontally defined to a detection limit by sediment borings SD-AB-3, SD-AB-7.5, SD-B-5, SD-C-4, SD-D-6, SD-D-10, SD-E-2, SD-F-7, and SD-FA-3. The area located near the lower outfall was defined by SD-K-1, SD-L-4, SD-M-2, and SD-M-5. In the area of the upper outfall, beryllium was detected above upgradient limits from 0 to 0.5 and from 5.5 to 17.5 ft bss. Cyanide was detected from 5.5 to 15.5 ft bss. Beryllium was detected above the upgradient limit at SD-I-1 near the middle outfall. Near the lower outfall, beryllium was detected above upgradient limits from 0.5 to 19 ft, increasing in depth in the upstream direction. Cyanide was detected at SD-L-3 from 5.5 to 10.5 ft bss.

Figure 7-9 contains the horizontal delineation of cadmium and mercury concentrations above upgradient limits in sediments. Cadmium was detected in sediments above an upgradient limit near the upper outfall. This area was horizontally delineated by sediment borings SD-C-1, SD-C-4, SD-D-6, SD-D-

10, SD-F-7, and SD-I-1. Mercury was detected above upgradient limits in four locations (SD-D-10, SD-FA-3, SD-M-2, and, SD-R-1). The areas located near the upper outfall were horizontally defined by SD-B-5, SD-C-4, SD-E-2, SD-F-5, SD-F-7, and SD-I-1. The area near the lower outfall was defined by SD-K-1, SD-L-3, SD-L-4, SD-M-5, and SD-O-2. The area located downstream of the lower outfall was defined in the upstream direction by SD-O-2. Cadmium was detected above an upgradient limit from 0 to 0.5 ft bss. Mercury above the upgradient limit was detected at SD-D-10 from 15.5 to 17.5 ft bss, SD-FA-3 from 0 to 0.5 ft bss, and SD-M-2 and SD-R-1 from 0.5 to 5.5 ft bss.

Antimony, chromium, lead, and zinc were detected above upgradient limits in one location each; therefore, they were not included on concentration maps. Antimony was detected above the upgradient limit in sediment boring SD-0-2, chromium was detected above the upgradient limit in SD-E-2, lead was detected above the upgradient limit in SD-I-1, and zinc was detected above the upgradient limit in SD-M-2. These constituents were found in the 0 to 0.5 ft bss interval only and were horizontally defined in all directions with the exception of lead. Lead was horizontally delineated to upgradient limits in the upstream and downstream directions.

7.2.3 Surface Water Results

No organic COI were detected in any of the surface water samples. Barium was detected in all six samples with concentrations ranging from 0.025 to 1.3 mg/L. No other inorganic COI were detected in SW-3, SW-4, SW-5, or SW-6. Sample SW-1 also had detectable concentrations of arsenic (0.024 mg/L), beryllium (0.0069 mg/L), chromium (0.17 mg/L), copper (0.18 mg/L), lead (0.18 mg/L), mercury (0.0005 mg/L), nickel (0.075 mg/L), and zinc (0.57 mg/L). Sample SW-2 also had detectable concentrations of chromium (0.045 mg/L), copper (0.043 mg/L), lead (0.038 mg/L), and zinc (0.13 mg/L).

7.3 Completed Corrective Actions

Removal of sediments containing VOCs, SVOCs, metals, and TLM that could be harmful to benthic organisms was completed between September 5 and November 1, 2001. This corrective action consisted of dredging, dewatering, and disposing of approximately 300 cubic yards of contaminated, non-hazardous sediment; backfilling a 2,000-square-foot section of the Ocmulgee River; and site restoration. These activities were performed in compliance with the *Corrective Action Plan for Sediments in the Ocmulgee River* dated December 28, 2000, prepared by ThermoRetec Consulting Corporation. Details of this corrective action are presented in the *Sediment Remediation Closure Report, Upper and Lower Outfalls – Ocmulgee River*, which was prepared by RETEC and submitted to the EPD on March 6, 2002. All TLM was removed at the lower outfall, and all TLM at depths less than 3 ft were removed at the upper outfall.

TLM that was identified at depths greater than 6 ft was left in place because it was not considered a risk to benthic organisms. Annual river bottom surveying is performed to ensure sufficient sediment continues to overlie these deeper impacts, otherwise corrective actions will be implemented as specified in the CAP. Figure 7-10 presents an isopach map showing the thickness of sediment overlying existing TLM as of the October 20, 2003 survey event.

Tables

Table 7-1a
Volatile Organic Compounds
Sediment Samples (mg/Kg) - Compliance Status Investigation
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Sample ID	Carbon Disulfide	Benzene	Toluene	Ethylbenzene	Xylenes	Total Detected VOCs
Background	**5.2**	**DL**	**21**	**DL**	**DL**	
SD-A-1-0-0.5	12U	12U	21	12U	24U	21
DUP080199A	12U	12U	15	12U	24U	15
SD-A-1-0.5-4.5	5.2	3.7U	3.7U	3.7U	7.4U	5.2
SD-A-5-0-0.5	11U	11U	11U	11U	22U	0
SD-A-5-0.5-5.5	5.4U	5.4U	5.4U	5.4U	11U	0
SD-A-5-5.5-10.5	6U	6U	6U	6U	12U	0
SD-A-5-10.5-15.5	6.2U	6.2U	6.2U	6.2U	12U	0
SD-A-10-0-0.5	5U	5U	5U	5U	10U	0
SD-A-10-05.5-5.5	6.1U	6.1U	6.1U	6.1U	12U	0
SD-A-10-5.5-10.5	4.2U	4.2U	4.2U	4.2U	8.4U	0
SD-A-10-10.5-15.5	4.9U	4.9U	4.9U	4.9U	9.8U	0
SD-AB-3-0-0.5	8.5U	8.5U	11	8.5U	17U	11
SD-AB-3-0.5-5.5	6.1U	6.1U	6.1U	6.1U	12U	0
SD-AB-3-5.5-9	4.5U	4.5U	4.5U	4.5U	9U	0
SD-AB-7.5-0-0.5	11U	11U	19	11U	22U	19
SD-AB-7.5-0.5-5.5	4U	4U	4U	4U	8U	0
SD-AB-7.5-5.5-10.5	6.8U	6.8U	6.8U	6.8U	14U	0
SD-AD-2.5-5.5-10.5	290U	290U	290U	290U	290U	0
SD-B-1-0-0.5	8.2U	8.2U	8.2U	8.2U	16U	0
SD-B-1-0.5-5.5	5.3	4.6U	4.6U	4.6U	9.6	15
SD-B-1-5.5-10.5	4.3U	4.3U	4.3U	4.3U	8.6U	0
SD-B-1-15.5-17.5	5.6	4.4U	4.4U	4.4U	8.8U	5.6
SD-B-5-0-0.5	9.1U	9.1U	9.1U	9.1U	18U	0
DUP080499A	10U	10U	10U	10U	20U	0
SD-B-5-0.5-5.5	5.2U	5.2U	5.2U	5.2U	10U	0
DUP080499B	7.2U	7.2U	7.2U	7.2U	14U	0
SD-B-5-5.5-10.5	4.1U	4.1U	4.1U	4.1U	8.1U	0
SD-B-5-10.5-15.5	5.8U	5.8U	5.8U	5.8U	12U	0
SD-C-1-0.5-5.5	280U	1000	280U	2600	2600	6200
SD-C-1-5.5-10.5	5.1U	5.1U	5.1U	5.1U	10U	0
SD-C-1-10.5-15.5	4.6U	4.6U	4.6U	4.6U	9.2U	0
SD-C-4-0-0.5	9.6U	9.6U	9.6U	9.6U	19U	0
SD-C-4-0.5-5.5	5.2U	5.2U	5.2U	5.2U	10U	0
SD-C-4-5.5-10.5	4.4U	4.4U	4.4U	4.4U	8.7U	0
SD-D-6-5.5-10.5	5.2U	5.2U	5.2U	5.2U	10U	0

Table 7-1a
Volatile Organic Compounds
Sediment Samples (mg/Kg) - Compliance Status Investigation
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Sample ID	Carbon Disulfide	Benzene	Toluene	Ethylbenzene	Xylenes	Total Detected VOCs
Background	**5.2**	**DL**	**21**	**DL**	**DL**	
DUP072699B	6.1U	6.1U	6.1U	6.1U	12U	0
SD-D-6-10.5-15.5	6.7	5.4U	5.4U	5.4U	11U	6.7
SD-D-10-0-0.5	7.1U	7.1U	7.1U	7.1U	14U	0
SD-D-10-0.5-5.5	4.7U	4.7U	4.7U	4.7U	9.4U	0
SD-D-10-5.5-10.5	5.3U	5.3U	5.3U	5.3U	11U	0
SD-D-10-10.5-15.5	4.4U	4.4U	4.4U	4.4U	8.9U	0
SD-D-10-15.5-17.5	6.8	3.9U	3.9U	3.9U	7.8U	6.8
SD-E-2-0-0.5	12U	12U	12U	12U	24U	0
DUP072199A	16U	16U	16U	16U	33U	0
SD-E-2-5.5-10.5	4.9U	4.9U	4.9U	4.9U	9.8U	0
SD-E-2-10.5-13.5	5U	5U	5U	5U	10U	0
SD-E-2-13.5-16.5	4.3U	4.3U	4.3U	4.3U	8.6U	0
SD-E-5-0-0.5	7U	7U	7U	7U	14U	0
SD-E-5-0.5-5.5	4.9U	4.9U	4.9U	4.9U	9.8U	0
SD-E-5-5.5-10.5	5.4U	5.4U	5.4U	5.4U	11U	0
SD-E-5-10.5-15.5	6.5U	6.5U	6.5U	6.5U	13U	0
SD-F-7-10.5-15.5	4.2U	4.2U	4.2U	4.2U	8.3U	0
SD-FA-3-0-0.5	13U	13U	13U	13U	25U	0
SD-FA-3-0.5-5.5	4.5U	4.5U	4.5U	4.5U	9U	0
SD-FA-3-5.5-10.5	5.7U	5.7U	5.7U	5.7U	5.7U	0
SD-FA-3-10.5-15.5	7U	7U	7U	7U	14U	0
SD-FA-3-15.5-17.5	4.6U	4.6U	4.6U	4.6U	9.1U	0
SD-I-1-0-0.5	16U	16U	16U	16U	32U	0
SD-I-1-0.5-5.5	3.9U	3.9U	3.9U	3.9U	7.8U	0
SD-I-1-5.5-10.5	7U	7U	7U	7U	14U	0
SD-I-1-10.5-15.5	4.7U	4.7U	4.7U	4.7U	9.4U	0
SD-I-1-15.5-20.5	5U	5U	5U	5U	10U	0
SD-K-1-0-0.5	11U	11U	11U	11U	23U	0
SD-K-1-0.5-5.5	6.5U	6.5U	6.5U	6.5U	13U	0
SD-K-1-5.5-10.5	8.7U	8.7U	8.7U	8.7U	17U	0
SD-K-1-10.5-15.5	3.9U	3.9U	3.9U	3.9U	7.8U	0
SD-K-1-15.5-19	5.1U	5.1U	5.1U	5.1U	10U	0
SD-L-3-0.5-5.5	4.5U	4.5U	4.5U	4.5U	9U	0
SD-L-3-5.5-10.5	4.2U	4.2U	4.2U	4.2U	8.4U	0
SD-L-3-12.5-15.5	6.3U	6.3U	6.3U	6.3U	12U	0

Table 7-1a
Volatile Organic Compounds
Sediment Samples (mg/Kg) - Compliance Status Investigation
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Sample ID	Carbon Disulfide	Benzene	Toluene	Ethylbenzene	Xylenes	Total Detected VOCs
Background	**5.2**	**DL**	**21**	**DL**	**DL**	
SD-L-4-0-0.5	3.7U	3.7U	3.7U	3.7U	7.3U	0
DUP072099A	4.4U	4.4U	4.4U	4.4U	8.9U	0
SD-L-4-0.5-5.5	4.2U	4.2U	4.2U	4.2U	8.4U	0
SD-L-4-5.5-10.5	4.2U	4.2U	4.2U	4.2U	8.4U	0
SD-L-4-10.5-15.5	4.9U	4.9U	4.9U	4.9U	10U	0
SD-M-2-0-0.5	4.1U	4.1U	4.1U	4.1U	8.2U	0
SD-M-2-0.5-5.5	4.4U	4.4U	4.4U	4.4U	8.8U	0
SD-M-2-5.5-10.5	5.2U	5.2U	5.2U	5.2U	10U	0
SD-M-2-10.5-13.5	4.9U	4.9U	4.9U	4.9U	10U	0
SD-M-5-0-0.5	4.6U	4.6U	4.6U	4.6U	9.2U	0
SD-M-5-0.5-5.5	5U	5U	5U	5U	9.9U	0
SD-M-5-5.5-10.5	4.4U	4.4U	4.4U	4.4U	8.8U	0
SD-M-5-10.5-15.5	8.9	6.1U	6.1U	6.1U	12U	8.9
SD-M-6-0-0.5	4.6U	4.6U	4.6U	4.6U	9.2U	0
SD-M-6-0.5-5.5	4.3U	4.3U	4.3U	4.3U	8.5U	0
SD-M-6-5.5-10.5	3.7U	3.7U	3.7U	3.7U	7.5U	0
SD-M-6-10.5-15.5	5U	5U	5U	5U	10U	0
SD-M-6-15.5-20.5	5U	5U	5U	5U	9.9U	0
SD-O-2-0-0.5	4.7U	4.7U	4.7U	4.7U	10U	0
SD-O-2-0.5-5.5	5.3U	5.3U	5.3U	5.3U	10U	0
SD-O-2-10.5-15.5	5.3U	5.3U	5.3U	5.3U	10U	0
SD-O-2-15.5-19	5.8U	5.8U	5.8U	5.8U	12U	0
SD-R-1-0-0.5	6U	6U	6U	6U	12U	0
SD-R-1-0.5-5.5	5.4U	5.4U	5.4U	5.4U	11U	0
SD-R-1-5.5-10.5	9U	9U	9U	9U	18U	0
SD-R-1-10.5-15.5	5.9	5.2U	5.2U	5.2U	10U	5.9
SD-R-1-15.5-20.5	6.4U	6.4U	6.4U	6.4U	13U	0

Notes:

U - Compound was analyzed for but not detected

DL - Detection Limit

Table 7-1b
Semivolatile Organic Compounds
Sediment Samples (µg/Kg) - Compliance Status Investigation
Atlanta Gas Light Company
Former Manufactured Gas Plant
Macon, Georgia

Sample ID	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Chrysene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenzo(a,h)anthracene	Benzo(g,h,i)perylene	Phenol	2,4-Dimethylphenol	2-Methylphenol	3&4-Methylphenol	Total Detected SVOCs
Background	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	
SD-A-1-0-0.5	840U	840U	840U	840U	840U	840U	840U	840U	840U	840U	840U	840U	840U	840U	840U	840U	840U	840U	840U	840U	0
DUP080199A	840U	840U	840U	840U	840U	840U	840U	840U	840U	840U	840U	840U	840U	840U	840U	840U	840U	840U	840U	840U	0
SD-A-1-0.5-4.5	420U	420U	420U	420U	420U	420U	420U	420U	420U	420U	420U	420U	420U	420U	420U	420U	420U	420U	420U	420U	0
SD-A-5-0-0.5	940U	940U	940U	940U	940U	940U	940U	940U	940U	940U	940U	940U	940U	940U	940U	940U	940U	940U	940U	940U	0
SD-A-5-0.5-5.5	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	0
SD-A-5-5.5-10.5	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	0
SD-A-5-10.5-15.5	510U	510U	510U	510U	510U	510U	510U	510U	510U	510U	510U	510U	510U	510U	510U	510U	510U	510U	510U	510U	0
SD-A-10-0-0.5	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	0
SD-A-10-05.5-5.5	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	0
SD-A-10-5.5-10.5	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	0
SD-A-10-10.5-15.5	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	0
SD-AB-3-0-0.5	780U	780U	780U	780U	780U	780U	780U	780U	780U	780U	780U	780U	780U	780U	780U	780U	780U	780U	780U	780U	0
SD-AB-3-0.5-5.5	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	0
SD-AB-3-5.5-9	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	0
SD-AB-7.5-0-0.5	820U	820U	820U	820U	820U	820U	820U	820U	820U	820U	820U	820U	820U	820U	820U	820U	820U	820U	820U	820U	0
SD-AB-7.5-0.5-5.5	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	0
SD-AB-7.5-5.5-10.5	420U	420U	420U	420U	420U	420U	420U	420U	420U	420U	420U	420U	420U	420U	420U	420U	420U	420U	420U	420U	0
SD-AD-2.5-5.5-10.5	250000	24000U	120000	77000	260000	75000	170000	140000	51000	50000	40000	36000	53000	24000U	24000U	26000	24000U	24000U	24000U	24000U	1300000
SD-B-1-0-0.5	740U	740U	740U	740U	740U	740U	740U	740U	740U	740U	740U	740U	740U	740U	740U	740U	740U	740U	740U	740U	0
SD-B-1-0.5-5.5	19000	2200U	45000	17000	64000	18000	31000	30000	12000	12000	7500	9100	13000	5000	2200U	6200	2200U	2200U	2200U	2200U	290000
SD-B-1-5.5-10.5	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	0
SD-B-1-15.5-17.5	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	0
SD-B-5-0-0.5	670U	670U	670U	670U	670U	670U	670U	670U	670U	670U	670U	670U	670U	670U	670U	670U	670U	670U	670U	670U	0
DUP080499A	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	0
SD-B-5-0.5-5.5	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	0
DUP080499B	570U	570U	570U	570U	570U	570U	570U	570U	570U	570U	570U	570U	570U	570U	570U	570U	570U	570U	570U	570U	0
SD-B-5-5.5-10.5	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	0
SD-B-5-10.5-15.5	480U	480U	530	480U	600	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	1100
SD-C-1-0.5-5.5	460000	37000U	320000	180000	210000	640000	370000	340000	130000	130000	73000	98000	130000	66000	37000U	74000	37000U	37000U	37000U	37000U	3200000
SD-C-1-5.5-10.5	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	0
SD-C-1-10.5-15.5	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	0
SD-C-4-0-0.5	730U	730U	730U	730U	730U	730U	730U	730U	730U	730U	730U	730U	730U	730U	730U	730U	730U	730U	730U	730U	0
SD-C-4-0.5-5.5	420U	420U	420U	420U	420U	420U	420U	420U	420U	420U	420U	420U	420U	420U	420U	420U	420U	420U	420U	420U	0
SD-C-4-5.5-10.5	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	0
SD-D-6-10.5-15.5	15000	1200	9100	7100	19000	7000	13000	9400	4200	4800	3000	3700	4000	2000	560U	1900	560U	560U	560U	560U	100000
SD-D-6-5.5-10.5	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	0
DUP072699B	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	0
SD-D-10-0-0.5	640U	640U	640U	640U	640U	640U	640U	640U	640U	640U	640U	640U	640U	640U	640U	640U	640U	640U	640U	640U	0
SD-D-10-0.5-5.5	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	0
SD-D-10-5.5-10.5	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	0
SD-D-10-10.5-15.5	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	0

Table 7-1b
Semivolatile Organic Compounds
Sediment Samples (µg/Kg) - Compliance Status Investigation
Atlanta Gas Light Company
Former Manufactured Gas Plant
Macon, Georgia

Sample ID	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Chrysene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenzo(a,h)anthracene	Benzo(g,h,i)perylene	Phenol	2,4-Dimethylphenol	2-Methylphenol	3&4-Methylphenol	Total Detected SVOCs
Background	**DL**	**DL**	**DL**	**DL**	**DL**	**DL**	**DL**	**DL**	**DL**	**DL**	**DL**	**DL**	**DL**	**DL**	**DL**	**DL**	**DL**	**DL**	**DL**	**DL**	
SD-D-10-15.5-17.5	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	400U	0
SD-E-2-0-0.5	800U	800U	800U	800U	800U	800U	800U	800U	800U	800U	800U	800U	800U	800U	800U	800U	800U	800U	800U	800U	0
DUP072199A	730U	730U	730U	730U	730U	730U	730U	730U	730U	730U	730U	730U	730U	730U	730U	730U	730U	730U	730U	730U	0
SD-E-2-5.5-10.5	4700	1900U	26000	15000	15000	52000	24000	30000	8700	8300	5100	4000	8600	3300	1900U	4400	1900U	1900U	1900U	1900U	210000
SD-E-2-10.5-13.5	460U	460U	730	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	0
SD-E-2-13.5-16.5	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	0
SD-E-5-0-0.5	510U	510U	510U	510U	510U	510U	510U	510U	510U	510U	510U	510U	510U	510U	510U	510U	510U	510U	510U	510U	0
SD-E-5-0.5-5.5	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	0
SD-E-5-5.5-10.5	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	0
SD-E-5-10.5-15.5	490U	490U	490U	490U	490U	490U	490U	490U	490U	490U	490U	490U	490U	490U	490U	490U	490U	490U	490U	490U	0
SD-F-7-10.5-15.5	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	0
SD-FA-3-0-0.5	860U	860U	860U	860U	860U	860U	860U	860U	860U	860U	860U	860U	860U	860U	860U	860U	860U	860U	860U	860U	0
SD-FA-3-0.5-5.5	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	0
SD-FA-3-5.5-10.5	510U	510U	510U	510U	510U	510U	510U	510U	510U	510U	510U	510U	510U	510U	510U	510U	510U	510U	510U	510U	0
SD-FA-3-10.5-15.5	530U	530U	530U	530U	530U	530U	530U	530U	530U	530U	530U	530U	530U	530U	530U	530U	530U	530U	530U	530U	0
SD-FA-3-15.5-17.5	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	0
SD-I-1-0-0.5	860U	860U	860U	860U	860U	860U	860U	860U	860U	860U	860U	860U	860U	860U	860U	860U	860U	860U	860U	860U	0
SD-I-1-0.5-5.5	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	0
SD-I-1-5.5-10.5	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	0
SD-I-1-10.5-15.5	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	0
SD-I-1-15.5-20.5	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	0
SD-K-1-0-0.5	820U	820U	820U	820U	820U	820U	820U	820U	820U	820U	820U	820U	820U	820U	820U	820U	820U	820U	820U	820U	0
SD-K-1-0.5-5.5	470U	470U	470U	470U	470U	470U	470U	470U	480	470U	470U	530	640	470U	470U	470U	470U	470U	470U	470U	1600
SD-K-1-5.5-10.5	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	0
SD-K-1-10.5-15.5	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	0
SD-K-1-15.5-19	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	0
SD-L-3-0.5-5.5	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	0
SD-L-3-5.5-10.5	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	0
SD-L-3-12.5-15.5	470U	470U	470U	470U	470U	470U	470U	470U	470U	470U	470U	470U	470U	470U	470U	470U	470U	470U	470U	470U	0
SD-L-4-0-0.5	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	390U	0
DUP072099A	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	0
SD-L-4-0.5-5.5	360U	360U	360U	360U	360U	360U	360U	360U	360U	360U	360U	360U	360U	360U	360U	360U	360U	360U	360U	360U	0
SD-L-4-5.5-10.5	370U	370U	370U	370U	370U	370U	370U	370U	370U	370U	370U	370U	370U	370U	370U	370U	370U	370U	370U	370U	0
SD-L-4-10.5-15.5	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	0
SD-M-2-0-0.5	440U	440U	440U	440U	440U	440U	680	550	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	1200
SD-M-2-0.5-5.5	520	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	520
SD-M-2-5.5-10.5	470U	470U	470U	470U	470U	470U	470U	470U	470U	470U	470U	470U	470U	470U	470U	470U	470U	470U	470U	470U	0
SD-M-2-10.5-13.5	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	450U	0
SD-M-5-0-0.5	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	0
SD-M-5-0.5-5.5	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	0
SD-M-5-5.5-10.5	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	0

Table 7-1b
Semivolatile Organic Compounds
Sediment Samples (µg/Kg) - Compliance Status Investigation
Atlanta Gas Light Company
Former Manufactured Gas Plant
Macon, Georgia

Sample ID	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Chrysene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenzo(a,h)anthracene	Benzo(g,h,i)perylene	Phenol	2,4-Dimethylphenol	2-Methylphenol	3&4-Methylphenol	Total Detected SVOCs
Background	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	
SD-M-5-10.5-15.5	400U	400U	400U	400U	2600	1800	5800	4800	2200	2300	1300	1700	2100	1200	400U	1200	400U	400U	400U	400U	27000
SD-M-6-0-0.5	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	440U	0
SD-M-6-0.5-5.5	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	380U	0
SD-M-6-5.5-10.5	370U	370U	370U	370U	370U	370U	370U	370U	370U	370U	370U	370U	370U	370U	370U	370U	370U	370U	370U	370U	0
SD-M-6-10.5-15.5	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	0
SD-M-6-15.5-20.5	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	410U	0
SD-M-6-20.5-22	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	0
SD-O-2-0-0.5	430U	430U	430U	430U	430U	430U	590	470	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	430U	1100
SD-O-2-0.5-5.5	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	0
SD-O-2-10.5-15.5	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	0
SD-O-2-15.5-19	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	0
SD-R-1-0-0.5	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	0
SD-R-1-0.5-5.5	480U	480U	480U	480U	480U	480U	500	530	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	1000
SD-R-1-5.5-10.5	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	0
SD-R-1-10.5-15.5	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	0
SD-R-1-15.5-20.5	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	480U	0

Notes:
U - Compound was analyzed for but not detected
DL - Detection Limit

Table 7-1c
Inorganic Compounds
Sediment Samples (mg/Kg) - Compliance Status Investigation
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Sample ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Total-Cyanide
Background	**DL**	**4.8**	**270**	**1.3**	**1.3**	**44**	**35**	**55**	**0.064**	**17**	**180**	**DL**
SD-A-1-0-0.5	5.1U	4.8	240	1.3	1.3U	41	33	34	0.059	17	120	2.6U
DUP080199A	5.1U	3.9	210	1.1	1.3U	35	29	25	0.058	14	100	2.6U
SD-A-1-0.5-4.5	2.6U	1.8	160	0.92	0.64U	23	13	28	0.023U	8.5	40	1.3U
SD-A-5-0-0.5	5.7U	4.3	210	1.2	1.4U	39	35	30	0.064	16	120	2.9U
SD-A-5-0.5-5.5	2.4U	1.2U	12	0.49U	0.61U	5.9	2.4U	1.8	0.022U	4.9U	9.2	1.2U
SD-A-5-5.5-10.5	2.4U	1.2U	19	0.48U	0.6U	9.3	3.4	4.7	0.024U	4.8U	15	1.2U
SD-A-5-10.5-15.5	3.1U	1.6U	120	0.95	0.78U	20	11	7.3	0.028U	7.6	41	1.6U
SD-A-10-0-0.5	2.8U	1.4U	32	0.56U	1.3	20	5.2	4.9	0.028U	5.6U	23	1.4U
SD-A-10-05.5-5.5	2.4U	1.2U	13	0.49U	0.61U	8.2	2.4U	2.2	0.02U	4.9U	8.7	1.2U
SD-A-10-5.5-10.5	2.4U	1.2U	19	0.47U	0.59U	8.5	2.4U	2.9	0.02U	4.7U	12	1.2U
SD-A-10-10.5-15.5	2.4U	1.2U	15	0.47U	0.59U	10	2.4U	2.6	0.021U	4.7U	10	1.2U
SD-AB-3-0-0.5	4.8U	3.3	190	1	1.2U	33	26	25	0.063	13	92	2.4U
SD-AB-3-0.5-5.5	2.5U	1.5	100	0.66	0.63U	22	13	15	0.029	7.2	34	1.3U
SD-AB-3-5.5-9	2.5U	1.3U	140	0.73	0.63U	20	9.8	6.5	0.023U	6.7	39	1.3U
SD-AB-7.5-0-0.5	5U	4	190	1.1	1.2U	37	30	29	0.058	16	110	2.5U
SD-AB-7.5-0.5-5.5	2.4U	1.2U	12	0.48U	0.6U	5.5	3.7	2.2	0.024U	4.8U	8.6	1.2U
SD-AB-7.5-5.5-10.5	2.6U	1.5	68	0.51U	0.64U	31	8.8	10	0.023U	5.1U	37	1.3U
SD-AD-2.5-5.5-10.5	2.9U	4.3	210	1.4	0.74U	34	21	20	0.058	12	53	1.7
SD-B-1-0-0.5	4.5U	2.4	110	0.91U	1.1U	24	16	16	0.048	9.9	60	2.3U
SD-B-1-0.5-5.5	2.7U	2.7	170	1.2	0.68U	27	19	21	0.051	12	48	1.3U
SD-B-1-5.5-10.5	2.6U	2.5	200	1.3	0.66U	31	20	15	0.035	14	50	1.3U
SD-B-1-15.5-17.5	2.7U	2.5	150	1.4	0.67U	40	19	14	0.029	15	58	1.3U
SD-B-5-0-0.5	3.7U	3.6	160	0.91	0.93U	33	28	28	0.046	14	97	2U
DUP080499A	2.4U	1.2U	14	0.48U	0.6U	8.2	2.4U	2	0.023U	4.8U	11	1.2U
SD-B-5-0.5-5.5	2.1U	1.1U	13	0.42U	0.53U	9.6	2.1U	1.9	0.023U	4.2U	9.7	1.2U
DUP080499B	3.1U	2.9	100	0.63	0.78U	22	17	19	0.035	9.1	61	1.7U
SD-B-5-5.5-10.5	2.5U	1.2U	15	0.49U	0.62U	14	2.5U	14	0.022U	4.9U	12	1.2U
SD-B-5-10.5-15.5	2.9U	1.4U	68	0.58U	0.72U	15	5.4	9.9	0.029U	5.8U	30	1.4U

Table 7-1c
Inorganic Compounds
Sediment Samples (mg/Kg) - Compliance Status Investigation
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Sample ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Total-Cyanide
Background	**DL**	**4.8**	**270**	**1.3**	**1.3**	**44**	**35**	**55**	**0.064**	**17**	**180**	**DL**
SD-C-1-0.5-5.5	2.8U	1.8	63	0.56U	0.7U	17	11	14	0.05	5.6U	25	4.1
SD-C-1-5.5-10.5	2.4U	1.2U	81	0.82	0.61U	24	8.5	7.9	0.025	7.7	35	1.3U
SD-C-1-10.5-15.5	2.7U	2.3	220	1.5	0.87	42	21	14	0.029	17	65	1.4U
SD-C-4-0-0.5	4U	4.5	170	1	1.1	33	25	25	0.051	14	89	2.2U
SD-C-4-0.5-5.5	2.6U	1.3U	18	0.52U	0.65U	8.8	2.6U	2.6	0.026U	5.2U	13	1.3U
SD-C-4-5.5-10.5	2.4U	1.2	56	0.49U	0.61U	21	9.6	7.6	0.024U	5.9	28	1.2U
SD-D-6-10.5-15.5	2.9U	1.6	47	0.57U	0.71U	12	5.2	6.1	0.029U	5.7U	24	1.4U
SD-D-6-5.5-10.5	2.6U	1.4	58	0.53U	0.66U	14	7	11	0.026	5.3U	31	1.3U
DUP072699B	2.8U	1.4U	37	0.56U	0.69U	13	5.4	6.1	0.025	5.6U	21	1.4U
SD-D-10-0-0.5	3.9U	2U	52	0.78U	0.98U	24	8.6	8.5	0.039U	7.8U	36	2U
SD-D-10-0.5-5.5	2.4U	1.2U	10	0.48U	0.6U	19	2.4U	3.6	0.024U	4.8U	11	1.2U
SD-D-10-5.5-10.5	2.9U	1.4U	14	0.58U	0.72U	5.7	2.9U	2.3	0.029U	5.8U	11	1.4U
SD-D-10-10.5-15.5	2.6U	1.3U	7.9	0.52U	0.65U	5.2	2.6U	2.5	0.026U	5.2U	6.9	1.3U
SD-D-10-15.5-17.5	2.4U	1.2U	260	0.48U	0.6U	15	26	40	0.11	6.6	55	1.2U
SD-E-2-0-0.5	4.4U	3	180	1	1.2	35	29	27	0.056	14	97	2.4U
DUP072199A	4.4U	5.1	170	1.2	1.4	51	29	29	0.044	21	94	2.2U
SD-E-2-5.5-10.5	2.9U	1.5U	100	1.2	0.74U	24	8.7	7.8	0.027	8.3	36	1.5U
SD-E-2-10.5-13.5	2.8U	1.4U	21	0.56U	0.7U	9.6	3	2.5	0.028U	5.6U	18	1.4U
SD-E-2-13.5-16.5	2.6U	1.4	82	0.86	0.66U	20	9.1	6.2	0.026U	8.1	34	1.3U
SD-E-5-0-0.5	3.1U	2.6	97	0.62U	1.5	21	14	14	0.028U	8.4	58	1.6U
SD-E-5-0.5-5.5	2.5U	1.2U	16	0.49U	0.62U	11	2.5U	2.9	0.025U	4.9U	13	1.2U
SD-E-5-5.5-10.5	2.7U	1.4U	21	0.54U	0.68U	7.2	2.7U	3.2	0.027U	5.4U	13	1.4
SD-E-5-10.5-15.5	3U	1.5U	80	0.6	0.75U	17	7.6	21	0.025U	6	37	1.5U
SD-F-7-10.5-15.5	2.3U	1.2U	24	0.47U	0.58U	11	3.9	20	0.023U	4.7U	14	1.2U
SD-FA-3-0-0.5	4.8U	5.3	220	1.4	1.4	42	35	33	0.065	18	120	2.6U
SD-FA-3-0.5-5.5	2.3U	1.2U	13	0.47U	0.58U	9.9	2.3U	1.8	0.021U	4.7U	10	1.2U
SD-FA-3-5.5-10.5	3.1U	2.1	230	1.5	0.77U	30	21	14	0.043	12	51	1.5U
SD-FA-3-10.5-15.5	2.9U	1.5U	100	1.1	0.73U	21	8.8	6.6	0.032U	8.2	40	1.6U

Table 7-1c
Inorganic Compounds
Sediment Samples (mg/Kg) - Compliance Status Investigation
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Sample ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Total-Cyanide
Background	**DL**	**4.8**	**270**	**1.3**	**1.3**	**44**	**35**	**55**	**0.064**	**17**	**180**	**DL**
SD-FA-3-15.5-17.5	2.6U	1.3U	180	1.1	0.65U	16	18	4.3	0.024U	12	63	1.3U
SD-I-1-0-0.5	4.8U	4.5	210	1	1.2U	40	33	62	0.058	17	120	2.6U
SD-I-1-0.5-5.5	2.7U	2.4	100	0.62	0.68U	29	16	29	0.044	9.9	55	1.4U
SD-I-1-5.5-10.5	2.8U	1.4	150	1.7	0.7U	32	11	10	0.026	11	45	1.4U
SD-I-1-10.5-15.5	2.6U	1.3U	95	1	0.66U	29	8.2	7.5	0.024U	8	32	1.3U
SD-I-1-15.5-20.5	3U	1.5U	260	2	0.76U	42	21	15	0.03U	12	64	1.5U
SD-K-1-0-0.5	4.5U	4.3	200	1.1	1.1U	39	34	31	0.056	15	110	2.5U
SD-K-1-0.5-5.5	2.9U	2.2	200	1.3	0.71U	32	21	13	0.041	12	70	1.4U
SD-K-1-5.5-10.5	2.8U	1.4U	150	1.2	0.69U	29	13	9.1	0.028	11	46	1.4U
SD-K-1-10.5-15.5	2.5U	1.6	180	1.6	0.62U	33	16	12	0.027	12	55	1.4U
SD-K-1-15.5-19	2.7U	2.1	160	1.9	0.67U	41	20	14	0.026	14	65	1.4U
SD-L-3-0.5-5.5	2.1U	1U	14	0.42U	0.52U	9.8	2.1U	2.1	0.021U	4.2U	10	1.1U
SD-L-3-5.5-10.5	2.1U	1U	24	0.42U	0.52U	5.8	8.5	51	0.052	4.2U	14	1.6
SD-L-3-12.5-15.5	2.9U	1.4U	51	0.57U	0.71U	9.4	3.5	2.8	0.029U	5.7U	18	1.4U
SD-L-4-0-0.5	2.2U	1.1U	22	0.43U	0.54U	7	3	3.1	0.025U	4.3U	14	1.2U
DUP072099A	2.7U	1.4U	16	0.54U	0.68U	23	2.7U	2.7	0.022U	5.4U	16	1.4U
SD-L-4-0.5-5.5	2U	1U	10	0.4U	0.51U	10	2U	1.6	0.02U	4U	7.3	1.1U
SD-L-4-5.5-10.5	2.1U	1U	11	0.41U	0.52U	8.1	2.1U	4.5	0.021U	4.1U	11	1.1U
SD-L-4-10.5-15.5	2.4U	1.2U	6.3	0.48U	0.61U	6	2.4U	1.4	0.027U	4.8U	3.9	1.3U
SD-M-2-0-0.5	2.5U	2	45	0.49U	0.61U	13	32	12	0.027U	4.9U	350	1.4U
SD-M-2-0.5-5.5	2.4U	1.5	150	1	0.59U	20	13	21	0.15	7.8	45	1.3U
SD-M-2-5.5-10.5	2.9U	1.4U	140	1.4	0.71U	20	8.5	6.3	0.029U	7.6	42	1.4U
SD-M-2-10.5-13.5	2.5U	1.2U	40	0.5U	0.62U	8	2.9	2.3	0.029U	5U	15	1.4U
SD-M-5-0-0.5	2.7U	1.3U	35	0.53U	0.67U	9.9	4.7	6.1	0.027U	5.3U	22	1.3U
SD-M-5-0.5-5.5	2.5U	1.2U	18	0.5U	0.62U	4.3	2.5U	1.9	0.025U	5U	11	1.2U
SD-M-5-5.5-10.5	2.4U	1.2U	13	0.48U	0.6U	7.5	2.4U	4.2	0.025U	4.8U	9.7	1.3U
SD-M-5-10.5-15.5	2.4U	1.2U	55	0.57	0.61U	12	6.2	20	0.022U	5	21	1.2U
SD-M-6-0-0.5	2.7U	1.3U	16	0.53U	0.67U	9.4	2.7U	2.4	0.027U	5.3U	12	1.3U

Table 7-1c
Inorganic Compounds
Sediment Samples (mg/Kg) - Compliance Status Investigation
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Sample ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Total-Cyanide
Background	**DL**	**4.8**	**270**	**1.3**	**1.3**	**44**	**35**	**55**	**0.064**	**17**	**180**	**DL**
SD-M-6-0.5-5.5	2.3U	1.2U	9.3	0.47U	0.58U	4	2.3U	1.7	0.023U	4.7U	9	1.2U
SD-M-6-5.5-10.5	2.2U	1.1U	49	0.45U	0.56U	3.7	2.8	7.8	0.022U	4.5U	13	1.1U
SD-M-6-10.5-15.5	2.6U	1.7	140	0.84	0.66U	18	11	9.3	0.029	7	33	1.3U
SD-M-6-15.5-20.5	2.5U	1.2U	9.3	0.5U	0.62U	4.3	2.5U	1	0.025U	5U	6.4	1.3U
SD-O-2-0-0.5	4.5	1.3	31	0.48U	0.6U	12	7.3	34	0.024U	4.8U	33	1.3U
SD-O-2-0.5-5.5	2.8U	1.5	140	0.94	0.69U	20	11	9.7	0.05	8	37	1.4U
SD-O-2-10.5-15.5	2.8U	1.4U	96	0.8	0.69U	17	6.9	4.9	0.028U	6.4	30	1.4U
SD-O-2-15.5-19	2.9U	2.1	270	2.1	0.74U	41	21	15	0.029U	16	71	1.5U
SD-R-1-0-0.5	2.6U	1.5	51	0.51U	0.64U	19	9.1	9.2	0.038	5.1U	34	1.4U
SD-R-1-0.5-5.5	2.9U	3	180	1.1	0.72U	36	25	25	0.59	13	69	1.4U
SD-R-1-5.5-10.5	3U	1.7	210	1.3	0.76U	30	17	12	0.032	12	52	1.5U
SD-R-1-10.5-15.5	2.8U	1.4U	99	0.81	0.7U	20	7.8	5.7	0.028U	6.6	33	1.4U
SD-R-1-15.5-20.5	2.9U	1.4U	66	0.69	0.72U	16	6.9	5.3	0.029U	6.7	28	1.4U

Notes:
U - Compound was analyzed for but not detected
DL = Detection Limit

Table 7-2a
Volatile Organic Compounds
Surface Water Samples (µg/L) - Compliance Status Investigation
Atlanta Gas Light Company
Former Manufactured Gas Plant
Macon, Georgia

Sample ID	Carbon Disulfide	Benzene	Toluene	Ethylbenzene	Xylenes	Total Detected VOCs
SURFACE WATER	**DL**	**DL**	**DL**	**DL**	**DL**	
SW-1	5U	5U	5U	5U	10U	0
SW-2	5U	5U	5U	5U	10U	0
SW-3	5U	5U	5U	5U	10U	0
SW-4	5U	5U	5U	5U	10U	0
SW-5	5U	5U	5U	5U	10U	0
SW-6	5U	5U	5U	5U	10U	0

Notes:

DL = Detection Limit

U = Compound was analyzed for but not detected

Table 7-2b
Semivolatile Organic Compounds
Surface Water Samples (µg/L) - Compliance Status Investigation
Atlanta Gas Light Company
Former Manufactured Gas Plant
Macon, Georgia

Sample ID	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Chrysene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenzo(a,h)anthracene	Benzo(g,h,i)perylene	Phenol	2,4-Dimethylphenol	2-Methylphenol	3&4-Methylphenol	Total Detected SVOCs
SURFACE WATER	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	
SW-1	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	0
SW-2	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	0
SW-3	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	0
SW-4	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	0
SW-5	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	0
SW-6	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	0

Notes:
DL = Detection Limit
U = Compound was analyzed for but not detected

Table 7-2c
Inorganic Compounds
Surface Water Samples (mg/L) - Compliance Status Investigation
Atlanta Gas Light Company
Former Manufactured Gas Plant
Macon, Georgia

	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	T-Cyanide
SURFACE WATER	**DL**	**DL**	**0.029**	**DL**	**DL**	**DL**	**DL**	**DL**	**DL**	**DL**	**DL**	**DL**
SW-1	0.02U	0.024	1.3	0.0069	0.005U	0.17	0.18	0.18	0.0005	0.075	0.57	0.01U
SW-2	0.02U	0.01U	0.27	0.004U	0.005U	0.045	0.043	0.038	0.0002U	0.04U	0.13	0.01U
SW-3	0.02U	0.01U	0.026	0.004U	0.005U	0.01U	0.02U	0.005U	0.0002U	0.04U	0.02U	0.01U
SW-4	0.02U	0.01U	0.025	0.004U	0.005U	0.01U	0.02U	0.005U	0.0002U	0.04U	0.02U	0.01U
SW-5	0.02U	0.01U	0.029	0.004U	0.005U	0.01U	0.02U	0.005U	0.0002U	0.04U	0.02U	0.01U
SW-6	0.02U	0.01U	0.026	0.004U	0.005U	0.01U	0.02U	0.005U	0.0002U	0.04U	0.02U	0.01U

Notes:

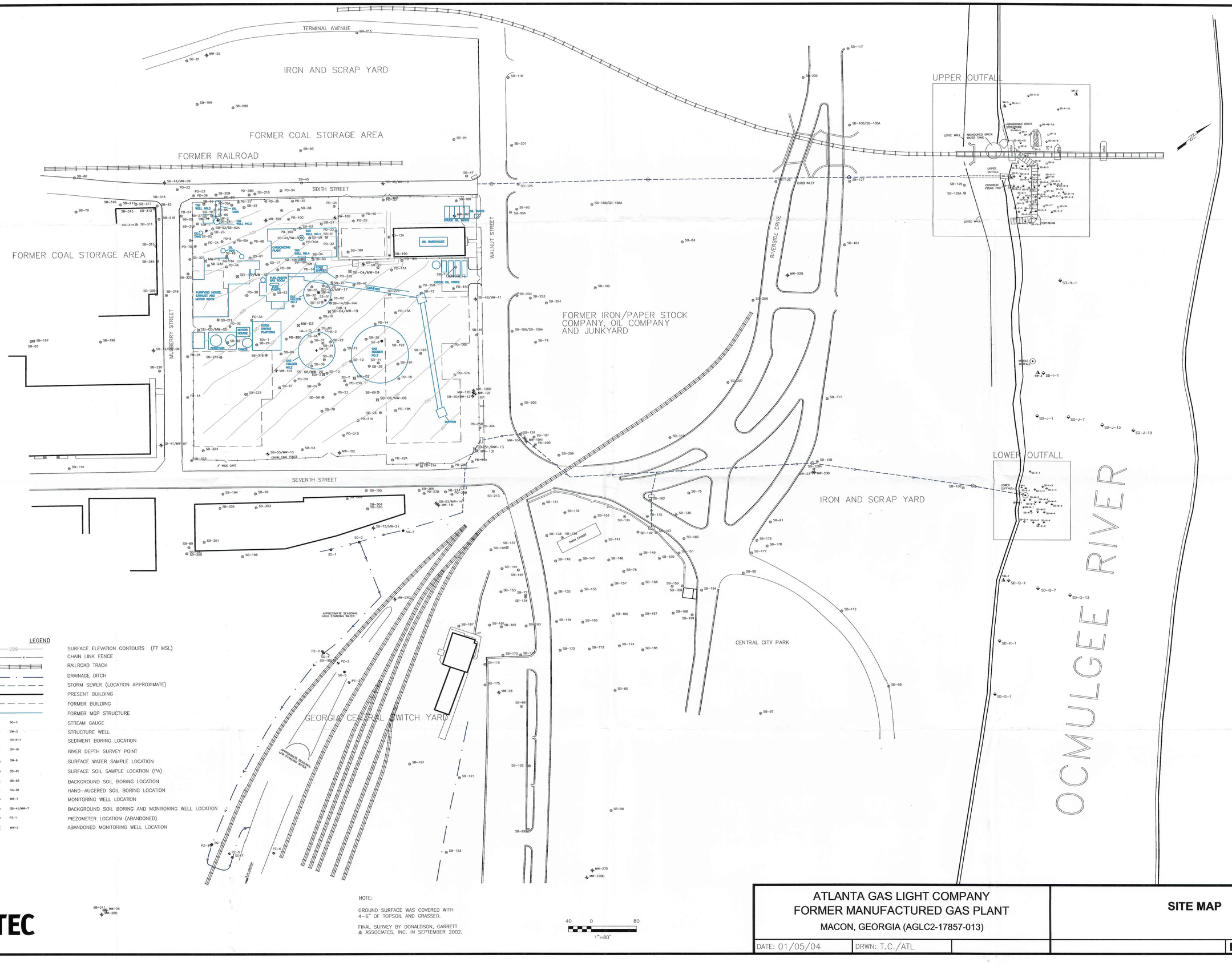
DL = Detection Limit

U = Compound was analyzed for but not detected

Table 7-3
Calculated Upgradient Limits In Sediment
Atlanta Gas Light Company
Former Manufactured Gas Plant
Macon, Georgia

SEDIMENT VOCs				
ANALYTE	**RANGE (mg/kg)**	**% NONDETECTS**	**STATISTICAL METHOD**	**UPPER UPGRADIENT LIMIT (µg/kg)**
Carbon Disulfide	<4.2 - 5.2	90%	Nonparametric 85% Prediction Limit	5.2
Benzene	<3.7 - <12	100%	Detection Limit	Detection Limit
Toluene	<3.7 - 21	90%	Nonparametric 85% Prediction Limit	21
Ethylbenzene	<3.7- <12	100%	Detection Limit	Detection Limit
Xylenes	<7.4 - <24	100%	Detection Limit	Detection Limit
SEDIMENT INORGANICS				
ANALYTE	**RANGE (mg/kg)**	**% NONDETECTS**	**STATISTICAL METHOD**	**UPPER UPGRADIENT LIMIT (mg/kg)**
Antimony (Sb)	<2.4 - <5.7	100%	Detection Limit	Detection Limit
Arsenic (As)	<1.2 - 4.8	70%	Nonparametric 85% Prediction Limit	4.8
Barium (Ba)	12 - 240	0%	Mean + 2 SDs (Lognormal)	270
Beryllium (Be)	<0.47 - 1.3	60%	Nonparametric 85% Prediction Limit	1.3
Cadmium (Cd)	<0.59 - 1.3	90%	Nonparametric 85% Prediction Limit	1.3
Chromium (Cr)	5.9 - 41	0%	Mean + 2 SDs (Normal)	44
Copper (Cu)	<2.4 - 35	40%	Nonparametric 85% Prediction Limit	35
Lead (Pb)	1.8 - 30	0%	Mean + 2 SDs (Lognormal)	55
Mercury (Hg)	<0.020 - 0.064	80%	Nonparametric 85% Prediction Limit	0.064
Nickel (Ni)	<4.7 - 17	60%	Nonparametric 85% Prediction Limit	17
Zinc (Zn)	9.2 - 120	0%	Mean + 2 SDs (Normal)	180
Cyanide (CN)	<1.2 - <2.9	100%	Detection Limit	Detection Limit

Figures



LEGEND

299	SURFACE ELEVATION CONTOURS (FT MSL)
x x	CHAIN LINK FENCE
	RAILROAD TRACK
	DRAINAGE DITCH
	STORM SEWER (LOCATION APPROXIMATE)
	PRESENT BUILDING
	FORMER BUILDING
	FORMER MGP STRUCTURE
SG-3	STREAM GAUGE
SW-3	STRUCTURE WELL
SD-R-1	SEDIMENT BORING LOCATION
SP-10	RIVER DEPTH SURVEY POINT
SW-6	SURFACE WATER SAMPLE LOCATION
SS-01	SURFACE SOIL SAMPLE LOCATION (PA)
SB-B3	BACKGROUND SOIL BORING LOCATION
HA-01	HAND-AUGERED SOIL BORING LOCATION
MW-7	MONITORING WELL LOCATION
SB-41/MW-7	BACKGROUND SOIL BORING AND MONITORING WELL LOCATION
PZ-1	PIEZOMETER LOCATION (ABANDONED)
MW-3	ABANDONED MONITORING WELL LOCATION

SB-213 MW-26 MW-26D

NOTE:

GROUND SURFACE WAS COVERED WITH 4–6" OF TOPSOIL AND GRASSED.

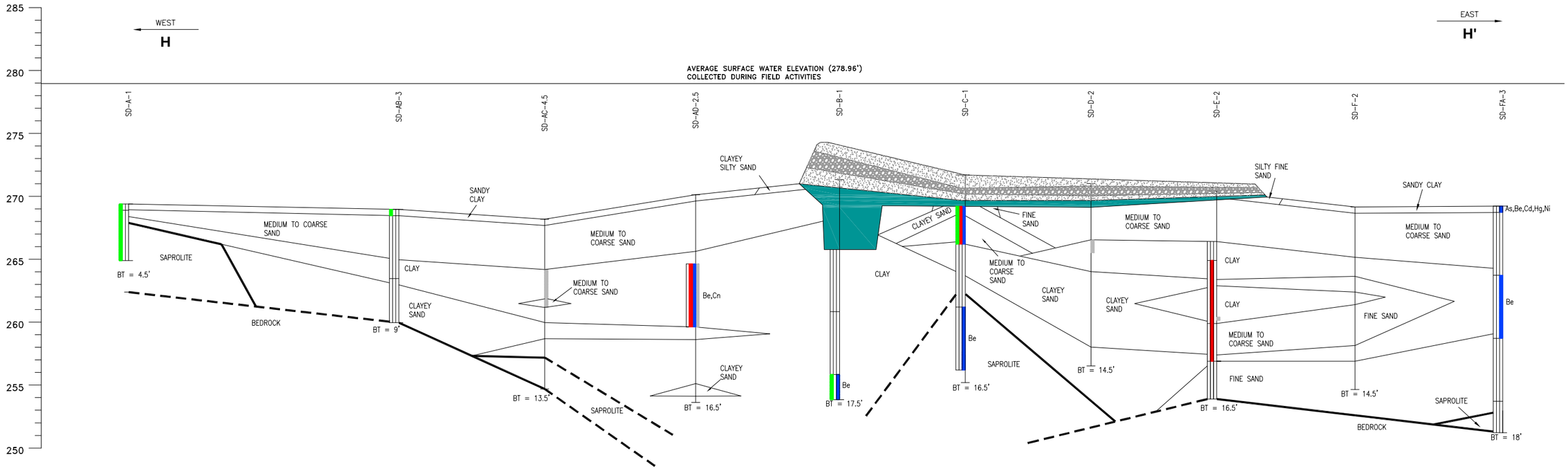
FINAL SURVEY BY DONALDSON, GARRETT & ASSOCIATES, INC. IN SEPTEMBER 2002.

40 0 80
1"=80'

RETEC

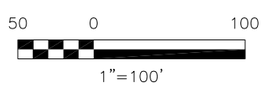
ATLANTA GAS LIGHT COMPANY FORMER MANUFACTURED GAS PLANT MACON, GEORGIA (AGLC2-17857-013)	**SITE MAP**
DATE: 01/05/04 DRWN: T.C./ATL	**FIGURE 2-3**

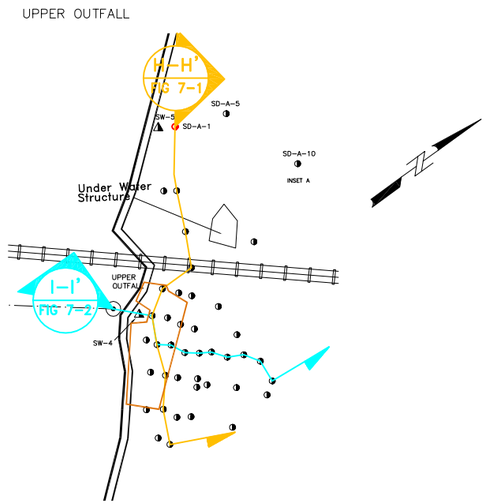
File: x:\AGLC Macon (17857)\CSR – Dec. 2003\FIG_2-3.dwg Layout: ANSI_D1 User: tcampbell RetTech: Jan 15, 2004 – 10:00am Xref's:



LEGEND

- CONCENTRATION OF VOCs IN THE SEDIMENT EXCEEDING UPGRADIENT LIMIT
- CONCENTRATION OF SVOCs IN THE SEDIMENT EXCEEDING UPGRADIENT LIMIT
- CONCENTRATION OF INORGANICS IN SEDIMENT EXCEEDING UPGRADIENT LIMIT
- NOT ANALYZED
- BLANK CELLS INDICATE SAMPLE DID NOT EXCEED UPGRADIENT LIMIT
- VISUAL OBSERVATIONS OF TAR-LIKE MATERIAL
- BT=25' – BORING TERMINATION (FEET BELOW GROUND SURFACE)
- ARMOR STONE
- SAND
- AQUABLOK





SOURCE: WILLIAMS ENVIRONMENTAL SERVICES, INC., COMPLIANCE STATUS INVESTIGATION REPORT, MARCH 23, 2000

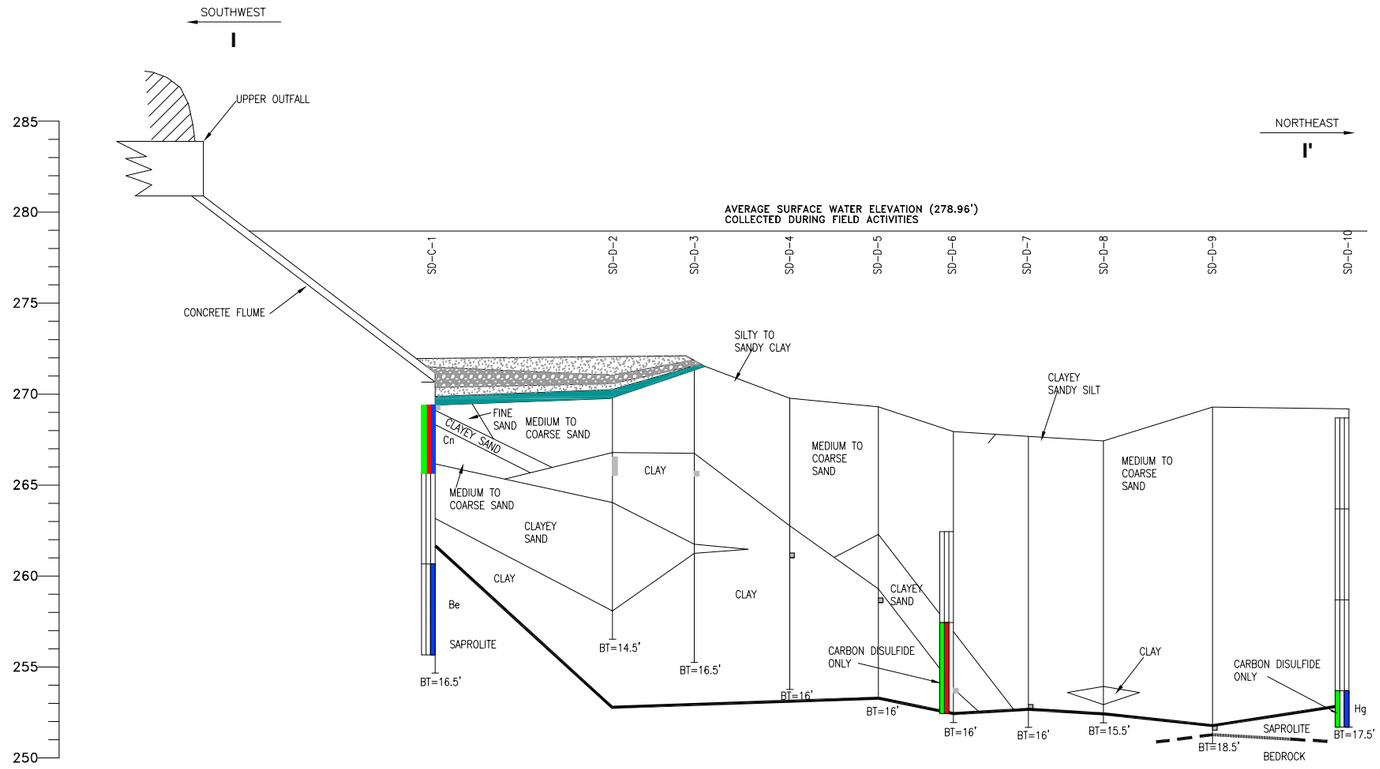
RETEC

ATLANTA GAS LIGHT COMPANY
FORMER MANUFACTURED GAS PLANT
MACON, GEORGIA (AGLC2-17857-013)

CROSS SECTION H-H'

DATE: 01/05/04 | DRWN: T.C./ATL | **FIGURE 7-1**

File: J:\AGLC\Macon (17857)\CSR - Dec 2003\FIG_7-1.dwg Layout: ANSL_BI User: tcampbell Plotted: Feb 18, 2004 - 10:22am Xref's:

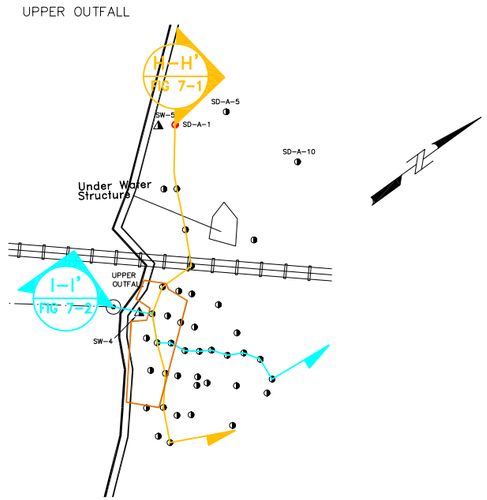


LEGEND

- CONCENTRATION OF VOCs IN THE SEDIMENT EXCEEDING UPGRADIENT LIMIT
- CONCENTRATION OF SVOCs IN THE SEDIMENT EXCEEDING UPGRADIENT LIMIT
- CONCENTRATION OF INORGANICS IN SEDIMENT EXCEEDING UPGRADIENT LIMIT
- NOT ANALYZED
- BLANK CELLS INDICATE SAMPLE DID NOT EXCEED UPGRADIENT LIMIT
- VISUAL OBSERVATIONS OF TAR-LIKE MATERIAL
- BT=25' – BORING TERMINATION (FEET BELOW GROUND SURFACE)
- ARMOR STONE
- SAND
- AQUABLOK

50 0 100

1"=100'



SOURCE: WILLIAMS ENVIRONMENTAL SERVICES, INC., COMPLIANCE STATUS INVESTIGATION REPORT, MARCH 23, 2000

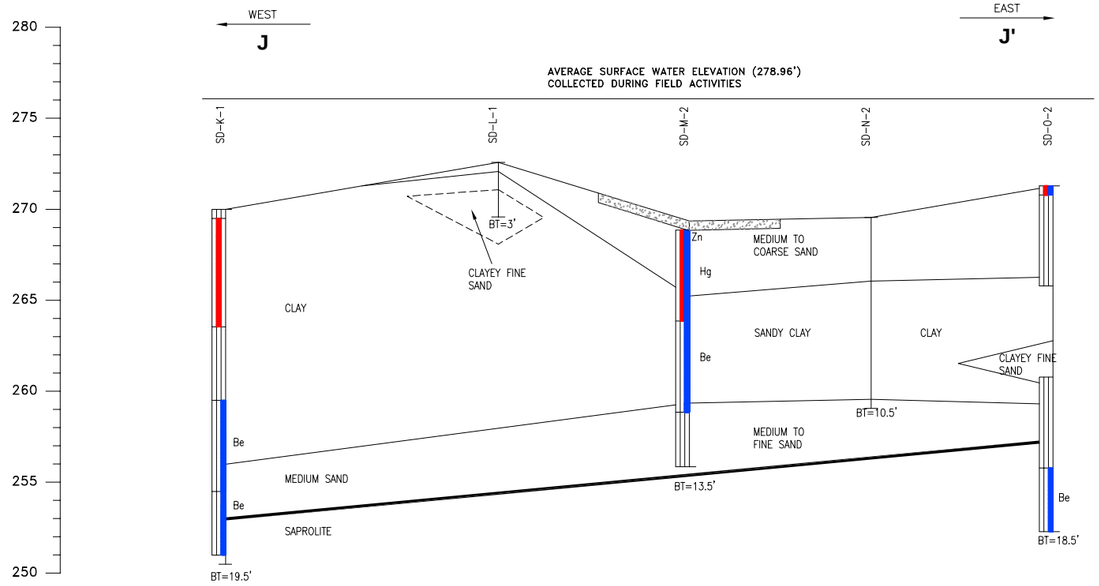
RETEC

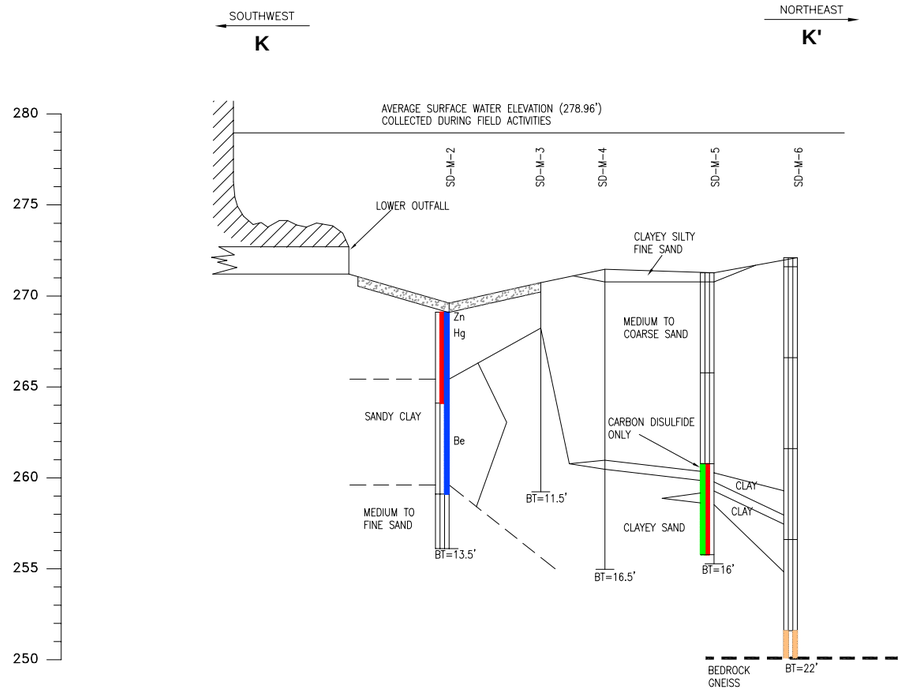
ATLANTA GAS LIGHT COMPANY
FORMER MANUFACTURED GAS PLANT
MACON, GEORGIA (AGLC2-17857-013)

CROSS SECTION
I-I'

DATE: 01/05/04 | DRWN: T.C./ATL | **FIGURE 7-2**

File: J:\AGLC\Macon (17857)\CSR - Dec 2003\FIG_7-2.dwg Layout: ANSL_BI User: tcampbell Plotted: Feb 18, 2004 - 10:20am Xref's:

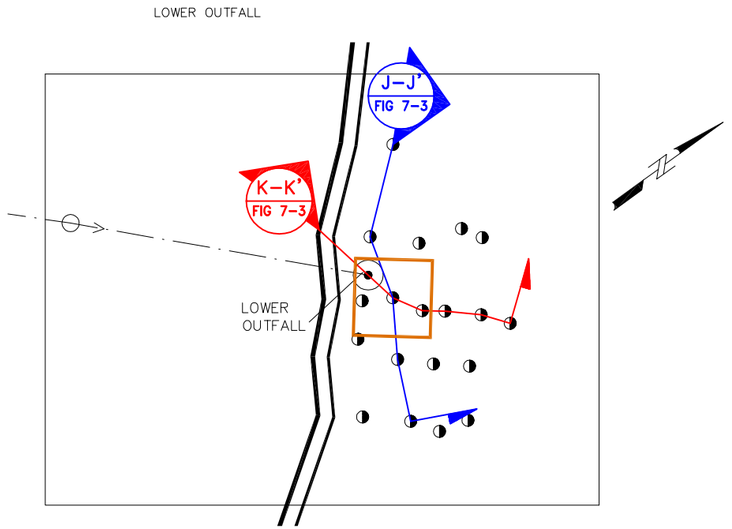




LEGEND

- CONCENTRATION OF VOCs IN THE SEDIMENT EXCEEDING UPGRADIENT LIMIT
- CONCENTRATION OF SVOCs IN THE SEDIMENT EXCEEDING UPGRADIENT LIMIT
- CONCENTRATION OF INORGANICS IN SEDIMENT EXCEEDING UPGRADIENT LIMIT
- NOT ANALYZED
- BLANK CELLS INDICATE SAMPLE DID NOT EXCEED UPGRADIENT LIMIT
- VISUAL OBSERVATIONS OF TAR-LIKE MATERIAL
- BT=25' – BORING TERMINATION (FEET BELOW GROUND SURFACE)
- ARMOR STONE
- SAND

50 0 100
1"=100'



SOURCE: WILLIAMS ENVIRONMENTAL SERVICES, INC., COMPLIANCE STATUS INVESTIGATION REPORT, MARCH 23, 2000

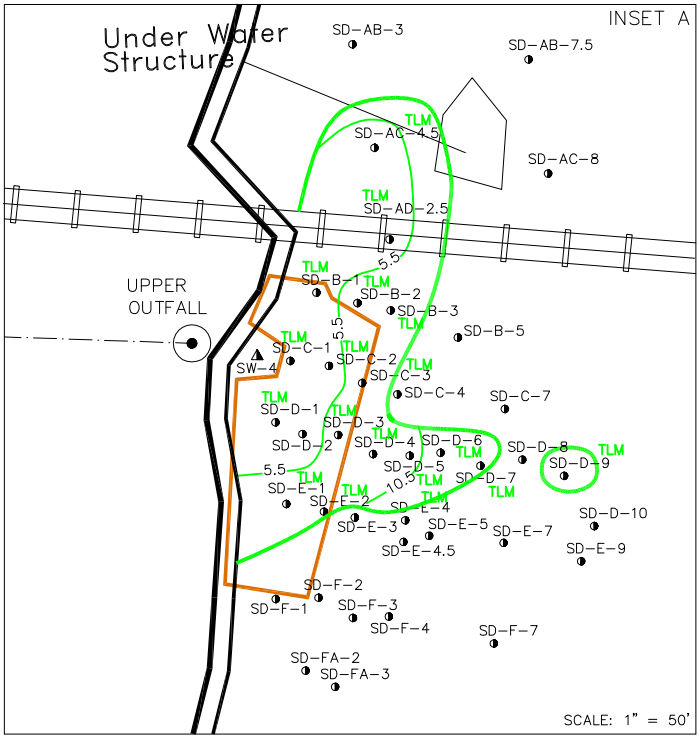
RETEC

ATLANTA GAS LIGHT COMPANY
FORMER MANUFACTURED GAS PLANT
MACON, GEORGIA (AGLC2-17857-013)

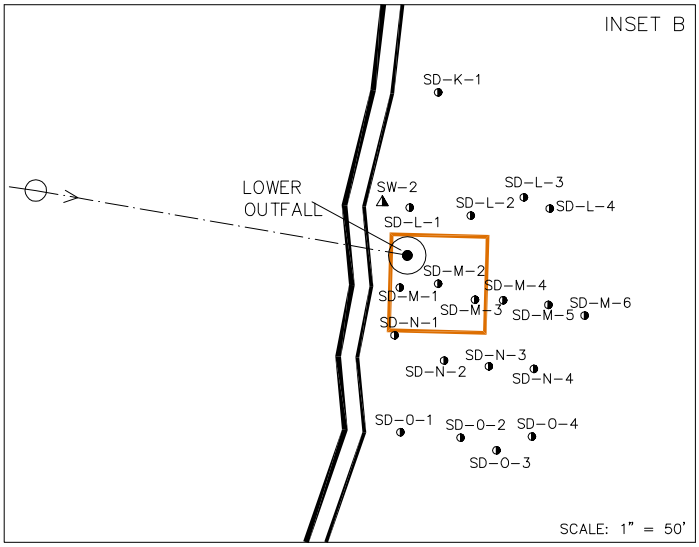
CROSS SECTIONS J-J' AND K-K'

DATE: 01/05/04 | DRWN: T.C./ATL | **FIGURE 7-3**

File: J:\AGLC\Macon (17857)\CSR - Dec 2003\FIG_7-3.dwg Layout: ANSL_BI User: tcampbell Plotted: Feb 18, 2004 - 10:19am Xref's:



UPPER OUTFALL



LOWER OUTFALL

50 0 100

1"=100'

LEGEND

- RAILROAD TRACK
- STORM SEWER (LOCATION APPROXIMATE)
- SB-21 — SOIL BORING LOCATION
- SD-B-1 — SEDIMENT BORING LOCATION
- SW-1 — SURFACE WATER SAMPLE LOCATION
- TLM — TAR-LIKE MATERIAL
- VISUAL INDICATIONS OF TAR-LIKE MATERIAL
- CONTOUR OF SHALLOWEST DEPTH OF OBSERVED TLM (FIRST OBSERVED TLM IS BELOW 0.5')
- SEDIMENT EXCAVATION BOUNDARY

SOURCE: WILLIAMS ENVIRONMENTAL SERVICES, INC., COMPLIANCE STATUS INVESTIGATION REPORT, MARCH 23, 2000

RETEC

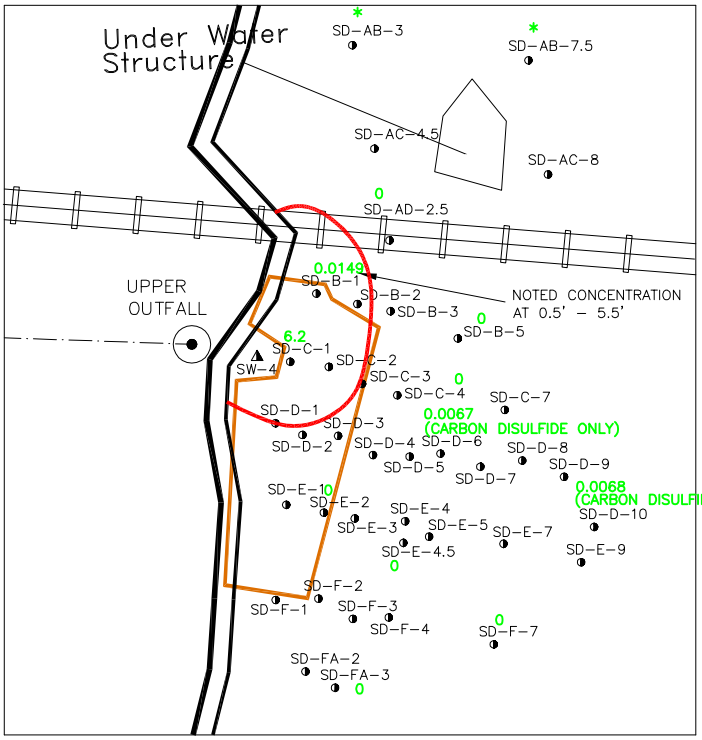
ATLANTA GAS LIGHT COMPANY
FORMER MANUFACTURED GAS PLANT
MACON, GEORGIA (AGLC2-17857-013)

VISUAL INDICATIONS OF TAR-LIKE MATERIAL IN SEDIMENT

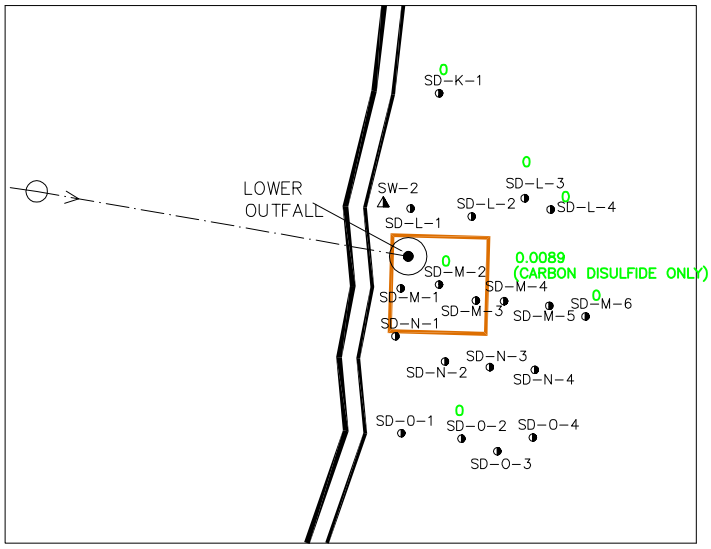
DATE: 01/05/04 | DRWN: T.C./ATL

FIGURE 7-4

File: J:\AGLC\Macon (17857)\CSR - Dec 2003\FIG_7-4.dwg Layout: ANSI_D1 User: tcampbell Plotted: Feb 18, 2004 - 10:19am Xref's:



UPPER OUTFALL



LOWER OUTFALL

50 0 100

1"=100'

LEGEND

- RAILROAD TRACK
- STORM SEWER (LOCATION APPROXIMATE)
- SB-21 — SOIL BORING LOCATION
- SD-B-1 — SEDIMENT BORING LOCATION
- SW-1 — SURFACE WATER SAMPLE LOCATION
- 6.2 — HIGHEST CONCENTRATION OF TOTAL VOCs ABOVE UP-GRADIENT LIMITS IN SEDIMENTS (mg/kg)
- UP-GRADIENT LIMIT ISOCONCENTRATION LINE FOR VOCs IN SEDIMENT
- * — DOES NOT EXCEED UPGRADIENT LIMIT
- SEDIMENT EXCAVATION BOUNDARY

SOURCE: WILLIAMS ENVIRONMENTAL SERVICES, INC., COMPLIANCE STATUS INVESTIGATION REPORT, MARCH 23, 2000

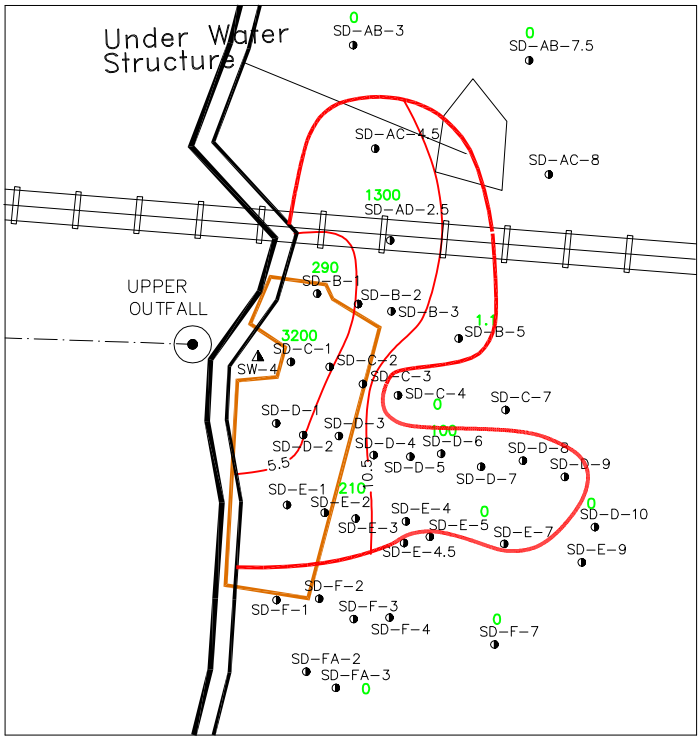
RETEC

ATLANTA GAS LIGHT COMPANY
FORMER MANUFACTURED GAS PLANT
MACON, GEORGIA (AGLC2-17857-013)

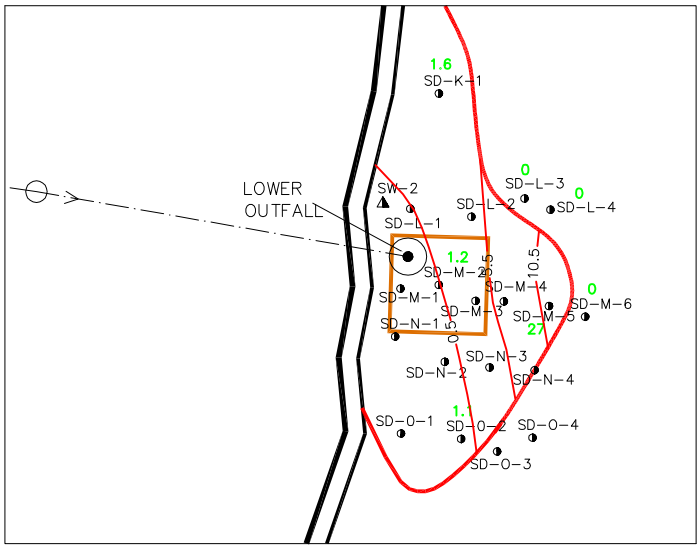
TOTAL VOCs IN SEDIMENT

DATE: 01/05/04 | DRWN: T.C./ATL | **FIGURE 7-5**

File: J:\AGLC\Macon (17857)\CSR - Dec 2003\FIG_7-5.dwg Layout: ANSI_D1 User: tcampbell Plotted: Feb 18, 2004 - 10:18am Xref's:



UPPER OUTFALL



LOWER OUTFALL

LEGEND

- RAILROAD TRACK
- STORM SEWER (LOCATION APPROXIMATE)
- SB-21 — SOIL BORING LOCATION
- SD-B-1 — SEDIMENT BORING LOCATION
- SW-1 — SURFACE WATER SAMPLE LOCATION

- 3221 — HIGHEST CONCENTRATION OF TOTAL DETECTED SVOCs IN SEDIMENTS (mg/kg)
- UPGRADIENT LIMIT ISOCONCENTRATION LINE FOR SVOCs IN SEDIMENT (DETECTION LIMIT)
- CONTOUR OF SHALLOWEST DEPTH OF DETECTED SVOCs (FIRST DETECTED SVOCs ARE BELOW 0.5' AT UPPER OUTFALL)
- SEDIMENT EXCAVATION BOUNDARY

SOURCE: WILLIAMS ENVIRONMENTAL SERVICES, INC., COMPLIANCE STATUS INVESTIGATION REPORT, MARCH 23, 2000

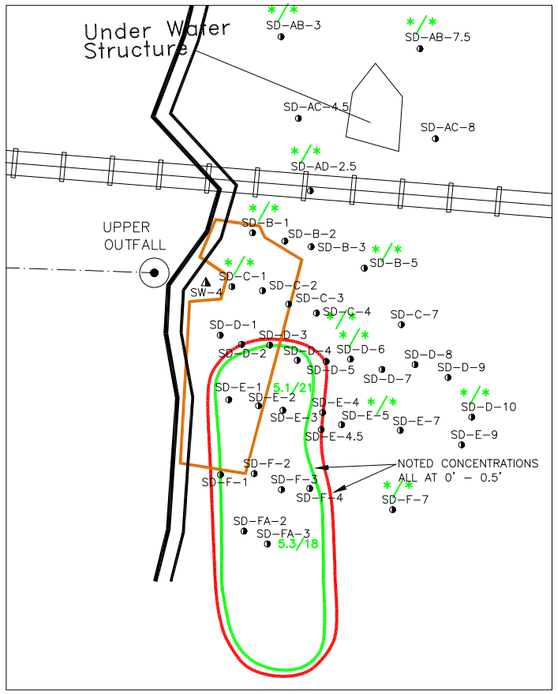
RETEC

ATLANTA GAS LIGHT COMPANY
FORMER MANUFACTURED GAS PLANT
MACON, GEORGIA (AGLC2-17857-013)

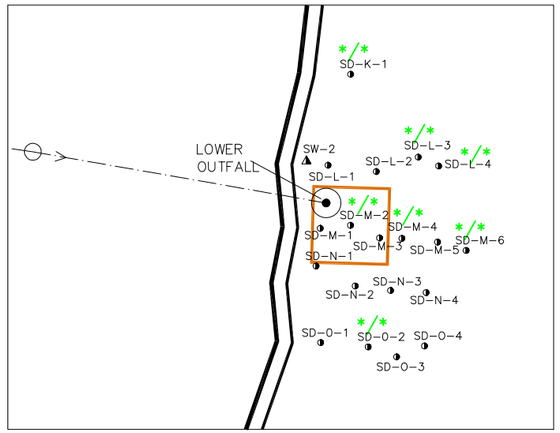
TOTAL DETECTED SVOCs IN SEDIMENT

DATE: 01/05/04 | DRWN: T.C./ATL | **FIGURE 7-6**

File: J:\AGLC\Macon (17857)\CSR - Dec 2003\FIG_7-6.dwg Layout: ANSI_D1 User: tcampbell Plotted: Feb 18, 2004 - 10:17am Xref's:



UPPER OUTFALL



LOWER OUTFALL

LEGEND

- RAILROAD TRACK
- STORM SEWER (LOCATION APPROXIMATE)
- SB-21 — SOIL BORING LOCATION
- SD-B-1 — SEDIMENT BORING LOCATION
- SW-1 — SURFACE WATER SAMPLE LOCATION

- 5.1/21 — HIGHEST CONCENTRATION OF ARSENIC EXCEEDING UPGRADIENT LIMIT (mg/kg); HIGHEST CONCENTRATION OF NICKEL EXCEEDING UPGRADIENT LIMIT (mg/kg)
- * — DOES NOT EXCEED UPGRADIENT LIMIT
- UPGRADIENT LIMIT ISOCONCENTRATION LINE FOR ARSENIC IN SEDIMENT
- UPGRADIENT LIMIT ISOCONCENTRATION LINE FOR NICKEL IN SEDIMENT
- SEDIMENT EXCAVATION BOUNDARY

25 0 50

1"=50'

SOURCE: WILLIAMS ENVIRONMENTAL SERVICES, INC., COMPLIANCE STATUS INVESTIGATION REPORT, MARCH 23, 2000

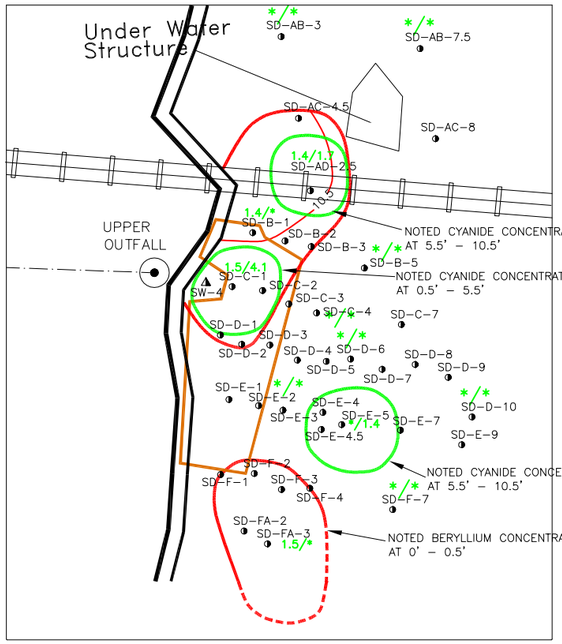
RETEC

ATLANTA GAS LIGHT COMPANY
FORMER MANUFACTURED GAS PLANT
MACON, GEORGIA (AGLC2-17857-013)

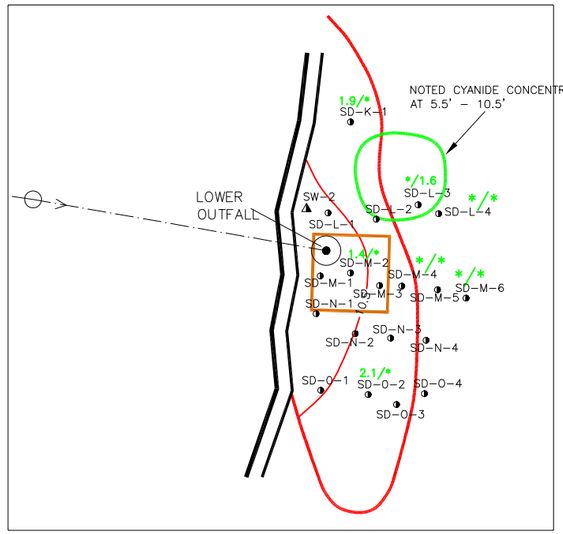
ARSENIC AND NICKEL IN SEDIMENT

DATE: 01/05/04 | DRWN: T.C./ATL | **FIGURE 7-7**

File: J:\AGLC\Macon (17857)\CSR - Dec 2003\FIG_7-7.dwg Layout: ANSI_BI User: tcampbell Plotted: Feb 18, 2004 - 10:55am Xref's:



UPPER OUTFALL



LOWER OUTFALL

LEGEND

- RAILROAD TRACK
- STORM SEWER (LOCATION APPROXIMATE)
- SB-21 — SOIL BORING LOCATION
- SD-B-1 — SEDIMENT BORING LOCATION
- SW-1 — SURFACE WATER SAMPLE LOCATION
- 1.5/4.1 — HIGHEST CONCENTRATION OF BERYLLIUM EXCEEDING UPGRADIENT LIMIT (mg/kg); HIGHEST CONCENTRATION OF CYANIDE EXCEEDING UPGRADIENT LIMIT (mg/kg)
- * — DOES NOT EXCEED UPGRADIENT LIMIT
- UPGRADIENT LIMIT ISOCONCENTRATION LINE FOR BERYLLIUM IN SEDIMENT
- CONTOUR OF SHALLOWEST DEPTH OF BERYLLIUM ABOVE UPGRADIENT LIMIT (SHALLOWEST SAMPLES WITH BERYLLIUM GREATER THAN UP GRADIENT LIMIT ARE BELOW 5.5' UNLESS NOTED)
- UPGRADIENT LIMIT ISOCONCENTRATION LINE FOR CYANIDE IN SEDIMENT
- SEDIMENT EXCAVATION BOUNDARY

25 0 50

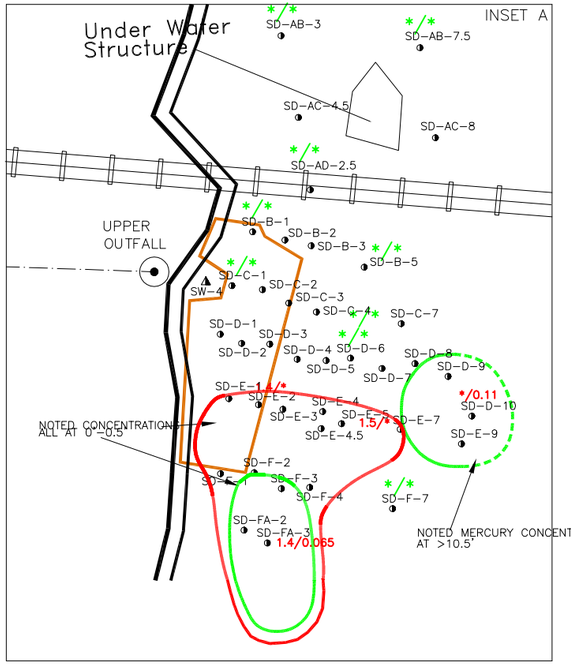
1"=50'

SOURCE: WILLIAMS ENVIRONMENTAL SERVICES, INC., COMPLIANCE STATUS INVESTIGATION REPORT, MARCH 23, 2000

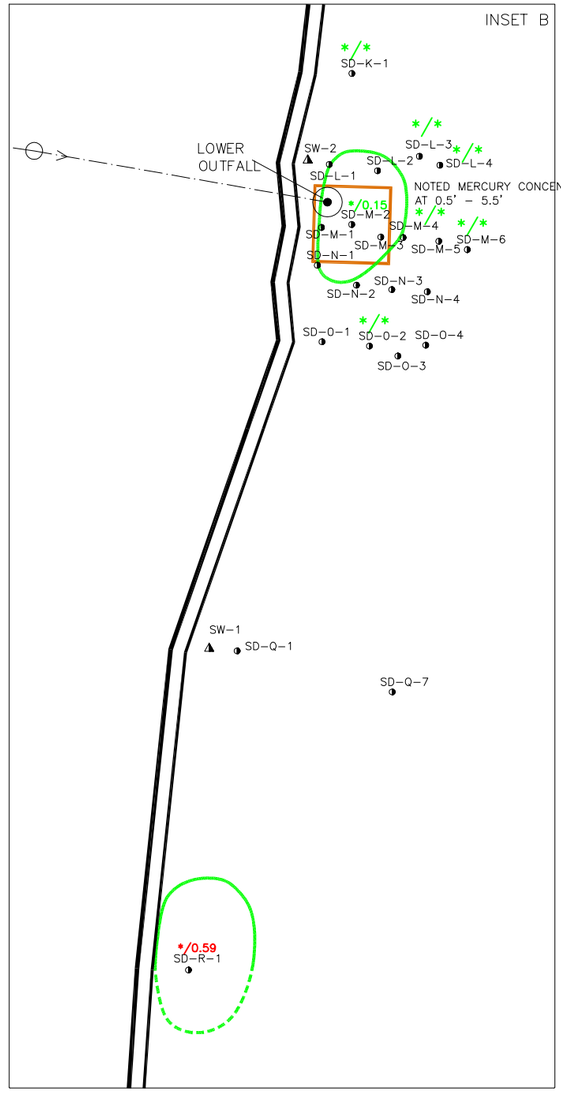
RETEC

ATLANTA GAS LIGHT COMPANY FORMER MANUFACTURED GAS PLANT MACON, GEORGIA (AGLC2-17857-013)			**BERYLLIUM AND CYANIDE IN SEDIMENT**	
DATE: 01/05/04	DRWN: T.C./ATL			**FIGURE 7-8**

File: J:\AGLC\Macon (17857)\CSR - Dec 2003\Fig_7-8.dwg Layout: ANSI_B1 User: tcampbell Plotted: Feb 18, 2004 - 10:15am Xref's:



UPPER OUTFALL



LOWER OUTFALL

LEGEND

- RAILROAD TRACK
- STORM SEWER (LOCATION APPROXIMATE)
- SB-21 — SOIL BORING LOCATION
- SD-B-1 — SEDIMENT BORING LOCATION
- SW-1 — SURFACE WATER SAMPLE LOCATION
- 1.4/0.065 — HIGHEST CONCENTRATION OF CADMIUM EXCEEDING UPGRADIENT LIMIT (mg/kg)
- HIGHEST CONCENTRATION OF MERCURY EXCEEDING UPGRADIENT LIMIT (mg/kg)
- * — DOES NOT EXCEED UPGRADIENT LIMIT
- UPGRADIENT LIMIT ISOCONCENTRATION LINE FOR CADMIUM IN SEDIMENT
- UPGRADIENT LIMIT ISOCONCENTRATION LINE FOR MERCURY IN SEDIMENT
- SEDIMENT EXCAVATION BOUNDARY

25 0 50

1"=50'

RETEC

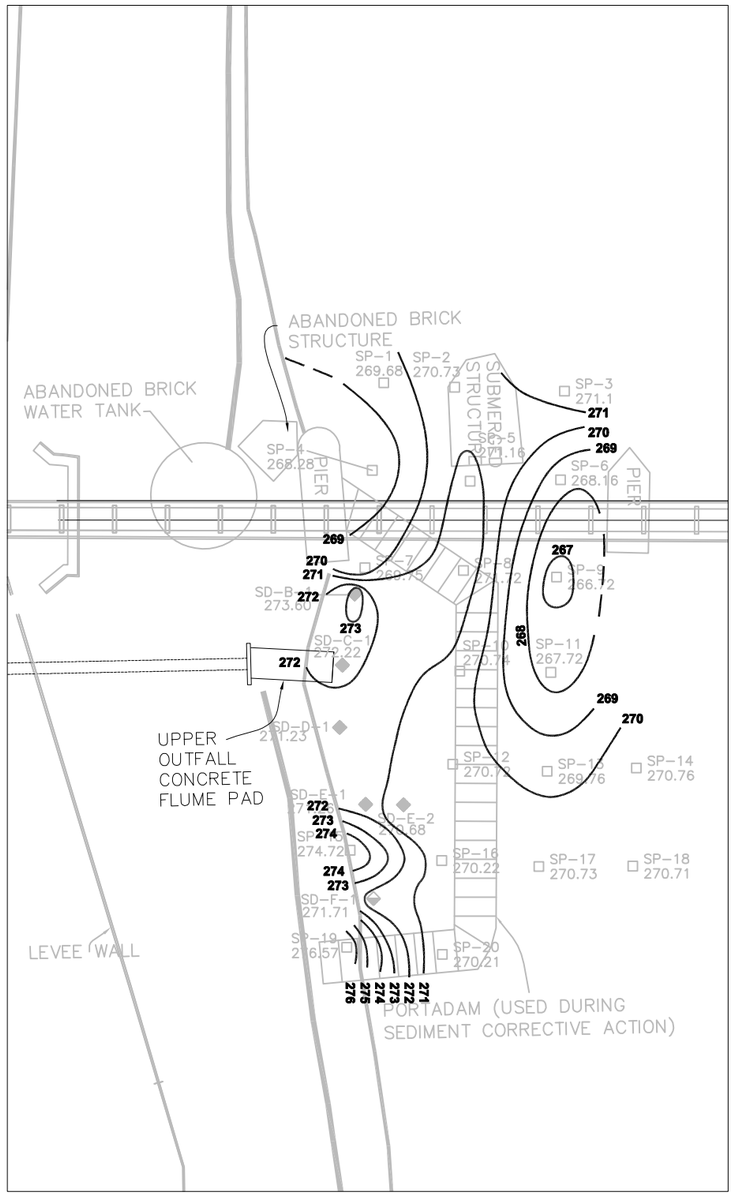
SOURCE: WILLIAMS ENVIRONMENTAL SERVICES, INC., COMPLIANCE STATUS INVESTIGATION REPORT, MARCH 23, 2000

ATLANTA GAS LIGHT COMPANY
FORMER MANUFACTURED GAS PLANT
MACON, GEORGIA (AGLC2-17857-013)

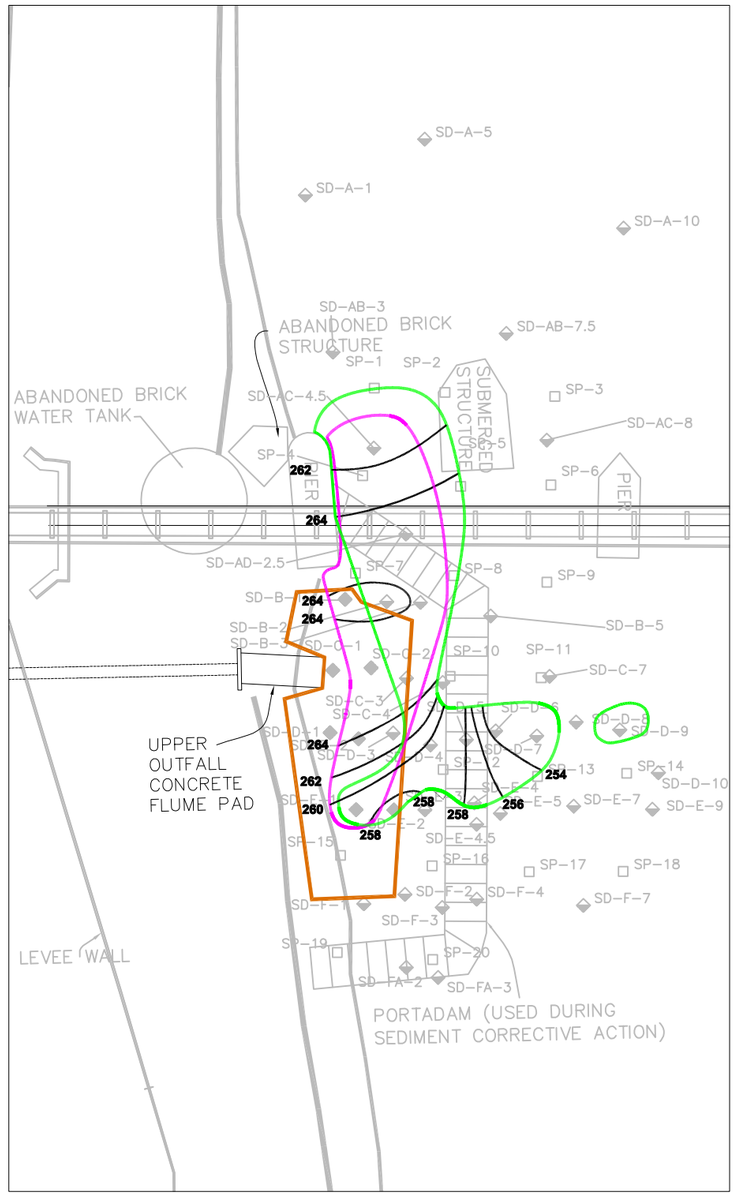
CADMIUM AND MERCURY IN SEDIMENT

DATE: 01/05/04 | DRWN: T.C./ATL | **FIGURE 7-9**

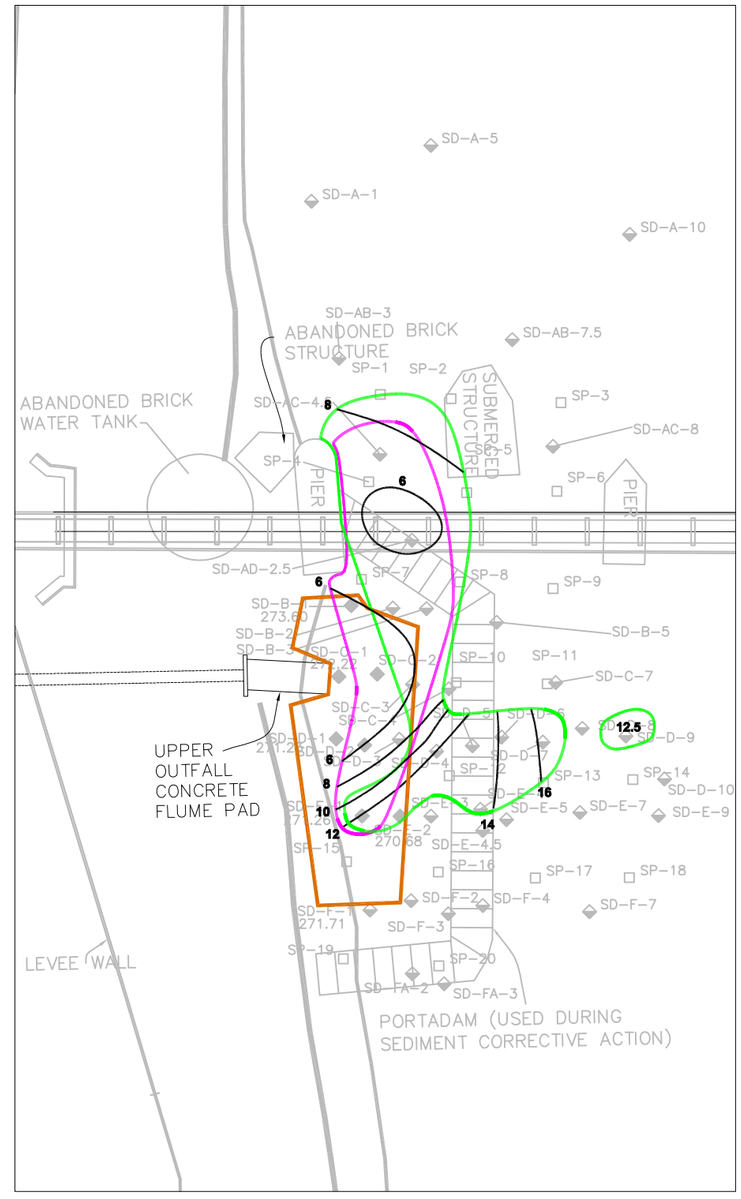
File: J:\AGLC\Macon (17857)\CSR - Dec 2003\FIG_7-9.dwg Layout: ANSI_B1 User: tcampbell Plotted: Feb 18, 2004 - 10:14am Xref's:



RIVER BOTTOM ELEVATION IN FEET ABOVE MEAN SEA LEVEL OCTOBER 20, 2003



TAR-LIKE MATERIAL ELEVATION IN FEET ABOVE MEAN SEA LEVEL



DEPTH TO TAR-LIKE MATERIAL IN FEET BELOW SEDIMENT SURFACE

LEGEND

- SP-1 — 2003 SURVEY LOCATION
- SD-E-9 — SEDIMENT BORING LOCATION
- SD-D-1 — EXCAVATED SHALLOW TAR-LIKE MATERIAL
- VISUAL INDICATIONS OF TAR-LIKE MATERIAL >6' BELOW SEDIMENT SURFACE FROM SEDIMENT INVESTIGATION
- VISUAL INDICATIONS OF TAR-LIKE MATERIAL 3-6' BELOW SEDIMENT SURFACE FROM SEDIMENT INVESTIGATION
- SEDIMENT EXCAVATION AREA

N

20 0 40

1"=40'

RETEC

ATLANTA GAS LIGHT COMPANY
FORMER MANUFACTURED GAS PLANT
MACON, GEORGIA (AGLC2-17857-013)

SEDIMENT THICKNESS OVERLYING TAR-LIKE MATERIAL

DATE: 01/05/04 | DRWN: T.C./ATL | **FIGURE 7-10**

File: J:\AGLC\Macon (17857)\CSR - Dec 2003\FIG_7-10.dwg Layout: ANSI_B1 User: tcampbell Plotted: Feb 18, 2004 - 10:21am Xref's:

Georgia Department of Natural Resources
2 Martin Luther King, Jr. Drive, Suite 1462 East, Atlanta, Georgia 30334-9000
Noel Holcomb, Commissioner
Environmental Protection Division
Carol A. Couch, Ph.D., Director
404/657-8600

September 16, 2004

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

COPY

Mr. Ralph Cleveland
Vice President, Engineering
Atlanta Gas Light Company
Post Office Box 4569
Atlanta, Georgia 30302

Re: Response to Comments on Revised CSR
Macon MGP Site, HSI # 10511

Dear Mr. Cleveland:

The Georgia Environmental Protection Division (EPD) has completed its review of your Response to Comments on Revised Compliance Status Report (CSR) for the Macon MGP Site submitted on July 16, 2004. The following are EPD's responses to your comments on a point-by-point basis:

1. EPD concurs that a revised CSR may be delayed until groundwater delineation has been completed, however, an exact date for submission of the CSR must be proposed by AGLC and agreed to by EPD. Please propose a CAP modification to change the schedule for completion of the CSR by September 30, 2004. Progress on the groundwater delineation should be updated and described in the quarterly groundwater monitoring reports to be submitted to EPD.
2.
    a. Delineation around MW-09 is still not complete. The 2nd Annual Groundwater Monitoring Report (Report) states that vertical delineation has not been accomplished for MW-09. Furthermore, in our comments on the Report, we have asked for further horizontal delineation around MW-09 to determine more precisely the impacts exceeding RRS in that area. Delineation around MW-09 should continue and be reported in the quarterly groundwater reports.
    b. EPD concurs that further vertical delineation around MW-12DD is not required at this time (and so horizontal delineation at the deeper depth is not required either).
    c. EPD is willing to consider a separate bedrock specific background concentration for barium in groundwater. EPD will not comment on the statistical analysis presented in Attachment 2 since the dataset used included the transcription errors for barium that were described in Retec's July 29, 2004 letter to EPD. If you choose to reanalyze the data with the appropriate barium values, we will provide comments. However, of interest in the memo was the discussion on the dissolution of barite at depth due to the presence of organic materials that potentially suggests that the MGP contamination is a contributing source to the elevated barium concentrations. EPD has also requested an evaluation of the historically high turbidity results from MW-24D in our comments on the Report. Further discussion of the barium issue should be included in the quarterly groundwater reports.
3. See our above responses to comment 2a for MW-09 and 2b for MW-12DD.

Please incorporate any responses to these comments or revisions made in accordance with these responses in the next quarterly groundwater monitoring report in accordance with Condition 7 of Consent Order EPD-HSR-227. If you have any questions, please contact David Brownlee at (404) 657-8600.

Sincerely,

Jane Hendricks
Unit Coordinator
Hazardous Site Response Program

C: Tim Goodson, AGLC
Jim Oosterhoudt, Retec

File: HSI 10511

S:\RDRIVE\DAVIDB\CSR\Macon MGP\EPD's Response to Comments on Revised CSR.doc

Appendix B-3 Excerpts from the Scour Protection Placement Report

Macon OU-1 – Ocmulgee River Scour Protection Placement Completion Report

Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Prepared by:

The RETEC Group, Inc.
1150 Hammond Drive, Suite B-2290
Atlanta, GA 30328

RETEC Project Number: AGLC2-17857-113

Prepared for:

Atlanta Gas Light Company
10 Peachtree Place
Atlanta, GA 30309

July 9, 2004

Macon OU-1 – Ocmulgee River Scour Protection Placement Completion Report

Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Prepared by:

The RETEC Group, Inc.
1150 Hammond Drive, Suite B-2290
Atlanta, GA 30328

RETEC Project Number: AGLC2-17857-113

Prepared for:

Atlanta Gas Light Company
10 Peachtree Place
Atlanta, GA 30309

Prepared by:

Tim Olean, Construction Manager

Reviewed by:

Randal J. MacKay, P.G., Project Manager

July 9, 2004

Table of Contents

1 Introduction 1-1
- 1.1 Site History & Description 1-1
- 1.2 Previous Work Completed at the Site 1-1
- 1.3 Project Permitting 1-2
- 1.4 Project Coordination 1-2

2 Scour Protection Placement 2-1
- 2.1 Site Preparation 2-1
- 2.2 Material Placement 2-1

3 Water Quality Monitoring 3-1
- 3.1 Real-Time Monitoring 3-1
- 3.2 Laboratory Analysis 3-1

4 Site Restoration 4-1

5 Health & Safety 5-1

6 References 6-1

List of Tables

Table 1 Water Quality – Field Sampling Results
Table 2 Water Quality – Laboratory Results

1 Introduction

The RETEC Group, Inc. (RETEC), on behalf of the Atlanta Gas Light Company (AGLC), conducted a project to place scour protection stone over areas in the Ocmulgee River, Macon, Georgia (see Figure 1) to comply with the requirements of the Approved Corrective Action Plan for Sediments in the Ocmulgee River (CAP) dated December 28, 2000.

The CAP requires that areas of the Ocmulgee River adjacent to the Upper Outfall be monitored on an annual basis to determine if erosion and scouring has altered the bottom elevation in the river where residual MGP impacts are known to exist deep in the sediment (greater than 3 feet below the sediment surface). If scouring in excess of one foot is observed at any of a series of fixed points from baseline elevations obtained in 2001, actions must be taken to restore the river bottom to those baseline elevations. Restoration plans were based on the May 3, 2004 survey event.

From May 17, 2004 though June 8, 2004, RETEC coordinated and oversaw the placement of 931.62 tons of scour protection stone in the affected and surrounding areas of the Ocmulgee River. Additional stone was placed to deter future scouring in the monitoring area.

1.1 Site History & Description

The AGLC former MGP site in Macon, Georgia was located approximately 1,000 feet southwest of the Ocmulgee River. Figure 1 shows the site location, and Figure 2 shows the location of the facility in relation to the Ocmulgee River. MGP impacts in the Ocmulgee River, near the Upper Outfall are known to have originated from the former MGP site.

Constituents identified in the sediments of the Ocmulgee River surrounding the Upper Outfall included VOCs, PAHs, and some metals. Tar-like material (TLM) was also observed in sediments adjacent to the Upper Outfall. Sediments were also identified surrounding the Lower Outfall containing trace quantities of PAH's.

1.2 Previous Work Completed at the Site

Remedial activities were enacted in 2001 at both the Upper and Lower Outfalls to remove impacted sediments. Using mechanical and suction dredging, 377 tons of impacted sediments were removed and disposed of from the area surrounding the Upper Outfall to a depth of roughly four feet below the river bottom. The approved CAP allowed TLM buried deeper within the sediment to remain. Figure 2-3 of the Sediment Remediation Closure Report (March 6, 2002) shows the areal extent of the Upper Outfall removal.

At the completion of the dredging, cap and scour protection material was placed in the river bottom. AquaBlok, an engineered sediment capping material, was placed at the bottom of the excavated areas. Sand and armor stone were then placed over the AquaBlok. None of the scouring measured through the May 3, 2004 survey event extended to the AquaBlok layer.

1.3 Project Permitting

Prior to starting the scour protection work, RETEC worked with the US Army Corps of Engineers (ACOE), Savannah District, to secure permitting. The 2001 remedial activities were conducted under ACOE Permit Number No. 200010450, which does not expire until July 2004. Since armoring the river bottom with scour protection stone is considered 'clean' maintenance work, the ACOE determined that this work could be conducted under Nationwide Permit 38 with their approval of a Pre-Construction Notification (PCN). The ACOE approved the PCN on May 3, 2004, and the Certification of Compliance was returned to the ACOE on July 2, 2004 (Appendix A).

1.4 Project Coordination

RETEC coordinated with the City of Macon, the Georgia Department of Transportation, the ACOE and the Georgia Environmental Protection Division (EPD) for the completion of this work. Williams Environmental Services, Inc. (WESI) was retained as the contractor to complete all field work, and Donaldson, Garrett and Associates (DG&A) was retained as the Georgia–licensed surveyor. RETEC provided engineering, planning, stakeholder communication, water quality monitoring and contractor oversight during the work.

2 Scour Protection Placement

2.1 Site Preparation

A staging area was prepared on the north side of the Ocmulgee River, directly adjacent to the Otis Redding Bridge and the eastbound off ramp for I-16, on a parcel owned by the City of Macon Parks and Recreation Department. This location afforded easy access to the river to launch barges and to load materials and equipment. The staging area was roughly 1,000 feet upstream from the Upper Outfall.

Modular barges were placed in the river and assembled to create two working platforms; one for a long stick excavator and one to ferry stone to the placement area. The barges were conveyed using a twin-engine tender craft operated by the White Lake Dock & Dredge Company. An excavator located along the riverbank placed the stone onto the barge from a stockpile located in the staging area.

Prior to work commencing in the river, 300 linear feet of an engineered turbidity barrier was placed downstream of the work area, as shown on Figure 3. Both the top and bottom of the turbidity curtain was anchored at 50-foot intervals.

The limits of the stone placement areas were surveyed and marked with PVC poles by DG&A, a licensed Georgia Land Surveyor, prior to stone placement. Several of the fixed monitoring points were also located and marked at this time, as shown on the construction plan (Appendix B).

2.2 Material Placement

RETEC selected rip-rap stone with a median diameter (D_{50}) of 6 inches to resist future scouring in the affected area. Stone was placed on the barge with the land-based excavator and ferried to the barge-mounted long stick excavator for placement into the river.

A level and a temporary land-based benchmark were used to verify interim working elevations at the demarcated locations while stone was being placed. DG&A returned daily to verify and record that the planned elevations had been achieved.

Stone placement began on May 25, 2004 and was completed on June 1, 2004. The design stone elevations shown in Drawing C-01 (Appendix B) were met or exceeded at all locations that were underwater at the time of construction activities by placing 931.62 tons of D_{50} stone in the work zone, as shown on Figure 3. In addition to bringing the monitoring points to baseline elevations, an additional one foot of D_{50} stone was placed over the entire monitoring area.

This substantial amount of armor stone will inhibit future scouring in the area of concern.

The contours in Figure 3 were generated from the surveyed elevations provided by a Georgia-licensed land surveyor, which were provided in the signed and sealed survey map presented in Appendix B. Figure 3 will become the "new baseline" for the purpose of annual compliance monitoring as required in the CAP, unless it is modified in a subsequent CAP amendment filed with the EPD.

Stone was not placed at monitoring point SP-15. RETEC believes that the original baseline elevation was in error at this location based on a comparison to the recorded elevations of other monitoring points in the immediate area. Additionally, during the scour protection placement project, SP-15 was exposed on the riverbank above the waterline, as is shown in Photograph 1 (Appendix C). Photograph 1 shows SP-19 staked on the riverbank several feet above the waterline, and SP-15 and SD-D-1 parallel the waterline with SP-19 (to the right in the picture). Inspection of the area around SP-15 indicated that at least 12 inches of rip rap installed during the 2001 remediation project remained in place over the sediments. The area showed no signs of erosion and was at an elevation consistent with the surrounding area, as is shown on Figure 3. To avoid creating a mound that could cause future erosion along the riverbank when the water level is higher, RETEC did not place stone in this area. It should be noted that this survey point is downstream of the known area of impacted sediments.

RETEC's construction drawings called for one foot of stone to be placed at monitoring points SD-D-1 and SP-19 to add additional scour protection, although deposition was observed in the May 3, 2004 survey compared to the baseline at both locations. As these points were above the water-line at the time of construction and as a stable layer of rip rap existed, no additional stone was placed. Photograph 2 shows that stone was placed in shallow water to meet the design specifications where necessary (Appendix C).

3 Water Quality Monitoring

To comply with the Water Quality Certification requirements of the ACOE permit for the remediation project, both field and laboratory analyses of surface water was conducted during placement of the armor material. Surface water samples were collected in compliance with RETEC's SOP 250, as described below. RETEC's Surface Water Monitoring Field Logs were used to document sampling activities (see Appendix D).

3.1 Real-Time Monitoring

Turbidity, sheen, pH, temperature, conductivity and dissolved oxygen were analyzed on a daily basis, in the middle of the working day while construction activities were occurring, at points in the river that were downstream of the work zone, within the work zone and upstream of the work zone (in that order). The field parameters were measured at a distance of approximately 30 feet from the southern bank of the river (left bank, facing upstream) along the approximate centerline of the work area; the downstream samples were collected approximately 50 feet downstream of the turbidity curtain to allow for an appropriate mixing zone; the upstream samples were collected immediately upstream of the turbidity curtain and the work zone; and the work zone samples were collected from the approximate center of the work zone. Turbidity was measured using a LaMotte 2020 turbidity meter, sheen was measured visually, and all other parameters were measured using a YSI 556 water quality meter. Field parameter data were collected in situ at the previously described sampling points by lowering the YSI sonde directly into the river and allowing parameters to stabilize prior to recording data. Turbidity was analyzed by dipping the cuvette into the river, collecting a sample, wiping the cuvette completely dry, placing it into the meter and taking a reading. Both instruments were initially calibrated by the supplier and checked for calibration daily in accordance with the manufacturer's specifications.

During the placement of the stone, no downstream turbidity reading measured 50 NTU greater than the upstream turbidity measurement, and no visual visible sheen was observed. Field readings were taken daily from May 25 through June 1, during stone placement activities. Table 1 summarizes the documented field readings.

3.2 Laboratory Analysis

At each field sampling point, a 2-gallon bucket of river water was collected from a few feet below the water surface, and used to fill the sample bottles for all laboratory analyses described in Table 2, except for VOCs. Samples for VOC analysis were collected using a Teflon bailer from the same water depth. The sampling equipment was decontaminated between each sample using standard operating procedures. All samples were labeled in accordance to the

EQuIS naming convention: USXX-mmddyy (upstream samples); DSXX-mmddyy (downstream samples); and WZXX-mmddyy (work zone). The XX designate the number of samples collected at that location during a given day

All samples collected for laboratory analysis were properly labeled immediately following collection, placed in a cooler, iced to 4° C and shipped to AES, Inc. via Fed Ex for analysis. All samples were analyzed on a standard turnaround time basis. Results of the laboratory sampling are summarized in Table 2, and the laboratory reports are included in Appendix E.

RETEC performed a focused review of the laboratory results, which included reviewing the surrogate and trip blank results, and compliance with holding times. All the data conformed to sampling standards, and none of the data required qualifiers.

6 References

RETEC, March 6, 2002, Sediment Remediation Closure Report, Upper and Lower Outfalls – Ocmulgee River.

ThermoRetec Consulting Corporation, October 2, 2000 (revised December 5, 2000, revised December 28, 2000), Corrective Action Plan for Sediments in the Ocmulgee River.

Tables

Table 1
Water Quality – Field Sampling Results
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

		5/25/04			5/26/04			5/27/04			5/28/04			6/1/04			
Field Water Quality Parameter	**Sampling Interval**	**U**	**D**	**W**	**U**	**D**	**W**	**U**	**D**	**W**	**U**	**D**	**W**	**U**	**D**	**W**	**Action Level**
Turbidity	Daily / Observation of Change	8.2	7.2	8.0	7.9	8.4	7.6	7.4	9.2	9.5	6.9	7.4	7.1	5.2	7.2	5.8	50 NTU greater than upstream concentration
Sheen	Daily / Visible Sheen	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	Any visible sheen
PH	Daily	7.27	7.23	7.45	7.38	7.6	7.53	7.6	7.82	7.58	7.45	7.61	7.52	7.52	7.67	7.58	None
Dissolved Oxygen	Daily	15.56	15.83	17.46	15.25	14.73	14.08	15.02	15.62	17.29	15.41	15.12	15.96	14.91	14.30	16.99	None
Temperature	Daily	28.3	28.07	28.2	26.94	26.77	26.9	28.08	28.13	28.09	27.43	27.33	27.47	26.53	26.34	26.46	None
Conductivity	Daily	137	137	137	138	139	139	146	146	146	134	135	135	152	152	152	None

Notes:

U – denotes upstream sample
D – denotes downstream sample
W - denotes work area sample

Table 2
Water Quality – Laboratory Results
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

		5/25/04			5/26/04			5/27/04			5/28/04			6/1/04			
Laboratory Water Quality Parameter	**Sampling Interval**	**U**	**D**	**W**	**U**	**D**	**W**	**U**	**D**	**W**	**U**	**D**	**W**	**U**	**D**	**W**	**Action Level**
TSS	Daily/ Observation of Change in Turbidity or presence of visible sheen	BRL	BRL	BRL	BRL	BRL	5	5	6	BRL	5	BRL	BRL	BRL	BRL	BRL	greater than upstream concentration
VOCs	Daily/ Observation of Change in Turbidity or presence of visible sheen	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	Detection Limit
SVOCs	Daily/ Observation of Change in Turbidity or presence of visible sheen	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	Detection Limit
Pesticides	Daily/ Observation of Change in Turbidity or presence of visible sheen	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	Detection Limit
PCBs	Daily/ Observation of Change in Turbidity or presence of visible sheen	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	Detection Limit

Notes:

U – denotes upstream sample

D – denotes downstream sample

W - denotes work area sample

BRL – Below Reporting Limits

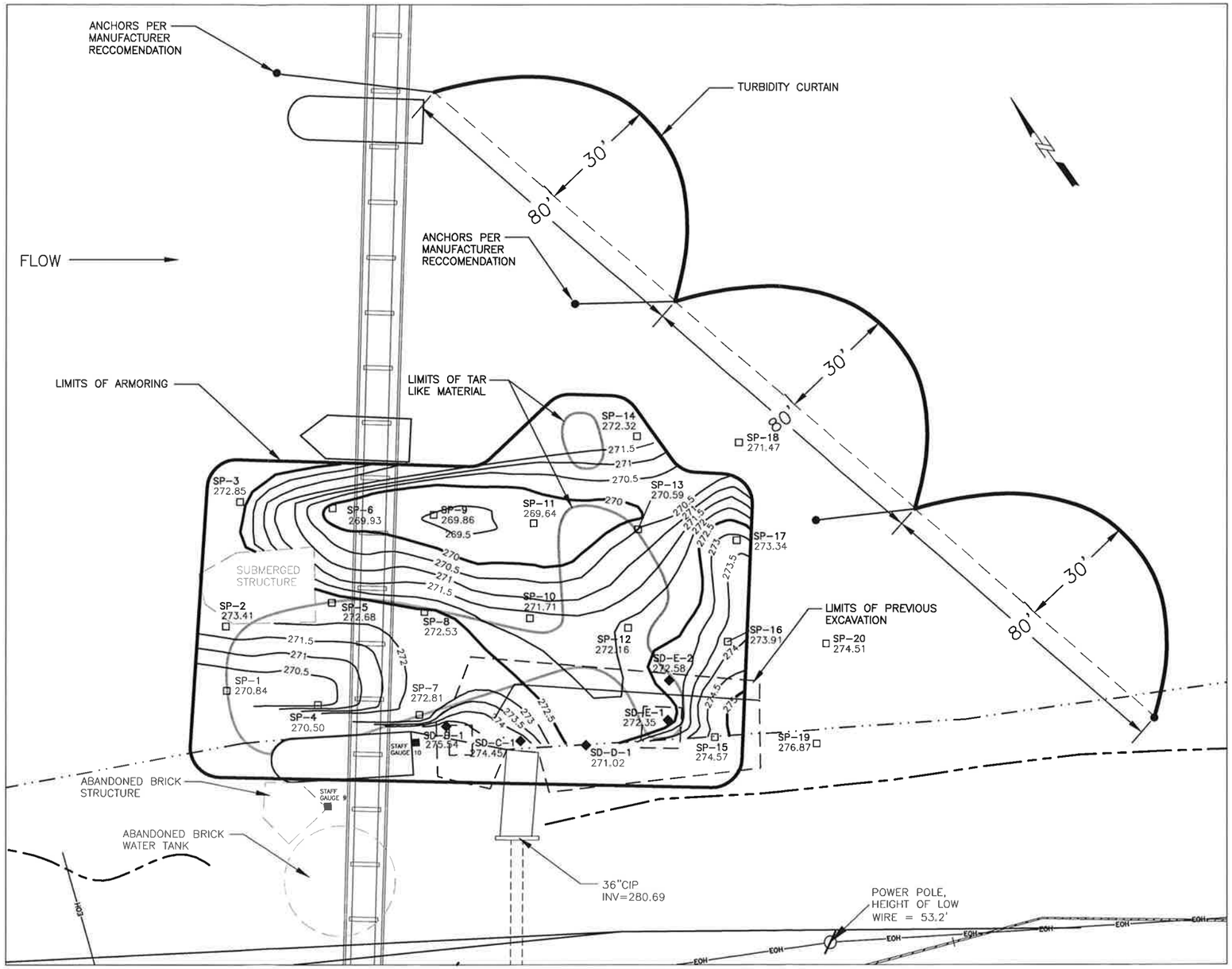
Ocmulgee River Design Armoring Elevations

Inside Limits of Armoring

			ELEVATION (FT.)		
PT ID	NORTH	EAST	11/6/2001	5/3/2004	As Built
SP-1	1032570.87	2464769.61	269.94	269.11	270.84
SP-2	1032585.09	2464780.58	269.52	271.09	273.41
SP-3	1032609.25	2464799.69	269.47	271.23	272.85
SP-4	1032554.72	2464790.76	270.14	268.19	270.50
SP-5	1032574.81	2464804.46	270.40	271.01	272.68
SP-6	1032594.85	2464819.65	269.91	267.65	269.93
SP-7	1032539.27	2464807.14	272.55	269.23	272.81
SP-8	1032557.93	2464823.58	269.90	271.20	272.53
SP-9	1032578.15	2464839.14	269.43	266.87	269.86
SP-10	1032543.23	2464842.33	269.27	270.28	271.71
SP-11	1032561.91	2464858.60	269.63	268.21	269.64
SP-12	1032524.97	2464862.65	270.00	270.33	272.16
SP-13	1032545.79	2464878.79	269.84	269.48	270.59
SP-14	1032564.93	2464894.92	270.19	270.76	272.32
SP-15	1032491.51	2464865.28	279.22	274.56	274.57
SP-16	1032511.64	2464882.01	273.70	270.11	273.91
SP-17	1032530.39	2464897.80	273.16	270.65	273.34
SD-B-1	1032531.77	2464811.34	266.19	273.64	275.54
SD-C-1	1032518.92	2464822.71	269.56	272.65	274.45
SD-D-1	1032508.61	2464838.35	269.87	271.02	271.02
SD-E-1	1032503.24	2464857.81	263.17	271.11	272.35
SD-E-2	1032508.76	2464863.75	268.75	271.17	272.58

Outside Limits of Armoring

SP-18	1032549.15	2464913.47	269.79	271.06	271.47
SP-19	1032475.66	2464884.76	275.95	276.87	276.87
SP-20	1032494.79	2464899.38	274.13	270.27	274.51



AS BUILT ARMOR STONE ELEVATION

LEGEND

- PROPERTY LINE
- APPROXIMATE EDGE OF RIVER
- EOH — OVERHEAD ELECTRIC LINES
- LIGHT STANDARD

NOTES

1. ELEVATIONS SHOWN ARE FEET ABOVE MEAN SEA LEVEL, NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 29).
2. UNDERGROUND UTILITIES ARE NOT SHOWN.
3. ONLY SELECTED FEATURES OF THE N.S. RAILROAD TRESTLE ARE SHOWN.

15 0 30

1"=30'

RETEC

ATLANTA GAS LIGHT COMPANY FORMER MANUFACTURED GAS PLANT MACON, GEORGIA (AGLC2-17857-113)			**MACON MGP SEDIMENT REMEDIATION UPPER OUTFALL ARMOR STONE PLACEMENT AS BUILT**
DATE: 06/15/04	DRWN: T.C./ATL		**FIGURE 3**

File: J:\AGLC\Macon (17857)\River As-built\Fig_3.dwg Layout: Layout1 User: tcampbell Plotted: Jun 30, 2004 - 1:29pm Xref's:

Appendix B-4 Ocmulgee River Surveys

2009 River Survey

AECOM

AECOM Environment
1360 Peachtree Rd. NE; Suite 500, Atlanta, Ga 30309
T 404-965-9600 F 404 965-9606 www.aecom.com

RECEIVED
Georgia EPD
SEP 29 2009
Hazardous Sites
Response Program

September 28, 2009

Mr. David Brownlee
Georgia Department of Natural Resources
Environmental Protection Division
Floyd Tower East, Suite 1154
2 Martin Luther King Jr. Street
Atlanta, GA 30334

Subject: **Atlanta Gas Light Company**
Former Manufactured Gas Plant Site, Macon, Georgia
Results of Year 5 Post Remediation River Survey
HSI # 10511

Dear Mr. Brownlee,

On behalf of the Atlanta Gas Light Company (AGLC), AECOM Environment (AECOM) has conducted a survey of a previously armored portion of the Ocmulgee River in Macon, Georgia. Our contracted surveyor completed the survey of the river bottom on June 1, 2009. The survey was performed in compliance with the *Revisions to the Corrective Action Plan Addendum for Sediments in the Ocmulgee River* (Sediment CAP Addendum) prepared by The RETEC Group, Inc. (RETEC) dated May 13, 2005 (revised June 21, 2005). The Sediment CAP Addendum required that areas of the Ocmulgee River be monitored at the 5-year and 10-year intervals to determine if erosion and scouring has altered the bottom elevation in the river where residual MGP impacts are known to exist deep in the sediment (greater than 3 feet below the sediment surface). The June 1, 2009 survey event was year 5 of the required monitoring of the elevation of river sediments in the area that was remediated in May and June 2004, per the approved Sediment CAP Addendum.

Baseline and Annual River Bottom Surveys

RETEC, on behalf of the Atlanta Gas Light Company (AGLC), conducted a project to river armor areas in the Ocmulgee River, Macon, Georgia to comply with the requirements of the Approved Corrective Action Plan for Sediments in the Ocmulgee River (CAP) dated December 28, 2000. The river armoring was conducted in May and June 2004.

The Sediment CAP Addendum requires that areas of the Ocmulgee River adjacent to the Upper Outfall be monitored to determine if erosion and scouring has altered the bottom elevation in the river where residual MGP impacts are known to exist deep in the sediment (greater than 3 feet below the sediment surface). The CAP specifies that AGLC will confirm the survey data and evaluate the necessary engineering effort to restore protective conditions acceptable to EPD in the event that the river bottom elevations as determined during the scheduled survey events are 1' lower than the baseline re-established in the 2004 survey event. Based on the May 3, 2004 annual survey data, scouring in excess of one foot was observed at the fixed points from baseline elevations obtained in 2001. Actions were taken to restore the river bottom to those baseline elevations in May 2004.

From May 17, 2004 through June 8, 2004, RETEC coordinated and oversaw the placement of 931.62 tons of rip-rap stone to provide armoring of the affected and surrounding areas of the Ocmulgee River. Additional stone was placed to deter future scouring in the monitoring area. A new baseline surveying event was completed on June 1, 2004.

The baseline survey was performed using land surveying techniques by or under the direction of a Georgia registered surveyor and were tied to an established benchmark. The surveyor employed a Total Station surveying instrument and a prism mounted on a boat to determine X, Y, and Z coordinates at each of the 20 locations.

Year 5 River Bottom Survey Results

Based on a letter from EPD dated May 31, 2005, EPD recommended that two surveys should be conducted at the 5-year and 10-year intervals. The 5-year survey was conducted by a licensed surveyor in the State of Georgia on June 1, 2009. Figure 1 shows both the locations of the baseline post-remediation survey points from June 1, 2004 and the results of the year five survey from June 1, 2009. The results of the year 5 river survey are shown in Table 1 and demonstrate that all but one survey point have a higher elevation than the baseline survey, indicating deposition in those areas. On average, an additional 2.6 inches of sediment was measured at the survey points when compared to the baseline survey. Only one location showed minor scouring (0.13 feet).

Per the Sediment CAP requirements, if a significant rainfall event occurs (i.e. 10-year event) a survey monitoring event will be performed. According to Table A-11 of the *Georgia Stormwater Management Manual, Volume 2 (Technical Handbook),* a rainfall intensity of 0.23 inches of rainfall per hour over a 24-hour period results in a 10-year rain event of 5.52 inches. Rainfall data, collected by the Georgia Forestry Commission Automated Weather Data system, has been reviewed from June 2004 through May 2009. Review of the data indicated that no 10-year rainfall events have occurred during the review period.

The data indicates the scour protection is effective, sediment is being deposited on top of the installed armoring material, and there is no need for further action at this time.

If you have any questions or comments regarding this report, please feel free to call us at 404-965-9600

Yours sincerely,

Karen Weimer
Project Geologist
karen.weimer@aecom.com

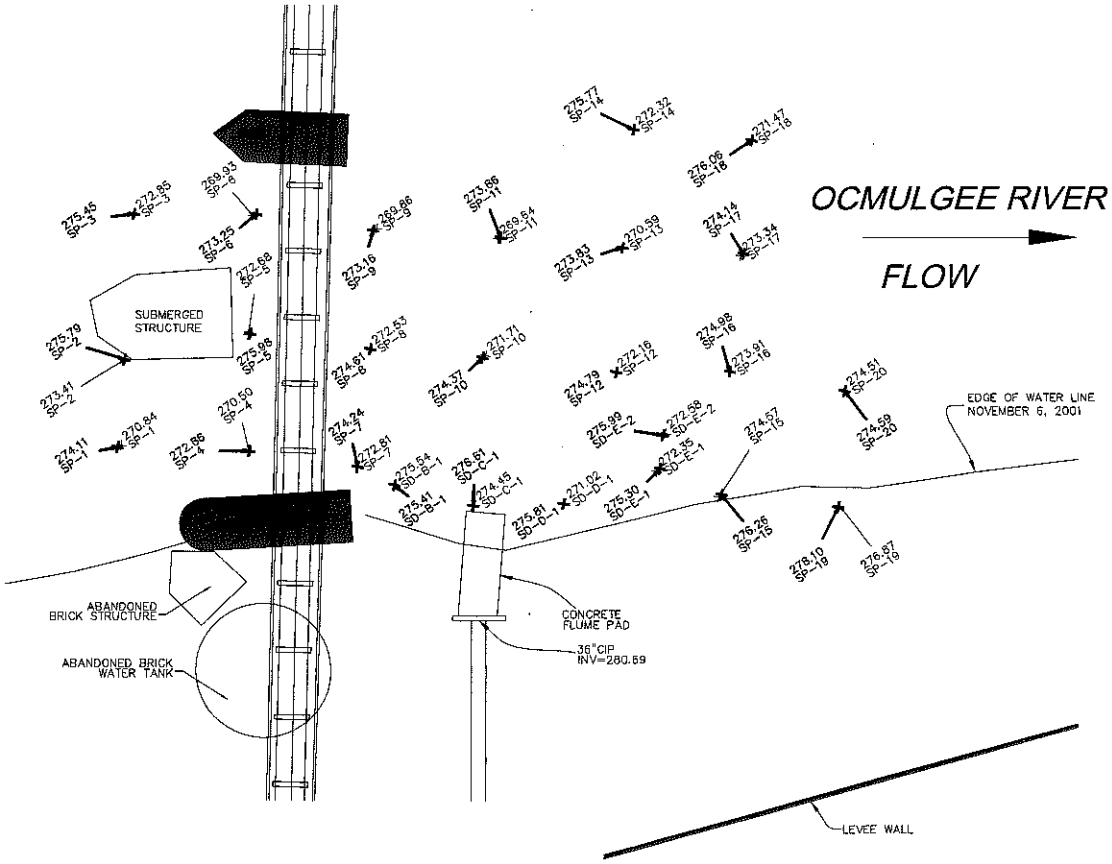
John Jolly, P.G.
Senior Project Manager
john.jolly@aecom.com

Attachments: Table 1 – River Survey Data - Macon, Georgia
Figure 1 – Baseline and Year 5 Survey Points

cc: Ira Pearl – AGL Resources
Brett Mitchell – Georgia Power Company
Atlanta Correspondence File

Table 1
River Survey Data
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

SURVEY POINT ID	NORTHING	EASTING	ELEV 2004	ELEV 2009	Difference in Elevation (AMSL)
SP-1	1032570.89	2464768.77	270.84	274.11	3.27
SP-2	1032585.10	2464780.39	273.41	275.79	2.38
SP-3	1032609.26	2464799.57	272.85	275.45	2.60
SP-4	1032554.72	2464790.75	270.50	272.86	2.36
SP-5	1032574.79	2464804.93	272.68	275.98	3.30
SP-6	1032594.79	2464820.34	269.93	273.25	3.32
SP-7	1032539.28	2464807.32	272.81	274.24	1.43
SP-8	1032557.93	2464823.45	272.53	274.61	2.08
SP-9	1032578.19	2464838.26	269.86	273.16	3.30
SP-10	1032543.21	2464841.54	271.71	274.37	2.66
SP-11	1032561.90	2464859.05	269.64	273.86	4.21
SP-12	1032524.97	2464862.60	272.16	274.79	2.63
SP-13	1032545.78	2464878.62	270.59	273.83	3.25
SP-14	1032564.93	2464894.74	272.32	275.77	3.45
SP-15	1032491.60	2464865.98	274.57	276.26	1.69
SP-16	1032511.64	2464882.02	273.91	274.98	1.07
SP-17	1032530.42	2464898.47	273.34	274.14	0.80
SP-18	1032549.15	2464913.60	271.47	276.06	4.59
SP-19	1032475.58	2464884.29	276.87	278.10	1.23
SP-20	1032494.78	2464899.29	274.51	274.59	0.08
SD-B-1	1032531.77	2464811.42	275.54	275.41	-0.13
SD-C-1	1032518.89	2464822.30	274.45	276.61	2.16
SD-D-1	1032508.57	2464837.91	271.02	275.81	4.79
SD-E-1	1032503.32	2464858.55	272.35	275.30	2.95
SD-E-2	1032508.70	2464863.07	272.58	275.99	3.41



LEGEND

SURVEY POINT 6-04 ×271.71 SP-10

SURVEY POINT 6-09 ×271.71 SP-10

REVISED 6-2-09: ADDED 2009 SPOT ELEVATIONS

GA EAST NAD83

NOTES

1. ELEVATIONS SHOWN ARE FEET ABOVE MEAN SEA LEVEL, NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 29).
2. ONLY SELECTED FEATURES OF THE RAILROAD TRESTLE ARE SHOWN.

10 0 20

1"=20'

AECOM

ATLANTA GAS LIGHT COMPANY FORMER MANUFACTURED GAS PLANT MACON, GEORGIA			**BASELINE AND YEAR 5 SURVEY POINTS**
DATE: 06/12/09	DRWN: DLS/PGH		**FIGURE 1**

2015 River Survey

Environmental Resources Management

The Towers at Wildwood
3200 Windy Hill Road SE,
Suite 1500W
Atlanta, Georgia 30339
Phone (678) 486-2700
Fax (678) 745-0103

November 23, 2015

Mr. David Brownlee
Georgia Department of Natural Resources
Environmental Protection Division
2 Martin Luther King Jr. Street
Atlanta, GA 30334

Subject: *Atlanta Gas Light Company*
Former Manufactured Gas Plant Site, Macon, Georgia
Results of 10-Year River Bottom Survey
HSI # 10511

Dear Mr. Brownlee:

On behalf of the Atlanta Gas Light Company (AGLC), Environmental Resources Management (ERM) has conducted a survey of a previously armored portion of the Ocmulgee River in Macon, Georgia. The survey of the river bottom was performed on October 16, 2015 by a Donaldson & Garrett Associates (DGA), a Georgia Registered Land Surveyor, in compliance with the *Revisions to the Corrective Action Plan Addendum for Sediments in the Ocmulgee River* (Sediment CAP Addendum) prepared by The RETEC Group, Inc. (RETEC) dated May 13, 2005 (revised June 21, 2005). The Sediment CAP Addendum required that areas of the Ocmulgee River be monitored at 5-year and 10-year anniversary of the river armoring event completed in 2004. The survey results are used to assess if scouring has altered the river bottom elevation where residual Manufactured Gas Plant (MGP) impacts are present (greater than 3 feet below the sediment surface). The October 16, 2015 survey represents the 10-year river bottom survey event requested by the Georgia Environmental Protection Division (EPD).

10-Year River Bottom Survey Results

Elevations reported to EPD in 2004 (baseline), 2009 (5-year) and 2015 (10-year) are shown on Figure 1. Table 1 compares the recent data to the applicable criteria in the Sediment CAP Addendum (>3 feet cover required over TLM areas). All eight of the sediment survey locations indicate that the minimum 3 feet of cover over TLM areas has been maintained.

Environmental Resources Management

The Towers at Wildwood
3200 Windy Hill Road SE,
Suite 1500W
Atlanta, Georgia 30339
Phone (678) 486-2700
Fax (678) 745-0103

Rainfall data, collected by the Georgia Forestry Commission Automated Weather Data system, was reviewed from June 2009 through September 2015. Review of the data indicated that no 100-year rainfall events have occurred during the review period.

The data indicates the scour protection is effective and that sedimentation has been occurring to provide cover over the TLM areas.

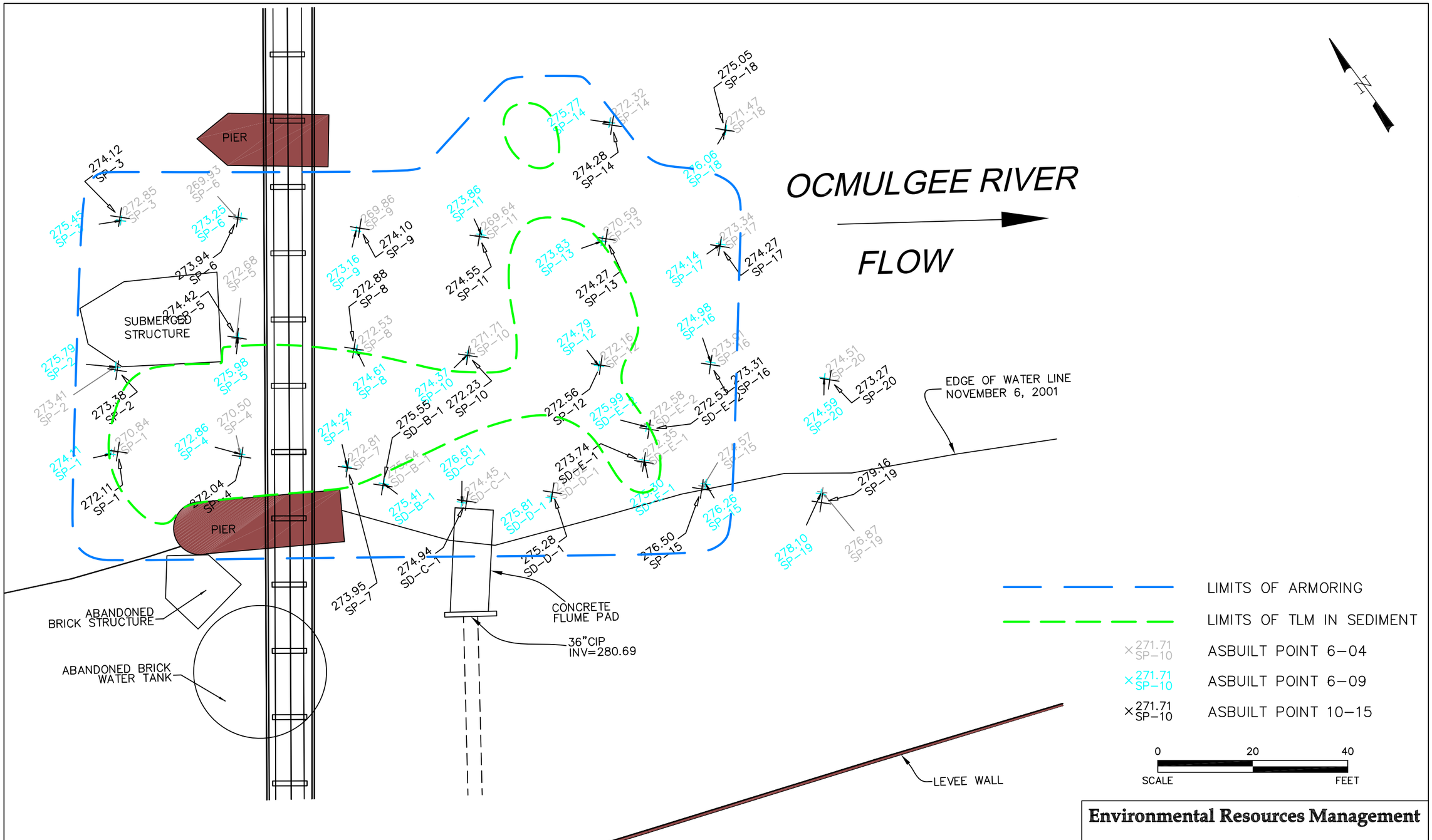
Adria L. Reimer, P.G
Project Geologist

Hunter Sartain, P.E
Partner-In-Charge

Table 1. 2015 River Survey Data
Atlanta Gas Light
Former Manufactured Gas Plant Site
Macon, Georgia

Survey Location	6/1/2004 Baseline Sediment Survey Elevation	Estimated TLM Elevation (Fig 7-10 CSR)	10/1/2015 Sediment Survey Elevation	Within Armoring Area	Outside Armoring Area	Within TLM Area	Estimated Cover over TLM
SP-1	270.84	261.7	272.11	☑		Yes	10.41
SP-2	273.41		273.38	☑		No	n/a
SP-3	272.85		274.12	☑		No	n/a
SP-4	270.50	262.2	272.04	☑		Yes	9.84
SP-5	272.68		274.42	☑		No	n/a
SP-6	269.93		273.94	☑		No	n/a
SP-7	272.81	263.8	273.95	☑		Yes	10.15
SP-8	272.53	263.6	272.88	☑		Yes	9.28
SP-9	269.86		274.10	☑		No	n/a
SP-10	271.71		272.23	☑		No	n/a
SP-11	269.64		274.55	☑		No	n/a
SP-12	272.16	258.8	272.56	☑		Yes	13.76
SP-13	270.59	254.3	274.27	☑		Yes	19.97
SP-14	272.32		274.28	☑		No	n/a
SP-15	274.57		276.50	☑		No	n/a
SP-16	273.91		273.31	☑		No	n/a
SP-17	273.34		274.27	☑		No	n/a
SP-18	271.47		275.05		☑	No	n/a
SP-19	276.87		279.16		☑	No	n/a
SP-20	274.51		273.27		☑	No	n/a
SD-B-1	275.54		275.55	☑		No	n/a
SD-C-1	274.45		274.94	☑		No	n/a
SD-D-1	271.02		275.28	☑		No	n/a
SD-E-1	272.35	259.0	273.74	☑		Yes	14.74
SD-E-2	272.58	257.8	272.53	☑		Yes	14.73
						Average	**12.86**

n/a not applicable



SOURCE: CAD FILE AND SURVEY ARE PROPERTY OF AND CREATED BY DONALDSON, GARRETT, & ASSOCIATES, INC.

1. *ELEVATIONS SHOWN ARE FEET ABOVE MEAN SEA LEVEL, NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 29).*
2. *ONLY SELECTED FEATURES OF THE RAILROAD TRESTLE ARE SHOWN.*

Environmental Resources Management

FIGURE 1
DONALDSON, GARRETT, & ASSOCIATES, INC. SURVEY
MACON FORMER MGP REMEDIATION
ATLANTA GAS LIGHT COMPANY
FORMER MANUFACTURED GAS PLANT
MACON, BIBB COUNTY, GEORGIA

DESIGN: D, G, & A	DRAWN: JH;BB;DB	CHKD.: DB - D, G, & A
DATE: 11/18/2015	SCALE: AS SHOWN	REV.:

W.O.NO.: S:\AGL\AGL_Macon\CAD\Surveyor\11 2015 From Surveyor\B425_10-15_NGVD29_SV.dwg

ERM

Revised VRP Application

Appendix C

Project No. 0176740
Atlanta Gas Light Company

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

Voluntary Investigation and Remediation Plan Application Form and Checklist

VRP APPLICANT (#1) INFORMATION					
COMPANY NAME	Atlanta Gas Light Company (AGLC)				
CONTACT PERSON/TITLE	Mr. Greg Corbett				
ADDRESS	Ten Peachtree Place, Atlanta, GA 30309				
PHONE	404 584 3719	**FAX**	404 584 3499	**E-MAIL**	gcorbett@aglresources.com

GEORGIA CERTIFIED PROFESSIONAL GEOLOGIST OR PROFESSIONAL ENGINEER OVERSEEING CLEANUP			
NAME	Hunter S. Sartain	**GA PE/PG NUMBER**	PE 032318
COMPANY	Environmental Resources Management		
ADDRESS	3200 Windy Hill Road SE, Suite 1500W, Atlanta, GA 30339		
PHONE	678-486-2700	**FAX**	404-745-0103	**E-MAIL**	hunter.sartain@erm.com

APPLICANT'S CERTIFICATION

In order to be considered a qualifying property for the VRP:

(1) The property must have a release of regulated substances into the environment;
(2) The property shall not be:
- (A) Listed on the federal National Priorities List pursuant to the federal Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. Section 9601.
- (B) Currently undergoing response activities required by an order of the regional administrator of the federal Environmental Protection Agency; or
- (C) A facility required to have a permit under Code Section 12-8-66.

(3) Qualifying the property under this part would not violate the terms and conditions under which the division operates and administers remedial programs by delegation or similar authorization from the United States Environmental Protection Agency.
(4) Any lien filed under subsection (e) of Code Section 12-8-96 or subsection (b) of Code Section 12-13-12 against the property shall be satisfied or settled and released by the director pursuant to Code Section 12-8-94 or Code Section 12-13-6.

In order to be considered a participant under the VRP:
- (1) The participant must be the property owner of the voluntary remediation property or have express permission to enter another's property to perform corrective action.
- (2) The participant must not be in violation of any order, judgment, statute, rule, or regulation subject to the enforcement authority of the director.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I also certify that this property is eligible for the Voluntary Remediation Program (VRP) as defined in Code Section 12-8-105 and I am eligible as a participant as defined in Code Section 12-8-106.

APPLICANT'S SIGNATURE	**Original VRP signed**		
APPLICANT'S NAME/TITLE (PRINT)	**Greg Corbett/Managing Director**	**DATE**	**11/21/2015**

QUALIFYING PROPERTY INFORMATION (For additional qualifying properties, please refer to the last page of application form)			
HAZARDOUS SITE INVENTORY INFORMATION (if applicable)			
HSI Number	10511	Date HSI Site listed	7/24/1998
HSI Facility Name	Macon MGP Site	NAICS CODE	NA
PROPERTY INFORMATION			
TAX PARCEL ID	R073-0384	PROPERTY SIZE (ACRES)	2.52 Ac
PROPERTY ADDRESS	306 Terminal Ave St.		
CITY	Macon	COUNTY	Bibb
STATE	GA	ZIPCODE	31201
LATITUDE (decimal format)	32.83 Degrees North	LONGITUDE (decimal format)	83.62 Degrees West
PROPERTY OWNER INFORMATION			
PROPERTY OWNER(S)	Atlanta Gas Light Company	PHONE #	404 584 3719
MAILING ADDRESS	Ten Peachtree Place		
CITY	Atlanta	STATE/ZIPCODE	GA 30309

ITEM #	DESCRIPTION OF REQUIREMENT	Location in VRP (i.e. pg., Table #, Figure #, etc.)	For EPD Comment Only (Leave Blank)
1.	**$5,000 APPLICATION FEE** IN THE FORM OF A CHECK PAYABLE TO THE GEORGIA DEPARTMENT OF NATURAL RESOURCES. (PLEASE LIST CHECK DATE AND CHECK NUMBER IN COLUMN TITLED "LOCATION IN VRP." PLEASE DO NOT INCLUDE A SCANNED COPY OF CHECK IN ELECTRONIC COPY OF APPLICATION.)	**Date: Oct 9, 2014 Check #: 0067459**	
2.	**WARRANTY DEED(S)** FOR QUALIFYING PROPERTY.	**See Appendix B of original VIRP and Appendix D of this report**	
3.	**TAX PLAT** OR OTHER FIGURE INCLUDING QUALIFYING PROPERTY BOUNDARIES, ABUTTING PROPERTIES, AND TAX PARCEL IDENTIFICATION NUMBER(S).	**See Figure 1-3 of the VIRP and this report.**	
4.	**ONE (1) PAPER COPY AND TWO (2) COMPACT DISC (CD) COPIES** OF THE VOLUNTARY REMEDIATION PLAN IN A SEARCHABLE PORTABLE DOCUMENT FORMAT (PDF).	**VRP Application is Appendix A to the VIRP, dated 10/14/2014.**	

5.	The VRP participant's initial plan and application must include, using all reasonably available current information to the extent known at the time of application, a graphic three-dimensional preliminary conceptual site model (CSM) including a preliminary remediation plan with a table of delineation standards, brief supporting text, charts, and figures (no more than 10 pages, total) that illustrates the site's surface and subsurface setting, the known or suspected source(s) of contamination, how contamination might move within the environment, the potential human health and ecological receptors, and the complete or incomplete exposure pathways that may exist at the site; the preliminary CSM must be updated as the investigation and remediation progresses and an up-to-date CSM must be included in each semi-annual status report submitted to the director by the participant; a **PROJECTED MILESTONE SCHEDULE** for investigation and remediation of the site, and after enrollment as a participant, must update the schedule in each semi-annual status report to the director describing implementation of the plan during the preceding period. A Gantt chart format is preferred for the milestone schedule. The following four (4) generic milestones are required in all initial plans with the results reported in the participant's next applicable semi-annual reports to the director. The director may extend the time for or waive these or other milestones in the participant's plan where the director determines, based on a showing by the participant, that a longer time period is reasonably necessary:	**The VIRP dated 10/14/2014 includes the requisite information. The Project Milestone Schedule is provided as Figure 6-1 in the VIRP. The updated schedule is provided as Figure 3-1 in this 1st Semiannual Progress Report.**	
5.a.	Within the first 12 months after enrollment, the participant must complete horizontal delineation of the release and associated constituents of concern on property where access is available at the time of enrollment;	**Revised as Figure 3-1 in this Report.**	
5.b.	Within the first 24 months after enrollment, the participant must complete horizontal delineation of the release and associated constituents of concern extending onto property for which access was not available at the time of enrollment;	**Revised as Figure 3-1 in this Report.**	
5.c.	Within 30 months after enrollment, the participant must update the site CSM to include vertical delineation, finalize the remediation plan and provide a preliminary cost estimate for implementation of remediation and associated continuing actions; and	**No updates at this time.**	
5.d.	Within 60 months after enrollment, the participant must submit the compliance status report required under the VRP, including the requisite certifications.	**To be provided upon completion of activities described in the VIRP and subsequent Semiannual Progress Reports.**	
6.	**SIGNED AND SEALED PE/PG CERTIFICATION** AND SUPPORTING DOCUMENTATION: "I certify under penalty of law that this report and all attachments were prepared by me or under my direct supervision in accordance with the Voluntary Remediation Program Act (O.C.G.A. Section 12-8-101, et seq.). I am		

	a professional engineer/professional geologist who is registered with the Georgia State Board of Registration for Professional Engineers and Land Surveyors/Georgia State Board of Registration for Professional Geologists and I have the necessary experience and am in charge of the investigation and remediation of this release of regulated substances. Furthermore, to document my direct oversight of the Voluntary Remediation Plan development, implementation of corrective action, and long term monitoring, I have attached a monthly summary of hours invoiced and description of services provided by me to the Voluntary Remediation Program participant since the previous submittal to the Georgia Environmental Protection Division. The information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. Hunter S. Sartain PE032318 _____ November 21, 2015 Printed Name and GA PE/PG Number Date _____ Signature and Stamp		

ADDITIONAL QUALIFYING PROPERTIES

PROPERTY INFORMATION			
TAX PARCEL ID	R074-0223 / R074-0205 / R074-UTIL	PROPERTY SIZE (ACRES)	4.34 (3.14 Ac / 1.2 Ac)
PROPERTY ADDRESS	137 Mulberry St / 122 Walnut St		
CITY	Macon	COUNTY	Bibb
STATE	GA	ZIPCODE	31201
LATITUDE (decimal format)	32.83 Degrees North	LONGITUDE (decimal format)	83.62 Degrees West
PROPERTY OWNER INFORMATION			
PROPERTY OWNER(S)	Macon Bibb County Urban Development Authority (MUDA)	PHONE #	
MAILING ADDRESS	815 Riverside Dr		
CITY	Macon	STATE/ZIPCODE	GA 31201-2629

PROPERTY INFORMATION			
TAX PARCEL ID	NA (See Figure 1-3 in VIRP)	PROPERTY SIZE (ACRES)	3.5 Acres (estimated) Final parcel segregation to provide definitive metes and bounds
PROPERTY ADDRESS	Terminal Avenue, 6th Street, Mulberry Street, Walnut Street, and 7th Street Rights of Ways		
CITY	Macon	COUNTY	Bibb
STATE	GA	ZIPCODE	31201
LATITUDE (decimal format)	32.83 Degrees North	LONGITUDE (decimal format)	83.62 Degrees West
PROPERTY OWNER INFORMATION			
PROPERTY OWNER(S)	Macon-Bibb County, Office of Mayor	PHONE #	(478) 751-7170
MAILING ADDRESS	700 Poplar Street Macon		
CITY	Macon	STATE/ZIPCODE	GA 31201

PROPERTY INFORMATION			
TAX PARCEL ID	NA (See Figure 1-3 in VIRP)	PROPERTY SIZE (ACRES)	1.0 Acres (estimated) Final parcel segregation to provide definitive metes and bounds
PROPERTY ADDRESS	Railroad ROW along Terminal Avenue		
CITY	Macon	COUNTY	Bibb
STATE	GA	ZIPCODE	31201
LATITUDE (decimal format)	32.83 Degrees North	LONGITUDE (decimal format)	83.62 Degrees West
PROPERTY OWNER INFORMATION			
PROPERTY OWNER(S)	Norfolk Southern	PHONE #	404-529-1000
MAILING ADDRESS	1200 Peachtree Street NE Box 13		
CITY	Atlanta	STATE/ZIPCODE	GA 30309

PROPERTY INFORMATION (NEWLY IDENTIFIED PARCEL-NOT PART OF ORIGNIAL APPLICATION)			
TAX PARCEL ID	Subset of parcel R081-0135 (See Figure 1-3)	PROPERTY SIZE (ACRES)	Total 1.18 acres (smaller parcel to be part of the VIRP)
PROPERTY ADDRESS	310 6th Street (address may change once parcel is segregated)		
CITY	Macon	COUNTY	Bibb
STATE	GA	ZIPCODE	31201
LATITUDE (decimal format)	32.83 Degrees North	LONGITUDE (decimal format)	83.29 Degrees West
PROPERTY OWNER INFORMATION			
PROPERTY OWNER(S)	Prodigy Holdings LLC	PHONE #	
MAILING ADDRESS	454 Terminal Avenue, Suite A		
CITY	Macon	STATE/ZIPCODE	GA 31201

Legal Parcel Descriptions

Appendix D

Project No. 0176740
Atlanta Gas Light Company

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

EXHIBIT "A"

LEGAL DESCRIPTION

PARCEL ONE:

All of that tract or parcel of land situate, lying and being in the City of Macon, County of Bibb, State of Georgia, and being more particularly described as follows, to wit:

COMMENCING at the intersection of the easterly right of way line of Terminal Avenue with the southerly right of way line of Walnut Street and go South 55° 09' East, along the southerly right of way line of Walnut Street for a distance of 155.8 feet; thence, South 34° 51' West, for a distance of 779.6 feet, more or less, to the center line of a wall; thence, North 55° 12' West, along the center line of said wall, 96.8 feet to a point in the easterly right of way line of Terminal Avenue; thence, the following courses and distances:

North 36° 56' East, a distance of 50 feet; thence, North 33° 44' East, a distance of 50 feet; thence, North 34° 04' East, a distance of 25 feet; thence, North 29° 43' East, a distance of 25 feet; thence, North 25° 25' East, a distance of 50 feet; thence, North 20° 08' East, a distance of 50 feet; thence, North 17° 35' East, a distance of 50 feet; thence, North 14° 15' East, a distance of 42.8 feet; thence, North 17° 14' East, a distance of 7.2 feet; thence, North 23° 33' East, a distance of 50 feet; thence, North 28° 33' East, a distance of 50 feet; thence, North 31° 27' East, a distance of 50 feet; thence, North 33° 16' East, a distance of 52.4 feet; thence, North 35° 53' East, a distance of 47.6 feet; thence, North 38° 31' East, a distance of 50 feet; thence, North 39° 50' East 50'; thence; thence, North 39° 18' East, a distance of 50 feet; thence, North 39° 19' East, a distance of 39.3 feet, more or less, TO THE POINT OR PLACE OF BEGINNING; said piece or parcel of land containing 2.52 acres, more or less, and being substantially shown in red outline as Parcel "B" on print of drawing prepared by S.J. Goslin, Co., Inc., dated June 21, 1976.

PARCEL TWO:

Without any warranty whatsoever, all right, title and interest, if any, of Grantor in and to the following described parcel of land situate, lying and being in the City of Macon, County of Bibb, State of Georgia, and being more particularly described as follows, to wit:

BEGINNING at the intersection of the southerly right of way line of Walnut Street with the easterly right of way line of Terminal Avenue; thence, along the easterly line of Terminal Avenue, the following courses and distances:

South 39° 19' West, a distance of 39.3 feet; thence, South 39° 18' West, a distance of 50.0 feet; thence, South 39° 50' West, a distance of 50.0 feet; thence, South 38° 31' West, a distance of 50.0 feet; thence, South 35° 53' West, a distance of 47.6 feet; thence, South 33° 16' West, a distance of 52.4 feet; thence, South 31° 27' West, a distance of 50.0 feet; thence, South 28° 33' West, a distance of 50.0 feet; thence, South 23° 33' West, a distance of 50.0 feet; thence, South 17° 14' West, a distance of 7.2 feet; thence, South 14° 15' West, a distance of 42.8 feet; thence, South 17° 35' West, a distance of 50.0 feet; thence, South 20° 08' West, a distance of 50.0 feet;

thence, South 25° 25' West, a distance of 50.0 feet; thence, South 29° 43' West, a distance of 25.0 feet; thence, South 34° 04' West, a distance of 25.0 feet; thence, South 33° 44' West, a distance of 50.0 feet; thence, South 36° 56' West, a distance of 50.0 feet; thence, North 55° 12' West, crossing Terminal Avenue, a distance of 20.0 feet; thence, along the westerly line of Terminal Avenue, the following courses and distances: North 36° 56' East, a distance of 50.0 feet; thence, North 33° 44' East, a distance of 50.0 feet; thence, North 34° 04' East, a distance of 24.3 feet; thence, North 29° 43' East, a distance of 23.5 feet; thence, North 25° 25' East, a distance of 48.3 feet; thence, North 20° 08' East, a distance of 48.6 feet; thence, North 17° 35' East, a distance of 49.0 feet; thence, North 14° 15' East, a distance of 42.8 feet; thence, North 17° 14' East, a distance of 8.8 feet; thence, North 23° 33' East, a distance of 52.0 feet; thence, North 28° 33' East, a distance of 51.4 feet; thence, North 31° 27' East, a distance of 50.8 feet; thence, North 33° 16' East, a distance of 53.3 feet; thence, North 35° 53' East, a distance of 48.4 feet; thence, North 38° 31' East, a distance of 50.7 feet; thence, North 39° 50' East, a distance of 50.0 feet; thence, North 39° 18' East, a distance of 50.0 feet; thence, North 39° 19' East, a distance of 37.8 feet; more or less, to the southerly right of way line of Walnut Street; thence, South 55° 09' East, a distance of 20.0 feet, more or less, TO THE POINT OR PLACE OF BEGINNING; containing 0.36 of an acre, more or less, and being substantially as shown as Terminal Avenue in green outline on print of drawing prepared by S.J. Goslin Co., Inc., dated June 21, 1976.

EXHIBIT "A-1"

LEGAL DESCRIPTION OF TRACT "A-1"

PARCEL 1: All that tract or parcel of land lying and being in the City of Macon, Bibb County, Georgia, and known and distinguished in the plan of said City as Lot No. 1 and part of Lot No. 2 in Square fifteen (15) on the corner of Mulberry and Seventh Streets, and more particularly described as follows:

Commencing at the southern corner of the intersection of Seventh and Mulberry Streets and extending along Seventh Street in a northeasterly direction 258 feet and 6 inches; thence at right angles in a northwesterly direction along a 20 foot alley 130 feet, more or less, to the property of Macon Gas Company; thence at right angles in a southwesterly direction 87 feet and 8 inches; thence at right angles in a northwesterly direction 63 feet; thence at right angles in a southwesterly direction 172 feet and 4 inches to Mulberry Street; thence at right angles along Mulberry Street in a southeasterly direction to the POINT OF BEGINNING.

The above dimensions include a 25 foot encroachment into Seventh Street and a 50 foot encroachment into Mulberry Street. The land embraced in said encroachment was granted in fee simple by the City of Macon under legislative authority to Mrs. Jimmie S. Harris, a predecessor in title to the Macon Gas Company by deed dated August 11, 1892, recorded in Deed Book 65, Page 454, Clerk's Office, Bibb Superior Court.

PARCEL 2: All that certain lot, piece or parcel of land, with the buildings and improvements thereon, erected, lying and being in the City of Macon, Bibb County, State of Georgia, consisting of Lots 3 and 4 and a part of Lot 2 in Square 15, City of Macon, together with a 50 foot encroachment into and along Mulberry Street and a 10 foot alley between Lots 2 and 3 closed by an Act of the Legislature of the State of Georgia, and described as follows, to-wit:

Beginning at a point in line with the original lot line of Sixth Street and extended 50 feet into Mulberry Street (being a 50 foot encroachment into Mulberry Street) and running thence along the lot line on Sixth Street a distance of 258 feet and 6 inches to an alley; thence at right angles (right) along the line of the alley a distance of 318 feet and 6 inches; thence at right angles (right) a distance of 87 feet and 6 inches; thence at right angles (right) 62 feet and 6 inches; thence at right angles (left) a distance of 171 feet to a point 50 feet into Mulberry Street; thence at right angles (right) along the line of the 50 foot encroachment into Mulberry Street 256 feet to the Point of Beginning.

The land embraced in the above described encroachment was granted in fee simple by the City of Macon under legislative authority in two deeds: one deed was made to Giles G. Hardeman on May 24, 1907 and recorded in Deed Book 136, Page 651, and the other to the Macon Gas Company, dated January 6, 1927 and recorded in Deed Book 318, Page 634, Clerk's Office, Bibb Superior Court.

EXHIBIT "A-2"

LEGAL DESCRIPTION OF TRACT "A-2"

All that tract or parcel of land lying and being in Square 15, Old City, Macon, Bibb County, Georgia and being a portion of a 20 foot alley running from Sixth Street to Seventh Street through said Square 15, and being more particularly described as follows:

Beginning at the point marking the intersection of the northwest line of Seventh Street with the south line of said 20 foot alley, said point also marking the east corner of Original Lot 1 of Square 15 as extended by a 25 foot encroachment granted August 11, 1892 and described in Deed Book 65, Page 454, Clerk's Office, Bibb Superior Court, running thence in a northwesterly direction along the south line of said 20 foot alley a distance of 452 feet more or less, to the point marking the intersection of said line with the southeast line of Sixth Street, said point also marking the north corner of Original Lot 4 of Square 15, running thence at right angle in a northeasterly direction a distance of 10 feet to a point lying on the centerline of said 20 foot alley, running thence at right angle in a southeasterly direction a distance of 104.25 feet more or less, to a point, running thence at a right angle in a northeasterly direction a distance of 10 feet to a point, said point marking the south corner of Original Lot 5 of Square 15, running thence at right angle in a southeasterly direction along the north line of said 20 foot alley a distance of 347.75 feet more or less, to a point marking the intersection of said line with the northwest line of Seventh Street said point also marking the south corner of Original Lot 8 of Square 15 as extended by the 25 foot encroachment described above, running thence at right angle in a southwesterly direction a distance of 20 feet to the Point of Beginning.

Tract described herein constitutes all of the 20 foot alley running through Square 15, from Sixth Street to Seventh Street except for ½ of the 20 foot alley adjacent to Original Lot 5, being a parcel of land 10 feet by 104.25 feet. The tract described herein with the exception above contains 7,997.5 square feet or 0.18 acre.

EXHIBIT "B"

PERMITTED EXCEPTIONS

1. All current and subsequent years taxes, assessments, special assessments, water charges and sewer rents and any other impositions, accrued or unaccrued, fixed or not fixed, upon or charged against all or any part of the Property (collectively "Taxes") which are liens not yet due and payable.

2. Such state of facts, encumbrances and title objections that would be disclosed or shown by a competent civil engineer's true and accurate ALTA/ACSM Urban Survey and inspection of the Property.

3. Title to that portion of the property within the bounds of any public right-of-way, including but not limited to the rights of the public to any part of the property within public roads.

4. Rights of upper, lower and adjacent riparian owners in and to the waters of any creeks, streams, branches and the natural flow thereof.

5. Any underground lines, feeders, laterals, wires, cables, conduits, mains and pipes.

6. Present and future building restrictions, zoning laws, ordinances, resolutions, orders, and regulations, and all ordinances, laws, regulations and orders of all federal, state, county, and municipal governments, agencies, boards, bureaus, commissions, authorities and bodies of any other governmental or quasi-governmental authority having or acquiring jurisdiction with respect to the Property.

7. Declaration of Restrictive Covenants and Notice, dated as of March 1, 2001, by Atlanta Gas Light Company, filed for record March 2, 2001 at 12:58 p.m., and recorded in Deed Book 4863, Page 260, Real Property Records of Bibb County, Georgia.

8. Declaration of Restrictive Covenants and Notice covering Parcel B to be filed by Seller.

REMEDIATION AND INDEMNIFICATION AGREEMENT

THIS AGREEMENT is made and entered into as of the 22ND day of OCT. 2015 by and between the **Prodigy Woodworks, LLC** ("Prodigy") and **ATLANTA GAS LIGHT COMPANY** ("AGLC"), a corporation organized and existing under the laws of the State of Georgia.

W I T N E S S E T H:

WHEREAS, Prodigy owns certain real property located at 310 Sixth Street ("6th Street Prodigy Property") and 454 Terminal Avenue ("Terminal Avenue Prodigy Property"), Bibb County, Macon, Georgia (together referred as the "Prodigy Property");

WHEREAS, the Prodigy Property is located near property that was formerly the location of a manufactured gas plant or "MGP" (the "MGP Property"); and

WHEREAS, environmental investigations conducted on the MGP Property indicate that chemical constituents, substances and compounds that are associated with MGP operations, as more particularly defined in the Government Requirements ("MGP Constituents") remain on the MGP Property as well as MGP structures; and

WHEREAS, MGP Constituents and/or MGP structures have been detected on or beneath a portion of the Prodigy Property; and

WHEREAS, AGLC has submitted to the Georgia Environmental Protection Division ("EPD") the Voluntary Investigation and Remediation Plan, Atlanta Gas Light Company, Former Manufactured Gas Plant Site, Macon, Georgia, dated October 2014, prepared by ERM (collectively referred to as the "Government Requirements"): and

WHEREAS, Prodigy hereby grants AGLC access to the Prodigy Property for the purposes of conducting the remedial work described below.

NOW, THEREFORE, for and in consideration of the mutual promises and obligations set forth herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and intending to be legally bound hereby, the Parties do hereby agree to this Agreement upon the following terms and conditions:

1. Access. Prodigy specifically authorizes AGLC and their authorized agents, representatives, and contractors to enter upon the Prodigy Property, as provided in this Agreement, to conduct all activities associated with the remedial action, including

investigation, excavation of soils, excavation of MGP structures, and the restoration of the Prodigy Property, and any other continuing activities necessary to comply with AGLC's obligations under the Governmental Requirements.

2. AGLC's Obligations.

a. Within fifteen (15) business days of the effective date of this Agreement, AGLC will pay Prodigy the sum of $76,500 in exchange for the access granted herein, the demolition of the small 6th Street building, as depicted on **Exhibit A**, attached hereto and incorporated herein, loss of the use of such building, placement of materials and/or equipment on Prodigy Property, Prodigy's expenses in connection with the Work and Surface Work, Prodigy's inconvenience and as additional consideration for the mutual covenants contained herein.

b. As instructed by Prodigy, AGLC shall cause the 6th Street Prodigy Property to be sub-divide as generally depicted on **Exhibit A** from the larger 6th Street Prodigy Property at its sole cost and expense.

c. AGLC will conduct soil investigation to assess the extent of potential MGP impacts on the Southwest corner of the Terminal Avenue Prodigy Property. AGLC will remove the identified MGP structure; excavate MGP impacted soils adjacent to and under the MGP structure, backfill to grade with clean soils that meet current EPD residential cleanup standards for soil, and install soil borings and groundwater monitoring wells as warranted (the "Work"). The soil excavation area for the MGP Structure is currently limited to the northern portion of Parcel ID R081-0076 near Terminal Avenue which is inside the AGLC fenced area, as shown on **Exhibit B**, attached hereto. Soils removed will be handled and managed in accordance with the corrective action plan submitted to Georgia EPD. Sidewall and base soil samples will be collected to confirm that the remaining soils meet current EPD residential standards.

d. AGLC will conduct soil investigation on the Terminal Avenue Prodigy Property to assess the extent of potential MGP impacts in an area along Terminal Avenue as depicted on **Exhibit C,** attached hereto. AGLC will excavate MGP impacted soils to a depth of two feet and backfill to grade with clean soils that meet current EPD residential cleanup standards for soil (the "Surface Work"). Soils removed will be handled and managed in accordance with the corrective action plan submitted to Georgia EPD. Sidewall and base soil samples will be collected to confirm that the remaining soils meet current EPD residential standards.

e. AGLC will conduct the Work and Surface Work in a manner so as to minimize interference with Prodigy's operations. The Work and Surface Work shall be deemed complete upon AGLC's submittal of the Remediation Action Completion Report (RACR), notwithstanding any long term periodic monitoring that may be required by

EPD. AGLC will provide the Prodigy with a copy of the RACR at the time it is submitted to EPD.

f. Unless otherwise requested by Prodigy, promptly upon completion of the Work and Surface Work, AGLC will restore the Prodigy Property to the condition existing prior to the Work and Surface Work to the extent practical.

g. All soil, water, spent supplies and other waste materials resulting from the Work and Surface Work are AGLC's responsibility and AGLC will ensure that such materials are handled and disposed of in accordance with applicable law, regulations, and procedures. AGLC shall retain title to and responsibility for all MGP materials or MGP structures, including but not limited to groundwater monitoring or treatment wells, put on or under Prodigy Property in connection with the Work notwithstanding the termination of this Agreement. Upon completion of the Work or at such time thereafter as any materials or structures related to the Work are no longer required by the Government Requirements to remain on Prodigy Property, then AGLC shall remove such structures or materials at AGLC's expense and shall restore Prodigy Property as provided in paragraph 2(c) unless the Prodigy and AGLC agree that such materials or structures may remain on Prodigy Property.

h. The Work and Surface Work shall be performed in accordance with the standards practiced by reputable professionals in the environmental consulting, engineering and remediation disciplines and profession.

i. AGLC will ensure that the Work and Surface Work is performed in compliance with all applicable laws, rules, and regulations and will obtain all permits necessary for the conduct of the Work and Surface Work and for the handling and transport of waste materials and other residuals, including any permits required by Prodigy, which Prodigy will not unreasonably withhold.

j. AGLC will contact the relevant utility communications system(s) and locate utilities on the Prodigy Property prior to any invasive work on the Prodigy Property.

k. AGLC will excavate two small areas of soil located along 6th Street and Mulberry Street, as shown on **Exhibit D**, attached hereto, as part of its construction of the remedy for 6th Street and Mulberry Street. Once the remedy in the streets is completed, the excavated areas will be brought back to grade with the soils removed or with clean fill. AGLC will restore the 6th Street Prodigy Property to the condition existing prior to the excavation of these soils to the extent practical. This excavation shall be performed in accordance with the standards practiced by reputable professionals in the environmental consulting, engineering and remediation disciplines and profession.

l. AGLC shall ensure that its contractors maintain commercial general liability and Prodigy Property damage insurance with a combined single limit coverage of not less than $2,000,000.00. Prodigy shall be named as an additional insured in any such policy.

m. AGLC shall be responsible for preparing and filing any notices concerning the 6th Street Prodigy Property that are required by Ga. Comp. R. & Regs. R. 391-3-19-.08 or by any other law, including any notice required by law to be filed by the property owner, provided that prior to filing such notice AGLC shall present any such notice to Prodigy for approval and execution. Prodigy agrees to execute all such notices that are required by law to be filed within the time period required by EPD.

n. AGLC shall conduct a vapor intrusion evaluation on the 6th Street Prodigy Property in the event Prodigy decides to construct a building on the parcel, as sub-divided. In the event vapor mitigation measures are required by law, AGLC shall be responsible for installing such mitigation measures as AGLC, in its sole discretion, in compliance with all applicable environmental laws and regulations.

o. It is the intent of the parties that AGLC will retain responsibility for all legal requirements associated with MGP Constituents that may in the future be discovered and subject to regulation in, on, or under the Prodigy Property. AGLC agrees that it will, solely at its own expense, remediate all future discovered or regulated MGP Constituents on the Prodigy Property in accordance with applicable requirements of EPD ("Additional Cleanup Requirements"). To the extent AGLC conducts future cleanup activities to satisfy Additional Cleanup Requirements, such cleanup activities shall be deemed "the Work" for purposes of this Agreement.

p. In the event that Prodigy discovers materials that Prodigy believes to be MGP Constituents in, on, or under the Prodigy Property, and/or discovers impacts that Prodigy believes are subject to AGLC's "Additional Cleanup Requirements" as set forth in Paragraph 2.o, Prodigy shall proceed strictly in accordance with the following procedures:

(i) Prodigy shall notify AGLC promptly upon the discovery of any materials that Prodigy contends are subject to AGLC's Additional Cleanup Requirements;

(ii) Prodigy will take all steps reasonably available to mitigate further the costs or losses of itself or its contractors, as such may be subject to the indemnity provisions of paragraph 4 herein, while AGLC determines whether the materials are MGP Constituents, whether they are subject to AGLC's Additional Cleanup Requirements, and what manner of action best satisfies AGLC's Additional Cleanup Requirements;

(iii) AGLC agrees that it will promptly respond to Prodigy's notification as called for above and, to the extent the materials are subject to AGLC's Additional

Cleanup Requirements, reimburse Prodigy for Prodigy's reasonable and necessary costs of mitigation; and

(iv) If AGLC determines that it has Additional Cleanup Requirements as set forth herein, Prodigy shall permit AGLC to assume control of any ongoing activities to the extent necessary for AGLC to satisfy the Additional Cleanup Requirements, and Prodigy shall assist AGLC as necessary in that regard.

3. Acknowledgment

a. Prodigy acknowledges that MGP Constituents will remain in the saturate materials and groundwater beneath the 6th Street Prodigy Property. Prodigy further agrees to execute Covenants that are required by law to be placed on 6th Street Prodigy Property, provided that such covenants shall be approved by EPD, that such covenants shall not restrict 6th Street Prodigy Property to a greater extent or longer time than required by law, and that such covenants shall only inure to the benefit of, and may be enforced by EPD and AGLC. Prodigy acknowledges that the Restrictive Covenants may include the following:

(i) The prohibition on the use or extraction of groundwater beneath the 6th Street Prodigy Property as a source of drinking water, irrigation, or for any other purpose that could result in human contact with the groundwater;

(ii) The prohibition on the excavation, construction, and similar activities in soil at or below fifteen (15) feet below land surface in the areas depicted on **Exhibit E,** attached hereto and incorporated herein, except in accordance with an appropriate health and safety plan sufficient to protect the health and safety of persons who may contact the soil and sufficient to assure that all excavated materials are handled in accordance with applicable laws and regulations;

(iii) The prohibition of the construction of a building of any sort unless and until a vapor intrusion evaluation is conducted. In the event there is a vapor intrusion concern that by law requires mitigation measures, the vapor mitigation measures shall be implemented prior to the occupancy of the building.

b. Statutory Notice. Prodigy agrees that the following notice will be place on the sub-divided 6th Street Prodigy Property in the form of an Affidavit as required by Ga. Comp. R. & Regs. 391-3-19-.08(2): *The Prodigy Property has been listed on the state's hazardous site inventory and has been designated as needing corrective action due to the presence of hazardous wastes, hazardous constituents, or hazardous substances regulated under state law. Contact the property owner or the Georgia Environmental Protection Division for further*

information concerning this property. This notice is provided in compliance with the Georgia Hazardous Site Response Act.

4. Indemnification and Release.

a. AGLC agrees that it is solely responsible for the conduct of the Work and Surface Work and the performance of obligations of AGLC under this Agreement; will bear all costs and expenses thereof; and that Prodigy does not have any responsibility or liability for the Work and Surface Work or for any losses, costs, expenses, liabilities, or damages as part thereof or resulting therefrom except as specifically provided in this Agreement. AGLC further agrees that they will fully indemnify, defend and hold harmless Prodigy, from and against any and all claims, suits, damages, liabilities, judgments, fines, attorneys' fees, penalties, losses, costs or expenses arising out of, caused, or claimed to arise out of or be caused by: (i) the negligence or willful misconduct by AGLC or its contractors relating to or arising out of the implementation of the Work and Surface Work ; (iii) the presence of MGP Constituents on the Prodigy Property that results in any third party claim or requirement of additional action by EPD against the Prodigy; (iv) the breach of any covenant by AGLC contained in this Agreement; or (v) Prodigy's successful enforcement of this indemnity; provided, however AGLC shall have no obligation to indemnify or hold harmless Prodigy against liability for damages arising out of bodily injury to persons or damage to Prodigy Property to the extent caused by or resulting from the negligence or willful misconduct of Prodigy, or its agents or employees. The foregoing matters described in this subparagraph a. (i)-(v) are hereinafter called the "Indemnified Matters."

b. Except as otherwise provided in this Agreement and subject to AGLC's performance of its obligations under this Agreement, Prodigy hereby unconditionally waives, releases, acquits and forever discharges AGLC, its respective officers, directors, partners, shareholders, employees, agents, representatives and affiliates, of and from any and all claims, actions, causes of action, demands, rights, damages, costs, expenses, rights of contribution or compensation whatsoever, direct or indirect, known, foreseen or unforeseen, Prodigy now has or that may arise in the future on account of or in any way related to or in connection with any past or present physical characteristics or conditions of Prodigy's Property, including, without limitation, the presence of any MGP Constituents that are present on Prodigy's Property. Prodigy does further covenant not to sue or otherwise seek recourse against AGLC, its respective officers, directors, partners, shareholders, employees, agents, representatives and affiliates on any such claim, demand, action, cause of action, suit, liability, indebtedness, duty, obligation or responsibility herein released. Notwithstanding the foregoing, Prodigy does not release AGLC from any obligation contained in this Agreement, including, without limitation, the obligation to indemnify under Paragraph 4 of this Agreement.

c. AGLC shall have the right to assume and take over the defense of any claim of an Indemnified Matter and engage attorneys to represent AGLC and Prodigy. Prodigy shall notify AGLC within 10 business days after service on the Prodigy of any such claim actually filed in court against Prodigy. Prodigy shall cooperate with AGLC in any manner that AGLC shall request in the defense of any claim involving an Indemnified Matter.

5. Prodigy's Obligations.

a. Prodigy shall cause the building, as depicted on **Exhibit A,** to be demolished and all associated materials removed from the 6th Street Prodigy Property, at its sole cost and expense and its own risk no late than ten days (10) business days from the effective date of the Agreement.

b. Prodigy shall notify AGLC of any condition of the Prodigy Property of which Prodigy has actual knowledge where the Prodigy is aware that such condition may threaten the Work and Surface Work. Prodigy shall also expend all reasonable efforts to minimize Prodigy's interference with the Work and Surface Work.

c. Prodigy hereby authorizes AGLC and its contractors to erect temporary barricades or fences to prevent unauthorized persons form entering or approaching areas where the Work and Surface Work is occurring.

d. Prodigy hereby authorizes AGLC and their contractors to cordon off an area in the vicinity of the equipment used to perform the Work and Surface Work as such equipment moves about the Prodigy Property.

e. Prodigy understands and agrees that signs, notices, or placards may be placed indicating that the activities occurring or the substances present at the Prodigy Property are dangerous, hazardous, or subject to regulation.

f. Prodigy understands and agrees that the Work and Surface Work will necessarily involve the use of heavy equipment and other machinery, as well as access by various delivery and other vehicles. These operations are anticipated to be noisy. AGLC agrees that it shall take all reasonable measures to minimize disruption to Prodigy streets and pedestrian and vehicular traffic in the area of the Work and Surface Work.

6. No Admission of Liability. Prodigy agrees that AGLC, by conducting the Work and Surface Work described herein, does not admit to any liability or responsibility for any condition of the Prodigy Property.

7. Rights Against Third Parties. Prodigy and AGLC will each have and retain any rights or remedies under environmental law, at law or in equity, against any third party that may have caused, contributed to, or in any manner be responsible for the presence of any MGP Constituents on, in, about, or under the Prodigy Property. Prodigy and AGLC will

cooperate with each other in pursuing any such rights and remedies in connection with any claim or litigation against such third parties and will execute and deliver such further documents as the other party may reasonably request relating thereto.

8. Notices. All notices, certificates, or other communications hereunder will be sufficiently given and will be deemed given when delivered by hand, courier, or registered or certified mail, postage prepaid, addressed as follows:

If to Prodigy:
Brooks Patterson
Prodigy Woodworks, LLC
454 Terminal Avenue, Suite A
Macon, Georgia 31298

With a copy to:
Steve L. Wilson
Jones Cork &Miller LLP
435 2nd Street, Suite 500
Macon, GA 31201

If to AGLC:
Michael C. Partee
Senior Environmental Counsel
AGL Resources Inc.
Floor 7W
1844 Ferry Road
Naperville, IL 60563

Greg Corbett
Managing Director, Environmental Services
AGL Resources Inc.
Ten Peachtree Pl, NE, 17th Floor
Atlanta, GA 30309

With a copy to:
Carol R. Geiger
Kazmarek Mowrey Cloud Laseter LLP
1230 Peachtree St. NE, Suite 3600
Atlanta, GA 30309

Prodigy and AGLC may designate any further or different addresses to which subsequent notices, certificates or other communications will be sent.

9. Email or Facsimile as Writing. The parties expressly acknowledge and agree that, notwithstanding any statutory or decisional law to the contrary, the printed product of an email or facsimile transmittal will be deemed to be "written" and a "writing" for all purposes of this Agreement.

10. Assignment. The rights of the parties under this Agreement are personal and may not be assigned without the prior written consent of the parties hereto. Subject to the foregoing, this Agreement will be binding upon and enforceable against, and will inure to the benefit of the parties hereto and their respective heirs, legal representatives, successors and permitted assigns.

11. Headings. The use of headings, captions, and numbers in this Agreement is solely for the convenience of identifying and indexing the various provisions in this Agreement and will in no event be considered otherwise in construing or interpreting any provision in this Agreement.

12. Exhibits. Each and every exhibit referred to or otherwise mentioned in this Agreement is and will be construed to be made a part of this Agreement by such reference.

13. Severability. If any term, covenant, condition or provision of this Agreement, or the application thereof, to any person or circumstance, will ever be held to be invalid or enforceable, then in each such event the remainder of this Agreement or the application of such term, covenant, condition or provision to any other person or any other circumstances (other than those to which it will be invalid or unenforceable) will not be hereby affected and each term, covenant, condition and provision hereof will remain valid and enforceable to the fullest extent permitted by law.

14. Non-Waiver. Failure by any party to complain of any action, non-action or breach of any other party will not constitute a waiver of any aggrieved party's rights hereunder. Waiver by any party of any right arising from any breach of any other party will not constitute a waiver of any other right arising from a subsequent breach of the same obligation or for any other default, past, present or future.

15. Rights Cumulative. All rights, remedies, powers and privileges conferred under this Agreement on the parties will be cumulative of and in addition to, but not restrictive of or in lieu of, those conferred by law.

16. Applicable Law. This Agreement will be governed by, construed under and interpreted and enforced in accordance with the laws of the State of Georgia.

17. Entire Agreement. This Agreement contains the entire agreement of the parties with respect to the subject matter hereof and all representations, warranties, inducements, promises or agreements, oral or otherwise, between the parties not embodied in this Agreement will be of no force or effect.

18. Modifications. This Agreement will not be modified or amended in any respect except by written agreement by the parties in the same a manner as this Agreement is executed.

19. Counterparts. This Agreement may be executed in several counterparts, each of which will be deemed an original, and all such counterparts together will constitute one and the same instrument.

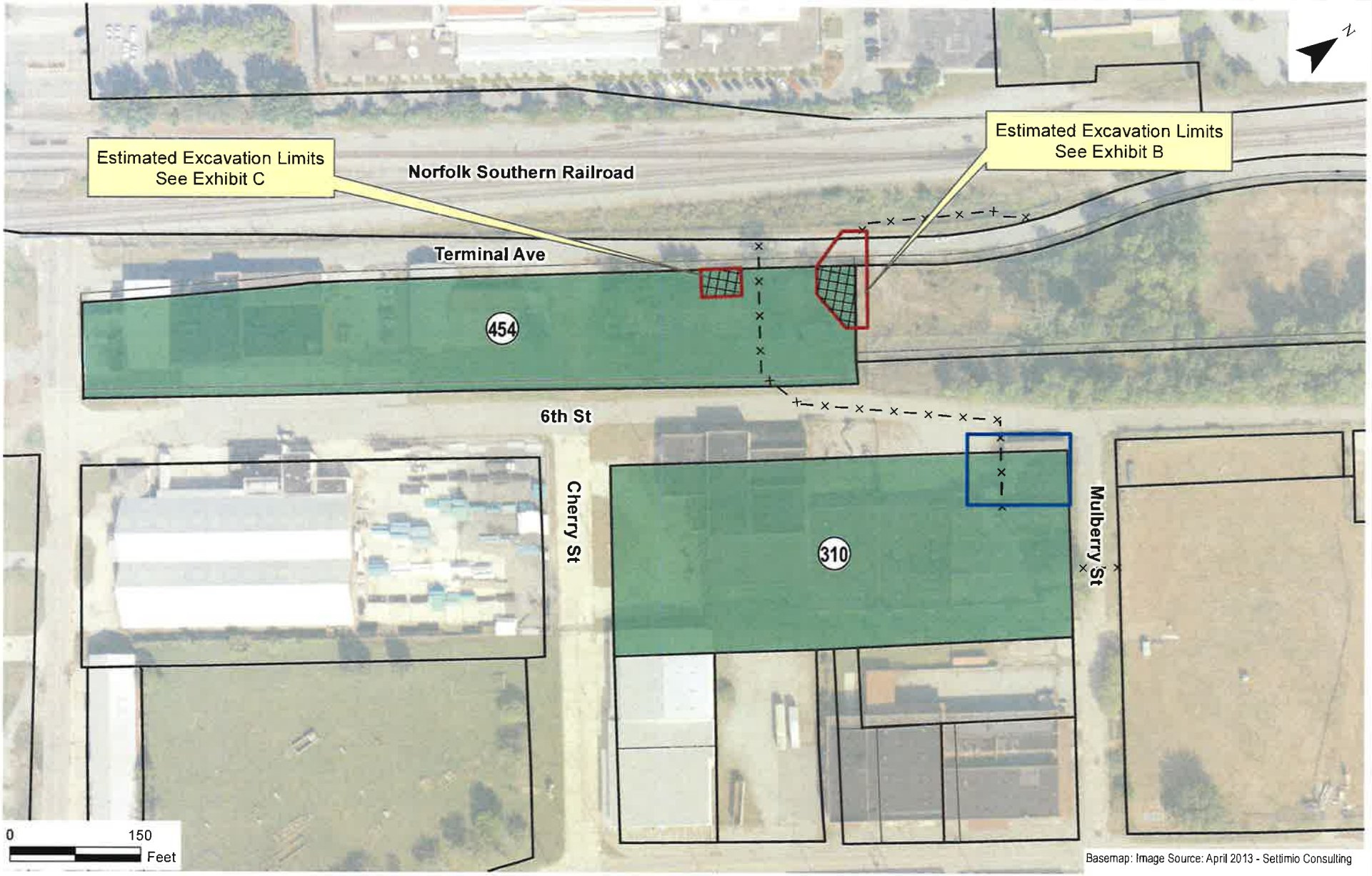
20. Authority. Each party hereto warrants and represents that such party has full and complete authority to enter into this Agreement and each person executing this Agreement on behalf of a party warrants and represents that he has been fully authorized to execute this Agreement on behalf of such party and that such party is bound by the signature of such representative.

21. Effective Date. The effective date of this Agreement shall be the date written on the first page.

22. Confidentiality. The terms and conditions of this Agreement shall be deemed confidential and shall not be disclosed to any person for any purpose.

IN WITNESS WHEREOF, the parties have caused this Agreement to be signed as of the day and year first written above.

PRODIGY WOODWORKS, LLC	**ATLANTA GAS LIGHT COMPANY**
By: Brooks Patterson	By: ~~Don Carter~~ Jeffrey P. Brown
Manager and Sole Member	~~Vice President~~ SVP & Deputy GC



Environmental Resources Management

DESIGN:	S Vizuete	DRAWN:	S Vizuete	CHKD.:	H Sartain
DATE:	10/16/2015	SCALE:	AS SHOWN	REVISION:	0
FILE:	A:\AGL\AGL_Macon\MXD\10 2015 Prodigy\Exhibit\A_AffectedParcels_3.mxd				

EXHIBIT A - AFFECTED PARCELS
PRODIGY HOLDINGS LLC

Atlanta Gas Light Company

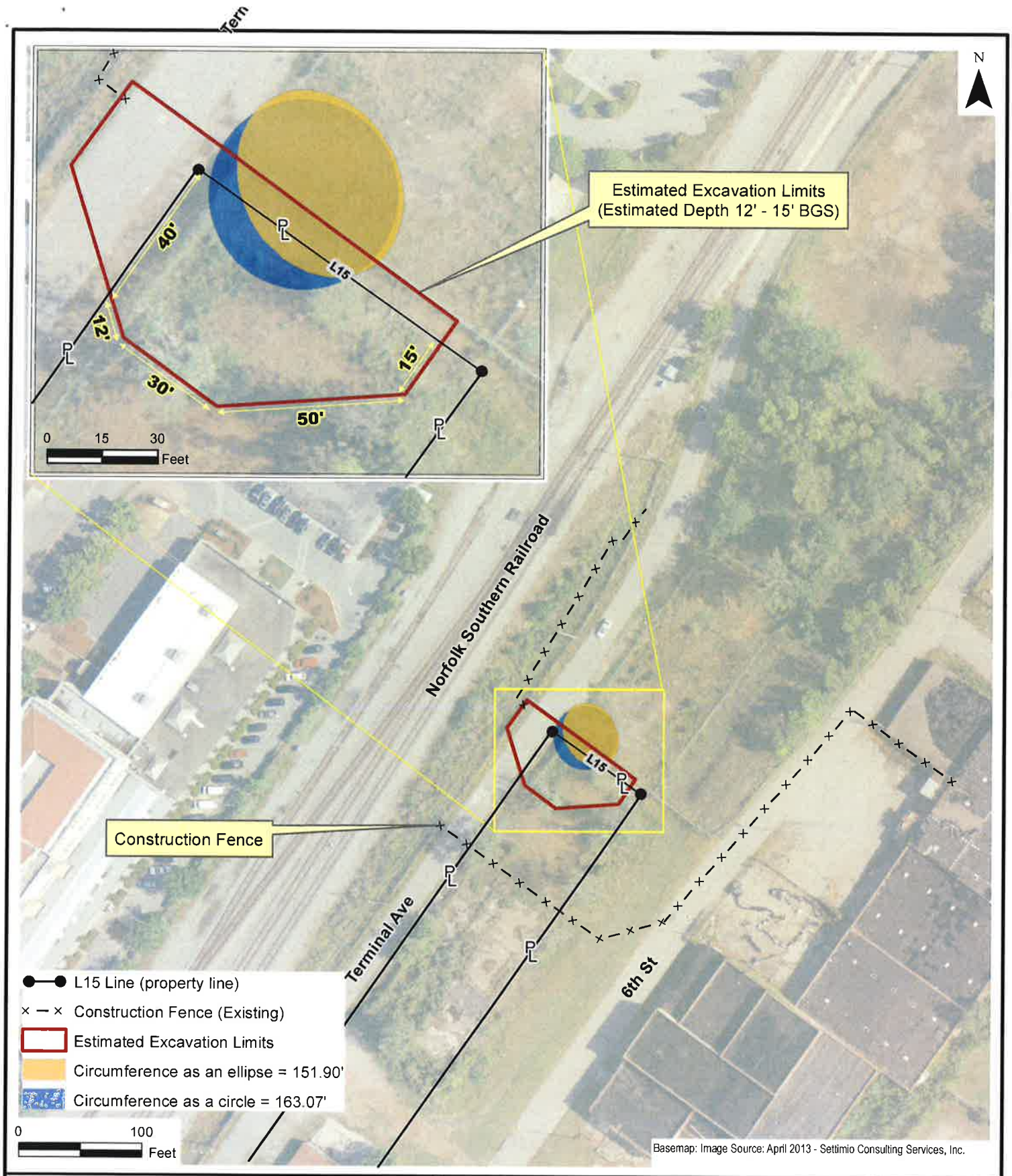
Former Manufactured Gas Plant

Macon, Bibb County, Georgia

- Estimated Excavation Limits Within Prodigy Holdings LLC
- Area Designated for Parcel Subdivision & Building Demolition
- Construction Fence (Existing)
- Property Line

310 454 Owner: Prodigy Holdings LLC *Tax Parcel ID: R081-0078, R081-0076*

ERM



Environmental Resources Management

DESIGN: S Vizuete	DRAWN: S Vizuete	CHKD.: H Sartain
DATE: 10/16/2015	SCALE: AS SHOWN	REVISION: 0

FILE:A:\AGL\AGL_Macon\MXD\10 2015 Prodigy\ExhibitB_454Terminal_3.mxd

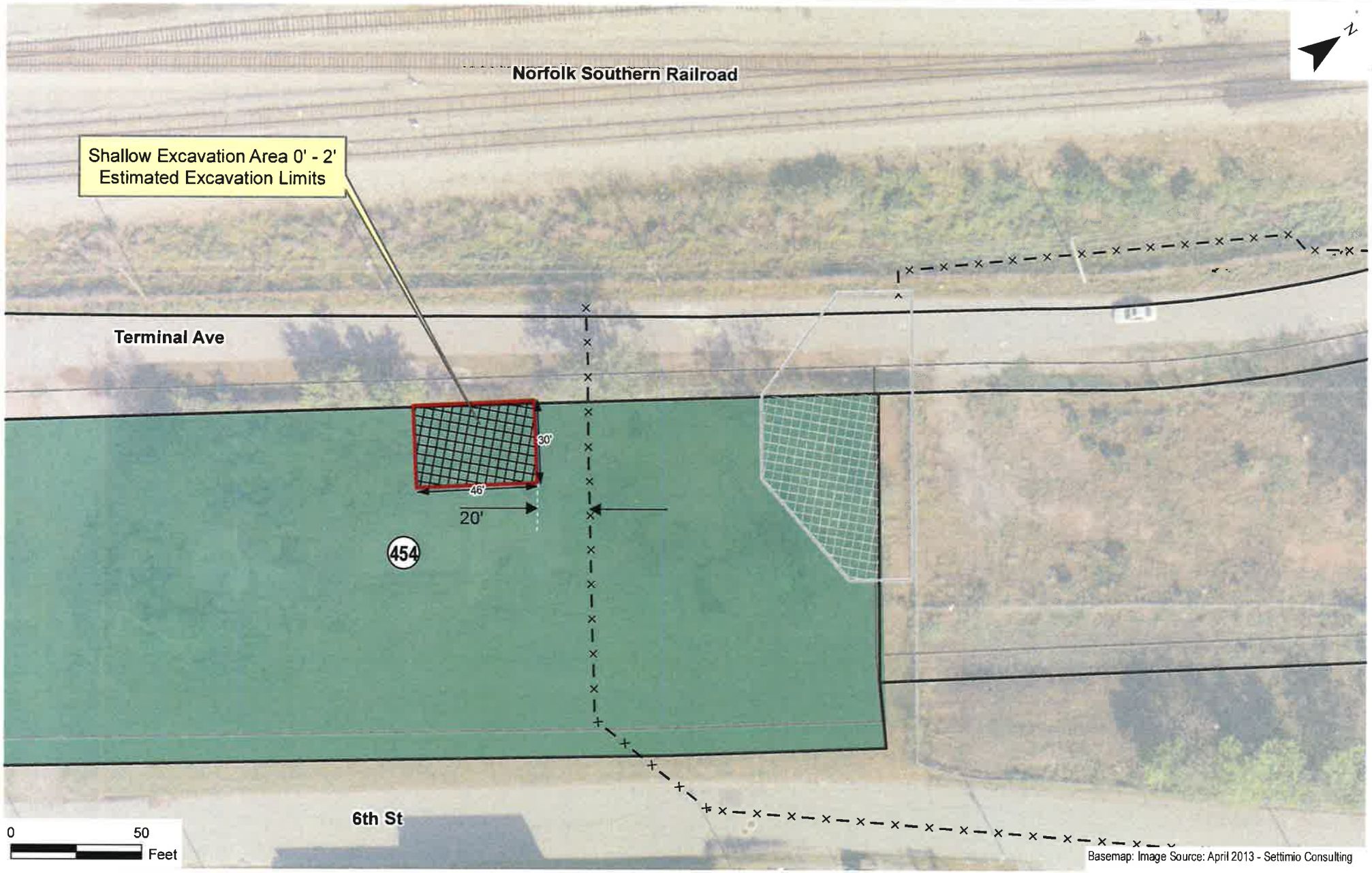
EXHIBIT B - 454 TERMINAL AVENUE PARCEL
PROPOSED ACTIVITIES

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia

ERM



Environmental Resources Management

DESIGN:	S Vizuete	DRAWN:	S Vizuete	CHKD.:	H Sartain
DATE:	10/19/2015	SCALE:	AS SHOWN	REVISION:	0

FILE: S:\AGL\AGL_Macon\MXD\10 2015 Prodigy\ExhibitC_0to2FtExcavDetail.mxd

EXHIBIT C - EXCAVATION LIMITS DETAIL - PRODIGY HOLDINGS LLC

Atlanta Gas Light Company

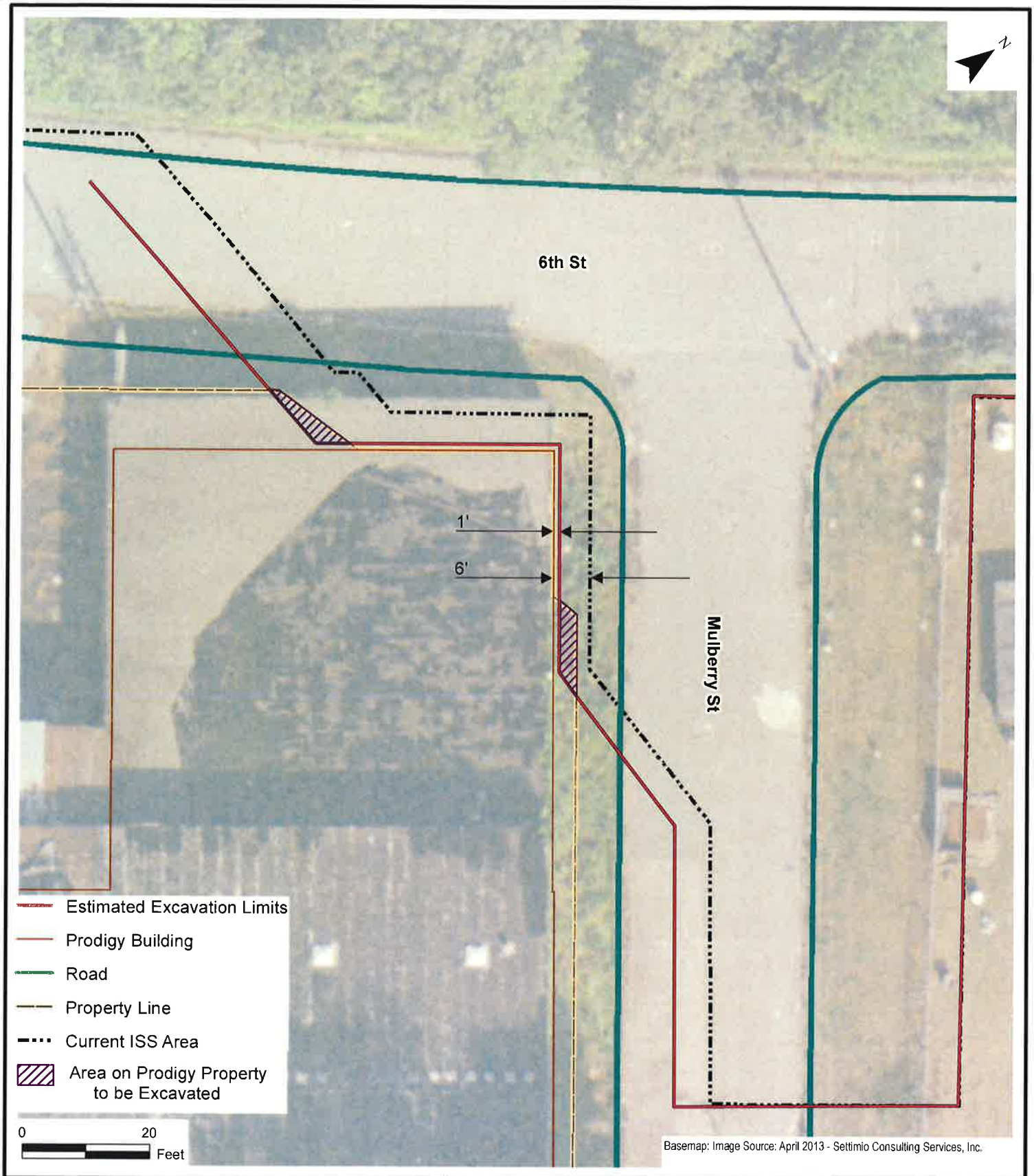
Former Manufactured Gas Plant

Macon, Bibb County, Georgia

- Shallow Excavation Area 0' - 2'
- Construction Fence (Existing)
- Property Line

310 454 Owner: Prodigy Holdings LLC *Tax Parcel ID: R081-0078, R081-0076*

ERM



Environmental Resources Management

DESIGN:	S Vizuete	DRAWN:	S Vizuete	CHKD.:	H Sartain
DATE:	10/16/2015	SCALE:	AS SHOWN	REVISION:	0

FILE: A:\AGL\AGL_Macon\MXD\10 2015 Prodigy\ExhibitD_310_6thSt_2.mxd

EXHIBIT D - 310 6th STREET PARCEL
PROPOSED ACTIVITIES

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia

ERM



Environmental Resources Management

DESIGN:	S Vizuete	DRAWN:	A Freeman	CHKD.:	H Sartain
DATE:	10/16/2015	SCALE:	AS SHOWN	REVISION:	0
FILE:	A:\AGL\AGL_Macon\MXD\10 2015 Prodigy\ExhibitE_ExcavProhib.mxd				

EXHIBIT E - EXCAVATION CONSTRUCTION PROHIBITION DETAIL - PRODIGY HOLDINGS LLC

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia

Excavation, Construction Prohibition in Soils at/or > 15' BGS

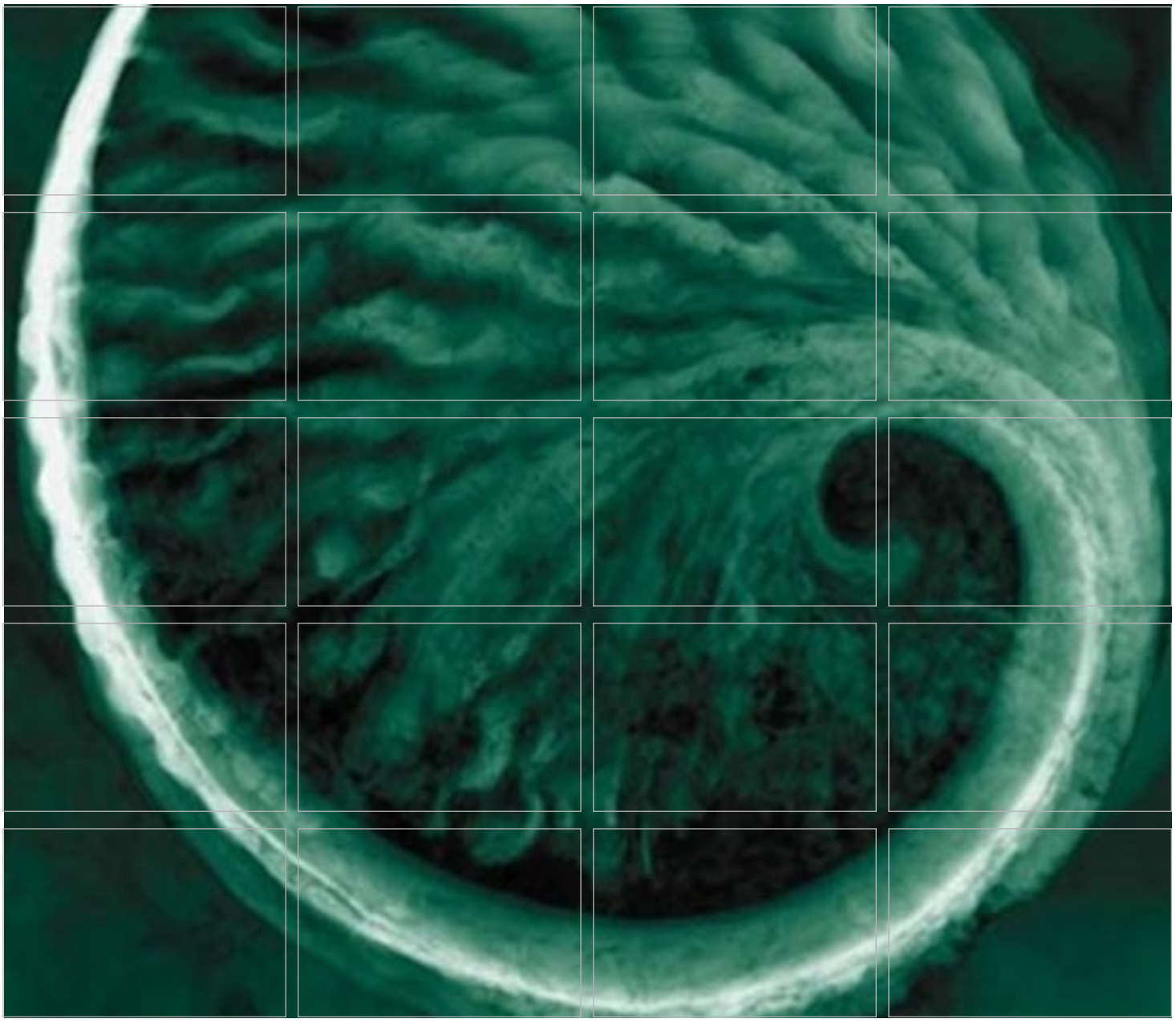
ERM

Groundwater Monitoring Report:
February, April and August 2015 Sampling Events

Appendix E

Project No. 0176740
Atlanta Gas Light Company

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



Groundwater Monitoring Report: February, April and August 2015 Sampling Events

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

November 21, 2015

www.erm.com

ERM

The world's leading sustainability consultancy

PROFESSIONAL CERTIFICATION PAGE

GROUNDWATER MONITORING REPORT:
FEBRUARY, APRIL AND AUGUST 2015 SAMPLING EVENTS
ATLANTA GAS LIGHT COMPANY
FORMER MANUFACTURED GAS PLANT SITE
MACON, GEORGIA
HSI NO. 10511

I certify that I am a qualified ground-water scientist who has received a baccalaureate or post-graduate degree in the natural sciences or engineering, and have sufficient training and experience in groundwater hydrology and related fields, as demonstrated by state registration and completion of accredited university courses, that enable me to make sound professional judgments regarding groundwater monitoring and contaminant fate and transport. I further certify that this report was prepared by myself or by a subordinate working under my direction.



Adria L. Reimer, P.G. #002004

November 21, 2015

TABLE OF CONTENTS

1.0 INTRODUCTION 1

2.0 BACKGROUND 3

2.1 GROUNDWATER MONITORING AND EVALUATION STUDIES 4

2.2 SCOPE OF WORK 4

2.2.1 Field Tasks 4

2.2.2 Reporting Tasks 4

2.3 GROUNDWATER MONITORING NETWORK 4

2.4 GROUNDWATER SAMPLING AND ANALYSIS 5

2.5 QUALITY CONTROL/QUALITY ASSURANCE SAMPLES 6

2.6 MANAGEMENT OF INVESTIGATION DERIVED WASTE 7

3.0 GROUNDWATER MONITORING RESULTS 8

3.1 GROUNDWATER FLOW AND ELEVATIONS 8

3.2 GROUNDWATER ANALYTICAL RESULTS 9

3.2.1 Alluvium Groundwater Analytical Results 10

3.2.1.1 Volatile Organic Compound Results 10

3.2.1.2 Semi-Volatile Organic Compound Results 11

3.2.1.3 Inorganic Compound Results 11

3.2.2 Bedrock Groundwater Analytical Results 11

3.2.2.1 Volatile Organic Compound Results 12

3.2.2.2 Semi-Volatile Organic Compound Results 13

3.2.2.3 Inorganic Compound Results 13

3.4 QUALITY ASSURANCE, QUALITY CONTROL, AND DATA VALIDATION 14

4.0 DISCUSSION OF GROUNDWATER SAMPLING OBJECTIVES 16

4.1 ALLUVIUM GROUNDWATER 16

4.1.1 Document that the Plume is not Migrating off the MUDA Type 5 Property 16

4.1.2 Collect Background Data Surrounding the Proposed Footprint of Corrective Actions at the Western Portion MGP 16

4.1.3 Collect Additional Alluvium Groundwater Data near the Bernard B. Smith Property. 17

4.2 BEDROCK GROUNDWATER 17

4.2.1 Verify that the Plume is not Expanding 17

4.2.2 Monitor for DNAPL accumulation 17

4.2.3 Detect Changes in Environmental Conditions 19

4.2.4 Detect New Releases (or other sources) of Contaminants to the Environment 20

4.2.5 Demonstrate the Effectiveness of Institutional Controls 20

4.2.6 Document Attainment of Remediation Objectives 21

5.0 CONCLUSIONS 23

6.0 REFERENCES 25

LIST OF APPENDICES

E-1 Groundwater Sampling Log Sheets

E-2 Three-Point Groundwater Gradient Estimation Figures

E-3 Laboratory Analytical Reports

E-4 Data Evaluation

E-5 Historical Data Summary

E-6 Bedrock Monitoring Wells: Concentration and Groundwater Elevation Trend Graphs

LIST OF TABLES

E1-1 Site-Specific Groundwater Constituents of Interest

E2-1 Alluvium Groundwater Monitoring Well Network

E2-2 Bedrock Groundwater Monitoring Well Network

E3-1 Depths to Water and Groundwater Elevations - Bedrock Monitoring Wells

E3-2 Seepage Velocity Calculations

E3-3 Summary of Groundwater Analytical Data – Alluvium Monitoring Wells

F3-4 Summary of Groundwater Analytical Data – Bedrock Monitoring Wells

LIST OF FIGURES

FIGURE E1-1	*Topographic Site Location Map*
FIGURE E1-2	*Site Layout and Groundwater Monitoring Well Network*
FIGURE E3-1	*Hydraulic Potential in Shallow Bedrock Wells – February 16, 2015*
FIGURE E3-2	*Hydraulic Potential in Shallow Bedrock Wells – August 10, 2015*
FIGURE E3-3	*Benzene/Naphthalene in Alluvium Groundwater – February & April 2015*
FIGURE E3-4	*Benzene in Bedrock Groundwater – February 2015*
FIGURE E3-5	*Benzene in Bedrock Groundwater – August 2015*
FIGURE E3-6	*Naphthalene in Bedrock Groundwater – February 2015*
FIGURE E3-7	*Naphthalene in Bedrock Groundwater – August 2015*

1.0 INTRODUCTION

Environmental Resources Management (ERM) has prepared this semiannual groundwater monitoring report on behalf of Atlanta Gas Light Company (AGLC). This report summarizes results of the semiannual bedrock groundwater monitoring and select alluvium groundwater monitoring events conducted in February and August 2015 and the supplemental alluvium and bedrock groundwater sampling event conducted in April 2015 at the former manufactured gas plant (MGP) site in Macon, Georgia (Site). The Site includes property formerly owned by AGLC and formerly used for MGP operations, property formerly owned by AGLC not used for MGP operations, surrounding and nearby parcels not owned by AGLC, and city right-of-way (ROW). The Site is divided between "on-site" areas for the former AGLC property where former MGP operations were located and "off-site" areas for properties that were not part of the former MGP operations. The Site location map (Figure E1-1) shows the setting of the AGLC property within the City of Macon, Bibb County, Georgia and the Site layout map (Figure E1-2) shows the locations of groundwater monitoring wells and other Site features.

The February and August 2015 monitoring events were conducted in accordance with the *Bedrock Groundwater Monitoring Plan* (BGMP) [Appendix I of the *Voluntary Investigation Remediation Plan* (VIRP)] submitted to the Georgia Environmental Protection Division (EPD) on October 14, 2014. The volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) on the Constituents of Interest (COI) list (Table E1-1) were updated based on correspondence received from the EPD dated January 17, 2012 to include the list of constituents listed in Table 2-1 of the January 2004 Compliance Status Report (CSR). The January 17, 2012 correspondence also requested that the COI list be followed until COI delineation to background and certification of the Western Portion to the applicable RRS is completed and documented by submittal of an updated CSR, at which time a revised COI list may be established.

As discussed in AGLC's August 13, 2013 letter and agreed to by EPD in a comment letter dated August 22, 2013, sampling of most alluvium groundwater wells has been discontinued until remedial activities in the Western Portion of the Site have been completed. The Western Portion remedial activities were initiated in May 2015 in accordance with the *Western Portion and MW-101 Area Groundwater Corrective Action Plan Addendum* (Appendix C of the 2014 VIRP). Three alluvium monitoring wells (MW-15, MW-101, and MW-102) are sampled on a semiannual basis to monitor the plume on the Macon Urban Development Authority (MUDA) Type 5 parcel.

A supplemental sampling event conducted in April 2015 included select alluvium wells in proximity to the Western Portion (twelve wells), one upgradient well (AMW-13) and three wells located downgradient of the Western Portion (MW-08, MW-21 and MW-400). These wells were selected to provide baseline data prior to remedy implementation. Additionally, groundwater samples were collected from select bedrock wells not included in the semiannual monitoring schedule that had not been sampled within the last two years, in order to obtain information on current groundwater conditions.

2.0 BACKGROUND

Two MGP facilities formerly operated in the area of Mulberry Street and 6th Street in Macon. The former MGP located at 137 Mulberry Street (southeast of 6th Street) has been the subject of numerous investigation and corrective actions since the 1980s. This portion of the Macon MGP site is referred to as the Mulberry Street MGP (also referred to as the Eastern Portion MGP in previous correspondence). The property is bounded by Walnut Street, 7th Street, Mulberry Street, and 6th Street, and is currently owned by MUDA. The second MGP was located northwest of 6th Street. Investigation of this property began in 2005 and in 2007; soil and groundwater impacts requiring additional investigation were identified during the demolition of structures on the property. The results of the investigation established that this location was a separate former MGP site that used different MGP production processes relative to the Mulberry MGP. This former MGP is referred to as the Western Portion MGP (Figure E1-2).

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

On January 14, 2015, AGLC and EPD signed and executed Consent Order EPD-VRP-12, providing for transition of the Site from regulation under HSRA to the Voluntary Remediation Program (VRP) upon EPD acceptance of a VRP Application and VIRP. The application and VIRP were submitted on October 14, 2014. EPD acknowledged acceptance to the VRP on May 21, 2015 and provided comments on the VIRP in correspondence dated May 26, 2015.

Historical investigations and corrective actions have been detailed in Corrective Action Plan (CAP) and CAP Addendum documents, site investigation and characterization reports, feasibility study reports, remedial action completion reports and semiannual groundwater monitoring reports previously submitted to EPD. In addition, a comprehensive summary of significant activities was provided in the 2014 VIRP.

2.1 GROUNDWATER MONITORING AND EVALUATION STUDIES

The annual groundwater monitoring and evaluation event was conducted in February 2015 and the semiannual groundwater monitoring event was conducted in August 2015 in general accordance with the 2014 BGMP. This section of the report describes procedures used for groundwater sampling, analytical analyses, quality assurance/quality control (QA/QC), and management of investigation-derived wastes. Groundwater samples were collected using the low-flow/low-volume method with either a peristaltic or bladder pump.

2.2 SCOPE OF WORK

The semiannual sampling events included the following tasks:

2.2.1 Field Tasks

- Groundwater level gauging
- Monitoring for the presence of non-aqueous phase liquid (NAPL)
- Groundwater sampling
- Waste management

2.2.2 Reporting Tasks

- Tabulation of groundwater elevations and laboratory analytical results for COI
- Preparation of bedrock groundwater flow potential maps
- Evaluation of groundwater flow in the bedrock aquifer
- Evaluation of analytical results relative to Type 2 and Type 4 RRS
- Preparation of isoconcentration maps for benzene and naphthalene.

2.3 GROUNDWATER MONITORING NETWORK

The network of monitoring wells was developed over a series of investigations to determine on-site and off-site groundwater impacts. The annual event (February) represents the event with the greater number of wells to be sampled and the semiannual event (August) includes a subset of these wells. The alluvium groundwater monitoring well network is included as Table E2-1, the bedrock groundwater monitoring network is included as Table E2-2, and locations of existing monitoring wells are shown on Figure E1-2. Monitoring of most alluvium wells has been suspended until completion of the Western Portion remedy (monitoring of MW-15, MW-101 and MW-102 has continued during remedy

implementation to evaluate conditions on the MUDA property), however, groundwater samples were collected from additional alluvium wells during this reporting period (see discussion below regarding the April 2015 supplemental sampling event) to document conditions prior to remedy implementation.

Bedrock groundwater monitoring wells MW-09D, MW-115D, and MW-303D were abandoned in May 2015 prior to the initiation of corrective actions on the Western Portion. Monitoring well MW-309D was installed in July 2015 prior to the August 2015 sampling event.

The supplemental sampling event conducted in April 2015 consisted of bedrock wells not typically sampled (MW-08D, MW-22D, MW-27D, MW-27DD and MW-114D), as part of the EPD-approved semiannual sampling schedule. It was determined that analytical data for these locations would be useful in evaluating current bedrock groundwater conditions, as samples have not been collected within the last two years.

Select alluvium wells were chosen to be sampled during the supplemental sampling event in April 2015 based on their location relative to the corrective action planned to begin in May 2015. Sixteen alluvium wells were selected:

AMW-1	AMW-2	AMW-9	AMW-11
AMW-13	AMW-13	AMW-14	AMW-15
MW-08	MW-21	MW-25	MW-106
MW-108	MW-109	MW-205	MW-400

It was determined that analytical data for these locations would be useful to establish baseline conditions prior to Western Portion remedy implementation.

2.4 GROUNDWATER SAMPLING AND ANALYSIS

During the initial groundwater gauging task performed during each semiannual sampling event, the condition of each well was noted, including the concrete surface seal, outer casing, inner expandable well cap, and lock. Any well caps or locks that were damaged or missing were repaired or replaced by ERM. All wells, well caps, locks and well pads were noted to be in good condition. All wells were gauged with an oil-water interface meter to assess whether NAPL was present. Measurable DNAPL was detected in monitoring well MW-111D in February 2015 and MW-309D in August 2015, while DNAPL blebs were observed in sediment attached to the probe tip in MW-302D in February 2015. A summary of DNAPL monitoring activities is included in Section 4.2.2.

Before collection of groundwater samples, each well was purged using low-flow/low-volume techniques conducted in accordance with ERM's standard operating procedures, which are based on technical guidelines from U.S. Environmental Protection Agency (USEPA) Region 4 Science and Ecosystem Support Division Operating Procedures March 2013 (SESD Operating Procedures), *Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures* (Puls and Barcelona, 1995), and *Ground-Water Sampling Guidelines for Superfund and RCRA Project Managers* (Yeskis and Zavala, 2002). The purpose of purging the well is to draw fresh formation water into the well so that the samples are representative of the portion of the aquifer surrounding the well. In wells where excessive drawdown occurred (> 0.3 feet), the method of purging the well was switched to a minimum of three well volumes at which point the well was sampled upon stabilization, or following removal of a maximum of five well volumes, unless well volume was over 10 gallons. Wells with greater than 10 gallons of purge volume, which also exhibit drawdown of greater than 0.3 feet were still purged using low-flow/low-volume techniques due to the excessive amount of volume needed to purge by switching methods.

Field documentation of groundwater quality measurements included pH, conductivity, temperature, dissolved oxygen (DO), oxidation-reduction potential (ORP), and turbidity. Field parameter values and corresponding purge volumes were recorded on groundwater sampling forms. Copies of these forms for the February, April, and August 2015 sampling events are included in Appendix E-1. If a well was completely evacuated during purging (AMW-1, AMW-9, and AMW-15 during the April 2015 sampling event), it was allowed to recharge and the groundwater sample was collected as soon as groundwater recharge was sufficient for sample collection, which in each case was less than twenty-four hours after the well was evacuated.

Groundwater samples from the February, April, and August 2015 events were analyzed for all COI (Table E1-1). Groundwater samples collected from select bedrock wells during the February 2015 event were analyzed for MNA parameters. Analytical Environmental Services (Georgia Certification ID 800) performed the analyses.

2.5 QUALITY CONTROL/QUALITY ASSURANCE SAMPLES

Field quality control (QC) samples were collected and analyzed to document the accuracy and precision of the laboratory. QC samples included:

- Trip Blanks. One trip blank accompanied each cooler containing VOC samples sent to the laboratory. Trip blanks were analyzed to determine if any contaminants were introduced while samples

were stored or while in transit to the laboratory. Trip blanks were analyzed for VOCs on the COI list only.

- Field Duplicates. Three field duplicates were collected during the February 2015 sampling event (MW-200DR, MW-204D, and MW-205DD). Three field duplicates were collected during the August 2015 sampling event (MW-12DRR, MW-110D, and MW-200DR). Duplicates were collected to determine the precision of groundwater sample analysis and the variability of collection procedures.
- Matrix Spikes and Matrix Spike Duplicates. Matrix Spike and Matrix Spike Duplicate (MS/MSD) sample sets were collected from MW-23D and MW-25D during the February 2015 sampling event and MW-23D during the August 2015 sampling event, as part of the laboratory analytical batch QC.

2.6 MANAGEMENT OF INVESTIGATION DERIVED WASTE

All liquid wastes generated from sampling activities (i.e., purge water and decontamination water) were placed in on-site labeled HDPE storage tanks for storage prior to proper disposal. Personal protective equipment and other trash was placed in bags, and deposited in solid waste containers.

3.0 GROUNDWATER MONITORING RESULTS

This section summarizes results of the February, April, and August 2015 sampling events, including bedrock groundwater flow and elevations, alluvium and bedrock groundwater analytical results, quality control/quality assurance, and data validation.

3.1 GROUNDWATER FLOW AND ELEVATIONS

During the February, April and August 2015 groundwater events, alluvium groundwater elevation measurements were only collected from alluvium wells scheduled to be sampled. As this was a small number of wells during each event, alluvium groundwater elevation maps are not provided herein for these events. Alluvium groundwater elevations and flow directions will be evaluated and maps included in subsequent reports following the completion of the Western Portion remedy.

During the February 2015 sampling event, all existing bedrock groundwater wells were inspected and the groundwater levels were gauged and recorded, with the exception of MW-26D, which could not be located due to a debris pile covering the well location. DNAPL thickness was also recorded if applicable. During the supplemental event in April 2015, only groundwater wells scheduled to be sampled were inspected and the groundwater levels were gauged and recorded. During the August 2015 sampling event, all existing bedrock groundwater wells, with the exception of MW-26D (covered by a debris pile) and MW-108D (inaccessible due to Western Portion remedy implementation), were inspected and the groundwater levels were gauged and recorded. Monitoring wells MW-09D, MW-115D, and MW-303D were abandoned prior to the August event in preparation for the corrective actions at the Western Portion MGP. DNAPL thickness was also recorded if applicable. Groundwater elevation data and DNAPL thickness derived from water level measurements collected in February and August 2015 for the bedrock wells is presented in Table E3-1.

Accessible groundwater in bedrock such as that underlying the Macon MGP Site is limited to fractures and groundwater flow and dissolved constituent transport is typically dominated by the orientation of the primary fracture system. Geophysical investigations have demonstrated primary fractures in bedrock at the Site are oriented to the east and southeast. The inferred bedrock groundwater flow directions for data collected in February 2015 and August 2015 are presented on Figure E3-1 and Figure E3-2, respectively. The hydraulic potential measured in shallow bedrock wells decreases toward the east and southeast, as shown on Figures E3-1 and E3-2. Groundwater gradients calculated based on the

hydraulic potential indicate groundwater flow in bedrock is generally parallel to the fracture orientations.

Since fractured bedrock aquifers are inherently anisotropic and heterogeneous, calculation of seepage velocity may not be representative using bulk porosity estimates. However, a range of porosity estimates may provide bounds on the expected seepage velocity of the bedrock aquifer. Multiple seepage velocities were calculated using multiple porosity estimates from the literature and by solving three three-point problems for different areas of the Site. The seepage velocities are presented in Table E3-2. The calculated range of seepage velocity in the bedrock aquifer at the Western Portion of the Site was between 0.059 and 4.7 ft/day and at the Eastern Portion of the Site between 0.044 and 3.5 ft/day in February 2015. The calculated range of seepage velocity in the bedrock aquifer at the Western Portion of the Site was between 0.081 and 6.4 ft/day and at the Eastern Portion of the Site between 0.048 and 3.8 ft/day in August 2015 (see Table E3-2 for seepage velocity calculations and Appendix E-2 for 3-point gradient calculations).

3.2 GROUNDWATER ANALYTICAL RESULTS

Analytical results for alluvium and bedrock monitoring wells sampled in February, April, and August 2015 are summarized in Tables E3-3 and E3-4. These results were compared to Type 4 RRS for monitoring wells in the City ROW, on-site, or in an industrial use area and Type 2 RRS for wells offsite and/or in a residential use area. Concentrations from monitoring wells MW-109 and MW-112D are compared to Type 2 RRS. Detected concentrations of benzene and naphthalene exceeding the Type 4 RRS are highlighted on Tables E3-3 and E3-4.

The spatial distribution of benzene and naphthalene is shown in Figure E3-3 for alluvium wells sampled in February and April 2015. Analytical results for alluvium wells MW-15, MW-101 and MW-102 sampled in August 2015 are shown in Table E3-3.

The spatial distribution of benzene and naphthalene in bedrock in February 2015 is shown on Figures E3-4 and E3-6. Figures E3-5 and E3-7 show the spatial distribution of benzene and naphthalene in bedrock in August 2015.

Sampling forms are included in Appendix E-1, bedrock hydraulic gradient calculation figures are included in Appendix E-2, copies of the laboratory analytical reports are provided in Appendix E-3, and data validation reports are attached in Appendix E-4. A complete summary of historical analytical data collected for the groundwater monitoring program (since 2001) is provided in Appendix E-5. Benzene and naphthalene

concentration and groundwater elevation trend graphs for bedrock monitoring wells are provided in Appendix E-6. Boring and well completions logs for new wells are included in Appendix F of the *1st Semiannual Progress Report* (ERM, 2015).

3.2.1 Alluvium Groundwater Analytical Results

Analytical results for groundwater samples collected from alluvium monitoring wells were compared to applicable RRS, and are presented in Table E3-3. Regular scheduled sampling events (i.e., February and August 2015) while corrective actions are ongoing at the Western Portion MGP only include three alluvium wells located on the MUDA property. These wells include one historically impacted well (MW-101) and two along the hydraulically downgradient property boundary (MW-15 and MW-102) to monitor for any potential plume migration off the Type 5 property.

A supplemental groundwater sampling event was performed in April 2015 to provide additional baseline results outside and downgradient of the proposed footprint of corrective actions at the Western Portion MGP, and to provide additional data near the property owned by Bernard B. Smith et al (Smith) along 7th Street. Sixteen alluvium monitoring wells were sampled during the supplemental April 2015 sampling event.

3.2.1.1 Volatile Organic Compound Results

February and April 2015

The distribution of benzene in alluvial monitoring wells sampled in February (semiannual event comprised of three alluvium wells on MUDA property) and April 2015 (supplemental monitoring event) is displayed in Figure E3-3. Benzene was detected at concentrations above the Type 4 RRS (9 µg/L) in groundwater samples collected from three alluvium monitoring wells in the February and April 2015 sampling events: AMW-15, MW-101, and MW-205. Detected benzene concentrations ranged from 49 µg/L (MW-101) to 66 µg/L (MW-205). Each alluvial monitoring well with BTEX detections is located in the City ROW or on-site; therefore, the detected concentrations of individual VOCs are compared only to Type 4 RRS.

August 2015

Benzene was not detected in any of the three alluvium wells (MW-15, MW-101 and MW-102) sampled in August 2015. No other VOCs were detected above Type 4 RRS in the February, April, or August 2015 sampling events. No figure is included for this event as there were no detections.

3.2.1.2 *Semi-Volatile Organic Compound Results*

February and April 2015

Naphthalene concentrations in alluvium groundwater during the February and April sampling events ranged from 20 µg/L (AMW-15) to 310 µg/L (MW-101). Naphthalene was detected at concentrations above the Type 4 RRS (20 µg/L) in groundwater samples collected from alluvium monitoring wells MW-101 in February 2015 (310 µg/L) and MW-205 (280 µg/L in April 2015). The distribution of naphthalene in alluvial monitoring wells sampled in February and April 2015 is displayed in Figure E3-3. Each alluvial monitoring well with SVOC detections is located in the City ROW or on-site; therefore, the detected concentrations of individual SVOCs are compared only to Type 4 RRS.

August 2015

Naphthalene was not detected in any of the three alluvium wells (MW-15, MW-101 and MW-102 sampled inn August 2015. In addition, no other SVOCs were detected above their respective Type 4 RRS during the event. As such, no figure showing SVOC distribution is included for the August 2015 event.

3.2.1.3 *Inorganic Compound Results*

Unfiltered alluvial groundwater samples were analyzed for inorganic COI (Table E1-1). No inorganic COI concentrations were detected in excess of the applicable Type 4 RRS in samples collected during the February, April, or August 2015 groundwater sampling events (Table E3-3).

3.2.2 *Bedrock Groundwater Analytical Results*

Analytical results for groundwater samples collected from bedrock monitoring wells were compared to applicable Type 2 and 4 RRS, and are presented in Table E3-4.

February and April 2015

Twenty-three bedrock monitoring wells were sampled during the annual February 2015 sampling event. MW-09D, MW-115D and MW-303D were not sampled because they were abandoned in advance of the Western Portion remedy implementation. MW-26D could not be located during the February event, and MW-111D was not sampled due to detection of 0.8 feet of DNAPL during the groundwater level gauging. An additional five bedrock monitoring wells (MW-8D, MW-22D, MW-27D, MW-27DD, and MW-114D) were sampled during the supplemental April 2015 sampling event.

August 2015

The seventeen bedrock wells included in the semiannual monitoring schedule were sampled in August 2015. Samples were also collected from MW-22D and MW-27D to provide additional data from periphery wells. MW-309D, which was installed in July 2015, had approximately 10 feet of DNAPL detected in the well casing during gauging, and was consequently not sampled during the August 2015 sampling event.

A summary of DNAPL monitoring and recovery efforts at MW-111D and MW-309D completed during this reporting period are included in Section 2.3 of the *1st Semiannual Progress Report*, with additional information provided in Appendix G of that document.

3.2.2.1 *Volatile Organic Compound Results*

February and April 2015

During the February and April 2015 sampling events, benzene was detected in groundwater above the Type 4 RRS of 9 µg/L in samples collected from ten bedrock monitoring wells:

- MW-12DRR
- MW-12DD
- MW-110D
- MW-204D
- MW-205D
- MW-301D
- MW-302D
- MW-302DD
- MW-305D
- MW-306D

Benzene was detected in MW-308D at a concentration below Type 4 RRS. Benzene concentrations ranged from 8.2 µg/L (MW-308D) to 11,000 µg/L (MW-305D) in February and April 2015. The distribution of benzene in bedrock wells sampled in February and March 2015 is shown on Figure E3-4. Benzene was the only BTEX analyte detected above its respective RRS in bedrock groundwater samples collected during the February and April sampling events, with the exception of toluene, which was detected at MW-305D above the Type 4 RRS.

August 2015

Benzene was detected in groundwater above the Type 4 RRS in samples collected from twelve bedrock monitoring wells during the August 2015 sampling event:

- MW-12DRR
- MW-24D
- MW-110D
- MW-111D
- MW-200DR
- MW-204D
- MW-205D
- MW-302D
- MW-302DD
- MW-305D
- MW-306D
- MW-308D

Benzene concentrations ranged from 11 µg/L (MW-302DD) to 5,200 µg/L (MW-205D) in August 2015. The distribution of benzene in bedrock wells sampled in August 2015 is shown on Figure E3-5. Benzene was the only BTEX analyte detected above its respective RRS in bedrock groundwater

samples collected during the August 2015 sampling event, with the exception of toluene in MW-305D.

3.2.2.2 *Semi-Volatile Organic Compound Results*

February and April 2015

Naphthalene was detected above the Type 4 RRS of 20 µg/L in samples collected from seven bedrock monitoring wells during the February and April 2015 sampling events:

- MW-12DRR
- MW-110D
- MW-204D
- MW-205D
- MW-302D
- MW-305D
- MW-306D

Naphthalene was detected in MW-12DD at a concentration below Type 4 RRS. Naphthalene concentrations ranged from 13 µg/L (MW-12DD) to 4,200 µg/L (MW-205D) in February and April 2015. The distribution of naphthalene in bedrock wells sampled in February and March 2015 is shown on Figure E3-6. Benzo(a)pyrene was detected above the Type 4 RRS of 0.39 µg/L in the sample collected from MW-305D at a concentration of 0.49 µg/L in February 2015. No other SVOCs were detected above their respective RRS in bedrock groundwater samples collected during the February and April 2015 sampling events.

August 2015

Naphthalene was detected above the Type 4 RRS of 20 µg/L in samples collected from eight bedrock monitoring wells during the August 2015 sampling event:

- MW-12DRR
- MW-24D
- MW-110D
- MW-111D
- MW-204D
- MW-205D
- MW-302D
- MW-305D

Naphthalene was detected in MW-306D and MW-307D at concentrations below Type 4 RRS. Naphthalene concentrations ranged from 3.8 µg/L (MW-111D) to 4,600 µg/L (MW-205D) in August 2015. The distribution of naphthalene in bedrock wells sampled in August 2015 is illustrated in Figure E3-7. Benzo(a)pyrene was detected above the Type 4 RRS of 0.39 µg/L in the sample collected from MW-305D at a concentration of 0.91 µg/L in August 2015. No other SVOCs were detected above their respective RRS in bedrock groundwater samples collected during the August 2015 sampling event.

3.2.2.3 *Inorganic Compound Results*

Unfiltered bedrock groundwater samples were analyzed for inorganic COI (Table E1-1). All inorganic COI were below applicable RRS during the February, April, and August 2015 sampling events (Table E3-4).

3.4 *QUALITY ASSURANCE, QUALITY CONTROL, AND DATA VALIDATION*

All field QA/QC data, and at least 10 percent of the VOC, SVOC, and inorganic data presented in the analytical reports were reviewed by ERM's data validation expert. Laboratory analytical reports for all samples are provided in Appendix E-3, and the data validation reports for VOC, SVOC, and inorganic data are included in Appendix E-4. These data were reviewed in accordance with the USEPA Contract Laboratory Program National Functional Guidelines for Organic/Inorganic Data Review, Level 2 Evaluation [2008, 2011].

As shown in Appendix E-4, ERM performed a data validation review of sample order numbers 1502E13 and 1502F52 for the February 2015 sampling event, which included the following parent and duplicate samples:

DUP-01-20150217-01	MW-200DR-20150217-01
DUP-02-20150217-01	MW-204D-20150217-01
DUP-03-20150217-01	MW-205DD-20150217-01

ERM performed a data validation review of sample order number 1508C64 for the August 2015 sampling event, which included the following parent and duplicate samples:

DUP-01-20150812-01	MW-200DR-20150812-01
DUP-02-20150813-01	MW-110D-20150813-01
DUP-03-20150813-01	MW-12DRR-20150813-01

The following items were included in the data validation review:

- Surrogate recoveries
- Relative percentage difference of primary/field duplicate samples
- Field and laboratory blank contamination
- Holding times, sample receipt conditions, dilution factors, chains of custody
- Trip blanks
- Sample duplicates

Three field duplicates were collected during both the February and August 2015 sampling events (see above) to determine the precision of the groundwater sample analysis and collection. No duplicates were collected during the April supplemental event.

As shown in Appendix E-4, the duplicate sample results received from the laboratory correlated well with those from parent samples with the following exceptions:

February 2015

- MW-204D: naphthalene
- MW-205DD: zinc

August 2015

- MW-110D: anthracene, benzo(a)anthracene, naphthalene, and pyrene
- MW-12DRR: benzene, ethylbenzene, total xylenes, chrysene, phenanthrene, and total cyanide

All other relative percent difference (RPD) calculations showed differences of less than 30% between parent and duplicate sample.

Two MS/MSD sample sets were collected in February 2015 and one in August 2015 as part of the laboratory analytical batch QC. The MS/MSD samples were collected to assess matrix interference and reliability of the analytical processes and equipment. The samples were collected from MW-23D and MW-25D in February and MW-23D in August 2015. All results for the MS/MSD QC samples were within the laboratory established limits.

4.0 DISCUSSION OF GROUNDWATER SAMPLING OBJECTIVES

This section provides an evaluation of the results of the groundwater sampling events conducted in the context of variability and concentration trends over the past three years as they relate to the monitoring objectives defined in the BGMP and interim alluvium objectives prior to and during active remedy implementation

4.1 ALLUVIUM GROUNDWATER

4.1.1 Document that the Plume is not Migrating off the MUDA Type 5 Property

Results from monitoring wells MW-15, MW-101, and MW-102 were used to assess whether the alluvium groundwater plume may be migrating off the MUDA Type 5 property located at 137 Mulberry Street.

- MW-101 is located adjacent former In-situ Solidification (ISS) mass on the MUDA property and historically had impacts. Both benzene and naphthalene concentration were above Type 4 RRS during the February 2015 sampling event, but were below detection limits during the August 2015 sampling event.

- MW-15 and MW-102 are located hydraulically downgradient along the property boundary. Both wells have historically had concentrations below detection limits for organic COI. No organic COI were detected during either the February or the August 2015 sampling events.

Results from February and August 2015 sampling events do not indicate that the alluvium groundwater plume on the MUDA property is currently migrating off the Type 5 property.

4.1.2 Collect Background Data Surrounding the Proposed Footprint of Corrective Actions at the Western Portion MGP

Select alluvium groundwater monitoring wells were sampled in April 2015 around the perimeter of the proposed ISS footprint to provide background groundwater data prior to remedy implementation. Concentrations of organic COI were below detection limits in thirteen of the fifteen wells. Concentrations of benzene and naphthalene were detected in AMW-15 and MW-205 (see Table E3-3). Both wells are located just outside of the proposed ISS footprint along the northern boundary of Terminal Avenue and the Norfolk Southern Property.

4.1.3 Collect Additional Alluvium Groundwater Data near the Bernard B. Smith Property.

MW-21 was sampled during the supplemental April 2015 sampling event for the first time since 2006. No organic COI were detected during the April 2015 sampling event.

4.2 BEDROCK GROUNDWATER

4.2.1 Verify that the Plume is not Expanding

To supplement the bedrock groundwater data collected in February 2015 during the annual monitoring event, downgradient perimeter monitoring wells MW-8D and MW-27DD and cross-gradient perimeter monitoring wells MW-22D and MW-114D were sampled in April 2015. Data from these wells and other perimeters wells (including MW-23D, MW-25D, MW-27D, and MW-308D) were evaluated to assess any changes in the nature and extent of the bedrock groundwater plume. Evaluation of the results from the February, April, and August 2015 monitoring events showed that there are no concentration trends resulting in values exceeding groundwater standards in previously unimpacted wells.

MW-26D could not be located during this reporting period and has not been sampled in 2015. Surveyors will be contracted to help locate the monitoring well and MW-26D will be included in future sampling events.

4.2.2 Monitor for DNAPL accumulation

DNAPL accumulation of greater than 0.5 feet in the any well will trigger a vacuum enhanced fluid recovery (VEFR) event. Each well is checked for DNAPL as part of the groundwater level gauging activities during semiannual events. Results of monitoring activities at MW-111D, MW-302D, MW-305D and MW-309D (installed in July 2015), locations where DNAPL has primarily been observed during previous events, are summarized below. Two vacuum enhanced fluid recovery (VEFR) events were conducted during this reporting period (May and August 2015) to remove DNAPL from the subsurface. Additional information on both events is included in Section 2.3 of the *1st Semiannual Progress Report* and in Appendix G of that report.

MW-302D

MW-302D had trace DNAPL observed in sediment adhering to the probe tip following gauging during the February 2015 sampling event. No DNAPL was observed during the August 2015 sampling event. The monitoring well was not included in any VEFR events in 2015.

MW-305D

No DNAPL was observed in MW-305D during either the February or the August 2015 sampling events. A sump well, SW-1, was installed in July 2015 at the bedrock interface adjacent to MW-305D in an attempt to capture DNAPL observed at the top of bedrock during the installation of MW-305D in November 2013 (refer to Section 2.3 of the *1st Semiannual Progress Report* for details on SW-1). No DNAPL was observed in SW-1 during the August 2015 event. SW-1 was included in a VEFR event conducted in August 2015 to assess the potential presence of DNAPL at the top of bedrock in proximity of SW-1 and MW-305D; however, no DNAPL was observed.

MW-111D

The following table provides a summary of DNAPL thickness monitoring and DNAPL recovery efforts during this reporting period. Although the DNAPL accumulation measured in August 2015 at MW-111D did not trigger a VEFR event, in an effort to continue recovery of DNAPL from the well, MW-111D was included in the August event.

MW-111D		
Date	**Event**	**Observations – DNAPL Thickness (feet)/Estimated DNAPL Removed (gallons)**
February 16, 2015	Semiannual Monitoring	0.80 ft
May 1, 2015	Pre-VEFR Monitoring	0.98 ft
May 1, 2015	VEFR	0.5 equivalent gallons of DNAPL
August 10, 2015	Semiannual Monitoring	0.00 ft
August 26, 2015	Pre-VEFR Monitoring	0.13 ft
August 26, 2015	VEFR	3.2 equivalent gallons of DNAPL**
October 4, 2015	DNAPL Monitoring/ VEFR Follow-up Event	0.00 ft

** Estimated removal of 28 pounds of hydrocarbons, including approximately 3.2 equivalent gallons of DNAPL, during the August 2015 event, which represents combined volume removed from MW-111D and MW-309D. Rate of hydrocarbon removal ranged from estimated 2.9 to 3.3 pounds per hour during three-hour extraction at MW-111D.

MW-309D

MW-309D was installed in July 2015. DNAPL was first observed in MW-309D during well development several days after installation and well construction activities were completed. The well was gauged during the August 2015 sampling event and DNAPL was again detected. Collecting an accurate DNAPL thickness measurement in MW-309D during the August event was challenging as there appeared to be NAPL globules suspended in the water column, beginning approximately 5 feet below the top of the water column, which

interfered with operation of the interface probe and the ability to accurately measure the top of the accumulated DNAPL in the base of the well. DNAPL accumulation at the well bottom was estimated at approximately six feet using PVC pipe to measure the thickness. The following table provides a summary of DNAPL thickness monitoring and DNAPL recovery efforts during this reporting period at MW-309D. The accumulation measured in August 2015 triggered the August VEFR event.

MW-309D		
Date	**Event**	**Observations - DNAPL Thickness (feet)/Estimated DNAPL Removed (gallons)**
July 8-9, 2015	Well Installation	No DNAPL observed during drilling
July 17, 2015	Well Development	0.33 ft
August 10, 2015	Semiannual Monitoring	Estimated 6 ft of DNAPL with NAPL globules suspended in water column
August 26, 2015	Pre-VEFR Monitoring	Estimated 10 ft of DNAPL with NAPL globules suspended in water column
August 26, 2015	VEFR	3.2 equivalent gallons of DNAPL**
October 4, 2015	DNAPL Monitoring/ VEFR Follow-up Event	Estimated 1.1 ft of DNAPL with minor NAPL globules suspended in bottom 2 ft of well

** Estimated removal of 28 pounds of hydrocarbons, including approximately 3.2 equivalent gallons of DNAPL, during the August 2015 event, which represents combined volume removed from MW-111D and MW-309D. Rate of hydrocarbon removal ranged from estimated 3.1 to 5.0 pounds per hour during five-hour extraction at MW-309D. Extraction was performed at SW-1 and MW-309D simultaneously; however, the lack of DNAPL in the well prior to and following the event, and observations of the liquids removed during the event, indicate that any contribution of recovered DNAPL from SW-1 was likely minor compared to MW-309D.

4.2.3 Detect Changes in Environmental Conditions

The groundwater flow directions and seepage velocities for the February and August 2015 monitoring events were compared with previous reports to identify any changes. The flow direction in the bedrock aquifer has historically been to the east. Bedrock groundwater flow during the February and August 2015 events were predominantly towards the east. The calculated horizontal hydraulic gradient for the bedrock was 0.0259 ft/ft at the Western Portion of the Site and 0.0193 ft/ft at the Eastern Portion of the Site during the February 2015 event. The calculated horizontal hydraulic gradient for the bedrock was 0.0352 ft/ft at the Western Portion of the Site and 0.0211 ft/ft at the Eastern Portion of the Site during the August 2015 event.

During the August 2014 event, the calculated hydraulic gradient in the bedrock aquifer at the Western and Eastern Portions of the Site was 0.0302 ft/ft and 0.0127 ft/ft, respectively. The bedrock groundwater gradient in the Western portion of the site in August 2014 was slightly higher than the February 2015 event, but slightly lower than in August 2015. The bedrock groundwater gradient in the Eastern Portion of the site in August 2014 was lower than in February and August 2015. Compared to previous events, no significant variations in groundwater flow direction or calculated gradient are noted.

COI concentrations in bedrock groundwater were monitored for any constituents not previously observed at the Site. No new detections were observed during the February, April, or August 2015 sampling events. No changes in environmental conditions were detected at the Site based on the evaluation of groundwater flow direction, seepage velocity, and background conditions.

4.2.4 Detect New Releases (or other sources) of Contaminants to the Environment

No previously undetected groundwater constituents were observed in bedrock wells. Background monitoring wells MW-22D and MW-25D continued to have no detections of organic COI.

4.2.5 Demonstrate the Effectiveness of Institutional Controls

The qualifying properties associated with the former Macon MGP Site consist of: an AGLC-owned parcel located at 306 Terminal Avenue; parcels owned by Macon Bibb County Urban Development Authority (MUDA) located at 137 Mulberry Street and 122 Walnut Street (and an unnumbered utility parcel on 6th Street); parcels owned by the City of Macon; and parcels owned by Norfolk Southern Railroad (undefined addresses or parcel identifiers). Agreements have been reached with the MUDA, City of Macon and Norfolk Southern, and institutional controls will be implemented as needed to conform to VRP rules. In the event additional affected properties are identified through ongoing groundwater investigations, AGLC will notify EPD and revise the VIRP accordingly via semiannual progress reports.

Institutional controls that will be placed on qualifying properties will likely include the restriction of groundwater use. Although controls are not yet in place, a visual inspection was performed during the February and August 2015 sampling events for the existence of private wells. No evidence of private wells or shallow groundwater use was observed on any of the neighboring properties.

4.2.6 *Document Attainment of Remediation Objectives*

COI data trends were evaluated to assess whether concentrations were decreasing, increasing or stable and to verify the plume was not expanding. Monitoring wells with COI impacts are discussed below. Historical groundwater monitoring results are summarized in Appendix E-5 and concentration trend graphs for the bedrock wells with COI impacts are included in Appendix E-6.

- Concentrations of benzene and naphthalene at MW-12DRR have decreased steadily since the replacement well was installed in April 2013. Benzene concentrations have decreased from 460 µg/L in August 2013 and 340 µg/L in August 2014 to 250 µg/L in August 2015. The reduction from 2013 to 2015 concentrations represent a reduction of 46%, and the 2014 to 2015 concentrations represent a reduction of 26%. Naphthalene concentrations have decreased from 1,400 µg/L in August 2013 and 1,000 µg/L in August 2014 to 550 µg/L in August 2015. The reduction from 2013 to 2015 concentrations represent a reduction of 61%, and the 2014 to 2015 concentrations represent a reduction of 45%.

- Concentrations of benzene in MW-12DD from the February 2015 sampling event (44 µg/L) decreased from the February and August 2014 samplings (130 µg/L and 140 µg/L, respectively). Benzene concentrations remain well below the historic high (1,800 µg/L, (September 2002). The naphthalene concentration during the February 2015 sampling event was below Type 4 RRS. Overall concentration trends for benzene and naphthalene appear to be decreasing.

- Benzene concentrations in MW-24D have been mostly below detection limits since mid-2004 to mid-2014 with the exception of the August 2009 sample result (7.5 µg/L, just above the laboratory detection limit of 5 µg/L) until a concentration of 15 µg/L was reported in August 2014. The benzene concentration at MW-24D was below detection limits again in February 2015, but had a reported concentration of 39 µg/L in August 2015. Naphthalene concentrations had been below Type 2 RRS (20 µg/L) since June 2004 until the August 2014 and August 2015 sampling events (37 µg/L and 220 µg/L, respectively). MW-24D will be sampled during the February 2016 semiannual event as scheduled, and it is likely that additional sampling will be conducted before submittal of the next progress report in May 2016 in order to evaluate constituent fluctuations.

- Benzene concentrations in MW-110D in August 2015 were the lowest since well installation, and naphthalene concentrations have generally been decreasing. The August 2015 naphthalene concentration of 2,200 µg/L represents a 68% reduction from the highest concentration of 6,800 µg/L (August 2010).

- Benzene concentrations in MW-200DR remained low in February 2015 (non-detect) however a concentration of 36 µg/L benzene was detected in August 2015. Naphthalene concentrations had a spike in February 2013 (2,300 µg/L), but have been below detection limits for the last three monitoring events.

- There do not appear to be any concentration trends for benzene and naphthalene at MW-205D.

- Benzene and naphthalene concentrations have been below detection limits for four consecutive events at MW-206D and MW-207D.

- Benzene was detected at MW-301D at a concentration slightly above the Type 4 RRS of 9 µg/L during the February 2015 event (9.2 µg/L) but was below detection limits during the August 2015 sampling event. Benzene concentrations appear to display an overall decreasing trend with a historical high of 270 µg/L in April 2011. Naphthalene concentrations were below detection limits during both 2015 events.

- Benzene concentrations detected at MW-302D during the February and August 2015 events (12 µg/L and 15 µg/L, respectively) were well below the benzene concentration high of 550 µg/L in February 2014. Concentrations of naphthalene in MW-302D appear to be relatively stable.

- Currently, MW-305D, MW-306D, MW-307D, MW-308D and MW-309D have not been sampled a sufficient number of times to perform trend analyses. Concentration trends for monitoring wells MW-305D through MW-309D will be evaluated once sufficient data have been collected.

Monitoring of alluvium and bedrock groundwater monitoring wells at the Site will continue in accordance with the remediation objectives and the schedules presented in Tables E2-1 and E2-2.

5.0 CONCLUSIONS

The following conclusions are derived from the data and analyses presented in this report:

- The alluvium groundwater plume on the MUDA property has not migrated off-site and appears to be stable or decreasing.

- No organic COI were detected in alluvium wells located upgradient (MW-15 and MW-102) and downgradient (MW-21) of the Smith Property on 7th Street.

- In April 2015, supplemental sampling was performed for fifteen wells along the outside perimeter of the planned ISS mass on the Western Portion MGP prior to remedy implementation in May 2015. Benzene and naphthalene were only detected in AMW-15 and MW-205, located along the northwest corner of the planned ISS area.

- No organic COI were detected in bedrock wells located at the periphery of the bedrock groundwater monitoring network during the 2015 sampling events.

- Bedrock groundwater concentration trends appear to be stable or decreasing in bedrock wells, with the exception of MW-24D, where concentrations have fluctuated recently. Continued monitoring will provide additional data to assess conditions.

During the reporting period, DNAPL was measured in MW-111D (February, May and August 2015) and MW-309D (July, August and October 2015). A total of approximately 0.5 equivalent gallons of DNAPL was removed from MW-111D during the first VEFR event in May 2015. Approximately 3.2 equivalent gallons of DNAPL was removed from MW-111D and MW-309D during the August 2015 event. DNAPL accumulation monitoring and recovery efforts will continue during the next monitoring period.

- No changes in environmental conditions were detected at the Site based on the evaluation of groundwater flow direction, seepage velocity, and background conditions.

- No previously undetected, groundwater constituents were observed in alluvium or bedrock wells in 2015, and no significant changes in groundwater chemistry were noted.

- Background monitoring wells MW-22D and MW-25D continue to have no detections for organic COI. Downgradient well MW-112D has been monitored since 2005 and to date, no COI have been detected in the well.

- A visual inspection of the neighboring properties where institutional controls are in place or are anticipated to be implemented in the future was performed during the February and August 2015 sampling events for the existence of private wells. No evidence of private wells or shallow groundwater use were observed on these properties.

- As agreed with EPD, sampling of alluvial wells will remain suspended until corrective actions in the Western Portion of the Site are completed.

- The next sampling event is scheduled for February 2016 (annual groundwater event).

6.0 REFERENCES

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

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

Puls, R.W. and M.J. Barcelona. 1995. *Low-Flow (Minimal Drawdown) Groundwater Sampling Procedures.* United States Environmental Protection Agency, Ground Water Issues Report , EPA/540/S-95/504. Ada, Oklahoma: U.S. EPA

USEPA, 2008/2011. *Data Validation Standard Operating Procedures for Contract Laboratory Program Routine Analytical Services.* Prepared by the Region 4, United States Environmental Protection Agency, Science and Ecosystem Support Division, August 2008 (organic), September 2011(inorganic).

USEPA, 2013. *Operation Procedure, Groundwater Sampling*. Prepared by the Region 4, United States Environmental Protection Agency, Science and Ecosystem Support Division, March 2013.

Yeskis, D. and B. Zavala. 2002. *Ground-water Sampling Guidelines for Superfund and RCRA Project Managers.* United States Environmental Protection Agency, Technology Innovative Office, Office of Solid Waste and Emergency Response Washington D.C.

Tables

November 21, 2015
Project No. 0176740
Atlanta Gas Light Company

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

Table E1-1
Site-Specific Groundwater Constituents of Interest
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Volatile Organic Compounds	Semivolatile Organic Compounds	Inorganic Compounds
EPA-8260B	**EPA-8270C**	**EPA-6010B**
Benzene	Acenaphthene	Antimony
Ethylbenzene	Acenaphthylene	Arsenic
Toluene	Anthracene	Barium
Total Xylenes	Benzo[a]anthracene	Beryllium
Carbon Disulfide	Benzo[a]pyrene	Cadmium
	Benzo[b]fluoranthene	Chromium
	Benzo[g,h,i]perylene	Copper
	Benzo[k]fluoranthene	Lead
	Chrysene	Nickel
	Dibenz(a,h)anthracene	Zinc
	2,4-Dimehylphenol	
	Fluoranthene	**EPA-9012A**
	Fluorene	Cyanide (Total)
	Indeno[1,2,3-cd]pyrene	
	2-Methylphenol	**EPA-7470A**
	3 & 4 Methylphenol	Mercury
	Naphthalene	
	Phenanthrene	
	Phenol	
	Pyrene	

Table E2-1
Alluvial Well Groundwater Monitoring Network
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Monitoring Well I.D.	Hydrogeologic Unit	Screened Interval ft bgs	Existing Program	Proposed Schedule
AMW-1	Alluvium	9.7 - 19.7	Semiannual Sampling	Semiannual Sampling
AMW-2	Alluvium	4.6 - 14.6	Semiannual Sampling	Annual Sampling
AMW-3	Alluvium	5.7 - 15.7	Semiannual Sampling	Abandoned - Inside ISS Footprint
AMW-4	Alluvium	11.3 - 21.3	Semiannual Sampling	Abandoned - Inside ISS Footprint
AMW-5	Alluvium	12.7 - 22.7	Semiannual Sampling	Abandoned - Inside ISS Footprint
AMW-6	Alluvium	11 - 21	Semiannual Sampling	Semiannual Sampling
AMW-7	Alluvium	8.1 - 18.1	Semiannual Sampling	Abandoned - Inside ISS Footprint
AMW-8	Alluvium	8.2 - 18.2	Semiannual Sampling	Abandoned - Inside ISS Footprint
AMW-9	Alluvium	8.4 - 18.4	Semiannual Sampling	Semiannual Sampling
AMW-10	Alluvium	18.4 - 28.4	Semiannual Sampling	Abandoned - Inside ISS Footprint
AMW-11	Alluvium	5 - 15	New Well	Annual Sampling
AMW-12	Alluvium	10 - 20	New Well	Annual Sampling
AMW-13	Alluvium	10 - 20	New Well	Annual Sampling
AMW-14	Alluvium	5 - 20	New Well	Annual Sampling
AMW-15	Alluvium	6 - 21	New Well	Annual Sampling
MW-07	Alluvium	5 - 15.5	Gauge Only	Gauge Only
MW-08	Alluvium	9 - 19	Gauge Only	Annual Sampling
MW-09	Alluvium	8 - 13	Semiannual Sampling	Abandoned - Inside ISS Footprint
MW-10	Alluvium	7.5 - 17.5	Gauge Only	Gauge Only
MW-11	Alluvium	5 - 12	Annual Sampling	Gauge Only
MW-12R	Alluvium	4.5 - 14.5	Annual Sampling	Annual Sampling
MW-14	Alluvium	3 - 15	Annual Sampling	Annual Sampling
MW-15	Alluvium	3 - 14.5	Annual Sampling	Semiannual Sampling
MW-21	Alluvium	3 -10	Gauge Only	Abandon
MW-23	Alluvium	5 - 20	Annual Sampling	Gauge Only
MW-25	Alluvium	10 -25	Annual Sampling	Gauge Only
MW-26	Alluvium	5 - 20	Gauge Only	Gauge Only
MW-28	Alluvium	2 - 17	Gauge Only	Gauge Only
MW-101	Alluvium	5 - 15	Semiannual Sampling	Semiannual Sampling
MW-102	Alluvium	5 - 10	Semiannual Sampling	Semiannual Sampling
MW-103	Alluvium	10 - 20	Annual Sampling	Annual Sampling
MW-104	Alluvium	5 - 20	Annual Sampling	Gauge Only
MW-105	Alluvium	15 - 25	Gauge Only	Gauge Only
MW-106	Alluvium	9 - 19	Gauge Only	Gauge Only
MW-107	Alluvium	8 - 18	Gauge Only	Gauge Only
MW-108	Alluvium	10 - 20	Annual Sampling	Semiannual Sampling
MW-109	Alluvium	13.5 - 23.5	Annual Sampling	Annual Sampling
MW-201	Alluvium	10 - 20	Semiannual Sampling	Abandoned - Inside ISS Footprint
MW-202	Alluvium	10 - 20	Gauge Only	Abandoned - Inside ISS Footprint
MW-203	Alluvium	10 - 20	Semiannual Sampling	Well Destroyed
MW-204	Alluvium	13 - 23	Semiannual Sampling	Annual Sampling
MW-205	Alluvium	14 - 29	Semiannual Sampling	Semiannual Sampling
MW-206	Alluvium	16 - 31	Gauge Only	Gauge Only
MW-207	Alluvium	15 - 30	Gauge Only	Abandoned - Inside ISS Footprint
MW-400 (formerly DTW-9)	Alluvium	6 - 16	New Well	Semiannual Sampling
MW-401 (formerly DTW-12)	Alluvium	6 - 16	New Well	Annual Sampling
MW-12IR	Intermediate	11 - 21	Semiannual Sampling	Annual Sampling
MW-14I	Intermediate	19 - 24	Annual Sampling	Annual Sampling
MW-104I	Intermediate	15 - 20	Annual Sampling	Gauge Only

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

Table E2-2
Bedrock Groundwater Monitoring Network
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

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

* MW-309D was installed in July 2015

Table E3-1
Depths to Water and Groundwater Elevations
Bedrock Monitoring Wells
February 16, 2015 and August 10, 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Monitoring Well	Top of Casing Elevation (ft AMSL)	Depth to Water February 16, 2015 (ft BTOC)	Groundwater Elevation February 16, 2015 (ft AMSL)	NAPL Thickness (Description) (ft)	Depth to Water August 10, 2015 (ft BTOC)	Groundwater Elevation August 10, 2015 (ft AMSL)	NAPL Thickness (Description) (ft)
MW-08D	307.52	12.05	295.47	--	11.71	295.81	--
MW-09D	312.94	7.16	305.78	--	Abandoned	Abandoned	--
MW-12DRR	299.71	10.05	289.66	--	11.40	288.31	--
MW-12DD	297.02	15.21	281.81	--	17.11	279.91	--
MW-22D	296.74	12.66	284.08	--	13.52	283.22	--
MW-23D	292.13	10.99	281.14	--	11.31	280.82	--
MW-24D	292.30	4.73	287.57	--	6.41	285.89	--
MW-25D	320.07	12.65	307.42	--	11.03	309.04	--
MW-26D	287.57	CNL	CNL	--	CNL	CNL	--
MW-27D	288.48	9.42	279.06	--	11.12	277.36	--
MW-27DD	288.65	9.60	279.05	--	11.30	277.35	--
MW-108D	318.30	11.96	306.34	--	CNL	CNL	--
MW-110D	295.97	7.50	288.47	--	8.81	287.16	--
MW-111D	295.78	7.17	288.61	0.8	8.50	287.28	--
MW-112D	289.70	5.27	284.43	--	6.82	282.88	--
MW-113D	293.80	8.62	285.18	--	9.63	284.17	--
MW-114D	298.10	8.49	289.61	--	9.44	288.66	--
MW-115D	314.00	7.37	306.63	--	Abandoned	Abandoned	--
MW-200DR	295.27	6.38	288.89	--	7.48	287.79	--
MW-204D	296.30	7.77	288.53	--	6.05	290.25	--
MW-205D	295.40	6.90	288.50	--	8.25	287.15	--
MW-205DD	294.58	15.42	279.16	--	16.97	277.61	--
MW-206D	295.70	7.16	288.54	--	8.22	287.48	--
MW-207D	296.10	6.97	289.13	--	8.27	287.83	--
MW-300D	301.02	5.35	295.67	--	5.76	295.26	--
MW-301D	305.76	12.68	293.08	--	14.31	291.45	--
MW-302D	301.93	13.55	288.38	Trace - not measurable	14.90	287.03	--
MW-302DD	301.79	23.16	278.63	--	24.81	276.98	--
MW-303D	326.13	17.66	308.47	--	Abandoned	Abandoned	--
MW-304D	303.55	16.37	287.18	--	16.96	286.59	--
MW-305D	297.22	17.41	279.81	--	17.38*	279.84	--
MW-306D	293.93	6.41	287.52	--	7.85	286.08	--
MW-307D	295.15	8.52	286.63	--	9.91	285.24	--
MW-308D	324.70	18.37	306.33	--	20.21	304.49	--
MW-309D	NS	NI	NI	--	11.30	NS	~6 ft

Notes:

AMSL - Above Mean Sea Level

BTOC - Below Top of Casing

All depths to water are listed in feet below top of casing (BTOC).

All casing and groundwater elevations are listed in feet above mean sea level (AMSL).

NS - Not surveyed

NI - Not installed

CNL - Could not locate

Created By: JIM

Checked By: NGV

Table E3-2
Seepage Velocity Calculations
Atlanta Gas Light Company
Former Manufactured Gas Plant Site

Hydrogeologic Unit	Portion of Site	Hydraulic Conductivity (ft/day)	Porosity (unitless)	February 2015 Gradient	February 2015 Velocity (ft/day)	Monitoring wells used for gradient calculation
Bedrock*	Western	1.37	1.42E-02	2.59E-02	2.51E+00	MW-25D; MW-308D; and MW-301D
Bedrock*	Western	1.37	6.00E-01	2.59E-02	5.93E-02	MW-25D; MW-308D; and MW-301D
Bedrock*	Western	2.58	1.42E-02	2.59E-02	4.70E+00	MW-25D; MW-308D; and MW-301D
Bedrock*	Western	2.58	6.00E-01	2.59E-02	1.11E-01	MW-25D; MW-308D; and MW-301D
Bedrock*	Eastern	1.37	1.42E-02	1.93E-02	1.87E+00	MW-08D; MW-112D; MW-300D
Bedrock*	Eastern	1.37	6.00E-01	1.93E-02	4.42E-02	MW-08D; MW-112D; MW-300D
Bedrock*	Eastern	2.58	1.42E-02	1.93E-02	3.50E+00	MW-08D; MW-112D; MW-300D
Bedrock*	Eastern	2.58	6.00E-01	1.93E-02	8.28E-02	MW-08D; MW-112D; MW-300D
Hydrogeologic Unit		**Hydraulic Conductivity (ft/day)**	**Porosity (unitless)**	**August 2015 Gradient**	**August 2015 Velocity (ft/day)**	**Monitoring wells used for gradient calculation**
Bedrock*	Western	1.37	1.42E-02	3.52E-02	3.41E+00	MW-25D; MW-308D; and MW-301D
Bedrock*	Western	1.37	6.00E-01	3.52E-02	8.06E-02	MW-25D; MW-308D; and MW-301D
Bedrock*	Western	2.58	1.42E-02	3.52E-02	6.38E+00	MW-25D; MW-308D; and MW-301D
Bedrock*	Western	2.58	6.00E-01	3.52E-02	1.51E-01	MW-25D; MW-308D; and MW-301D
Bedrock*	Eastern	1.37	1.42E-02	2.11E-02	2.04E+00	MW-08D; MW-112D; MW-300D
Bedrock*	Eastern	1.37	6.00E-01	2.11E-02	4.83E-02	MW-08D; MW-112D; MW-300D
Bedrock*	Eastern	2.58	1.42E-02	2.11E-02	3.83E+00	MW-08D; MW-112D; MW-300D
Bedrock*	Eastern	2.58	6.00E-01	2.11E-02	9.06E-02	MW-08D; MW-112D; MW-300D

*Bedrock porosity range taken from Applied Hydrogeology 4th Ed.
Multiple bedrock gradients are presented from different areas of the site.

Vs=Ki/n
where:
Vs=seepage velocity (Velocity)
K=hydraulic conductivity
i=horizontal hydraulic gradient (Gradient)
n=porosity

Table E3-3
Alluvium Groundwater Analytical Results
February 2015, April 2015 and August 2015 Sampling Events
Atlanta Gas Light Company
Former Manufactured Gas Plant
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	AMW-1	AMW-2	AMW-9	AMW-11	AMW-12	AMW-13	AMW-14	AMW-15	MW-08	MW-15		MW-21	MW-25	MW-101		MW-102		MW-106	MW-108	MW-109	MW-205	MW-400
				04/28/15	04/27/15	04/28/15	04/28/15	04/28/15	04/28/15	04/29/15	04/29/15	04/27/15	08/12/15	02/17/15	04/30/15	04/28/15	08/13/15	02/18/15	08/11/15	02/18/15	04/29/15	04/29/15	04/29/15	04/27/15	04/29/15
Groundwater Elevation	ft. AMSL	--	--	316.40	314.48	310.98	292.14	313.72	315.53	NS	NS	309.16	292.65	293.78	292.73	312.40	293.04	296.49	291.49	293.37	297.95	312.98	308.00	315.17	NS
Field Groundwater Quality Parameters																									
pH	SU	--	--	5.96	5.92	4.64	5.99	5.41	5.41	6.18	6.02	5.95	5.71	5.09	5.99	5.16	5.87	5.38	5.89	6.49	5.97	6.10	4.86	6.45	5.90
Specific Conductance	mMhos	--	--	0.944	0.309	0.374	0.581	0.389	0.415	0.373	0.158	0.271	0.880	0.851	0.058	0.409	0.534	0.490	0.888	0.451	0.317	0.376	0.169	0.272	0.520
Temperature	°Celsius	--	--	21.15	20.57	16.87	19.31	19.61	22.22	18.46	17.72	19.59	24.28	14.83	16.44	20.52	27.35	13.50	27.50	13.84	17.43	19.09	19.49	20.23	16.72
Dissolved Oxygen (YSI)	mg/L	--	--	0.67	2.25	0.75	2.05	2.44	1.75	1.26	7.96	3.85	0.18	0.66	0.98	0.66	0.19	1.57	0.98	5.83	3.56	0.61	0.60	1.00	2.71
Oxidation-Reduction Potential (ORP)	mV	--	--	-42.5	-39.3	-24.7	-30.4	-31.5	-28.3	-27.1	39.0	59.2	-18.3	99.7	-44.1	-31.1	-23.1	125.0	-15.6	81.0	59.4	-39.4	-38.3	-62.7	-7.1
Turbidity	NTU	--	--	27.5	3.42	461	9.91	1.40	9.61	5.58	24.1	1.01	3.28	8.81	14.1	1.3	4.65	9.50	9.62	9.52	9.02	7.97	1.36	0.56	9.20
Natural Attenuation Parameters																									
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ferrous Iron	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Monoxide	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methane	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dissolved Oxygen	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Organic Constituents																									
Volatile Organic Compounds																									
Benzene	µg/L	5*	9	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**15**	**57**	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**49**	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**66**	< 5.0
Carbon Disulfide	µg/L	4,000*	4,000*	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**29**	**9.3**	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**150**	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**6.9**	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**13**	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**35**	**15**	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**18**	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**100**	< 5.0
Semivolatile Organic Compounds																									
Acenaphthene	µg/L	2,000*	6,100	< 10	< 10	< 10	< 10	< 10	< 10	**11**	< 10	< 10	< 0.50	< 10	< 10	< 10	**11**	< 10	< 0.50	< 10	< 10	< 10	< 10	**72**	< 10
Acenaphthylene	µg/L	470	3,100	< 10	< 10	< 10	< 10	< 10	< 10	**13**	< 10	< 10	< 1.0	< 10	< 10	< 10	**5.2**	< 10	< 1.0	< 10	< 10	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	**0.11**	< 10	< 10	< 10	**0.78**	< 10	< 0.050	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	**0.20**	< 0.050
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.10	< 10	< 10	< 10	< 0.10	< 10	< 0.10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.050	< 10	< 10	< 10	< 0.050	< 10	< 0.050	< 10	< 10	< 10	< 10	< 10	< 10
Chrysene	µg/L	117	392	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.050	< 10	< 10	< 10	< 0.050	< 10	< 0.050	< 10	< 10	< 10	< 10	< 10	< 10
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.10	< 10	< 10	< 10	**1.2**	< 10	< 0.10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.10	< 10	< 10	< 10	**9.5**	< 10	< 0.10	< 10	< 10	< 10	< 10	**32**	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 10	< 10	< 10	< 10	< 10	< 10	**230**	**20**	< 10	< 0.50	< 10	< 10	< 10	< 0.50	**310**	< 0.50	< 10	< 10	< 10	< 10	**280**	< 10
Phenanthrene	µg/L	470	3,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.050	< 10	< 10	< 10	**0.28**	< 10	< 0.050	< 10	< 10	< 10	< 10	**29**	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.050	< 10	< 10	< 10	**0.92**	< 10	< 0.050	< 10	< 10	< 10	< 10	< 10	< 10
Inorganic Constituents																									
Antimony	mg/L	0.0063	0.4	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	<0.0200	< 0.0200	< 0.0200	<0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200
Arsenic	mg/L	0.05*	0.05*	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	<0.0500	< 0.0500	< 0.0500	<0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Barium	mg/L	2	7.2	**0.0596**	**0.111**	**0.0345**	**0.0423**	**0.0428**	**0.0488**	**0.0925**	**0.158**	**0.0725**	**0.0336**	**0.0500**	**0.0756**	**0.0336**	**0.0453**	**0.0767**	**0.210**	**0.0687**	**0.0328**	**0.0611**	**0.0786**	**0.0908**	**0.0381**
Beryllium	mg/L	0.031	0.2	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100
Cadmium	mg/L	0.0078	0.051	< 0.0050	**0.0070**	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Chromium	mg/L	0.1	0.31	< 0.0100	< 0.0100	< 0.0100	**0.177**	**0.0157**	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100
Copper	mg/L	0.63	4.1	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100
Lead	mg/L	0.015*	0.015*	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	**0.0119**	< 0.0100	< 0.0100	< 0.0100	< 0.0100
Nickel	mg/L	0.1	2	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200
Zinc	mg/L	4.7	31	< 0.0200	**0.0914**	**0.120**	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	**0.297**	**0.135**	**0.0470**	< 0.0200	**0.0263**	**0.242**	**0.124**	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200
Mercury	mg/L	0.002	0.002	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0002	< 0.0002
Total Cyanide	mg/L	0.31	2	**0.018**	< 0.10	< 0.010	**0.015**	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	**0.113**	**0.108**	< 0.010	< 0.010	**0.039**	**0.030**	< 0.010	**0.017**	**0.094**	< 0.010	< 0.010	< 0.010	**0.099**

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
NS - Not surveyed

Table E3-4
Bedrock Groundwater Analytical Results
February 2015, April 2015 and August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-08D	MW-12DRR			MW-12DD	MW-22D		MW-23D		MW-24D		MW-25D		MW-27D		MW-27DD	MW-108D
				04/27/15	02/16/15	08/13/15	DUP-03	02/16/15	04/29/15	08/12/15	02/16/15	08/11/15	02/17/15	08/13/15	02/16/15	08/12/15	04/30/15	08/11/15	04/30/15	02/17/15
Groundwater Elevation	ft. AMSL	--	--	297.42	289.66	288.31		281.81	285.39	283.22	281.14	280.82	287.57	281.16	307.42	296.39	282.34	277.36	282.35	306.34
Field Groundwater Quality Parameters																				
pH	SU	--	--	5.61	6.54	6.36		7.32	6.83	7.69	5.87	5.93	6.03	6.08	5.60	5.40	7.16	6.80	7.24	6.96
Specific Conductance	mMhos	--	--	0.336	0.438	0.525		0.209	0.475	0.327	0.369	0.304	0.064	0.484	0.371	0.446	0.266	0.254	0.602	0.140
Temperature	°Celsius	--	--	21.30	17.65	25.82		18.44	19.41	26.29	17.45	27.58	15.75	21.66	17.09	26.25	18.90	25.40	19.02	19.07
Dissolved Oxygen (YSI)	mg/L	--	--	0.49	0.55	0.32		0.81	0.50	0.31	0.82	0.26	1.45	0.21	2.67	0.59	3.70	1.29	0.52	2.00
Oxidation-Reduction Potential (ORP)	mV	--	--	-66.2	-60.0	-170.7		-53.0	-74.0	-169.1	200.9	149.7	100.1	-80.8	129.2	4.2	-14.8	-14.5	-82.7	86.3
Turbidity	NTU	--	--	14.8	4.20	6.65		0.99	1.90	9.73	2.01	9.92	9.47	34	2.43	0.52	2.97	1.03	16.9	2.11
Natural Attenuation Parameters																				
Nitrogen, Nitrate (as N)	mg/L	--	--	--	< 0.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/L	--	--	--	**1.4**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfide	mg/L	--	--	--	< 1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ferrous Iron	mg/L	--	--	--	**3.98**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/L	--	--	--	**5.19**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	mg/L	--	--	--	**94**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Monoxide	mg/L	--	--	--	< 1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methane	µg/L	--	--	--	**920**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dissolved Nitrogen	mg/L	--	--	--	**21**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dissolved Oxygen	mg/L	--	--	--	**2.7**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Organic Constituents																				
Volatile Organic Compounds																				
Benzene	µg/L	5*	9	< 5.0	**280**	**250**	**180**	**44**	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**39**	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	4,000*	4,000*	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/L	700*	2,300	< 5.0	**100**	**110**	**77**	**10**	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**31**	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	**100**	**60**	**43**	**11**	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds																				
Acenaphthene	µg/L	2,000*	6,100	< 10	**30**	**39**	**31**	< 10	< 10	< 0.50	< 10	< 0.50	< 10	**15**	< 10	< 0.50	< 0.50	< 0.50	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 10	< 10	**9.6**	**7.5**	< 10	< 10	< 1.0	< 10	< 1.0	< 10	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 10	< 10
Anthracene	µg/L	4,700	31,000	< 10	< 10	**3.7**	**3.0**	< 10	< 10	< 0.050	< 10	< 0.050	< 10	**0.41**	< 10	< 0.050	< 0.050	< 0.050	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	**0.079**	**0.23**	**0.30**	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.050	**0.083**	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.10	**0.11**	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 10	< 0.10	**0.12**	< 10	< 10	< 0.10	< 10	< 0.10	< 10	< 0.10	< 10	< 0.10	< 0.10	< 0.10	< 10	< 10
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 10	< 0.050	**0.10**	< 10	< 10	< 0.050	< 10	< 0.050	< 10	< 0.050	< 10	< 0.050	< 0.050	< 0.050	< 10	< 10
Chrysene	µg/L	117	392	< 10	< 10	**0.14**	**0.22**	< 10	< 10	< 0.050	< 10	< 0.050	< 10	< 0.050	< 10	< 0.050	< 0.050	< 0.050	< 10	< 10
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	**0.11**	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	**6.3**	**5.8**	< 10	< 10	< 0.10	< 10	< 0.10	< 10	< 0.10	< 10	< 0.10	< 0.10	< 0.10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 10	**31**	**36**	**28**	< 10	< 10	< 0.10	< 10	< 0.10	< 10	**1.5**	< 10	< 0.10	< 0.10	< 0.10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	**0.11**	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 10	**770**	**550**	**180**	**13**	< 10	< 0.50	< 10	< 0.50	< 10	**220**	< 10	< 0.50	< 0.50	< 0.50	< 10	< 10
Phenanthrene	µg/L	470	3,100	< 10	**13**	**18**	**13**	< 10	< 10	< 0.050	< 10	< 0.050	< 10	**2.4**	< 10	< 0.050	< 0.050	< 0.050	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 10	< 10	**7.1**	**6.2**	< 10	< 10	< 0.050	< 10	< 0.050	< 10	**0.11**	< 10	< 0.050	< 0.050	< 0.050	< 10	< 10
Inorganic Constituents																				
Antimony	mg/L	0.0063	0.4	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200
Arsenic	mg/L	0.05*	0.05*	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Barium	mg/L	2	7.2	**0.902**	**1.55**	**1.68**	**1.62**	**0.0948**	**1.44**	**0.907**	**0.0661**	**0.0644**	**0.422**	**4.37**	**3.50**	**3.79**	**0.846**	**0.813**	**0.544**	**0.631**
Beryllium	mg/L	0.031	0.2	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100
Cadmium	mg/L	0.0078	0.051	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	**0.0066**
Chromium	mg/L	0.1	0.31	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100
Copper	mg/L	0.63	4.1	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100
Lead	mg/L	0.015*	0.015*	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	**0.0103**	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100
Nickel	mg/L	0.1	2	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200
Zinc	mg/L	4.7	31	< 0.0200	**0.0428**	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	**0.0398**	**0.197**	**0.0292**	< 0.0200	< 0.0200	< 0.0200	< 0.0200	**0.0433**
Mercury	mg/L	0.002	0.002	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
Total Cyanide	mg/L	0.31	2	< 0.010	**0.033**	**0.026**	**0.037**	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	**0.064**	< 0.010

Notes:

Analyte was detected above laboratory detection limit

Analyte concentration exceeds the Type 4 RRS

*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical

Table E3-4
Bedrock Groundwater Analytical Results
February 2015, April 2015 and August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-110D			MW-111D	MW-112D	MW-113D	MW-114D	MW-200DR				MW-204D			MW-205D		MW-205DD		
				02/16/15	08/13/15	DUP-02	08/13/15	02/16/15	02/17/15	04/29/15	02/17/15	DUP-01	08/12/15	DUP-01	02/17/15	DUP-02	08/12/15	02/16/15	08/12/15	02/17/15	DUP-03	8/11/15
Groundwater Elevation	ft. AMSL	--	--	288.47	287.16		287.28	284.43	285.18	290.39	288.89		287.89		288.53		290.25	288.50	287.15	279.16		277.61
Field Groundwater Quality Parameters																						
pH	SU	--	--	6.18	6.14		6.21	9.77	5.63	7.90	6.68		6.33		6.31		6.31	6.81	6.60	9.65		9.17
Specific Conductance	mMhos	--	--	0.495	0.565		0.542	0.306	0.354	0.395	0.488		0.529		0.494		0.453	0.755	0.740	0.229		0.246
Temperature	°Celsius	--	--	17.20	26.45		26.85	16.81	15.85	20.12	17.44		25.23		16.20		25.06	18.66	26.72	14.74		24.87
Dissolved Oxygen (YSI)	mg/L	--	--	1.68	0.38		0.23	4.70	1.14	6.23	2.38		0.12		2.03		0.26	2.01	0.28	0.91		1.01
Oxidation-Reduction Potential (ORP)	mV	--	--	-145.9	-146.7		-204.5	146.3	162.9	-29.8	94.7		-180.4		-52.3		-101.5	-90.1	-163.5	-49.8		-101.4
Turbidity	NTU	--	--	9.26	2.42		5.59	7.99	0.63	1.45	1.22		0.7		1.15		0.36	3.41	2.67	29.9		2.4
Natural Attenuation Parameters																						
Nitrogen, Nitrate (as N)	mg/L	--	--	< 0.25	--	--	--	**1.0**	--	--	**--**	**--**	--	--	**--**	**--**	--	< 2.5	--	--	--	--
Sulfate	mg/L	--	--	**1.1**	--	--	--	**4.1**	--	--	**--**	**--**	--	--	**--**	**--**	--	< 10	--	--	--	--
Sulfide	mg/L	--	--	< 1.00	--	--	--	< 1.00	--	--	**--**	**--**	--	--	**--**	**--**	--	< 1.00	--	--	--	--
Ferrous Iron	mg/L	--	--	**5.60**	--	--	--	< 0.100	--	--	**--**	**--**	--	--	**--**	**--**	--	**0.844**	--	--	--	--
Iron	mg/L	--	--	**6.61**	--	--	--	**0.266**	--	--	**--**	**--**	--	--	**--**	**--**	--	**4.37**	--	--	--	--
Carbon Dioxide	mg/L	--	--	**150**	--	--	--	< 5.0	--	--	**--**	**--**	--	--	**--**	**--**	--	**77**	--	--	--	--
Carbon Monoxide	mg/L	--	--	< 1.0	--	--	--	< 1.0	--	--	**--**	**--**	--	--	**--**	**--**	--	< 1.0	--	--	--	--
Methane	µg/L	--	--	**960**	--	--	--	**6**	--	--	**--**	**--**	--	--	**--**	**--**	--	**3,000**	--	--	--	--
Dissolved Nitrogen	mg/L	--	--	**21**	--	--	--	**20**	--	--	**--**	**--**	--	--	**--**	**--**	--	**20**	--	--	--	--
Dissolved Oxygen	mg/L	--	--	**3.9**	--	--	--	**8.0**	--	--	**--**	**--**	--	--	**--**	**--**	--	**4.7**	--	--	--	--
Organic Constituents																						
Volatile Organic Compounds																						
Benzene	µg/L	5*	9	**340**	**120**	**120**	**1,700**	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**36**	**34**	**500**	**470**	**300**	**4,400**	**5,200**	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	4,000*	4,000*	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 250	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/L	700*	2,300	**560**	**420**	**450**	**820**	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**26**	**24**	**440**	**430**	**230**	**990**	**1,100**	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	**380**	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**12**	< 250	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	**47**	**11**	**11**	**330**	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**46**	**48**	**19**	**560**	**580**	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds																						
Acenaphthene	µg/L	2,000*	6,100	**97**	**77**	**70**	**53**	< 10	< 10	< 10	< 10	< 10	**5.0**	< 0.50	**71**	**74**	**58**	**130**	**160**	< 10	< 10	< 0.50
Acenaphthylene	µg/L	470	3,100	< 10	**3.0**	**2.4**	**44**	< 10	< 10	< 10	< 10	< 10	< 1.0	< 1.0	< 10	< 10	**3.0**	< 10	**1.8**	< 10	< 10	< 1.0
Anthracene	µg/L	4,700	31,000	< 10	**8.1**	**5.9**	**9.6**	< 10	< 10	< 10	< 10	< 10	**0.058**	< 0.050	< 10	< 10	**4.1**	< 10	**5.6**	< 10	< 10	< 0.050
Benzo[a]anthracene	µg/L	1.17	3.92	**0.20**	**0.32**	**0.23**	**0.73**	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	**0.10**	**0.11**	**0.11**	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.050	**0.15**	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.10	**0.20**	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 0.10	< 0.10	< 0.10	< 10	< 10	< 10	< 10	< 10	< 0.10	< 0.10	< 10	< 10	< 0.10	< 10	< 0.10	< 10	< 10	< 0.10
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 0.050	< 0.050	**0.057**	< 10	< 10	< 10	< 10	< 10	< 0.050	< 0.050	< 10	< 10	< 0.050	< 10	< 0.050	< 10	< 10	< 0.050
Chrysene	µg/L	117	392	< 10	**0.23**	**0.17**	**0.53**	< 10	< 10	< 10	< 10	< 10	< 0.050	< 0.050	< 10	< 10	**0.070**	< 10	< 0.050	< 10	< 10	< 0.050
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 50	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 10	**6.5**	**4.8**	**8.2**	< 10	< 10	< 10	< 10	< 10	**2.0**	< 0.10	< 10	< 10	**4.4**	< 10	**1.3**	< 10	< 10	< 0.10
Fluorene	µg/L	1,000*	4,100	**33**	**19**	**16**	**35**	< 10	< 10	< 10	< 10	< 10	**0.79**	< 0.10	**27**	**28**	**17**	**31**	**34**	< 10	< 10	< 0.10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 50	< 10	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 50	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	**3,400**	**2,200**	**1,500**	**3,800**	< 10	< 10	< 10	< 10	< 10	< 0.50	< 0.50	**1,400**	**2,500**	**1,100**	**4,200**	**4,600**	< 10	< 10	< 0.50
Phenanthrene	µg/L	470	3,100	**53**	**43**	**37**	**58**	< 10	< 10	< 10	< 10	< 10	**0.077**	< 0.050	**23**	**27**	**20**	**29**	**35**	< 10	< 10	< 0.050
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	**15**	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 50	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 10	**8.3**	**6.1**	**12**	< 10	< 10	< 10	< 10	< 10	**2.3**	< 0.050	< 10	< 10	**5.1**	< 10	**1.4**	< 10	< 10	< 0.050
Inorganic Constituents																						
Antimony	mg/L	0.0063	0.4	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200
Arsenic	mg/L	0.05*	0.05*	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Barium	mg/L	2	7.2	**4.07**	**3.80**	**3.78**	**1.09**	**0.218**	**0.0750**	**0.493**	**0.682**	**0.738**	**1.73**	**1.71**	**4.97**	**5.18**	**4.95**	**3.16**	**3.13**	**0.0331**	**0.0298**	**0.0247**
Beryllium	mg/L	0.031	0.2	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100
Cadmium	mg/L	0.0078	0.051	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Chromium	mg/L	0.1	0.31	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100
Copper	mg/L	0.63	4.1	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	**0.0120**
Lead	mg/L	0.015*	0.015*	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100
Nickel	mg/L	0.1	2	**0.107**	**0.104**	**0.103**	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	**0.0602**	**0.0637**	**0.0325**	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200
Zinc	mg/L	4.7	31	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	**0.0204**	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	**0.0433**	**0.0293**	< 0.0200
Mercury	mg/L	0.002	0.002	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
Total Cyanide	mg/L	0.31	2	< 0.010	**0.015**	**0.012**	**0.013**	< 0.010	< 0.010	< 0.010	**0.034**	**0.034**	< 0.010	**0.043**	**0.023**	**0.022**	**0.022**	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS

Table E3-4
Bedrock Groundwater Analytical Results
February 2015, April 2015 and August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

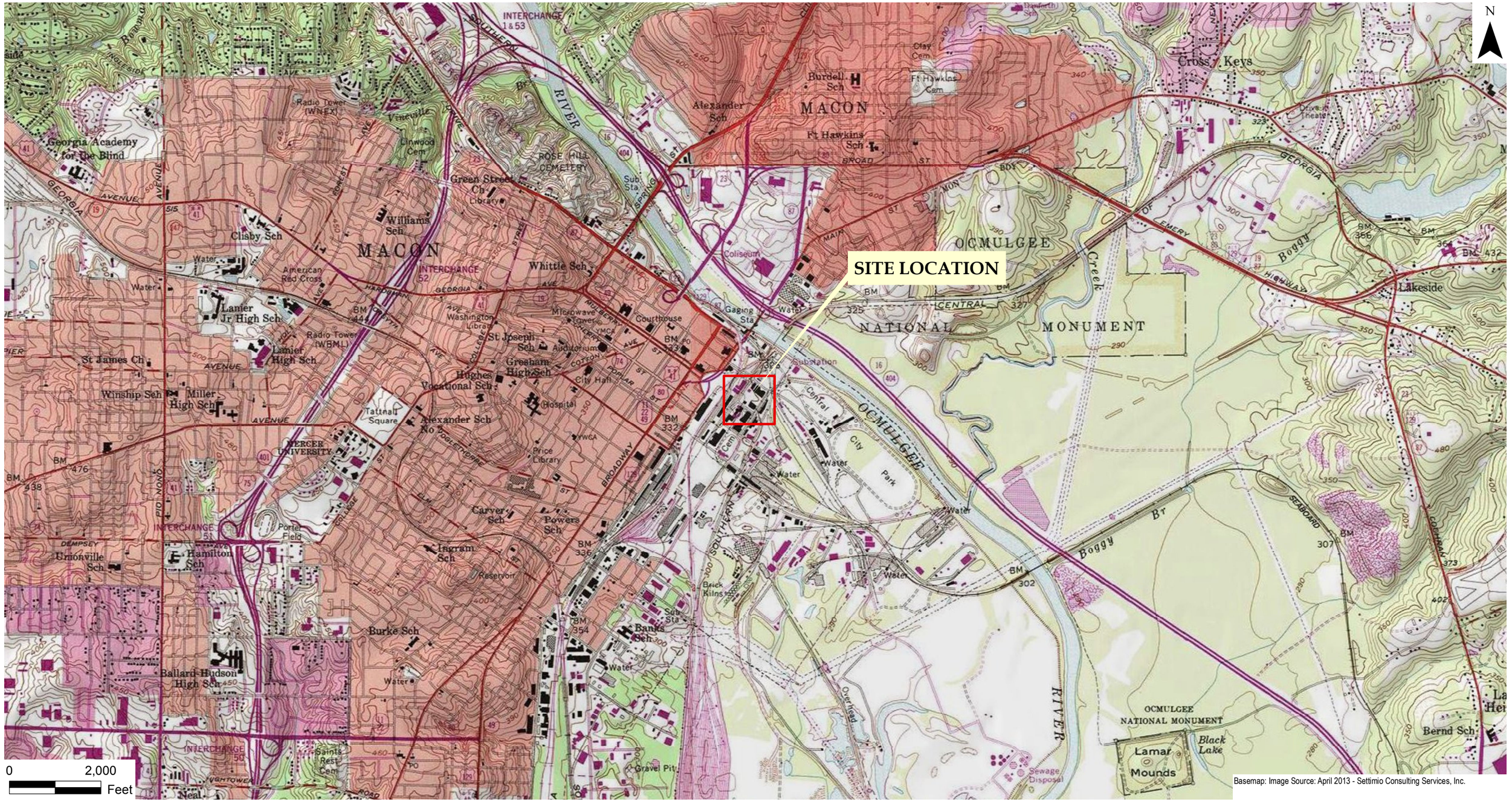
Parameter	Units	Type 2 RRS	Type 4 RRS	MW-206D	MW-207D	MW-300D	MW-301D		MW-302D		MW-302DD		MW-304D	MW-305D		MW-306D		MW-307D		MW-308D	
				02/17/15	02/17/15	02/17/15	02/17/15	08/13/15	02/18/15	08/12/15	02/17/15	08/12/15	02/17/15	02/18/15	08/13/15	02/18/15	08/14/15	02/18/15	08/14/15	02/16/15	08/12/15
Groundwater Elevation	ft. AMSL	--	--	288.54	289.13	295.67	293.08	278.77	288.38	273.48	278.63	253.82	287.18	279.81	277.55	287.52	271.96	286.63	277.61	306.33	266.42
Field Groundwater Quality Parameters																					
pH	SU	--	--	6.10	6.85	6.05	6.10	6.13	5.67	5.67	7.77	7.47	7.00	12.56	12.28	12.23	12.01	13.85	12.39	13.35	12.40
Specific Conductance	mMhos	--	--	0.560	0.499	0.384	0.747	0.586	1.173	1.068	0.665	0.616	0.946	3.696	2.966	2.321	3.275	9.568	7.857	2.920	2.905
Temperature	°Celsius	--	--	13.62	18.85	16.29	13.45	22.07	15.17	26.87	14.48	26.20	13.15	11.21	26.30	16.24	24.76	15.28	23.76	17.87	25.43
Dissolved Oxygen (YSI)	mg/L	--	--	0.77	1.67	0.88	3.51	0.05	0.58	0.18	1.18	0.26	1.15	3.06	0.34	7.05	3.40	1.08	5.24	3.50	3.17
Oxidation-Reduction Potential (ORP)	mV	--	--	17.5	-58.5	21.6	-98.3	-104.9	-45.4	-64.0	-169.5	-215.9	-56.2	13.1	-183.3	41.8	-114.5	-80.7	-110.9	-12.7	-88.4
Turbidity	NTU	--	--	55.7	45.9	0.44	1.41	0.86	4.33	4.07	4.42	31.9	104	2.48	2.3	4.17	1.75	2.46	4.18	3.42	0.49
Natural Attenuation Parameters																					
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 2.5	--	< 2.5	--	< 2.5	--
Sulfate	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	--	< 10	--	**19**	--
Sulfide	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 1.0	--	< 1.00	--	< 1.00	--
Ferrous Iron	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.100	--	< 0.100	--	< 0.100	--
Iron	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.100	--	< 0.100	--	< 0.100	--
Carbon Dioxide	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5.0	--	< 5.0	--	< 5.0	--
Carbon Monoxide	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 1.0	--	< 1.0	--	< 1.0	--
Methane	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**96**	--	**79**	--	**47**	--
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**22**	--	**24**	--	**17**	--
Dissolved Oxygen	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**9.7**	--	**8.2**	--	**5.6**	--
Organic Constituents																					
Volatile Organic Compounds																					
Benzene	µg/L	5*	9	< 5.0	< 5.0	< 5.0	**9.2**	< 5.0	**12**	**15**	**13**	**11**	< 5.0	**11,000**	**3,700**	**790**	**570**	< 5.0	< 5.0	**8.2**	**23**
Carbon Disulfide	µg/L	4,000*	4,000*	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**5.8**	**45**	**30**	< 5.0	< 500	**49**	**130**	**110**	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**12**	**19**	< 5.0	< 5.0	< 5.0	**4,500**	**1,600**	**37**	**32**	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**13**	**16**	< 5.0	< 5.0	< 5.0	< 500	**270**	**130**	**79**	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds																					
Acenaphthene	µg/L	2,000*	6,100	< 10	< 10	< 10	< 10	**0.51**	< 10	**4.6**	< 10	**1.8**	< 10	< 10	**2.7**	**29**	**23**	< 10	**2.2**	< 10	< 0.50
Acenaphthylene	µg/L	470	3,100	< 10	< 10	< 10	< 10	< 1.0	**17**	**21**	< 10	**1.0**	< 10	**73**	**12**	< 10	< 1.0	< 10	< 1.0	< 10	< 1.0
Anthracene	µg/L	4,700	31,000	< 10	< 10	< 10	< 10	**0.13**	< 10	**4.1**	< 10	**0.083**	< 10	< 10	**3.4**	< 10	**0.51**	< 10	**0.25**	< 10	< 0.050
Benzo[a]anthracene	µg/L	1.17	3.92	**0.10**	< 0.050	< 0.050	< 0.050	< 0.050	**0.26**	**0.053**	< 0.050	< 0.050	< 0.050	**0.64**	**1.3**	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	**0.28**	< 0.050	< 0.050	< 0.050	< 0.050	**0.49**	**0.91**	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	**0.22**	< 0.10	< 0.10	< 0.10	< 0.10	**0.45**	**1.1**	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 10	< 10	< 10	< 0.10	< 10	< 0.10	< 10	< 0.10	< 10	< 10	**0.36**	< 10	< 0.10	< 10	< 0.10	< 10	< 0.10
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 10	< 10	< 10	< 0.050	< 10	< 0.050	< 10	< 0.050	< 10	< 10	**0.24**	< 10	< 0.050	< 10	< 0.050	< 10	< 0.050
Chrysene	µg/L	117	392	< 10	< 10	< 10	< 10	< 0.050	< 10	< 0.050	< 10	< 0.050	< 10	< 10	**0.97**	< 10	< 0.050	< 10	< 0.050	< 10	< 0.050
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	**0.32**	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 50	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	< 10	< 10	< 0.10	< 10	**2.2**	< 10	< 0.10	< 10	< 10	**4.3**	< 10	**0.32**	< 10	**0.24**	< 10	< 0.10
Fluorene	µg/L	1,000*	4,100	< 10	< 10	< 10	< 10	**2.3**	**12**	**9.0**	< 10	**0.68**	< 10	**21**	**7.8**	< 10	**5.5**	< 10	**0.78**	< 10	< 0.10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	**0.087**	< 0.050	< 0.050	< 0.050	< 0.050	**0.13**	**0.25**	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 50	< 10	< 10	< 10	< 10	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 50	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 10	< 10	< 10	< 10	< 0.50	**120**	**170**	< 10	< 0.050	< 10	**1,300**	**220**	**31**	**6.5**	< 10	**5.7**	< 10	< 0.50
Phenanthrene	µg/L	470	3,100	< 10	< 10	< 10	< 10	**0.23**	**15**	**21**	< 10	**0.17**	< 10	**33**	**16**	< 10	**5.0**	< 10	**3.0**	< 10	**0.086**
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 50	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 10	< 10	< 10	< 10	**0.080**	< 10	**2.7**	< 10	**0.058**	< 10	< 10	**5.7**	< 10	**0.39**	< 10	**0.29**	< 10	< 0.050
Inorganic Constituents																					
Antimony	mg/L	0.0063	0.4	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200
Arsenic	mg/L	0.05*	0.05*	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Barium	mg/L	2	7.2	**0.120**	**2.89**	**1.55**	**0.713**	**0.771**	**0.0371**	**0.0606**	**0.757**	**0.819**	**4.44**	**0.236**	**0.140**	**0.229**	**0.349**	**1.40**	**1.36**	**0.124**	**0.115**
Beryllium	mg/L	0.031	0.2	< 0.0100	< 0.0100	**0.0151**	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100
Cadmium	mg/L	0.0078	0.051	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Chromium	mg/L	0.1	0.31	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	**0.0107**	**0.0169**	**0.0270**	**0.0296**	**0.0784**	**0.0654**	**0.0339**	**0.0307**
Copper	mg/L	0.63	4.1	< 0.0100	**0.0108**	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	**0.0139**	**0.0168**	**0.0263**	< 0.0100	**0.0147**	< 0.0100	< 0.0100
Lead	mg/L	0.015*	0.015*	< 0.0100	**0.0173**	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 0.0100
Nickel	mg/L	0.1	2	**0.0208**	< 0.0200	**0.0253**	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200
Zinc	mg/L	4.7	31	< 0.0200	**0.0288**	**0.0522**	< 0.0200	< 0.0200	< 0.0200	**0.0350**	< 0.0200	**0.0686**	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200
Mercury	mg/L	0.002	0.002	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
Total Cyanide	mg/L	0.31	2	< 0.010	**0.036**	< 0.010	**0.087**	**0.043**	**0.022**	< 0.010	**0.024**	**0.042**	< 0.010	< 0.010	**0.050**	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS

Figures

November 21, 2015
Project No. 0176740
Atlanta Gas Light Company

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



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

ERM

Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	11/19/2015	SCALE:	AS SHOWN	REVISION:	0
FILE:	S:\AGL\AGL_Macon\MXD\11 2015 AppxE VRP PrgRpt#1\AGLMcnAppxE_VRP_E1-1_Topo.mxd				

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

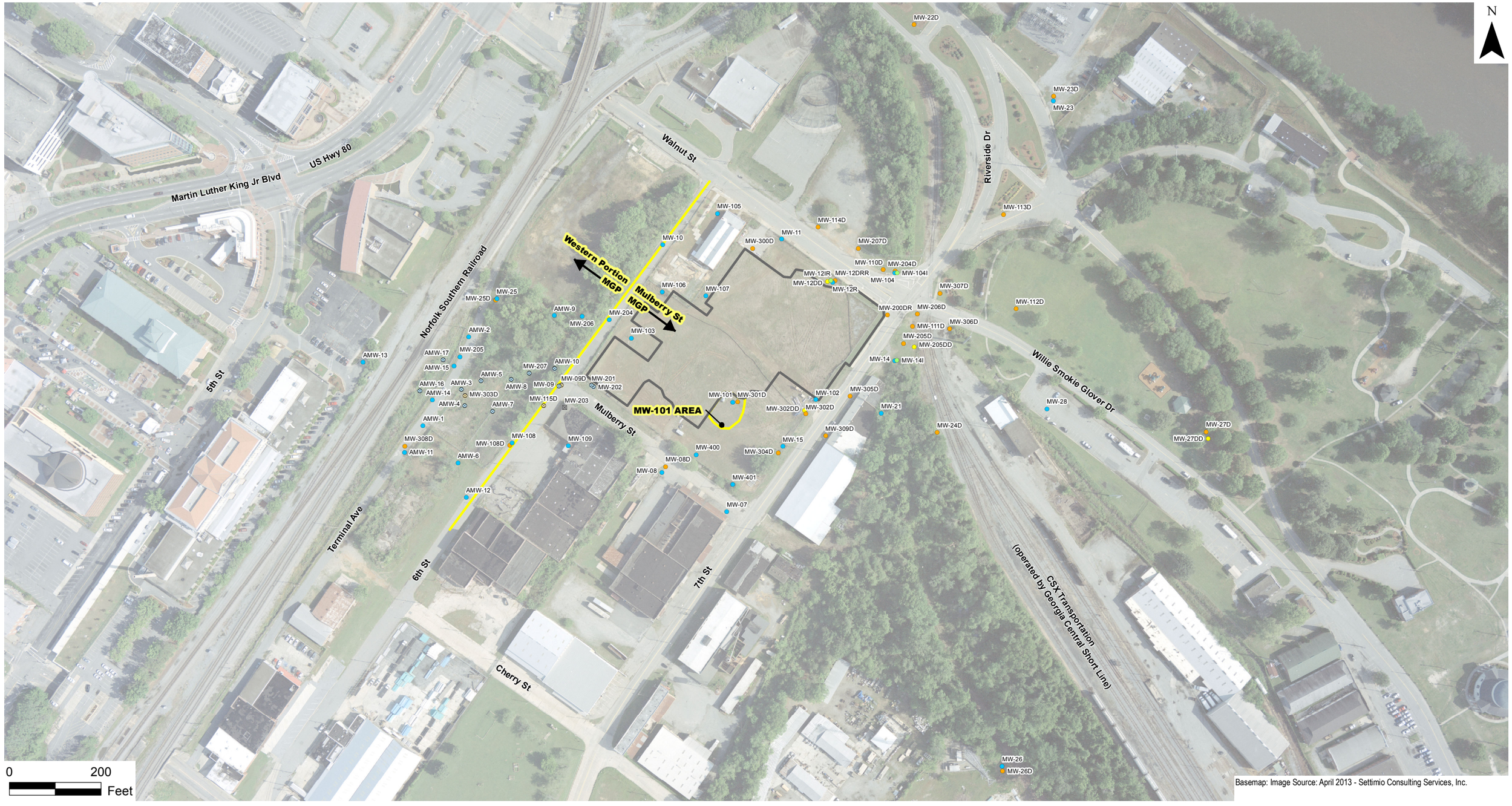


FIGURE E1-1 - TOPOGRAPHIC SITE LOCATION MAP

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



ERM

Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	11/19/2015	SCALE:	AS SHOWN	REVISION:	0
FILE:	S:\AGL\AGL_Macon\MXD\11 2015 AppxE VRP PrgRpt#1\AGLMcnAppxE_VRP_E1-2_SiteMap.mxd				

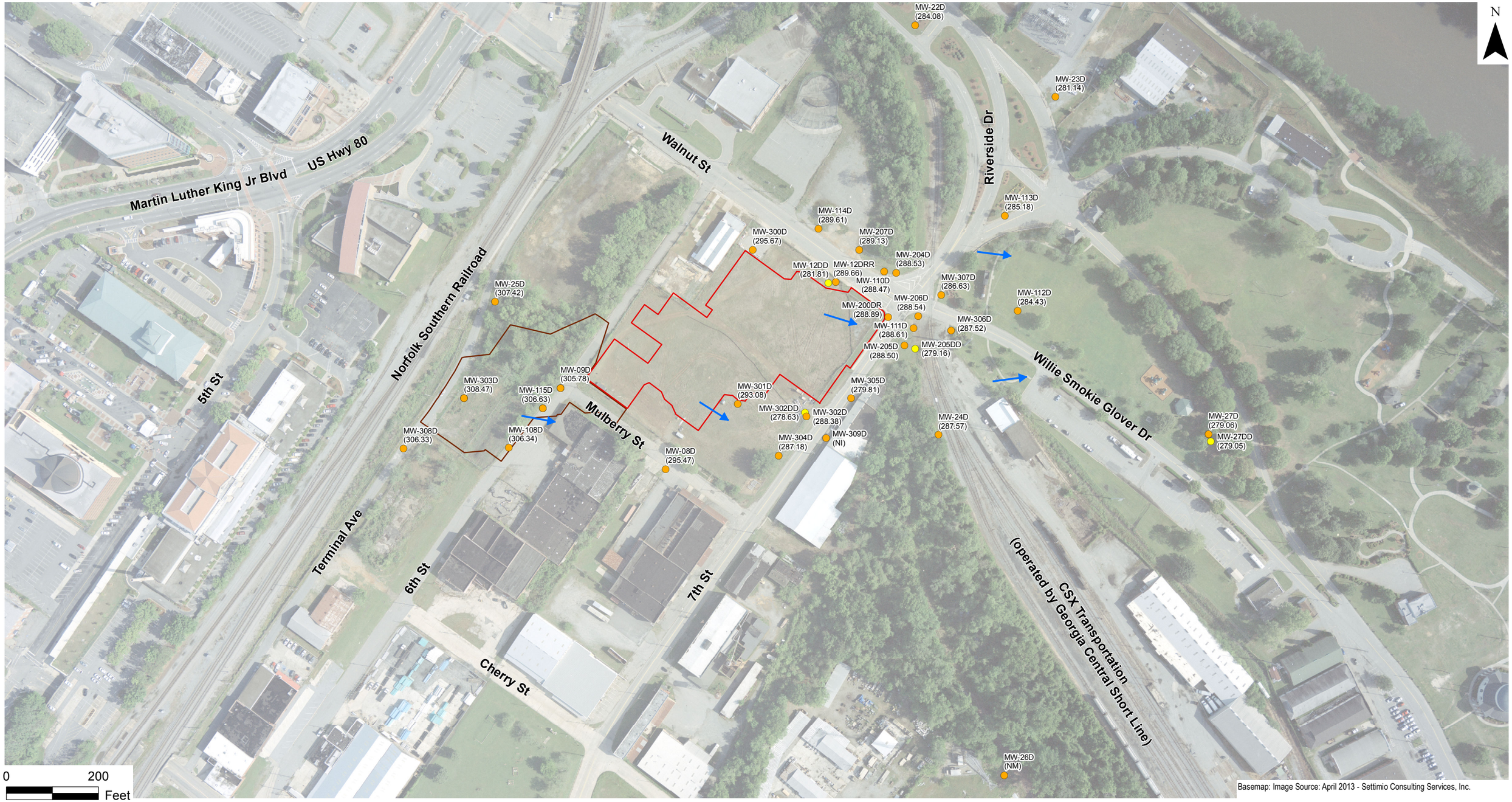
- Shallow Well
- Abandoned Shallow Well
- Intermediate Well
- Destroyed Well
- Shallow Bedrock Well
- Abandoned Shallow Bedrock Well
- Deep Bedrock Well
- Existing ISS Area

FIGURE E1-2
SITE MAP

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	11/19/2015	SCALE:	AS SHOWN	REVISION:	0
FILE:	S:\AGL\AGL_Macon\MXD\11 2015 AppxE VRP PrgRpt#1\AGLMcnAppxE_VRP_E3-1_GWBdrk021615.mxd				

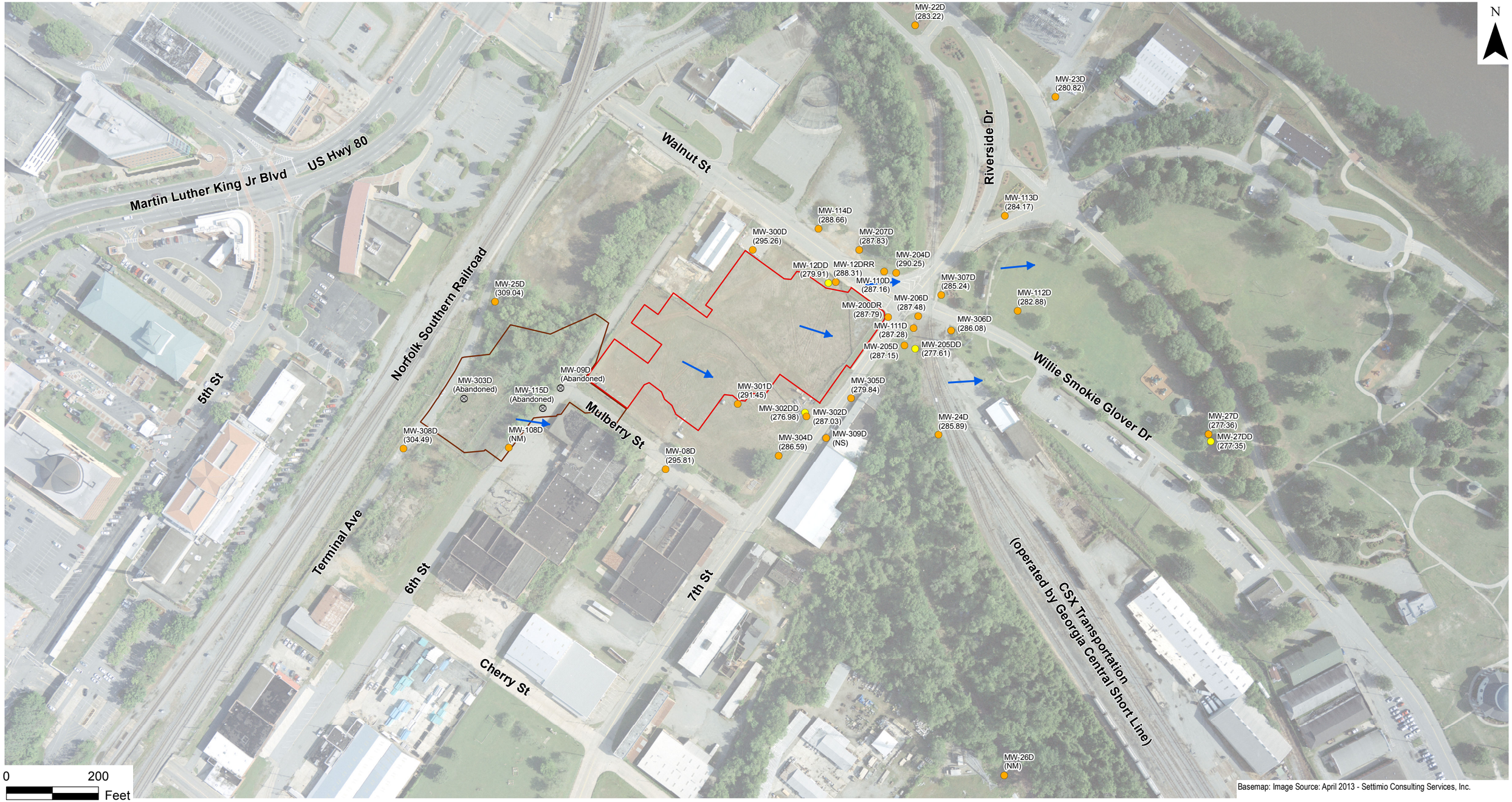
- Shallow Bedrock Well
- Deep Bedrock Well
- Apparent Groundwater Flow Direction
- Former ISS Area
- Current ISS Area
- (NM) Not Measured
- (NI) Not Installed
- (295.47) Groundwater Elevations from February 2015 Gauging Event

FIGURE E3-1 - HYDRAULIC POTENTIAL IN SHALLOW BEDROCK WELLS - FEBRUARY 16, 2015

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



Environmental Resources Management

ERM

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	11/19/2015	SCALE:	AS SHOWN	REVISION:	0
FILE:	S:\AGL\AGL_Macon\MXD\11 2015 AppxE VRP PrgRpt#1\AGLMcnAppxE_VRP_E3-2_GWBdrk081015.mxd				

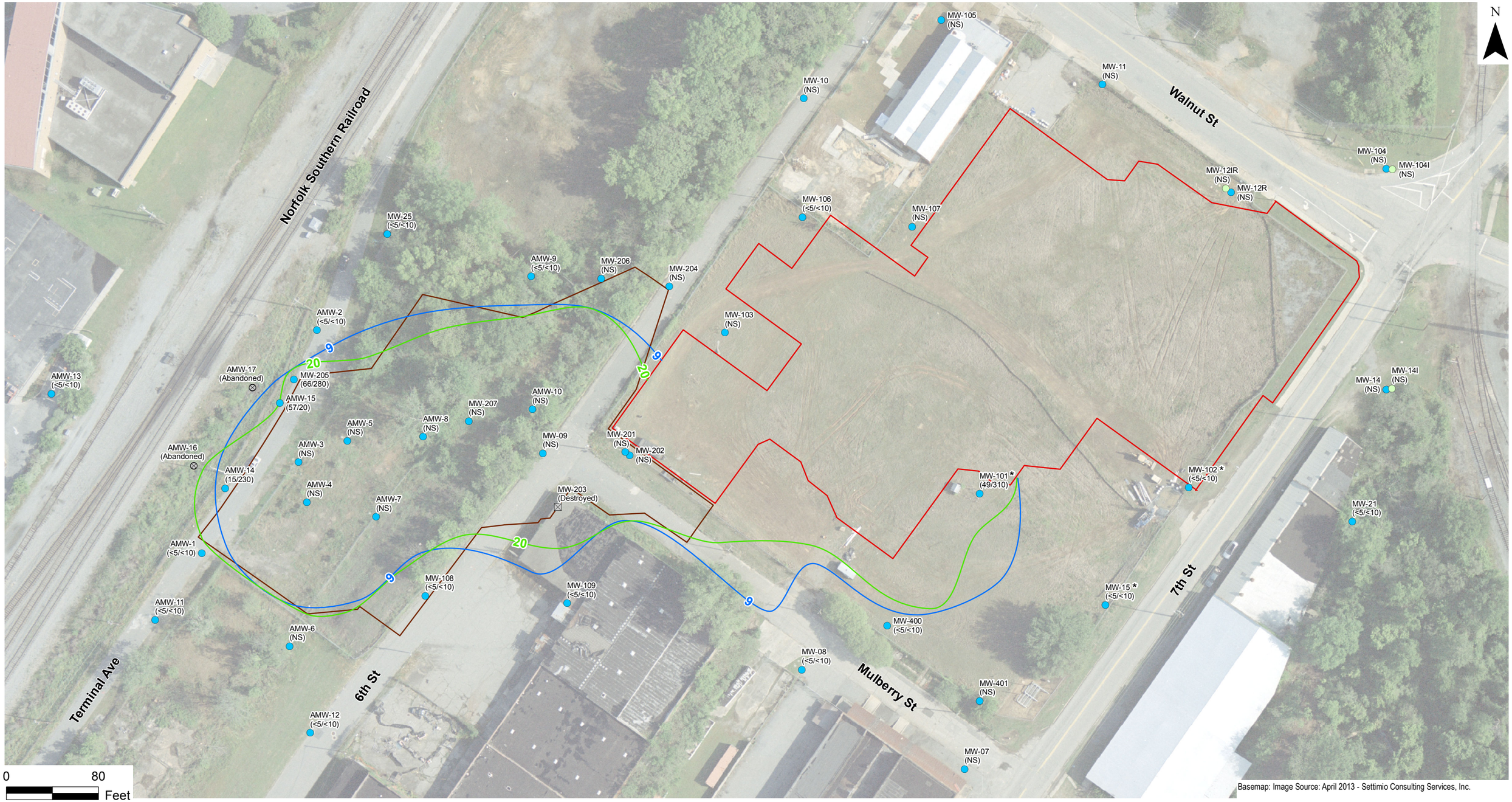
- Shallow Bedrock Well
- Abandoned Shallow Bedrock Well
- Deep Bedrock Well
- Apparent Groundwater Flow Direction
- Former ISS Area
- Current ISS Area
- (NM) Not Measured
- (NS) Not Surveyed
- (288.31) Groundwater Elevations from August 2015 Gauging Event

FIGURE E3-2 - HYDRAULIC POTENTIAL IN SHALLOW BEDROCK WELLS - AUGUST 10, 2015

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



ERM

Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	11/20/2015	SCALE:	AS SHOWN	REVISION:	0
FILE:	S:\AGL\AGL_Macon\MXD\11 2015 AppxE VRP PrgRpt#1\AGLMcnAppxE_VRP_E3-3BnzNaphAlluv02-04_2015.mxd				

- Shallow Well
- Intermediate Well
- Abandoned Well
- Destroyed Well
- Benzene Contour (ug/L)
- Naphthalene Contour (ug/L)
- Former ISS Area
- Current ISS Area

(NS) Not Sampled

Notes:

Groundwater samples collected in April 2015.

* = Groundwater sample collected in February 2015.

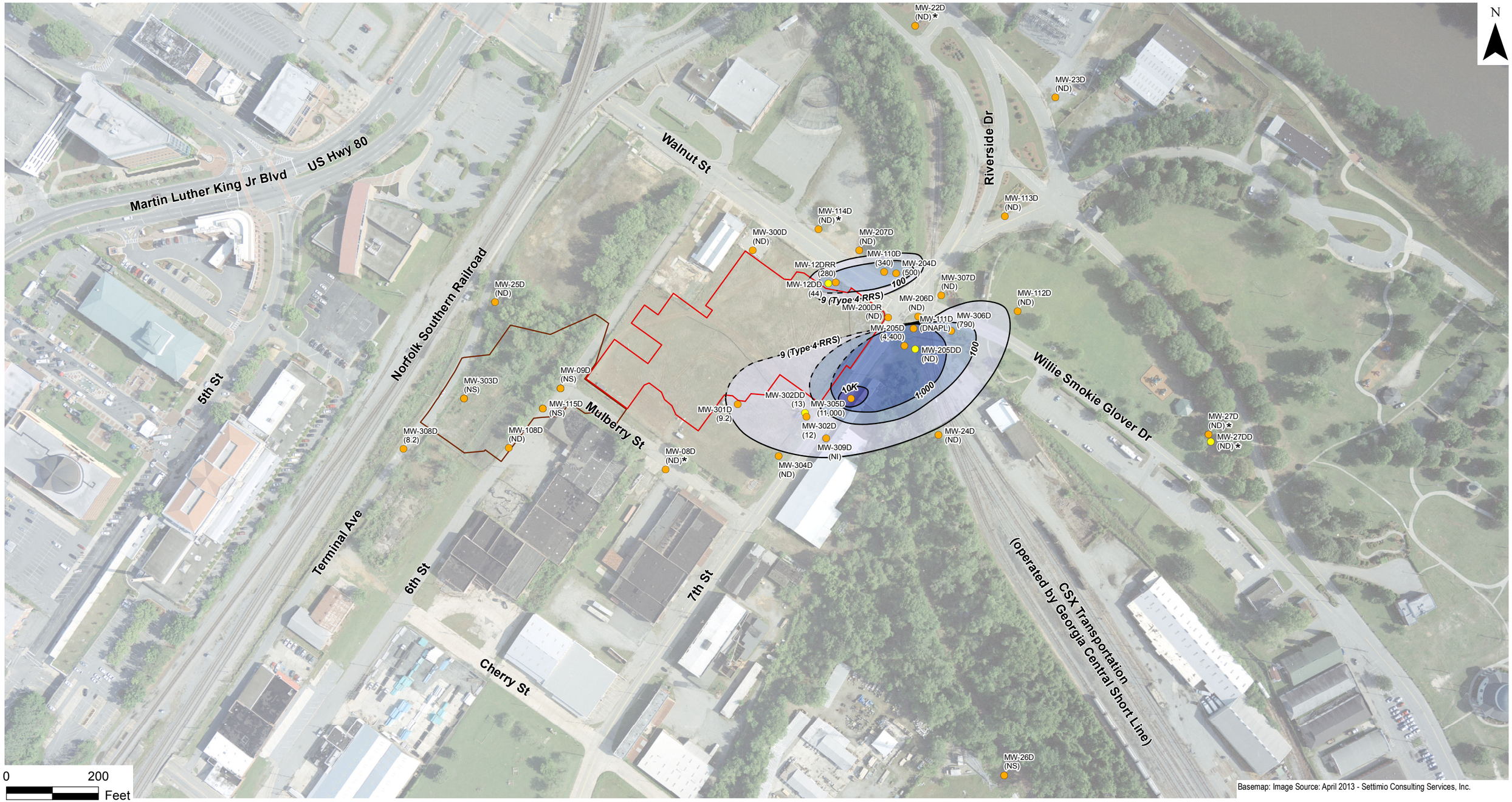
(49/310) Benzene/Naphthalene Concentration (ug/L) from samples collected in February or April 2015

FIGURE E3-3
BENZENE/NAPHTHALENE IN ALLUVIUM GROUNDWATER FEBRUARY & APRIL 2015

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



ERM

Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	11/19/2015	SCALE:	AS SHOWN	REVISION:	0
FILE:	S:\AGL\AGL_Macon\MXD\11 2015 AppxE VRP PrgRpt#1\AGLMcnAppxE_VRP_E3-4BnzBdrk02-04_2015.mxd				

- Shallow Bedrock Well
- Deep Bedrock Well
- Former ISS Area
- Current ISS Area

Benzene Concentration Contours

- >10,000 µg/L
- >1,000 µg/L, <10,000 µg/L
- >100 µg/L, <1,000 µg/L
- >9 µg/L (Type 4 RRS), <100 µg/L

(280) Benzene Concentration (ug/L) February or April 2015

(ND) Non Detect
(NS) Not Sampled
(NI) Not Installed

Notes:

Deep bedrock wells not used in contouring.

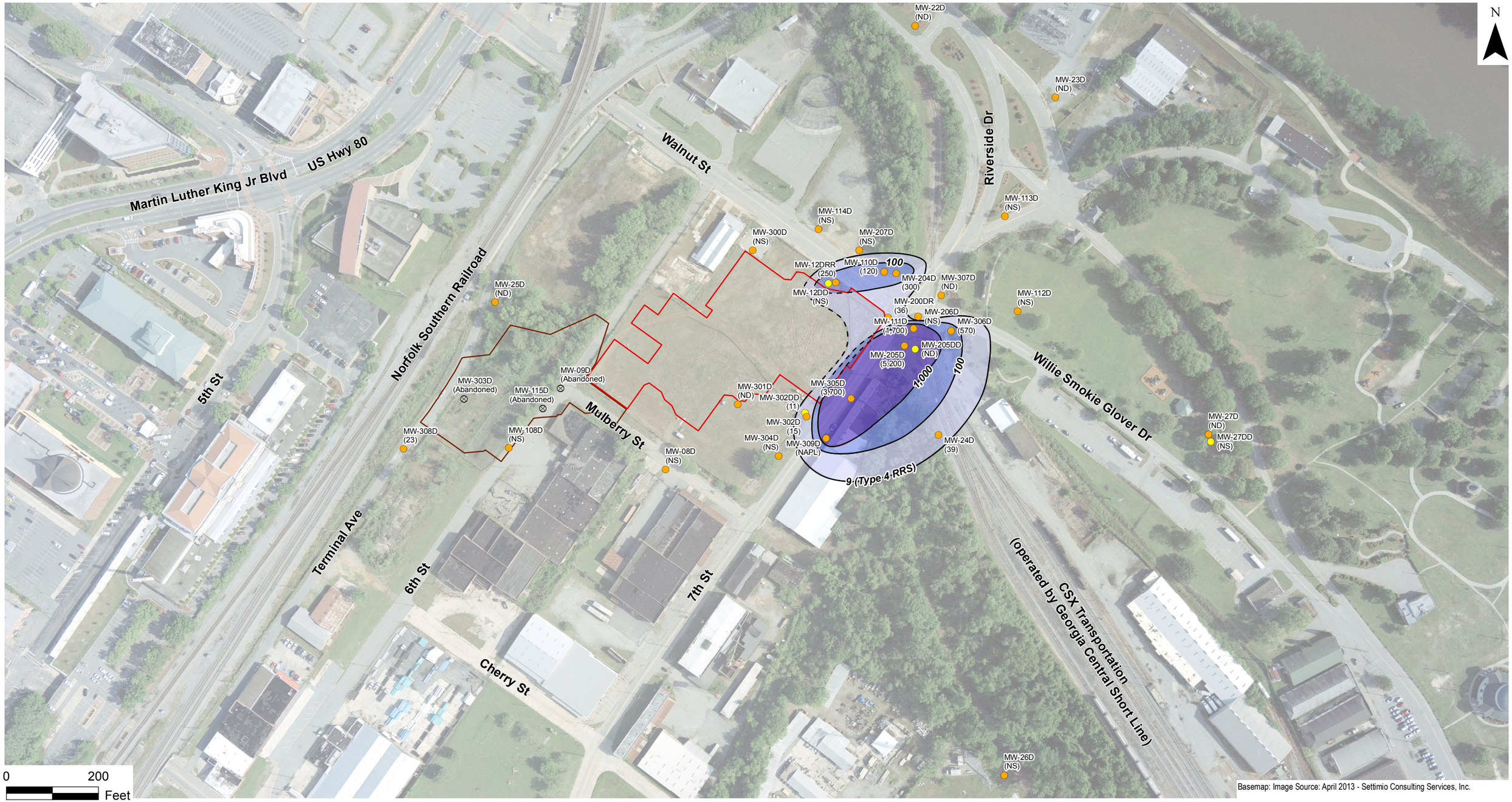
* Groundwater sample collected in April 2015.

FIGURE E3-4 - BENZENE IN BEDROCK GROUNDWATER FEBRUARY & APRIL 2015

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



ERM

Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	11/19/2015	SCALE:	AS SHOWN	REVISION:	0
FILE:	S:\AGL\AGL_Macon\MXD\11 2015 AppxE VRP PrgRpt#1\AGLMcnAppxE_VRP_E3-5BnzBdrk08_2015.mxd				

- Shallow Bedrock Well
- Abandoned Shallow Bedrock Well
- Deep Bedrock Well
- Former ISS Area
- Current ISS Area

Benzene Concentration Contours

- >1,000 µg/L
- >100 µg/L, <1,000 µg/L
- >9 µg/L (Type 4 RRS), <100 µg/L

(250) Benzene Concentration (ug/L) August 2015

(ND) Non Detect
(NS) Not Sampled
(NI) Not Installed

Notes:

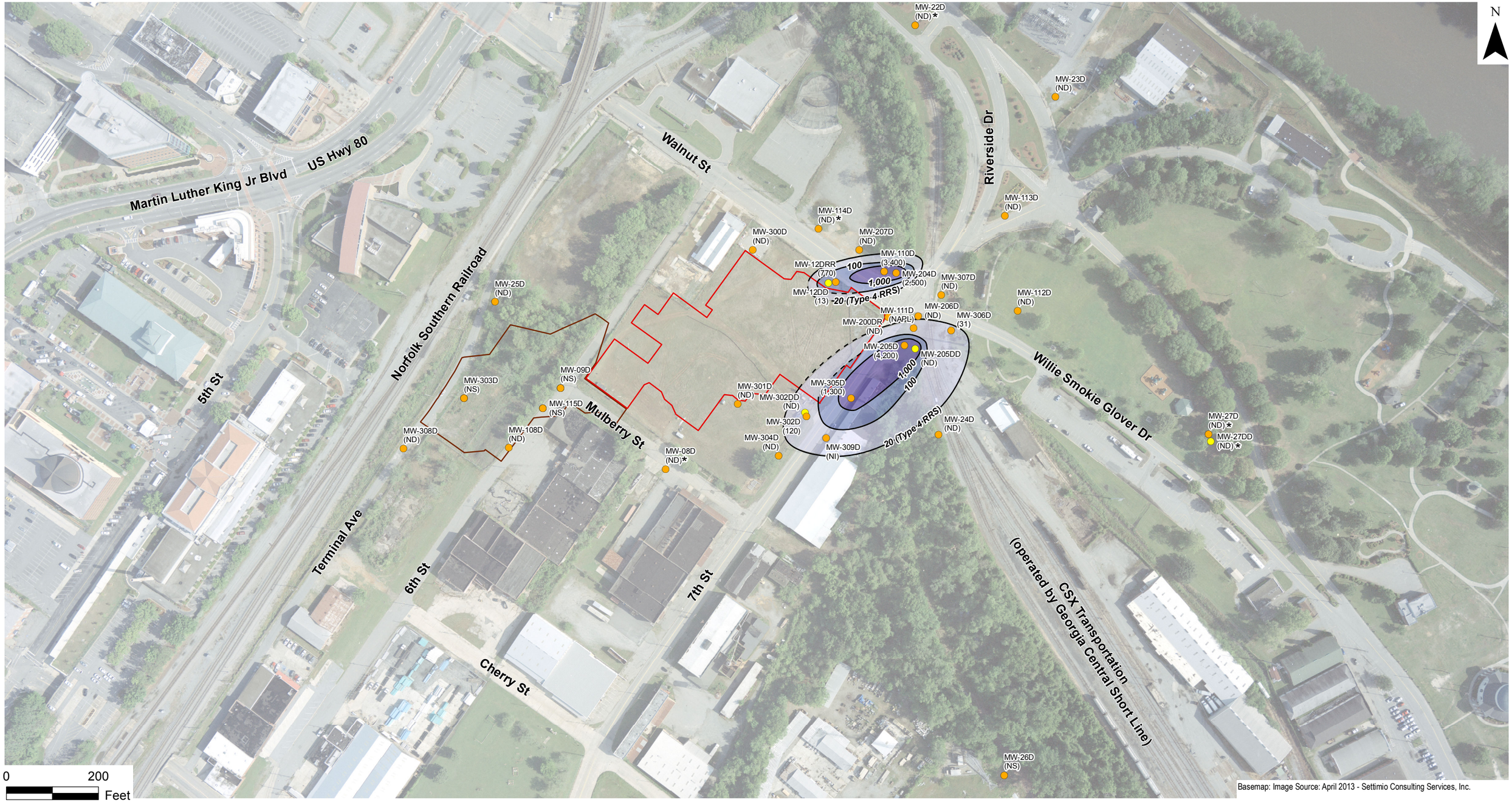
Deep bedrock wells not used in contouring.

FIGURE E3-5 - BENZENE IN BEDROCK GROUNDWATER AUGUST 2015

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



ERM

Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	11/19/2015	SCALE:	AS SHOWN	REVISION:	0
FILE:	S:\AGL\AGL_Macon\MXD\11 2015 AppxE VRP PrgRpt#1\AGLMcnAppxE_VRP_E3-6NaphBdrk02-04_2015.mxd				

- Shallow Bedrock Well
- Deep Bedrock Well
- Former ISS Area
- Current ISS Area

Naphthalene Concentration Contours

- >1,000 µg/L
- >100 µg/L, <1,000 µg/L
- >20 µg/L (Type 4 RRS), <100 µg/L

(770) Naphthalene Concentration (ug/L) February or April 2015

(ND) Non Detect
(NS) Not Sampled
(NI) Not Installed

Notes:

Deep bedrock wells not used in contouring.

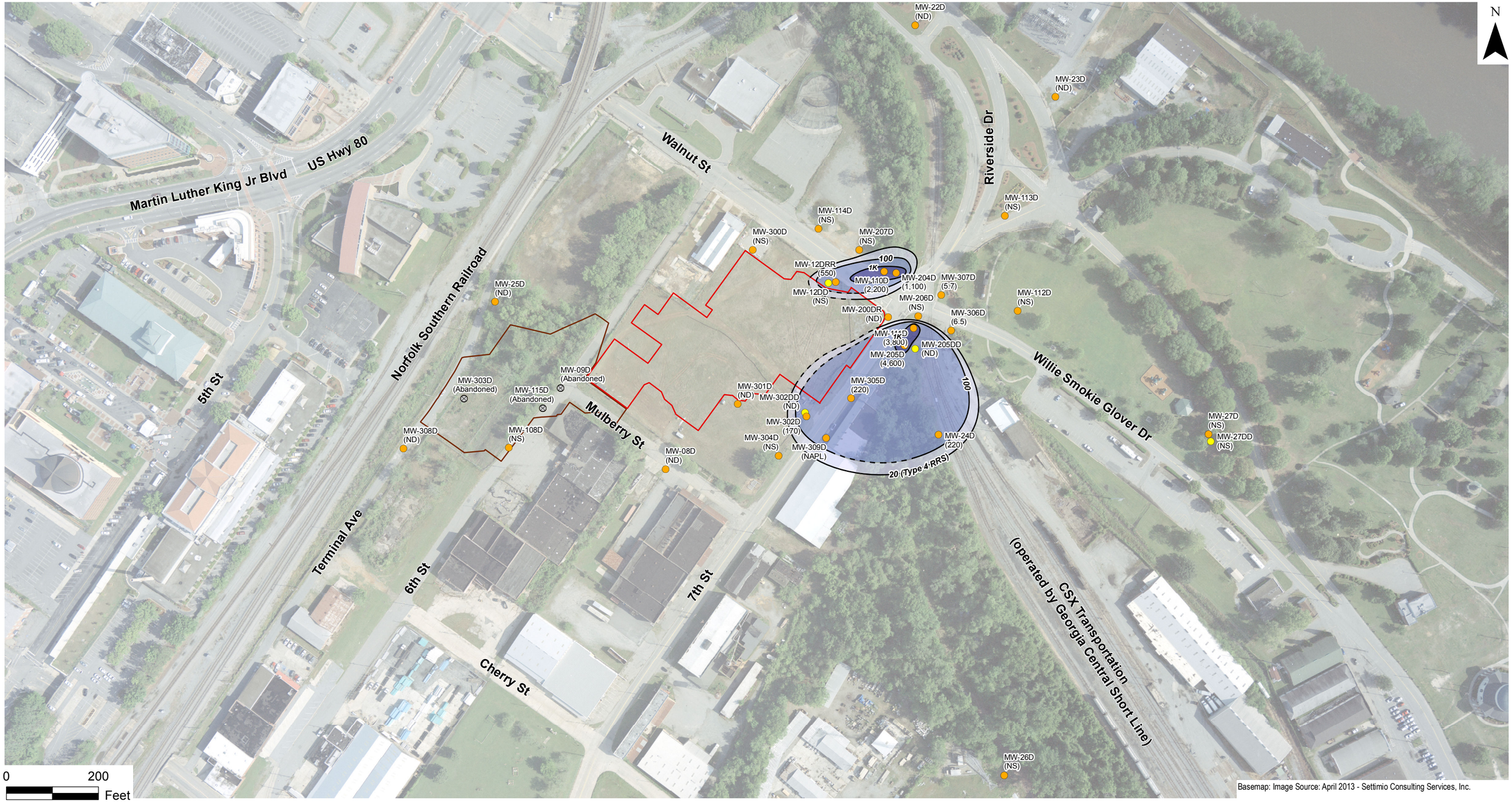
*Groundwater sample collected in April 2015.

FIGURE E3-6 - NAPHTHALENE IN BEDROCK GROUNDWATER FEBRUARY & APRIL 2015

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



ERM

Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	11/19/2015	SCALE:	AS SHOWN	REVISION:	0
FILE:	S:\AGL\AGL_Macon\MXD\11 2015 AppxE VRP PrgRpt#1\AGLMcnAppxE_VRP_E3-7NaphBdrk08_2015.mxd				

- Shallow Bedrock Well
- Abandoned Shallow Bedrock Well
- Deep Bedrock Well
- Former ISS Area
- Current ISS Area

Naphthalene Concentration Contours

- >1,000 µg/L
- >100 µg/L, <1,000 µg/L
- >20 µg/L (Type 4 RRS), <100 µg/L
- (550) Naphthalene Concentration (ug/L) August 2015

(ND) Non Detect
(NS) Not Sampled
(NI) Not Installed

Notes:

Deep bedrock wells not used in contouring.

FIGURE E3-7 - NAPHTHALENE IN BEDROCK GROUNDWATER AUGUST 2015

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia

Groundwater Sampling Log Sheets (CD ONLY)

Appendix E-1

November 21, 2015
Project No. 0176740
Atlanta Gas Light Company

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

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL
Project No.: 0280913 ph052
Sampling Date: 2-16-15
Site/Location: Macon
Sampler's Name: Charl.P Brooks

Well ID: MW-12DD
Total Depth (ft)[1]: 97.00
Depth to Water (ft): 15.15
Well Diameter (in): 2
Well Volume (gal) = 0.041d²h: 13.4(GAL) 50(L)
d = well diameter (inches) h = length of water column (feet)
Well Condition: GOOD

Pump Type/Model: ppristaltic
Tubing Material: Poly 1/4
Pump Intake Depth (ft): 94.00
Start/Stop Purge Time: 14:55
Purge Rate (L/min)[2]: .1
Total Purge Volume (L): 3.0(L)

Sample Collection Time: 15:20
Sample Purge Rate (L/min)[3]: .2
Sample ID: MW-12DD-20150216-01
QA/QC Collected? NO
QA/QC I.D.:
Laboratory Analyses: COI

Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (Inorganics including cyanide)
☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
15:00	18.12	.212	1.41	7.30	-71.3	16.60	.5	1.02	Water level Dropped more than .3 Due to
15:05	18.35	.211	1.02	7.33	-60.0	.99	1.0	17.35	large Well Vol. of 13.4(GAL) NO 3 Well
15:00	18.43	.210	.85	7.32	-57.5	.94	2.0	17.40	Vol. Sampling When Stable
15:05	18.44	.209	.81	7.32	-53.0	.99	3.0	17.43	
Stabilizing Criteria[5]		+/- 3%		+/- 0.1 unit		+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL | Project No.: 0280913 ph052 | Sampling Date: 2-16-15

Site/Location: Macon | Sampler's Name: Charlie Brooks

Well ID: MW-12DRR | Pump Type/Model: peristaltic | Sample Collection Time: 14:10

Total Depth (ft)[1]: 52.00 | Tubing Material: Poly 1/4 | Sample Purge Rate (L/min)[3]: .2

Depth to Water (ft): 10.02 | Pump Intake Depth (ft): ~~13.30~~ 48.00 | Sample ID: MW-12DRR-20150216-01

Well Diameter (in): 2" | Start/Stop Purge Time: 13:30 | QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: 6.8 (GAL) 26 (L) | Purge Rate (L/min)[2]: .2 | QA/QC I.D.

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 7.0 | Laboratory Analyses: COC MNA

Well Condition: Good | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
13:35	17.18	.428	3.60	6.59	-77.6	4.39	1.0	10.05	
13:40	17.49	.430	1.57	6.58	-76.0	4.40	2.0	10.05	
13:45	17.60	.432	.91	6.58	-76.6	4.11	3.0	10.05	
13:50	17.72	.434	.73	6.59	-73.2	4.01	4.0	10.05	
13:55	17.66	.435	.66	6.58	-67.8	4.27	5.0	10.05	
14:00	17.65	.438	.56	6.54	-62.1	4.20	6.0	10.05	
14:05	17.65	.438	.55	6.54	-60.0	4.20	7.0	10.05	
14:10									Sampling @ 14:10
Stabilizing Criteria[5]		+/- 3%		+/- 0.1 unit		+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL | Project No.: 0280913ph052 | Sampling Date: 2/17/15

Site/Location: Macon, GA | Sampler's Name: W. Virge

Well ID: MW-15 | Pump Type/Model: Peristaltic | Sample Collection Time: 1305

Total Depth (ft)[1]: 14.45 | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: ~0.25

Depth to Water (ft): 6.48 | Pump Intake Depth (ft): ~9' | Sample ID: MW-15-20150217-01

Well Diameter (in): 2 | Start/Stop Purge Time: 1210 / 1301 | QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: 1.3 gal / 4.9 L | Purge Rate (L/min)[2]: ~0.1 L/min | QA/QC I.D. ---

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 5.1 L | Laboratory Analyses: COI

Well Condition: Good | Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1220	14.68	0.864	13.0	5.18	242.7	87.8	1	6.53	
1225	14.48	0.866	0.90	5.11	223.5	68.6	1.5	6.54	
1230	14.66	0.870	0.73	5.05	185.7	54.0	2	6.55	
1235	14.77	0.871	0.65	5.03	171.3	41.6	2.5	6.57	
1240	14.82	0.873	0.61	5.05	144.2	32.1	3	6.58	
1245	14.95	0.862	0.59	5.06	127.5	25.2	3.5	6.59	
1250	14.70	0.852	0.54	5.07	120.1	15.3	4	6.59	
1255	14.94	0.850	0.56	5.08	107.8	11.9	4.5	6.59	
1258	14.83	0.851	0.64	5.09	100.7	10.6	4.8	6.59	
1301	14.83	0.851	0.66	5.09	99.7	8.81	5.1	6.59	
Well Parameters Stable @						1301			
Well Sampled @					1305				
Stabilizing Criteria[5]		+/- 3%		+/- 0.1 unit		+/- 10% or ≤10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WATER SAMPLING ..G SHEET

Client: AGL | Project No.: 0280913 | Sampling Date: 2/16/15

Site/Location: Macon | Sampler's Name: W. Vigo

Well ID: MW-23D | Pump Type/Model: Peristaltic | Sample Collection Time: 1105

Total Depth (ft)[1]: 36' | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: ~0.25

Depth to Water (ft): 10.99 | Pump Intake Depth (ft): ~29' | Sample ID: MW-23D-20150216-01

Well Diameter (in): 4" | Start/Stop Purge Time: 1030 / 1100 | QA/QC Collected? Yes

Well Volume (gal) = 0.041d²h: 16.4 gal / 62 L | Purge Rate (L/min)[2]: ~0.1 L/min | QA/QC I.D. MW-23DMS-20150216-01/MW-23DMSD-20150216-01

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 3 L | Laboratory Analyses: COT / MS / MSD

Well Condition: Good | Sampling Method (check all that apply): ☐ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1040	15.50	0.395	1.63	5.98	212.4	2.84	1	11.04	Weather - Overcast
1045	16.18	0.376	13.6	5.93	206.4	2.27	1.5	11.06	~45° F
1050	16.87	0.370	1.06	5.90	199.7	2.15	2.0	11.06	
1055	17.13	0.370	0.91	5.89	199.5	3.23	2.5	11.06	
1100	17.45	0.369	0.82	5.87	200.9	2.01	3.0	11.06	
well Parameters Stable @							1100		
well Sampled @ 1105									
Stabilizing Criteria[5]		+/- 3%		+/- 0.1 unit		+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

12.10

35.77

GROUND WATER SAMPLING SHEET

ERM

Client: AGL

Project No.: 0280913 ph052

Sampling Date: 1-17-15

Site/Location: Macon

Sampler's Name: Charlie Brooks

Well ID: MW-24D

Pump Type/Model: peristaltic

Sample Collection Time: 10:20

Total Depth (ft)[1]: 40.5

Tubing Material: Poly 1/4

Sample Purge Rate (L/min)[3]: .2

Depth to Water (ft): 4.73

Pump Intake Depth (ft): 35.0

Sample ID: MW-24D-20150217-01

Well Diameter (in): 4

Start/Stop Purge Time: 9:50 - 10:15

QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: 23.4 (GAL) 88 (L)

Purge Rate (L/min)[2]: .2

QA/QC I.D.

d = well diameter (inches) h = length of water column (feet)

Total Purge Volume (L): 5.0 (L)

Laboratory Analyses: COT

Well Condition: Good

Sampling Method (check all that apply): ☒ ~~soda straw~~ (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
9:55	15.89	.066	5.03	6.14	99.3	15.50	1.0	4.73	
10:00	15.82	.065	2.45	6.10	99.1	13.52	2.0	4.73	
10:05	15.73	.064	1.53	6.05	99.6	9.78	3.0	4.73	
10:10	15.75	.063	1.47	6.04	100.0	9.54	4.0	4.73	
10:15	15.75	.064	1.45	6.03	100.1	9.47	5.0	4.73	
10:20									Sampling @ 10:20
Stabilizing Criteria[5]		+/- 3%		+/- 0.1 unit		+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL Project No.: 0280913 ph052 Sampling Date: 1-16-15

Site/Location: Macon Sampler's Name: Charlie Brooks

Well ID: MW-25D Pump Type/Model: peristaltic Sample Collection Time: 10:35

Total Depth (ft)[1]: 57.50 Tubing Material: Poly 1/4 Sample Purge Rate (L/min)[3]: .2

Depth to Water (ft): 12.65 Pump Intake Depth (ft): 55.00 Sample ID: MW-25D-20150216-01

Well Diameter (in): 4 Start/Stop Purge Time: 10:00 to 10:30 QA/QC Collected? Yes

Well Volume (gal) = 0.041d²h: 31 (GAL) 116 (L) Purge Rate (L/min)[2]: .2 & .1 QA/QC I.D. MS/MSD

d = well diameter (inches) h = length of water column (feet) Total Purge Volume (L): 4.0 Laboratory Analyses: COI

Well Condition: Good

Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
10:05	18.54	.404	10.28	5.80	125.4	2.9	1.0	12.85	
10:10	16.95	.373	3.53	5.62	132.7	2.44	2.0	12.91	Changing Purge Rate to .1
10:15	17.06	.375	3.32	5.62	131.5	2.50	2.5	12.91	
10:20	17.04	.372	3.02	5.61	129.4	2.46	3.0	12.91	
10:25	17.09	.371	2.69	5.60	129.3	2.40	3.5	12.91	
10:30	17.09	.371	2.67	5.60	129.2	2.43	4.0	12.91	
10:35									Sampling @ 10:35
Stabilizing Criteria[5]	✓	✓ +/- 3%	✓	✓ +/- 0.1 unit	✓	✓ +/- 10% or <10 NTUs	✓ (see note below)[4]	✓ (see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING ... SHEET

ERM

Client: AOL | Project No.: ~~0280415~~ 0280913 | Sampling Date: 2-18-15

Site/Location: Macon, GA | Sampler's Name: BM

Well ID: MW-101 | Pump Type/Model: Peristaltic | Sample Collection Time: 0915

Total Depth (ft)[1]: 19.41' | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: 0.1 L/min

Depth to Water (ft): 10.82' | Pump Intake Depth (ft): Chased water level down | Sample ID: ~~MW-W1-13092015-01~~ MW-101-20150218-01

Well Diameter (in): 2" | Start/Stop Purge Time: 8:00 - 9:12 | QA/QC Collected? No

Well Volume (gal) = 0.041d²h: 1.4 gal (5.3 L) | Purge Rate (L/min)[2]: 0.1 L/min | QA/QC I.D. -

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 13.9 | Laboratory Analyses: CVOC

Well Condition: Good

Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
8:05	6.73	0.303	Unstable	5.74	50.7	64.4	0.5	10.91	
8:10	7.26	0.302	10.51	5.65	110.2	67.6	1.0	10.94	
8:15	9.03	0.279	7.72	5.58	131.2	69.9	1.5	10.99	
8:20	8.18	0.301	6.56	5.54	142.5	65.8	2.0	11.01	
8:25	3.24	0.302	5.42	5.50	147.5	61.8	2.5	11.01	3 volume purge for turbidity
8:30	11.66	0.326	5.00	5.40	145.5	52.2	5.5	11.05	Lower to 0.1 L/min
8:41	14.45	0.397	3.81	5.18	159.0	26.6	10.6	11.64	2nd volume
8:52	14.55	0.435	2.05	5.24	140.2	13.7	11.9	11.85	3rd volume, reduce to 0.1 L/min
8:57	13.69	0.468	1.82	5.28	138.7	11.3	12.4	11.61	
9:02	12.62	0.494	1.71	5.39	125.0	14.5	12.9	11.49	
9:07	13.14	0.494	1.65	5.41	122.8	12.0	13.4	11.93	
9:12	13.50	0.490	1.57	5.38	125.0	9.56	13.9	11.95	Remove straw, sample
Stabilizing Criteria[5]		+/- 3%		+/- 0.1 unit		+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL Project No.: ~~0280915~~ 0280918 Sampling Date: 2-18-15

Site/Location: Moon Co. Sampler's Name: BM

Well ID: MW-102 Pump Type/Model: Peristaltic Sample Collection Time: 11:25

Total Depth (ft)[1]: 13.81' Tubing Material: HDPE Sample Purge Rate (L/min)[3]: 0.1 L/min

Depth to Water (ft): 8.03' Pump Intake Depth (ft): ~ 10' Sample ID: MW-102 - ~~MW-DUP-01~~ 20150218-01

Well Diameter (in): 2" Start/Stop Purge Time: 10:05 QA/QC Collected? No

Well Volume (gal) = 0.041d²h: ~1 gal (5.8 L) Purge Rate (L/min)[2]: 0.1 L/min QA/QC I.D. -

d = well diameter (inches) h = length of water column (feet) Total Purge Volume (L): 16.4 Laboratory Analyses: COI

Well Condition: Good Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
10:10	12.61	0.394	10.98	6.55	72.4	36.7	0.5	8.26	
10:15	13.13	0.392	8.43	6.51	75.6	27.2	1.0	8.28	
10:20	13.29	0.396	5.25	6.52	79.3	25.2	1.5	8.30	
10:25	13.13	0.399	4.21	6.51	80.3	25.1	2.0	8.33	Start 3 vol purge @ 0.5 L/min
10:32	13.63	0.410	3.11	6.50	79.3	17.6	5.8	8.54	1st vol (~~MW-102-01~~) + 2.0 L from flow through cell
10:40	13.76	0.417	3.00	6.54	83.4	16.2	9.6	8.51	2nd vol purging
10:48	13.77	0.427	4.44	6.52	82.6	11.8	13.4	8.56	3rd vol @ 0.1 L/min
10:53	13.85	0.429	5.26	6.52	83.5	11.7	13.9	8.48	
10:58	13.86	0.430	4.52	6.51	81.2	12.8	14.4	8.43	
11:03	14.08	0.432	3.52	6.49	75.5	10.03	14.9	8.41	
11:08	13.80	0.442	3.99	6.56	82.5	9.51	15.4	8.38	~~Conditions stable, sample~~ rising
11:13	13.98	0.449	6.13	6.53	83.1	9.27	15.9	8.46	due to Spec. Cond.
11:18	13.94	0.451	5.33	6.49	81.0	9.52	16.4	8.47	Parameters Stable; Sample
Stabilizing Criteria[5]		+/- 3%		+/- 0.1 unit		+/- 10% or <10 NTUs	(see note below)[6]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL
Project No.: 0280913pho52
Sampling Date: 2-17-15
Site/Location: Macon
Sampler's Name: Charlie Brooks

Well ID: MW-108D
Total Depth (ft)[1]: 58.5
Depth to Water (ft): 12.10
Well Diameter (in): 4
Well Volume (gal) = 0.041d²h: 30 (GAL) 114 (L)
d = well diameter (inches) h = length of water column (feet)
Well Condition: Good

Pump Type/Model: Peristaltic
Tubing Material: Poly 1/4
Pump Intake Depth (ft): 53.5
Start/Stop Purge Time: 12:25 - 12:50
Purge Rate (L/min)[2]: .2
Total Purge Volume (L): 5.0

Sample Collection Time: 12:55
Sample Purge Rate (L/min)[3]: .2
Sample ID: MW-108D-20150217-01
QA/QC Collected? NO
QA/QC I.D.:
Laboratory Analyses:

Sampling Method (check all that apply): ☐ ~~soda straw~~ (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (Inorganics including cyanide)
☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
12:30	19.19	.137	5.64	6.98	92.0	2.70	1.0	12.13	
12:35	19.34	.141	2.43	6.97	85.7	2.60	2.0	12.13	
12:40	19.39	.144	2.11	6.96	85.2	2.11	3.0	12.15	
12:45	19.22	.143	2.13	6.96	85.7	2.15	4.0	12.16	
12:50	19.07	.140	2.00	6.96	96.3	2.11	5.0	12.16	
12:55									Sampling @ 12:55
Stabilizing Criteria[5]		+/- 3%		+/- 0.1 unit		+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[5]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL Project No.: ~~0202915~~ 0280913 Sampling Date: 2-16-15

Site/Location: Macon GA Sampler's Name: BM

Well ID: ~~MW-110 LOT~~ MW-110D Pump Type/Model: Peristaltic Sample Collection Time: 14:15

Total Depth (ft)[1]: 43' Tubing Material: LDPE Sample Purge Rate (L/min)[3]: 0.1 L/min

Depth to Water (ft): 7.49 Pump Intake Depth (ft): ~35' (mid-screen) Sample ID: MW-110D - ~~0202915-01~~ 20150216-01

Well Diameter (in): 4" Start/Stop Purge Time: 13:40 / 14:07 QA/QC Collected? No

Well Volume (gal) = 0.041d²h: N/A Purge Rate (L/min)[2]: 0.05 QA/QC I.D. –

d = well diameter (inches) h = length of water column (feet) Total Purge Volume (L): 1.75 Laboratory Analyses: See COC LOT MWA

Well Condition: Good

Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
13:42	19.09	0.454	16.87	6.32	-91.2	13.6	0.5	7.52	Initial reading; Hydrocarbon odor - 0.454 Spec. Cond.
13:47	17.05	0.498	7.65	6.22	-119.6	14.2	0.75	7.50	
13:52	16.61	0.497	3.62	6.18	-108.7	13.2	1.0	7.50	
13:57	16.48	0.497	2.20	6.18	-126.4	10.1	1.25	7.50	
14:02	17.25	0.496	1.98	6.18	-134.9	8.21	1.50	7.50	
14:07	17.20	0.495	1.68	6.18	-145.9	9.26	1.75	7.50	Parameters Stable, Sample
Stabilizing Criteria[5]		+/- 3%		+/- 0.1 unit		+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WATER SAMPLING [illegible] SHEET

Client: AGL | Project No.: 0280913 ph052 | Sampling Date: 2/16/15

Site/Location: Macon | Sampler's Name: W. Virgo

Well ID: MW-112D | Pump Type/Model: Peristaltic | Sample Collection Time: 1410

Total Depth (ft)[1]: ~36' | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: ~0.25

Depth to Water (ft): 5.28' | Pump Intake Depth (ft): ~29' | Sample ID: MW-112D-20150216-01

Well Diameter (in): 4" | Start/Stop Purge Time: ~~1032~~ 1332/1407 | QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: 20.2 gal / 76 L | Purge Rate (L/min)[2]: ~0.1 | QA/QC I.D. ——

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 3.5L | Laboratory Analyses: COI / MNA

Well Condition: Good | Sampling Method (check all that apply): ☐ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (Inorganics including cyanide) ☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1342	15.57	0.305	5.58	9.53	135.2	47.3	1	5.60	Weather - Overcast / rain
1347	15.93	0.304	4.95	9.67	132.1	34.4	1.5	5.82	Temp ~ 40° F
1352	16.24	0.305	4.97	9.71	134.3	17.4	2	6.00	
1357	16.51	0.305	4.79	9.73	138.3	13.1	2.5	6.11	Excessive drawdown >0.3'
1402	16.69	0.306	4.73	9.75	146.2	8.92	3	6.35	but close to large well
1407	16.81	0.306	4.70	9.77	146.3	7.99	3.5	6.45	Volume, 3 well volumes
									NOT Purged well Purged
Well Parameters stable @ 1407									until stable
Well sampled @ 1410									
Stabilizing Criteria[5]		+/- 3%		+/- 0.1 unit		+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL Project No.: 0280913 ph052 Sampling Date: 2/17/15

Site/Location: Macon Sampler's Name: W. Virgo

Well ID: MW-113D Pump Type/Model: Peristaltic Sample Collection Time: 0826

Total Depth (ft)[1]: 39.5 Tubing Material: LDPE Sample Purge Rate (L/min)[3]: ~0.25

Depth to Water (ft): 8.55 Pump Intake Depth (ft): ~34 Sample ID: MW-113D-20150217-01

Well Diameter (in): 4" Start/Stop Purge Time: 0755/~~0826~~ 0823 QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: 20.3 gal / 77 L Purge Rate (L/min)[2]: ~0.1 L/min QA/QC I.D.

d = well diameter (inches) h = length of water column (feet) Total Purge Volume (L): 2.8 L Laboratory Analyses: COIs

Well Condition: Good Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
0805	14.57	0.386	2.15	5.78	212.7	0.84	1	8.57	Weather - Overcast
0810	15.00	0.360	1.60	5.72	207.7	0.73	1.5	8.58	Cold ~40°F
0815	15.43	0.356	1.31	5.68	190.6	1.03	~2.0	8.59	
0820	15.74	0.354	1.17	5.65	178.1	0.64	2.5	8.59	
0823	15.85	0.354	1.14	5.63	162.9	0.63	2.8	8.60	
Stabilization Parameters Stable @ 0823									
Well Sampled @ 0826									
Stabilizing Criteria[5]		+/- 3%		+/- 0.1 unit		+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL | Project No.: 0280913 phase2 | Sampling Date: 2-17-15

Site/Location: Macon | Sampler's Name: Charlie Brooks

Well ID: MW-200DR | Pump Type/Model: Peristaltic | Sample Collection Time: 14:15

Total Depth (ft)[1]: 39.5 | Tubing Material: Poly 1/4 | Sample Purge Rate (L/min)[3]: .2

Depth to Water (ft): 6.05 | Pump Intake Depth (ft): 34.5 | Sample ID: MW-200DR-20150217-01

Well Diameter (in): 2 | Start/Stop Purge Time: 13:40 to 14:10 | QA/QC Collected? Yes

Well Volume (gal) = 0.041d²h: 5.4 (GAL) 20 (L) | Purge Rate (L/min)[2]: .2 | QA/QC I.D. Dup-01-20150217-01

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 6.0 | Laboratory Analyses:

Well Condition: Good

Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
13:45	19.22	.496	18.00	6.67	86.7	2.86	1.0	6.30	
13:50	17.22	.486	2.84	6.67	96.1	1.30	2.0	6.33	
13:55	17.39	.488	2.53	6.67	95.2	1.28	3.0	6.34	
14:00	17.42	.488	2.61	6.68	95.0	1.24	4.0	6.34	
14:05	17.44	.488	2.50	6.64	94.7	1.24	5.0	6.34	
14:10	17.44	.488	2.36	6.68	94.7	1.22	6.0	6.34	
14:15									Sampling @ 14:15
Stabilizing Criteria[5]		+/- 3%		+/- 0.1 unit		+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING SHEET

ERM

Client: AGL Project No.: ~~[illegible]~~ 0250513 Sampling Date: 2-12-15

Site/Location: Main St Sampler's Name: BM

Well ID: MW-204D Pump Type/Model: Peristaltic Sample Collection Time: 15:30

Total Depth (ft)[1]: 42.15 Tubing Material: LDPE Sample Purge Rate (L/min)[3]: 0.1 L/min

Depth to Water (ft): 7.42 Pump Intake Depth (ft): ~38' Sample ID: MW-204D-~~[illegible]~~ 20150217-01

Well Diameter (in): 4" Start/Stop Purge Time: 14:53 - 15:20 QA/QC Collected? Yes

Well Volume (gal) = 0.041d²h: N/A Purge Rate (L/min)[2]: 0.1 L/min QA/QC I.D. DUP-2-~~[illegible]~~ 20150217-01

d = well diameter (inches) h = length of water column (feet) Total Purge Volume (L): 3 L Laboratory Analyses: COI

Well Condition: Good Sampling Method (check all that apply): ☐ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
14:55	17.21	0.511	9.78	6.61	-35.8	19.5	0.5	7.55	Initial reading
15:00	17.34	0.503	5.61	6.36	-45.0	2.45	1.0	7.60	
15:05	16.98	0.502	3.78	6.33	-51.9	1.50	1.5	7.59	
15:10	15.65	0.499	2.91	6.32	-54.1	0.99	2.0	7.54	
15:15	16.12	0.496	2.31	6.31	-51.6	1.31	2.5	7.56	
15:20	16.20	0.494	2.03	6.31	-52.3	1.15	3.0	7.59	Parameters stable, Sample
Stabilizing Criteria[5]		+/- 3%		+/- 0.1 unit		+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL Project No.: ~~0230215~~ 0280013 Sampling Date: 2-16-15

Site/Location: Avon, IA Sampler's Name: SM

Well ID: ~~205~~ MW-205D Pump Type/Model: Peristaltic Sample Collection Time: 15:30

Total Depth (ft)[1]: 43' Tubing Material: LDPE Sample Purge Rate (L/min)[3]: 0.1 L/min

Depth to Water (ft): 6.86 Pump Intake Depth (ft): ~38' Sample ID: MW-205D-20150216-01

Well Diameter (in): 4" Start/Stop Purge Time: 15:00 QA/QC Collected? No

Well Volume (gal) = 0.041d²h: N/A Purge Rate (L/min)[2]: 0.05 L/min QA/QC I.D. —

d = well diameter (inches) h = length of water column (feet) Total Purge Volume (L): 1.50 Laboratory Analyses: COI MNA

Well Condition: Good Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
15:02	19.08	0.755	9.55	6.83	-122.1	2.76	0.5	7.00	initial reading
15:07	18.21	0.772	4.34	6.89	-98.7	3.56	0.75	7.00	
15:12	18.56	0.767	3.66	6.84	-96.0	3.28	1.00	7.01	
15:17	18.62	0.761	2.63	6.83	-94.0	2.67	1.25	7.02	
15:22	18.66	0.755	2.01	6.81	-90.1	3.41	1.50	7.05	parameters stable, sample
Stabilizing Criteria[5]		+/- 3%		+/- 0.1 unit		+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL | Project No.: 0280913 ph052 | Sampling Date: 2/17/15

Site/Location: Macon | Sampler's Name: W. Virge

Well ID: MW-205DD | Pump Type/Model: Peristaltic | Sample Collection Time: 1515

Total Depth (ft)[1]: 100' | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: ~0.25 L/min

Depth to Water (ft): 15.41' | Pump Intake Depth (ft): ~95' | Sample ID: MW-205DD-20150217-01

Well Diameter (in): 4" | Start/Stop Purge Time: 1355/1511 | QA/QC Collected? YES

Well Volume (gal) = 0.041d²h: 55.5gal / 210 L | Purge Rate (L/min)[2]: ~0.2 L/min | QA/QC I.D: ~~MW~~ DUP-03-20150217-01

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 11.3 | Laboratory Analyses: COI

Well Condition: Good | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☒ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1405	16.74	0.228	1.18	9.00	4.9	21.7	2	15.82	Drawdown >0.3' but
1410	17.17	0.226	1.10	9.33	6.0	17.0	3	16.22	due to large well volumes
1415	17.64	0.227	0.83	9.48	-9.8	13.7	4	16.61	3 well volumes not used
1420	18.05	0.229	0.61	9.63	-40.6	32.1	5	17.00	Purged until stable
1425	17.08	0.229	0.49	9.62	-70.7	47.1	6	17.40	
1430	17.15	0.229	0.58	9.63	-64.4	51.5	7	17.51	- Purge rate decreased to
1435	15.58	0.229	0.67	9.59	-60.2	62.4	7.5	17.70	try & drop turbidity
1440	15.23	0.229	0.72	9.61	-59.5	53.4	8	17.84	~0.1 L/min
1445	14.66	0.230	0.72	9.61	-61.9	37.7	8.5	17.91	
1450	14.49	0.229	0.87	9.61	-59.8	38.5	9	17.94	
1455	14.23	0.230	0.76	9.62	-62.1	58.0	9.5	18.15	
1458	14.30	0.230	0.87	9.63	-57.2	59.8	10	18.22	
~~1450~~3	14.25	0.229	0.93	9.63	-49.5	28.4	10.5	18.31	
~~1500~~									
1508	14.25	0.229	0.91	9.64	-49.2	30.1	11	18.43	
1511	14.74	0.229	0.91	9.65	-48.8	29.9	11.3	18.50	
Well Parameters stable w/ Turbidity									
w/in 10% @ 1511									
Well Sampled @ 1515									
Stabilizing Criteria[5]		+/- 3%		+/- 0.1 unit		+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING SHEET

ERM

Client: AGL | Project No.: 0280913 phase 2 | Sampling Date: 2/17/15

Site/Location: Macon | Sampler's Name: W. Virgo

Well ID: MW-206D | Pump Type/Model: Peristaltic | Sample Collection Time: 1026

Total Depth (ft)[1]: 46 | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: ~0.25 L/min

Depth to Water (ft): 6.79 | Pump Intake Depth (ft): ~41 | Sample ID: MW-206D-20150217-01

Well Diameter (in): 4" | Start/Stop Purge Time: 0938 / 1023 | QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: 25.7 gal / 97.4 L | Purge Rate (L/min)[2]: ~0.1 L/min | QA/QC I.D.:

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 4.5 | Laboratory Analyses: COI

Well Condition: Good | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☒ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
0948	12.21	0.566	1.64	6.19	33.2	45.2	1	6.80	
0953	13.64	0.566	1.42	6.18	10.9	50.9	1.5	6.81	
0958	14.83	0.568	1.00	6.18	1.0	42.9	2	6.82	
1003	13.54	0.564	0.94	6.16	2.9	57.9	2.5	6.82	
1008	15.67	0.564	0.73	6.12	13.7	58.1	3	6.82	
1013	15.14	0.563	0.70	6.08	12.6	56.0	3.5	6.53	
1018	14.05	0.562	0.78	6.09	17.5	55.3	4	6.83	
1023	13.62	0.560	0.77	6.10	17.5	55.7	4.5	6.83	
well Parameters Stable w/ Turbidity									
within 10% @ 1023									
well Sampled @ 1026									
Stabilizing Criteria[5]		+/- 3%		+/- 0.1 unit		+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WATER SAMPLING SHEET

Client: AGL
Project No.: 0280913ph052
Sampling Date: 4-17-15
Site/Location: Macon
Sampler's Name: Charlie Brooks

Well ID: MW-207D
Pump Type/Model: peristaltic
Sample Collection Time: 17:05
Total Depth (ft)[1]: 46.5
Tubing Material: poly 1/4
Sample Purge Rate (L/min)[3]: .2
Depth to Water (ft): 6.65
Pump Intake Depth (ft): 41.5
Sample ID: MW-207D-20150217-01
Well Diameter (in): 4
Start/Stop Purge Time: 16:25 to 17:00
QA/QC Collected? no
Well Volume (gal) = 0.041d²h: 26.1 (GAL) 98 (L)
Purge Rate (L/min)[2]: .2
QA/QC I.D.:
d = well diameter (inches) h = length of water column (feet)
Total Purge Volume (L): 7.0 (L)
Laboratory Analyses:
Well Condition: Good
Sampling Method (check all that apply): ☒ Soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (Inorganics including cyanide)
☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
16:30	19.27	.503	4.55	7.01	-47.7	135.0	1.0	6.87	
16:35	18.98	.501	2.27	6.87	-55.7	64.6	2.0	6.88	
16:40	18.95	.501	2.15	6.86	-56.9	44.6	3.0	6.87	
16:45	18.77	.499	1.97	6.85	-57.7	37.5	4.0	6.87	
16:50	18.82	.499	1.84	6.85	-58.0	45.4	5.0	6.87	
16:55	18.84	.499	1.91	6.85	-58.2	46.3	6.0	6.87	
17:00	18.85	.499	1.87	6.85	-58.5	45.9	7.0	6.87	
17:05									Sampling @ 17:05
Stabilizing Criteria[5]		+/- 3%		+/- 0.1 unit		+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL
Project No.: ~~0238015~~ 0280913
Sampling Date: 2-17-15
Site/Location: Macon, GA
Sampler's Name: BM

Well ID: MW-3009
Total Depth (ft)[1]: 42.25'
Depth to Water (ft): 4.84'
Well Diameter (in): 2"
Well Volume (gal) = 0.041d²h: 6.2 gal (23.5 L)
d = well diameter (inches) h = length of water column (feet)
Well Condition: Good

Pump Type/Model: Peristaltic
Tubing Material: HDPE
Pump Intake Depth (ft): Based on water level data
Start/Stop Purge Time: 5:24
Purge Rate (L/min)[2]: 0.05 L/min
Total Purge Volume (L): 71.25 L

Sample Collection Time: 10:40
Sample Purge Rate (L/min)[3]: 0.1 L/min
Sample ID: MW-3009 - ~~1200315-01~~ 20150217-01
QA/QC Collected? N/A
QA/QC I.D.: -
Laboratory Analyses: CCR

Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (Inorganics including cyanide)
☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
5:26	17.66	0.138	3.58	7.19	24.9	16.2	0.5	6.50	Start volume purge based on initial
~~9:13~~									reading rate 0.5 L/m
9:13	19.21	0.356	1.78	6.08	7.5	11.2	23.5	17.65	~~increase to 0.75 L/m~~ increase to
~~10:00~~ 9:44	19.36	0.376	1.36	6.04	14.0	5.23	47	21.94	2nd volume 0.75 L/m
~~10:10~~ 10:19	18.87	0.385	0.88	6.04	15.4	1.97	70.5	21.40	3rd volume, decrease to 0.05 L/min
10:20	17.05	0.393	0.92	6.05	19.3	0.75	70.75	19.60	
10:25	16.20	0.391	0.92	6.04	20.9	1.09	71.0	17.27	
10:30	16.29	0.389	0.88	6.05	21.6	0.99	71.25	16.18	Parameters stable, sample
Stabilizing Criteria[5]		+/- 3%		+/- 0.1 unit		+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL Project No.: ~~0230215~~ 0280913 Sampling Date: 2-17-15

Site/Location: Macon, GA Sampler's Name: BM

Well ID: MW-301D Pump Type/Model: Peristaltic Sample Collection Time: 17:20

Total Depth (ft)[1]: ~~42.14~~ 46' Tubing Material: LDPE Sample Purge Rate (L/min)[3]: 0.1 L/min

Depth to Water (ft): 12.34 Pump Intake Depth (ft): ~35' (mid-screen) Sample ID: MW-301D - ~~120215-01~~ 20150217-01

Well Diameter (in): 2" Start/Stop Purge Time: 16:47 / 17:10 QA/QC Collected? No

Well Volume (gal) = 0.041d²h: N.A Purge Rate (L/min)[2]: 0.1 L/min QA/QC I.D. -

d = well diameter (inches) h = length of water column (feet) Total Purge Volume (L): 2.5 L Laboratory Analyses: COD

Well Condition: Good Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
16:50	12.91	0.731	12.40	6.84	-72.6	8.52	0.5	13.01	initial
16:55	14.00	0.743	9.28	6.17	-83.2	2.36	1.0	13.04	
17:00	13.45	0.743	5.88	6.11	-88.7	1.90	1.5	13.14	
17:05	13.70	0.743	4.14	6.11	-93.7	1.64	2.0	13.16	
17:10	13.45	0.747	3.51	6.10	-98.3	1.41	2.5	13.20	Parameters stable; sample
Stabilizing Criteria[5]		+/- 3%		+/- 0.1 unit		+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WATER SAMPLING SHEET

Client: AGL
Site/Location: Macon, GA
Project No.: 0280913 ph52
Sampling Date: 2/18/15
Sampler's Name: W. Virgo

Well ID: MW-302D
Total Depth (ft)[1]: 45'
Depth to Water (ft): 13.08
Well Diameter (in): 2"
Well Volume (gal) = 0.041d²h: 5.23 gal / 19.8 L
d = well diameter (inches) h = length of water column (feet)
Well Condition: Good

Pump Type/Model: Peristaltic
Tubing Material: LDPE
Pump Intake Depth (ft): ~40'
Start/Stop Purge Time: 0940 / 1159
Purge Rate (L/min)[2]: ~0.1
Total Purge Volume (L): 61.9 L

Sample Collection Time: 1203
Sample Purge Rate (L/min)[3]: ~0.25
Sample ID: MW-302D - 20150218-01
QA/QC Collected? NO
QA/QC I.D.:
Laboratory Analyses: COI

Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (inorganics including cyanide)
☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
0950	8.57	1.175	5.60	8.34	-42.1	503	1	14.21	Due to excessive drawdown
1010	15.22	1.282	3.22	6.47	-28.4	8.75	11	18.35	3 well Volumes Purged
1030	14.68	1.216	0.55	6.19	-45.3	12.7	21	20.64	Vol 1 - Purge Rate Increased
1050	19.22	1.170	0.54	5.93	-40.3	5.40	31	21.86	to 0.5 L/min
1110	16.04	1.167	0.66	5.74	-34.4	4.88	41	22.73	Vol 2
1130	15.84	1.171	0.65	5.70	-32.5	4.94	51	23.56	
1150	15.25	1.176	0.62	5.66	-46.5	4.61	61	24.71	Vol 3 Purge rate decreased
1153	15.21	1.168	0.59	5.67	-48.1	4.52	61.3	24.52	to 0.1 L/min after
1156	15.28	1.169	0.59	5.67	-48.8	4.27	61.6	24.21	3 well Volumes Purged
1159	15.17	1.173	0.58	5.67	-45.4	4.33	61.9	23.90	
Well Parameters Stable @ 1159									
Well Sampled @ 1203									
Stabilizing Criteria[5]		+/- 3%		+/- 0.1 unit		+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL | Project No.: 0280913 ph052 | Sampling Date: 2/17/15

Site/Location: Macon, GA | Sampler's Name: U. Virge

Well ID: 302DD | Pump Type/Model: Peristaltic | Sample Collection Time: 1742

Total Depth (ft)[1]: 100' | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: ~0.25

Depth to Water (ft): 22.69 | Pump Intake Depth (ft): ~95' | Sample ID: MW-302DD-20150217-01

Well Diameter (in): 2" | Start/Stop Purge Time: 1708 / 1738 | QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: 12.7gal / 48L | Purge Rate (L/min)[2]: ~0.1 L/min | QA/QC I.D. ——

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 3 | Laboratory Analyses: COI

Well Condition: Good | Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1718	14.66	0.652	6.72	7.89	-109.5	6.31	1	23.23	Drawdown ignored due
1723	15.01	0.659	2.31	7.82	-128.1	34.3	1.5	23.27	to large well volume
1728	14.95	0.663	1.70	7.80	-160.6	5.25	2	23.20	3 well volume method
1733	14.43	0.668	1.55	7.78	-163.3	4.00	2.5	23.20	not used. Purged until
1738	14.48	0.665	1.18	7.77	-169.5	4.42	3	23.21	Stable
Well	Parameters			Stable	(a)		1738		
Well	Sampled		(a)		1742				
Stabilizing Criteria[5]		+/- 3%		+/- 0.1 unit		+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING [illegible] SHEET

ERM

Client: AGL Project No.: ~~[illegible]~~ 0280913 Sampling Date: 2-12-15

Site/Location: Macon, GA Sampler's Name: BM

Well ID: MW-30RD Pump Type/Model: Peristaltic Sample Collection Time: 14:20

Total Depth (ft)[1]: 61' Tubing Material: LDPE Sample Purge Rate (L/min)[3]: 0.1 L/min

Depth to Water (ft): 16.55' Pump Intake Depth (ft): ~~[illegible]~~ ≈ 50' Sample ID: MW-30RD - ~~[illegible]~~ 20150212-01

Well Diameter (in): 6" Start/Stop Purge Time: 12:20 QA/QC Collected? No

Well Volume (gal) = 0.041d²h: > 20 gal but feasible to purge Purge Rate (L/min)[2]: 0.05 L/min QA/QC I.D. -

d = well diameter (inches) h = length of water column (feet) Total Purge Volume (L): 5 L Laboratory Analyses: COI

Well Condition: Good Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
12:25	16.29	0.954	9.04	7.05	-74.8	676	0.5	16.60	initial reading
12:30	15.20	0.952	6.26	7.05	-67.1	681	0.75	16.80	
12:35	16.01	0.951	3.33	7.04	-56.1	746	1.0	16.90	
12:40	15.96	0.948	2.77	7.02	-81.2	680	1.25	16.93	
12:45	15.78	0.949	2.32	7.01	-79.2	631	1.5	17.04	
12:50	15.73	0.948	1.93	7.00	-76.6	568	1.75	17.09	
12:55	15.42	0.948	1.69	7.00	-72.8	543	2.0	17.09	
13:00	14.73	0.953	1.51	6.99	-71.6	487	2.25	17.10	
13:05	14.75	0.947	1.36	6.99	-70.7	480	2.50	17.11	
13:10	15.63	0.947	1.28	7.01	-71.7	403	2.75	17.19	
13:15	15.80	0.941	1.80	7.01	-75.0	418	3.00	17.19	
13:20	15.01	0.947	3.04	7.00	-70.3	259	3.25	17.24	
13:25	14.60	0.951	2.35	7.00	-69.3	173	3.50	17.25	
13:30	14.31	0.946	1.64	6.99	-65.0	123	3.75	17.27	
13:35	14.25	0.948	1.32	7.00	-62.5	103	4.00	17.32	
13:40	13.94	0.946	1.27	7.00	-58.2	106	4.25	17.35	
13:45	13.95	0.946	1.26	7.01	-56.1	107	4.50	17.37	
13:50	13.17	0.946	1.22	7.00	-56.4	104	4.75	17.41	Turbidity stable, other parameters stable
13:55	13.15	0.946	1.15	7.00	-56.8	104	5.00	17.44	Turbidity not falling, sample (+/- 10%)
Stabilizing Criteria[5]		+/- 3%		+/- 0.1 unit		+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL
Project No.: 0280913 phase 2
Sampling Date: 2-18-15
Site/Location: Macon
Sampler's Name: Charlie Brooks

Well ID: MW-305D
Total Depth (ft)[1]: 41.5
Depth to Water (ft): 17.35
Well Diameter (in): 4
Well Volume (gal) = 0.041d²h: 15.8 (GAL) 59 (L)
d = well diameter (inches) h = length of water column (feet)
Well Condition: Good

Pump Type/Model: Peristaltic
Tubing Material: poly 1/4
Pump Intake Depth (ft): @ 38.5
Start/Stop Purge Time: 9:20 to 9:50
Purge Rate (L/min)[2]: .2 & .1
Total Purge Volume (L): 3.5 (L)

Sample Collection Time: 9:55
Sample Purge Rate (L/min)[3]: .2
Sample ID: MW-305D-20150218-01
QA/QC Collected? NO
QA/QC I.D.:
Laboratory Analyses:

Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (Inorganics including cyanide) ☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
9:25	14.46	4.130	5.06	12.47	12.2	4.96	1.0	17.58	Changed purge Rate to .1 Due to
9:30	14.27	4.132	4.70	12.48	12.2	4.87	1.5	17.60	Dropping Water level Water level
9:35	12.38	3.969	3.62	12.55	11.8	3.88	2.0	17.63	has Stabilized
9:40	11.07	3.695	3.41	12.57	13.8	3.64	2.5	17.63	
9:45	11.19	3.701	3.13	12.56	13.3	3.40	3.0	17.63	
9:50	11.21	3.696	3.06	12.56	13.1	2.48	3.5	17.64	
9:55									Sampling @ 9:55
Stabilizing Criteria[5]		+/- 3%		+/- 0.1 unit		+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

28.62

306D MNA ~~MNA CI~~ 303D COI

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL Project No.: 0280913q1052 Sampling Date: 2-18-15

Site/Location: Macon Sampler's Name: Charlie Brooks

Well ID: MW-306D Pump Type/Model: peristaltic Sample Collection Time: 8:30

Total Depth (ft)[1]: ~~200~~ 35.00 Tubing Material: poly 1/4 Sample Purge Rate (L/min)[3]: .2

Depth to Water (ft): 6.38 Pump Intake Depth (ft): 45.0 Sample ID: MW-306D-20150218-01

Well Diameter (in): 6 Start/Stop Purge Time: 7:55 to 8:25 QA/QC Collected? MNA

Well Volume (gal) = 0.041d²h: 42 (GAL) 158 (L) Purge Rate (L/min)[2]: .2 QA/QC I.D.

d = well diameter (inches) h = length of water column (feet) Total Purge Volume (L): 6.0 (L) Laboratory Analyses: COI MNA

Well Condition: Good Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
8:00	14.32	2.126	17.31	12.25	2.9	32.2	1.0	6.43	
8:05	15.44	2.235	4.28	12.26	27.6	14.7	2.0	6.58	
8:10	16.20	2.293	7.26	12.25	36.4	7.95	3.0	6.68	Water level Dropped more than .3
8:15	16.23	2.294	7.20	12.25	37.5	4.95	4.0	6.85	Due to large well VOL, Stabilizing
8:20	16.37	2.316	6.95	12.23	40.9	4.54	5.0	6.91	+ Sampling
8:25	16.24	2.321	7.05	12.23	41.8	4.17	6.0	6.93	
8:30									Sampling @ 8:30
Stabilizing Criteria[5]		+/- 3%		+/- 0.1 unit		+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling," SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling," SESD Standard Operating Procedure.

ERM

GROUND WATER SAMPLING LOG SHEET

Client: ALL Project No.: 0280913 phase2 Sampling Date: 2/18/15

Site/Location: Moss CA Sampler's Name: W. Virgo

Well ID: MW-307D Pump Type/Model: Peristaltic Sample Collection Time: 0900

Total Depth (ft)[1]: 58' Tubing Material: LDPE Sample Purge Rate (L/min)[3]: ~0.25

Depth to Water (ft): 8.45 Pump Intake Depth (ft): ~45' Sample ID: MW-307D-20150218-01

Well Diameter (in): 6" Start/Stop Purge Time: 0795 QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: Purge Rate (L/min)[2]: ~0.1 L/min QA/QC I.D.:

d = well diameter (inches) h = length of water column (feet) Total Purge Volume (L): 6 Laboratory Analyses: COI / MNA

Well Condition: Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
0805	14.69	9.380	2.60	12.77	-83.4	8.13	1	8.56	
0810	15.18	9.455	1.87	13.07	-79.2	6.03	1.5	8.68	
0815	15.99	9.479	1.44	13.38	-93.0	6.34	2	8.73	
0820	15.04	9.564	1.37	13.41	-91.7	7.29	2.5	8.81	
0825	13.98	9.621	1.32	13.38	-91.1	4.21	3	8.88	
0830	13.94	9.605	1.25	13.52	-89.1	5.79	3.5	8.97	
0835	14.30	9.595	1.19	13.57	-82.5	4.11	4	9.03	
0840	15.03	9.573	1.03	13.74	-79.8	4.27	4.5	9.16	
0845	15.14	9.564	1.03	13.78	-78.6	3.10	5	9.21	
0850	15.17	9.567	1.12	13.84	-88.0	2.77	5.5	9.28	
0855	15.28	9.568	1.08	13.85	-80.7	2.46	6	9.36	
Well parameters stable @ 0855									
Well sampled @ 0900									
Stabilizing Criteria[5]		+/- 3%		+/- 0.1 unit		+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL Project No.: 0280913ghos2 Sampling Date: 2/16/15

Site/Location: Macon, GA Sampler's Name: W. Virge

Well ID: MW-308D Pump Type/Model: Peristaltic Sample Collection Time: 1605

Total Depth (ft)[1]: ~78' Tubing Material: LDPE Sample Purge Rate (L/min)[3]: ~0.25

Depth to Water (ft): 18.37 Pump Intake Depth (ft): ~73' Sample ID: MW-308D-20150216-01

Well Diameter (in): 6" Start/Stop Purge Time: 1525 / 1601 QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: 89 gal / 338.7 L Purge Rate (L/min)[2]: ~1 L/min QA/QC I.D.

d = well diameter (inches) h = length of water column (feet) Total Purge Volume (L): 3.6 Laboratory Analyses: COI / MNA

Well Condition: Good

Sampling Method (check all that apply): ☐ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1535	17.79	2.538	4.42	13.07	-28.5	41.0	1	18.39	Weather - Overcast / Rainy
1540	18.01	2.866	3.95	13.17	-34.8	38.1	1.5	18.46	Cold ~ 45°F
1545	18.03	2.905	3.54	13.24	-37.6	29.8	2	18.51	
1550	18.10	2.896	3.36	13.29	-36.2	19.7	2.5	18.56	
1555	18.18	2.913	3.42	13.32	-25.2	5.09	3	18.62	
1558	18.04	2.917	3.54	13.34	-19.2	3.03	3.3	18.65	
1601	17.87	2.920	3.50	13.35	-12.7	3.42	3.6	18.68	
Well Parameters Stable @ 1601									
Well Sampled @ 1605									
Stabilizing Criteria[5]		+/- 3%		+/- 0.1 unit		+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL
Project No.:
Sampling Date: 4/27/15 Sampled on 4/28/15
Site/Location: Macon, GA
Sampler's Name: W. Virgo

Well ID: AMW-1
Pump Type/Model: Peristaltic
Sample Collection Time: 0715
Total Depth (ft)[1]: 19.7
Tubing Material: LDPE
Sample Purge Rate (L/min)[3]:
Depth to Water (ft): 7.59'
Pump Intake Depth (ft): ~15'
Sample I.D.: ~~AMW-1-20150427-01~~ AMW-1-20150428-01
Well Diameter (in): 2"
Start/Stop Purge Time: 1510 / 1605
QA/QC Collected? NO
Well Volume (gal): 1.9 gal / 7.5 L
Purge Rate (L/min)[2]: ~0.1 L/min - 0.5 L/min
QA/QC I.D.
Well Condition: Good
Total Purge Volume (L): 23 L
Laboratory Analyses: COI

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (g/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1515	23.31	0.982	3.56	6.29	-24.2	32.5	0.5	8.65	Due to excessive
1530	21.06	~~6.91~~ 0.947	0.77	5.92	-34.2	21.3	8	12.21	drawdown 3 well
1545	20.95	1.005	1.35	5.94	-37.7	41.6	15.5	15.60	Volumes Purged
1600	21.15	0.944	0.67	5.96	-42.5	27.5	23	18.04	
1605		Well	Dry						Purge Rate increased to 0.5 L/min
	Sampled on Recharge (4/28/15)								
	@ 0715								Tubing lowered to match water level
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10%	+/- 0.1 unit	+/- 10 mV	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL
Project No.:
Sampling Date: 4/27/15
Site/Location: Macon
Sampler's Name: W. Virge

Well ID: AMW-2
Pump Type/Model: Peristaltic
Sample Collection Time: 1720
Total Depth (ft)[1]: 14.6
Tubing Material: LDPE
Sample Purge Rate (L/min)[2]: ~0.25 L/min
Depth to Water (ft): ~~10~~ 6.32
Pump Intake Depth (ft): ~10'
Sample I.D.: AMW-2-20150427-01
Well Diameter (in): 2"
Start/Stop Purge Time: 1610/1717
QA/QC Collected? NO
Well Volume (gal): 1.35 gal / 5.1 L
Purge Rate (L/min)[2]: ~0.1 - 0.5 L/min
QA/QC I.D.
Well Condition: Good
Total Purge Volume (L): 18.7
Laboratory Analyses: COT

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (g/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1615	21.64	0.232	5.16	6.41	-36.6	32.6	0.5	6.85	
1625	20.11	0.225	4.19	6.77	-25.4	11.8	5.5	8.88	Vol 1 Excessive drawdown
1635	20.07	0.246	3.53	5.97	-32.3	6.59	10.5	9.65	Vol 2 3 well volumes
1645	19.90	0.269	2.81	5.90	-34.4	6.47	15.5	10.31	Vol 3 Purged
1650	20.52	0.270	2.58	6.08	-38.2	4.88	16	9.69	
1655	20.89	0.275	2.37	6.10	-40.2	4.06	16.5	9.41	Purge Rate increased to 0.5 L/min
1700	20.95	0.283	2.34	6.07	-40.1	3.35	17	9.35	
1705	20.92	0.291	2.41	6.06	-41.4	3.21	17.5	9.14	
1708	20.73	0.300	2.25	5.93	-38.3	3.18	17.8	8.95	
1711	20.74	0.306	2.33	5.96	-39.7	3.41	18.1	8.90	
1714	20.67	0.308	2.34	5.98	-40.9	3.37	18.4	8.87	
1717	20.57	0.309	2.25	5.92	-39.3	3.42	18.7	8.75	
	Well	Stable	@		1717				
	Well	Sampled	@			1720			
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10%	+/- 0.1 unit	+/- 10 mV	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL
Project No.:
Site/Location: Macon, GA

Sampling Date: 4/28/15
Sampler's Name: W. Virgo

Well ID: AMW-9
Total Depth (ft)[1]: 18.4'
Depth to Water (ft): 3.33
Well Diameter (in): 2"
Well Volume (gal): 2.5 gal / 9.4 L
Well Condition: Good

Pump Type/Model: Peristaltic
Tubing Material: LDPE
Pump Intake Depth (ft): ~ 13'
Start/Stop Purge Time: 0800 / 0850
Purge Rate (L/min)[2]: 0.1 - 0.5 L/min
Total Purge Volume (L): ~~16~~ 19.5 L

Sample Collection Time: 1700
Sample Purge Rate (L/min)[3]: ~0.25 L/min
Sample I.D.: AMW-9-20150428-01
QA/QC Collected? NO
QA/QC I.D. —
Laboratory Analyses: COI

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (g/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
0805	15.90	0.451	4.44	5.07	190.2	39.2	0.5	4.15	Excessive drawdown
0824 ~~0802~~	16.64	0.375	1.76	5.18	-9.8	37.9	10	11.44	Vol 1 3 well Volumes
0843	16.87	0.374	6.75	4.64	-24.7	461	19.5	16.43	Vol 2 Purged
0850		well	Pumped			Dry	⊙	0850	
1700		Sampled	on			Recharge		⊙ 1700	
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10%	+/- 0.1 unit	+/- 10 mV	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL
Project No.:
Site/Location: Macon, GA

Sampling Date: 4/28/15
Sampler's Name: W. Virgo

Well ID: AMW-11
Total Depth (ft)[1]: 15'
Depth to Water (ft): 7.31'
Well Diameter (in): 2"
Well Volume (gal): 1.3 gal / 4.77 L
Well Condition: good

Pump Type/Model: Peristaltic
Tubing Material: LDPE
Pump Intake Depth (ft): ~10'
Start/Stop Purge Time: 0914 / 1002
Purge Rate (L/min)[2]: ~0.1 L/min
Total Purge Volume (L): 4.8 L

Sample Collection Time: 1005
Sample Purge Rate (L/min)[3]: ~0.25 L/min
Sample I.D.: AMW-11-20150428-GW
QA/QC Collected? NO
QA/QC I.D.
Laboratory Analyses: COI

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (g/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
0919	19.23	0.583	1.64	5.87	-21.4	130	0.5	7.44	
0924	19.26	0.588	1.15	5.91	-24.9	51.2	1	7.46	
0929	19.19	0.582	1.03	5.93	-27.5	63.2	1.5	7.48	
0934	19.13	0.582	1.38	5.94	-27.8	53.2	2	7.48	
0939	18.19	0.581	1.30	5.95	-28.4	40.5	2.5	7.48	
0944	19.23	0.579	1.64	5.96	-28.7	31.4	3	7.48	
0949	19.25	0.580	1.55	5.99	-29.6	22.1	3.5	7.49	
0954	19.28	0.579	1.81	5.98	-29.8	16.6	4	7.50	
0959	19.23	0.579	1.87	5.98	-30.1	13.3	4.5	7.50	
1002	19.31	0.581	2.05	5.99	-30.4	9.91	4.8	7.50	
Well	Stable	✓			1002				
Well	Sampled	✓				1005			
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10%	+/- 0.1 unit	+/- 10 mV	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL
Project No.:
Sampling Date: 4/28/15
Site/Location: Macon, GA
Sampler's Name: W. Virgo

Well ID: AMW-12
Pump Type/Model: Peristaltic
Sample Collection Time: 1120
Total Depth (ft)[1]: 20'
Tubing Material: LDPE
Sample Purge Rate (L/min)[2]: ~0.2 L/min
Depth to Water (ft): 8.84
Pump Intake Depth (ft): ~15'
Sample I.D.: AMW-12-20150428-01
Well Diameter (in): 2"
Start/Stop Purge Time: 1050/1115
QA/QC Collected? NO
Well Volume (gal): 1.8 gal / 6.9 ~~gal~~ L
Purge Rate (L/min)[2]: 20.1 L/min
QA/QC I.D. —
Well Condition: Good
Total Purge Volume (L): 2.5L
Laboratory Analyses: CAT

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (g/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1100	19.49	0.389	3.01	5.37	-31.1	1.67	1	8.92	
1105	19.54	0.390	2.50	5.40	-31.0	1.17	1.5	8.92	
1110	19.54	0.390	2.31	5.41	-30.9	1.17	2	8.93	
1115	19.61	0.389	2.44	5.41	-31.5	1.40	2.5	8.94	
	well	stable	@		1115				
	well	sampled	@		1120				
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10%	+/- 0.1 unit	+/- 10 mV	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.3 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL | Project No.: | Sampling Date: 4/28/15

Site/Location: Macon, GA | Sampler's Name: L. Virgo

Well ID: AMW-13 | Pump Type/Model: Peristaltic | Sample Collection Time: 1417

Total Depth (ft)[1]: 20' | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: ~0.25 L/min

Depth to Water (ft): 13.12 | Pump Intake Depth (ft): ~15' | Sample ID: AMW-13-20150428-01

Well Diameter (in): 2" | Start/Stop Purge Time: 1254 / 1414 | QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: 1.1 gal / 4.27 L | Purge Rate (L/min)[2]: ~0.1 L/min | QA/QC I.D. ——

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 8 | Laboratory Analyses: COI

Well Condition: Good | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (inorganics including cyanide)

Purge Method: Low Flow Low Vol. | ☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Purge method, water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1304	22.24	0.454	3.30	5.52	-15.6	26.7	1	13.23	
1309	22.26	0.452	3.40	5.43	-15.5	20.4	1.5	13.25	
1314	22.22	0.453	3.50	5.40	-16.9	20.8	2	13.29	
1319	22.27	0.451	3.39	5.46	-18.6	62.3	2.5	13.31	
1324	22.15	0.443	2.98	5.42	-18.7	59.6	3	13.33	
1329	22.07	0.440	~~2.71~~	5.43	-20.7	48.8	3.5	13.33	
1334	22.07	0.436	2.63	5.42	-21.3	40.9	4	13.33	
1339	22.10	0.432	2.41	5.42	-22.7	32.2	4.5	13.33	
1344	22.13	0.429	2.32	5.43	-23.5	28.5	5	13.34	
1349	22.14	0.425	2.18	5.42	-24.9	22.4	5.5	13.34	
1354	22.11	0.424	1.98	5.43	-26.9	19.2	6	13.34	
1359	22.20	0.421	1.82	5.43	-27.7	17.8	6.5	13.34	
1404	22.17	0.418	1.86	5.42	-26.9	15.5	7	13.34	
1409	22.20	0.416	1.84	5.40	-26.6	10.5	7.5	13.34	
1414	22.27	0.415	1.75	5.41	-28.3	9.61	8	13.34	
	well	stable	@	1414					
	well	sampled	@	1417					
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL
Site/Location: Macon GA
Project No.:

Sampling Date: 4/29/15
Sampler's Name: W. Virge

Well ID: AMW-14
Total Depth (ft)[1]: 20'
Depth to Water (ft): 9.17
Well Diameter (in): 2"
Well Volume (gal) = 0.041d²h: 1.8 gal / 6.7 L
d = well diameter (inches) h = length of water column (feet)
Well Condition: Good
Purge Method:

Pump Type/Model: Peristaltic
Tubing Material: LDPE
Pump Intake Depth (ft): 12.5 - 19'
Start/Stop Purge Time: 1337
Purge Rate (L/min)[2]: 0.1 - 0.75 L/min
Total Purge Volume (L): 22.25
Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (Inorganics including cyanide)
☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Sample Collection Time: 1427
Sample Purge Rate (L/min)[3]: ~~0.2 L/min~~ 0.1 L/min
Sample ID: AMW-14-20150429-01
QA/QC Collected? NO
QA/QC I.D.
Laboratory Analyses: COT

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Purge method, water clarity, odor, purge rate, issues with pump/well/weather/etc.)
~~1342~~	18.01	0.379	4.17	6.26	-10.0	9.85	0.5	9.88	Excessive Drawdown
1351	18.07	0.379	0.67	5.82	-13.0	5.41	7.25	12.04	3 well Volumes Purged
1400	18.07	0.385	0.98	6.19	-22.5	4.32	14	15.95	
1409	18.27	0.371	1.28	6.07	-19.6	2.86	20.75	17.84	Purge Rate increased to 0.75 L/min
1414	18.37	0.373	1.25	6.13	-24.3	7.27	21.25	18.33	
1419	18.40	0.373	1.34	6.16	-25.9	8.70	21.75	18.66	
1424	18.46	0.373	1.26	6.18	-27.1	5.58	22.25	18.81	After 3 well Volums Purged Purge rate decreased to 0.1 L/min
	well	Stable @	1424						
	well	Sampled	@	1427					
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: | Sampling Date: 4-29-2015

Site/Location: Macon, GA | Sampler's Name: DON DOWLING

Well ID: AMW-15 | Pump Type/Model: Geopump Peristaltic Pump | Sample Collection Time: 1530

Total Depth (ft)[1]: 24.60 | Tubing Material: 1/4" x 1/4" | Sample Purge Rate (L/min)[3]: 0.05

Depth to Water (ft): 9.62 | Pump Intake Depth (ft): chased w/ down from static | Sample ID: AMW-15-20150429-01

Well Diameter (in): 2" | Start/Stop Purge Time: 1340 | QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: 2.4gal / 9.2L | Purge Rate (L/min)[2]: 0.05 | QA/QC I.D. n/a

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): ~18.00 | Laboratory Analyses: COI

Well Condition: good | Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1345	17.83	0.177	6.39	7.61	112.9	16.4	0.5	10.35	low flow low volume
1350	17.50	0.167	2.50	6.16	55.5	6.40	0.75	11.35	excessive drawdown changed to 3well vol purge
1402	17.72	0.158	7.96	6.02	39.0	24.1	9.75	17.95	1vol
1412							~18.75	dry	2vol
~~1426~~							~~27.75~~		3vol
1530									sampling on recharge
Stabilizing Criteria[5]		+/- 3%		+/- 0.1 unit		+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGC | Project No.: | Sampling Date: 4-27-15

Site/Location: Macon, GA | Sampler's Name: DON DOWLING

Well ID: MW-08 | Pump Type/Model: Grundfos Redi-Flo2 Pump | Sample Collection Time: 1922

Total Depth (ft)[1]: 19.00 | Tubing Material: 1dpe, 1/2" x 3/4" | Sample Purge Rate (L/min)[3]: 0.1

Depth to Water (ft): 12.35 | Pump Intake Depth (ft): 15.75 | Sample ID: MW-08-20150422.01

Well Diameter (in): 2" | Start/Stop Purge Time: 1820 | QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: 1.1 gal | 4.1 | Purge Rate (L/min)[2]: 0.1 to 0.75 | QA/QC I.D. n/a

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 21.00 | Laboratory Analyses: COC

Well Condition: good | Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1822	20.65	0.302	9.29	8.79	99.0	27.1	0.5	12.35	low flow / low DO / turbid
1827	20.42	0.300	6.49	6.98	81.6	14.8	0.75	12.35	
1832	20.37	0.303	6.20	6.68	68.3	9.78	1.00	12.35	
1837	20.19	0.303	5.63	6.39	63.9	7.21	1.25	12.35	
1842	20.20	0.303	5.40	6.34	67.6	7.02	1.50	12.35	
1847	20.16	0.302	5.03	6.28	65.9	2.19	1.75	12.35	
1852	20.25	0.299	4.55	6.21	70.5	1.38	2.00	12.35	
1857	20.02	0.293	4.48	6.15	73.5	1.06	2.25	12.35	switched to 5 well vol purger increase to 0.75
1900	19.63	0.284	4.76	6.08	77.5	0.98	4.50	12.50	1 vol
1905	19.72	0.282	4.69	6.06	77.0	1.12	8.25	12.50	2 vol
1911	19.60	0.270	4.11	5.96	68.2	2.15	12.75	12.50	3 vol
1916	19.58	0.271	3.84	5.95	59.8	1.75	16.50	12.50	4 vol
1922	19.59	0.271	3.85	5.95	59.2	1.01	21.00	12.50	5 vol
Stabilizing Criteria[5]		+/- 3%		+/- 0.1 unit		+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL | Project No.: | Sampling Date: 4/27/15

Site/Location: Macon, GA | Sampler's Name: W. Virgo

Well ID: MW-08D | Pump Type/Model: Peristaltic | Sample Collection Time: 1910

Total Depth (ft)[1]: 48.65 | Tubing Material: LDPE | Sample Purge Rate (L/min)[2]: ~0.25

Depth to Water (ft): 10.10' | Pump Intake Depth (ft): ~43' | Sample I.D.: MW-08D-20150427-01

Well Diameter (in): 4" | Start/Stop Purge Time: 1804 / 1905 | QA/QC Collected? NO

Well Volume (gal): 25.3 gal / 95.7L | Purge Rate (L/min)[2]: ~0.1 L/min - 0.24 L/min | QA/QC I.D. —

Well Condition: Good | Total Purge Volume (L): 8.7L | Laboratory Analyses: COI

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (g/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1814	21.47	0.332	0.85	5.87	-36.9	14.1	1	10.39	
1819	21.19	0.330	0.66	5.85	-37.2	16.1	1.5	10.51	Excessive drawdown
1824	21.14	0.330	0.53	5.98	-36.0	12.8	2	10.55	ignored due to 25gal
1829	21.18	0.329	0.46	6.02	-33.5	24.4	2.5	10.61	well volumes
1834	21.56	0.330	0.41	6.41	-44.3	60.1	3	10.63	Purged till stable
1839	21.37	0.332	0.49	6.42	-48.1	78.3	3.5	10.68	
1844	21.44	0.333	0.58	6.48	-57.9	37.2	4.5	10.81	Increased Purge Rate
1849	21.39	0.333	0.47	6.50	-56.0	21.0	5.5	10.91	to try + drop turbidity
1854	21.30	0.333	0.39	6.53	-58.8	20.9	6.5	10.97	
1859	21.32	0.334	0.44	6.59	-61.1	15.8	7.5	11.00	
1902 ~~+8~~	21.29	0.335	0.40	6.58	-56.5	14.6	8.1	11.02	
1905	21.31	0.336	0.49	5.61	-66.2	14.8	8.7	11.03	
	well	Stable		@	1905	w/in 3%			turbidity w/in 10%
	well	Sampled		@	1910				
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10%	+/- 0.1 unit	+/- 10 mV	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGC | Project No.: | Sampling Date: 4/30/15

Site/Location: Macon, GA | Sampler's Name: W. Virgil

Well ID: MW-21 | Pump Type/Model: Peristaltic | Sample Collection Time: 0918

Total Depth (ft)[1]: 10' | Tubing Material: HDPE | Sample Purge Rate (L/min)[3]: ~0.25

Depth to Water (ft): 1.06 | Pump Intake Depth (ft): ~7' | Sample ID: MW-21-20150430-01

Well Diameter (in): 2" | Start/Stop Purge Time: 0825/0915 | QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: 1.46 gal / 5.5L | Purge Rate (L/min)[2]: ~0.1 L/min | QA/QC I.D.: —

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 5L | Laboratory Analyses: COI

Well Condition: Good

Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☒ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
0830	16.10	0.049	28.26	7.06	-0.1	42.3	0.5	1.21	
0835	16.19	0.051	2.65	6.73	-0.8	36.9	1	1.27	
0840	16.23	0.050	1.72	6.54	-17.0	37.9	1.5	1.29	
0845	16.30	0.048	1.59	6.39	-31.4	30.3	2	1.29	
0850	16.35	0.049	1.39	6.29	-36.5	26.3	2.5	1.29	
0855	16.38	0.054	1.26	6.17	-40.1	15.8	3	1.30	
0900	16.39	0.056	1.25	6.12	-41.3	14.1	3.5	1.30	
0905	16.41	0.057	1.15	6.05	-42.7	13.8	4	1.30	
0910	16.43	0.058	1.03	6.02	-43.7	13.7	4.5	1.30	
0915	16.44	0.058	0.98	5.99	-44.1	14.1	5	1.31	
	well	stable	@	0915					
	well	sampled	@	0918					
Stabilizing Criteria[5]		+/- 3%		+/- 0.1 unit		+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL
Project No.:
Site/Location: Macon, GA

Sampling Date: 4/29/15
Sampler's Name: W Virgo

Well ID: MW-22D
Total Depth (ft)[1]: ~~41.35'~~ 63
Depth to Water (ft): 11.35'
Well Diameter (in): ~~63~~ 4"
Well Volume (gal) = 0.041d²h: ~~33.8 gal~~ / 128.2 L

Pump Type/Model: Peristaltic
Tubing Material: LDPE
Pump Intake Depth (ft): ~58'
Start/Stop Purge Time: 1530 / 1605
Purge Rate (L/min)[2]: 0.2 L/min
Total Purge Volume (L): 7L

Sample Collection Time: 1608
Sample Purge Rate (L/min)[3]: ~0.2 L/min
Sample ID: MW-22D-20150429-01
QA/QC Collected? NO
QA/QC I.D.:
Laboratory Analyses: COT's

d = well diameter (inches) h = length of water column (feet)

Well Condition: Good

Sampling Method (check all that apply): ~~☒~~ soda straw (VOCs) ☐ vacuum jug (SVOCs) ~~☐~~ pump head discharge (inorganics including cyanide)

Purge Method: ☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Purge method, water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1535	19.29	0.447	4.06	6.72	-59.3	4.46	0.5	11.50	
1540	19.38	0.462	1.49	6.58	-49.3	2.29	1.2	11.55	
1545	19.41	0.468	0.74	6.76	-62.4	2.31	1.53	11.60	
1550	19.42	0.470	0.64	6.87	-73.4	3.32	2.4	11.63	
1555	19.37	0.474	0.57	6.82	-67.6	1.52	2.5	11.66	Drawdown ignored due
1600	19.38	0.474	0.47	6.81	-73.5	2.93	6	11.70	to Large well volumes
1605	19.41	0.475	0.50	6.83	-74.0	1.90	7	11.72	
	Well	Stable	✓		1605				
	Well	Sampled	✓		1608				
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL | Project No.: | Sampling Date: 4/28/15

Site/Location: Macon, GA | Sampler's Name: W. Virge

Well ID: MW-25 | Pump Type/Model: Peristaltic | Sample Collection Time: 1633

Total Depth (ft)[1]: 25.2 | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: ~0.25 L/min

Depth to Water (ft): 7.69 | Pump Intake Depth (ft): ~20' | Sample ID: MW-25-20150428-01

Well Diameter (in): 2" | Start/Stop Purge Time: 1507 / 1629 | QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: 2.9 gal / 10.9 L | Purge Rate (L/min)[2]: ~0.1 - 0.5 L/min | QA/QC I.D. —

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 34.6 L | Laboratory Analyses: COI

Well Condition: Good | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (inorganics including cyanide)

Purge Method: ☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Purge method, water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1512	21.66	0.444	7.82	5.58	-4.2	6.59	0.5	8.21	Excessive drawdown
1534	19.33	0.433	1.31	4.59	-13.0	5.90	11.5	11.65	Vol 3 well Volumes Purged
1556	19.34	0.452	0.91	5.06	-22.4	2.26	22.5	11.35	
1618	19.66	0.423	0.68	5.05	-26.0	1.36	33.5	11.80	Purge rate increased
1623	20.28	0.416	0.70	5.20	-30.1	1.20	34	11.35	to 0.5 L/min
1626	20.49	0.410	0.69	5.18	-30.4	2.70	34.3	11.15	
1629	20.52	0.409	0.66	5.16	-31.1	1.30	34.6	11.10	After 3 well Volumes Purge rate reduced to 0.1 L/min
	well	Stable	@	1629					
	well	Sampled	@	1633					
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL
Project No.:
Site/Location: Macon, GA
Sampling Date: 4/30/15
Sampler's Name: W. Virgo

Well ID: MW-27D
Total Depth (ft)[1]: 48.15
Depth to Water (ft): 6.14
Well Diameter (in): 2"
Well Volume (gal) = 0.041d²h: 6.9 gal / 26 L
d = well diameter (inches) h = length of water column (feet)
Well Condition: Good

Pump Type/Model: Peristaltic
Tubing Material: LDPE
Pump Intake Depth (ft): ~43'
Start/Stop Purge Time: 1111 / 1136
Purge Rate (L/min)[2]: ~0.2 L/min
Total Purge Volume (L): 5 L

Sample Collection Time: 1140
Sample Purge Rate (L/min)[3]: ~0.25 L/min
Sample ID: MW-27D-20150430-01
QA/QC Collected? NO
QA/QC I.D. —
Laboratory Analyses: COI

Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☒ pump head discharge (Inorganics including cyanide)
☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1116	18.56	0.271	6.20	7.24	-16.6	14.5	1	6.29	
1121	18.64	0.271	4.32	7.11	-12.9	5.95	2	6.29	
1126	18.78	0.268	4.21	7.18	-15.3	3.55	3	6.30	
1131	18.84	0.267	3.90	7.17	-15.8	4.39	4	6.30	
1136	18.90	0.266	3.70	7.16	-14.8	2.97	5	6.30	
	well	stable		(a)	1136				
	well	sampled		(c)	1140				
Stabilizing Criteria[5]		+/- 3%		+/- 0.1 unit		+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING SHEET

ERM

Client: AGL | Project No.: | Sampling Date: 4/30/15

Site/Location: | Sampler's Name: W. Virgo

Well ID: MW-27DD | Pump Type/Model: Peristaltic | Sample Collection Time: 1056

Total Depth (ft)[1]: 115' | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: ~0.25

Depth to Water (ft): 6.31 | Pump Intake Depth (ft): ~110' | Sample ID: MW-27DD-20150430-01

Well Diameter (in): 2" | Start/Stop Purge Time: 0945 / 1053 | QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: 18gal / 68L | Purge Rate (L/min)[2]: ~0.2 L/min | QA/QC I.D. —

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 13.6L | Laboratory Analyses: COI

Well Condition: Good

Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
0950	18.01	0.269	2.99	9.14	-56.7	8.72	1	6.32	
0955	18.27	0.496	1.38	8.78	-93.3	52.9	2	6.32	
1000	18.23	0.558	1.04	8.16	-59.3	61.1	3	6.32	
1005	18.68	0.425	0.66	9.08	486.3	36.5	4	6.32	
1010	NO	Readings		taken @		1010	Due to equipment Malfunction		
1015	18.56	0.570	6.52	8.24	-103.3	48.7	6	6.32	Due to odd ORP Readings
1020	18.62	0.581	0.55	7.81	-86.5	53.5	7	6.32	@ 1005, T disconnected
1025	18.70	0.589	0.63	7.59	-79.1	49.9	8	6.32	& reconnected YSI cable
1030	18.80	0.593	0.52	7.48	-79.5	35.6	9	6.32	
1035	18.87	0.598	0.53	7.34	-79.6	30.7	10	6.32	
1040	18.94	0.601	6.52	7.31	-80.6	21.8	11	6.32	
1045	19.00	0.602	0.55	7.28	-81.9	16.1	12	6.32	
1050	19.00	0.601	0.53	7.25	-82.8	16.8	13	6.32	
1053	19.02	0.602	0.52	7.24	-82.7	16.9	13.6	6.32	
well	stable	@		1053					
	well	sampled	@		1056				
Stabilizing Criteria[5]		+/- 3%		+/- 0.1 unit		+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGLC | Project No.: | Sampling Date: 4-29-2015

Site/Location: Macon, GA | Sampler's Name: DON DOWLING

Well ID: MW-106 | Pump Type/Model: Geopump Peristaltic Pump | Sample Collection Time: 1215

Total Depth (ft)[1]: 21.80 | Tubing Material: Idpe. 17 x 1/4 | Sample Purge Rate (L/min)[3]: 0.05

Depth to Water (ft): 13.00 | Pump Intake Depth (ft): 17.50 | Sample ID: MW-106-20150429-01

Well Diameter (in): 2" | Start/Stop Purge Time: 1150 - 1215 | QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: N/A | Purge Rate (L/min)[2]: 0.05 | QA/QC I.D. N/A

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 1.50 | Laboratory Analyses: COC

Well Condition: good | Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1155	17.42	0.308	6.91	7.15	95.1	10.7	0.5	13.00	low flow / low volume
1200	17.42	0.303	4.10	6.24	67.4	9.72	0.75	13.00	
1205	17.51	0.309	3.73	6.00	58.7	12.0	1.00	13.00	
1210	17.57	0.311	3.68	5.99	61.4	8.93	1.25	13.00	
1215	17.43	0.317	3.56	5.97	59.4	9.02	1.50	13.00	
Stabilizing Criteria[5]		+/- 3%		+/- 0.1 unit		+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) – Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: | Sampling Date: 4/29/15

Site/Location: Macon, GA | Sampler's Name: W. Virgo

Well ID: MW-108 | Pump Type/Model: Peristaltic | Sample Collection Time: 1213

Total Depth (ft)[1]: 21.2 | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: ~0.25 L/min

Depth to Water (ft): 5.27 | Pump Intake Depth (ft): ~16' | Sample ID: MW-108-20150429-01

Well Diameter (in): 2" | Start/Stop Purge Time: 1110 / 1209 | QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: 2.6 gal / 9.8 L | Purge Rate (L/min)[2]: ~0.1 | QA/QC I.D. —

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 32.75 | Laboratory Analyses: COI

Well Condition: Good | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☒ pump head discharge (Inorganics including cyanide)

Purge Method: ☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Purge method, water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1115	18.22	0.346	3.27	5.96	-29.1	1.10	0.5	5.68	
1128	18.90	0.366	1.07	6.11	-38.0	51.2	10.25	7.15	Vol1 Excessive Drawdown
1141	19.06	0.375	1.42	6.08	-36.0	29.7	20	7.62	Vol2 3 well Volumes Purged
1154	19.17	0.375	0.44	6.13	-39.1	13.8	29.75	7.71	Vol3
1159	19.21	0.375	0.38	6.11	-38.0	9.00	30.75	6.57	Purge rate increased to 0.75 L/min
1204	19.14	0.376	0.60	6.12	-38.4	9.91	31.75	6.26	
1209	19.09	0.376	0.61	6.10	-39.4	7.97	32.75	6.18	
									After 3 well volumes Purged Purge rate decreased to 0.2 L/min
	Well	Stable		@	1209				
	Well	Sampled		@	1213				
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL | Project No.: | Sampling Date: 4/29/15

Site/Location: Macon, GA | Sampler's Name: W. Virgel

Well ID: MW-109 | Pump Type/Model: Peristaltic | Sample Collection Time: 1032

Total Depth (ft)[1]: 23.5 | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: ~0.2 L/min

Depth to Water (ft): 6.07' | Pump Intake Depth (ft): ~18' | Sample ID: MW-109-20150429-01

Well Diameter (in): 2" | Start/Stop Purge Time: 0923 / 1028 | QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: 2.9gal / 10.8L | Purge Rate (L/min)[2]: ~0.1 - 0.75 L/min | QA/QC I.D. —

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 37.25 | Laboratory Analyses: COT

Well Condition: Good | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☒ pump head discharge (Inorganics including cyanide)

Purge Method: ☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Purge method, water clarity, odor, purge rate, issues with pump/well/weather/etc.)
0928	18.40	0.180	2.39	5.89	33.5	12.0	0.5	6.70	Excessive Drawdown
0943	19.77	0.162	0.89	4.86	-26.7	5.87	11.75	11.56	Vol1 3 well Volumes
0958	19.73	0.164	0.86	4.78	-34.1	4.15	23	13.38	Vol2 Purged
1013	19.68	0.167	0.55	4.81	-38.1	3.43	34.25	13.65	Vol3
1018	19.58	0.168	0.51	4.86	-39.6	1.53	35.25	12.50	Purge Rate increased
1023	19.52	0.168	0.51	4.82	-38.3	1.60	36.25	11.78	to 0.75 L/min
1028	19.49	0.169	0.60	4.86	-38.3	1.36	37.25	11.20	
									After 3 well Volumes
	Well	Stable	@		1028				Purge rate decreased
									to 0.2 L/min
	Well	Sampled	@		1032				
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SFSD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SFSD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: | Sampling Date: 4/29/15

Site/Location: Macon, GA | Sampler's Name: W. Virgo

Well ID: MW-1141D | Pump Type/Model: Peristaltic | Sample Collection Time: 1721

Total Depth (ft)[1]: 45.51' | Tubing Material: ~~PVC~~ LDPE | Sample Purge Rate (L/min)[2]: ~0.2 L/min

Depth to Water (ft): 7.71 | Pump Intake Depth (ft): ~40' | Sample ID: MW-1140-20150429-01

Well Diameter (in): 4" | Start/Stop Purge Time: 1648/1718 | QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: 24.7 gal / 93.8 L | Purge Rate (L/min)[2]: ~0.2L/min | QA/QC I.D.:

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 6L | Laboratory Analyses: COI

Well Condition: Good | Sampling Method (check all that apply): ☑ ~~soda~~ straw (VOCs) ☐ vacuum jug (SVOCs) ☑ ~~pump~~ head discharge (Inorganics including cyanide)

Purge Method: ☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Purge method, water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1653	19.56	0.394	6.87	7.45	-17.5	2.48	1	8.02	Drawdown ignored
1658 ~~1700~~	19.87	0.394	6.37	7.72	-22.0	2.65	2	8.38	due to large well
1703	19.98	0.394	6.32	7.79	-24.0	1.18	3	8.51	Volumes (24.7 gal each)
1708	20.14	0.394	6.43	7.85	-26.6	1.03	4	8.81	
1713	20.06	0.395	6.14	7.89	-27.5	0.68	5	8.91	
1718	20.12	0.395	6.23	7.90	-29.8	1.45	6	9.26	
	well	Stable	@		~~1720~~ 1718				
	well	Sampled	@			1721			
Stabilizing Criteria[3]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGCC Macon | Project No.: | Sampling Date: 4-27-2015

Site/Location: Macon, GA | Sampler's Name: DOW Dowling

Well ID: MW-205 | Pump Type/Model: Geopump Peristaltic Pump | Sample Collection Time: 1711

Total Depth (ft)[1]: 29.00 | Tubing Material: Idpe. 1/4" | Sample Purge Rate (L/min)[3]: 0.1

Depth to Water (ft): 6.15 | Pump Intake Depth (ft): dipped and down | Sample ID: MW-205-20150427-01

Well Diameter (in): 2" | Start/Stop Purge Time: 1553 - 1711 | QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: 3.7gal / 14.1L | Purge Rate (L/min)[2]: 0.05 → 0.75 → 0.1 | QA/QC I.D. n/a

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 44.25 | Laboratory Analyses: COI

Well Condition: good | Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1559	20.44	0.439	2.00	8.98	-101.4	47.2	0.5	7.22	low flow / low volume
1600	20.50	0.295	1.45	7.02	-68.6	39.9	0.75	7.61	excessive drawdown switched to 3 well vol
1618	19.67	0.264	1.20	6.57	-86.2	46.3	14.25	11.80	1 vol
1637	19.70	0.268	1.10	6.50	-84.0	21.0	28.50	11.98	2 vol
1656	19.65	0.266	1.03	6.45	-69.5	8.29	42.75	11.91	3 vol
1701	20.08	0.272	1.01	6.46	-67.5	1.87	43.25	10.18	reduced flow to 0.1 L/min
1706	20.04	0.274	0.99	6.47	-64.1	1.02	43.75	9.15	
1711	20.23	0.272	1.00	6.45	-62.7	0.56	44.25	8.85	
Stabilizing Criteria[5]		+/- 3%		+/- 0.1 unit		+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGLC Project No.: Sampling Date: 4-29-2015

Site/Location: Macon, GA Sampler's Name: Dan Dowling

Well ID: MW-400 Pump Type/Model: Geopump Peristaltic Pump Sample Collection Time: 1100

Total Depth (ft)[1]: 20.20 Tubing Material: Tygon .17 x 1/4 Sample Purge Rate (L/min)[3]: 0.05

Depth to Water (ft): 13.10 Pump Intake Depth (ft): 17.00 Sample ID: MW-400-20150429-01

Well Diameter (in): 1" Start/Stop Purge Time: 1030 QA/QC Collected? ND

Well Volume (gal) = 0.041d²h: 0.29 gal / 1.1 L Purge Rate (L/min)[2]: 0.05→0 QA/QC I.D. n/a

d = well diameter (inches) h = length of water column (feet) Total Purge Volume (L): 1.75 Laboratory Analyses: COI

Well Condition: good Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1035	17.26	0.440	24.60	7.10	6.9	440	0.5	13.25	low flow low volume
1040	17.13	0.502	4.68	6.03	2.7	152	0.75	13.25	
1045	17.14	0.505	4.18	6.00	0.9	33.5	1.00	13.25	
1050	16.89	0.513	3.75	5.95	-3.0	16.2	1.25	13.25	lvol
1055	16.89	0.518	2.93	5.91	-6.2	11.4	1.50	13.25	
1100	16.72	0.520	2.71	5.90	-7.1	9.20	1.75	13.25	
Stabilizing Criteria[5]		+/- 3%		+/- 0.1 unit		+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ANALYTICAL ENVIRONMENTAL SERVICES, INC

3080 Presidential Drive, Atlanta GA 30340-3704

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

CHAIN OF CUSTODY

Work Order: _____

Date: _____ Page _____ of _____

COMPANY:	ADDRESS:
ERM	3200 Windy Hill Road SE, Suite 1500W Atlanta, GA 30339
PHONE: 678-230-7604	FAX:
SAMPLED BY: Don Downing, Will Virgo	SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	PRESERVATION (See codes)	REMARKS	No # of Containers
1	TB-01-20150427-01	4-27-15	—	X		W	X		2
2	MW-20S-20150427-01	4-27-15	1711	X		GW	X X X X		6
3	AMW-2-20150427-01	4-27-15	1720	X		GW	X X X X		6
4	MW-06D-20150427-01	4-27-15	1910	X		GW	X X X X		6
5	MW-08-20150427-01	4-27-15	1922	X		GW	X X X X		6
6									
7									
8									
9									
10									
11									
12									
13									
14									

ANALYSIS REQUESTED: 8260B (MKS), 8270C, TO-15 (MKS), TBA Organics

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

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:	4/27/15 2000	1: AES-Shipping	
2:		2:	
3:		3:	

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD

OUT / / VIA:

IN / / VIA:

CLIENT FedEx UPS MAIL COURIER

GREYHOUND OTHER_____

PROJECT INFORMATION

PROJECT NAME: AGC Main

PROJECT #:

SITE ADDRESS: Macon, GA

SEND REPORT TO: Alicia Ramos, Nic Vargo

INVOICE TO:
(IF DIFFERENT FROM ABOVE)

QUOTE #:_____ PO#:_____

RECEIPT

Total # of Containers: 26

Turnaround Time Request

- ○ Standard 5 Business Days
- ○ 2 Business Day Rush
- ○ Next Business Day Rush
- ○ Same Day Rush **(auth req.)**
- ○ Other _____

STATE PROGRAM (if any): _____

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

DATA PACKAGE: I II III IV

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

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

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

White Copy - Original; Yellow Copy - Client

ANALYTICAL ENVIRONMENTAL SERVICES, INC

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

AES

CHAIN OF CUSTODY

Work Order: _____

Date: 4-29-15 Page 1 of 1

COMPANY: ERM	ADDRESS: 3200 Windy Hill Rd SE Ste 1200W Atlanta, GA 30339
PHONE: 678-230-7604	FAX:
SAMPLED BY: Don Dowling / Will Wingo	SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	PRESERVATION (See codes)												ANALYSIS REQUESTED: 8260b-GRO/BTEX	8270C-SVOCs	Total Metals	Total Cr (VI)	REMARKS	No # of Containers
1	TB-02-20150428-01	4-28-15		X			X												X					2
2	AMW-11-20150428-01		1005	X			X	X	X	X									X					7
3	AMW-12-20150428-01		1120	X			X	X	X	X									X					7
4	AMW-13-20150428-01		1417	X			X	X	X	X									X					7
5	MW-25-20150428-01		1633	X			X	X	X	X									X					7
6	AMW-9-20150428-01		1700	X			X	X	X	X									X					7
7	AMW-1-20150428-01		0705	X			X	X	X	X									X					7
8																								
9																								
10																								
11																								
12																								
13																								
14																								

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

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: Donald Dowling	4-28-15 1940	1: [illegible]	4-28-15 1940
2:		2:	
3:		3:	

PROJECT INFORMATION

PROJECT NAME: AGL Macon Remediation
PROJECT #:
SITE ADDRESS: Macon, GA
SEND REPORT TO: Adam Romer, Nic Wray
INVOICE TO: (IF DIFFERENT FROM ABOVE)
QUOTE #: _____ PO#: _____

SPECIAL INSTRUCTIONS/COMMENTS:

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

RECEIPT
Total # of Containers: 37 49

Turnaround Time Request
- ✓ Standard 5 Business Days
- ○ 2 Business Day Rush
- ○ Next Business Day Rush
- ○ Same Day Rush **(auth req.)**
- ○ Other _____

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

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

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

White Copy - Original; Yellow Copy - Client

ANALYTICAL ENVIRONMENTAL SERVICES, INC

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

CHAIN OF CUSTODY

Work Order: _____

Date: 4/30/15 Page 1 of 1

COMPANY: ERM

ADDRESS: 3200 Windy Hill Rd SE Suite 1500E Atlanta GA 30339

PHONE: 770 792 9323

FAX:

SAMPLED BY: W. Hill V. Vroy

SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	8260B	8270C	6010 Metals	300.0 Chloride	No # of Containers
							PRESERVATION (See codes)				REMARKS
1	MW-11D-20150429-01	4/29/15	1721		X	GW	X	X	X	X	6
2	MW-21-20150430-01	4/30/15	0918				X	X	X	X	6
3	MW-27DD-20150430-01		1056				X	X	X	X	6
4	MW-33D-20150430-01		1140				X	X	X	X	6
5	TB-04-2015 0430-01	4/30/15	—	X			X				2
6											
7											
8											
9											
10											
11											
12											
13											
14											

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

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: W. Hill V. Vroy	1554	1: Latoya Reaves	4/30/15 1542
2:		2:	
3:		3:	

PROJECT INFORMATION

PROJECT NAME: AGLC Macon Remediation

PROJECT #:

SITE ADDRESS: Macon, GA

SEND REPORT TO: Adrian Bitner, W. Vroy

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: _____ PO#: _____

RECEIPT

Total # of Containers: 26

Turnaround Time Request
- ◉ Standard 5 Business Days
- ○ 2 Business Day Rush
- ○ Next Business Day Rush
- ○ Same Day Rush **(auth req.)**
- ○ Other _____

STATE PROGRAM (if any): _____

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

DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD

OUT / / VIA:

IN / VIA:

CLIENT FedEx UPS MAIL COURIER GREYHOUND OTHER_____

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

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

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

White Copy - Original; Yellow Copy - Client

ERM

GROUND WA AMPLING LOG SHEET

Client: Atlanta Gas Light Company | Project No.: 0280913 phase 052 | Sampling Date: 8-13-15

Site/Location: Macon, Georgia | Sampler's Name: B. Fischer

Well ID: MW-12DRR | Pump Type/Model: Peristaltic | Sample Collection Time: 1545

Total Depth (ft)[1]: 52.0 | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: 0.1

Depth to Water (ft): 11.47 | Pump Intake Depth (ft): 44.5 | Sample ID: MW-12DRR-20150813-01

Well Diameter (in): 2.0 | Start/Stop Purge Time: 1510 / 1535 | QA/QC Collected? Yes

Well Volume (gal) = 0.041d²h: 6.6 gal / 25 L | Purge Rate (L/min)[2]: 0.1 | QA/QC I.D. Dup-03-20150813-01

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 2.5 | Laboratory Analyses: COI

Well Condition: Good | Sampling Method (check all that apply): ☐ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1515	28.61	0.564	1.40	6.37	-144.8	15.5	0.5	11.48	
1520	25.93	0.534	0.59	6.36	-162.2	12.0	1.0	11.49	
1525	26.01	0.535	0.41	6.36	-166.0	8.27	1.5	11.50	
1530	26.19	0.536	0.34	6.37	-151.9	7.07	2.0	11.50	
1535	25.82	0.525	0.32	6.36	-170.7	6.65	2.5	11.50	
	Parameters		Stable,	Well	Ready	To	Sample		
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WA AMPLING LOG SHEET

Client: Atlanta Gas Light Company | Project No.: 0280913 phase 052 | Sampling Date: 8-12-15

Site/Location: Macon, Georgia | Sampler's Name: B. Escher

Well ID: MW-15 | Pump Type/Model: Purist Hc | Sample Collection Time: 1115

Total Depth (ft)[1]: 14.46 | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: 0.1

Depth to Water (ft): 7.66 | Pump Intake Depth (ft): 12.0 | Sample ID: MW-15-20150812-01

Well Diameter (in): 2.0 | Start/Stop Purge Time: 1010 | QA/QC Collected? —

Well Volume (gal) = 0.041d²h: 1.1 gal / 4.2 L | Purge Rate (L/min)[2]: 0.1 | QA/QC I.D. —

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): | Laboratory Analyses: COI

Well Condition: Good | Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1015	24.89	0.923	0.51	5.80	-23.1	20.6	0.50	7.93	
1020	24.87	0.921	0.41	5.80	-23.5	19.2	1.00	7.93	
1025	25.36	0.928	0.31	5.80	-26.5	14.9	1.50	7.93	
1030	24.86	0.912	0.31	5.79	-24.7	21.6	2.00	8.00	0.3' draw down, purging 3 vol
1035	23.24	0.876	0.25	5.81	-44.3	15.0	4.5	8.43	1 vol Flow Rate = 0.6 L/min
1043	23.17	0.874	0.20	5.78	-46.6	7.17	8.5	8.70	2 vol
1052	23.13	0.859	0.16	5.72	-30.7	3.93	13.0	8.77	3 vol
1057	23.68	0.876	0.17	5.72	-24.8	3.71	13.5	8.40	Flow Rate = 0.1 L/min
1102	24.27	0.880	0.18	5.71	-13.4	3.20	14.0	8.23	
1107	24.28	0.880	0.18	5.71	-18.3	3.28	14.5	8.18	
	Parameters Stable, Well Ready To Sample								
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WA AMPLING LOG SHEET

Client: Atlanta Gas Light Company Project No.: 0280913 phase 052 Sampling Date: _____

Site/Location: Macon, Georgia Sampler's Name: B. Fischer

Well ID: MW-22D Pump Type/Model: Peristaltic Sample Collection Time: 1550

45.23' Total Depth (ft)[1]: ~~60~~ (~~49.68~~) Tubing Material: LDPE Sample Purge Rate (L/min)[3]: 0.1

Depth to Water (ft): 13.53 Pump Intake Depth (ft): 55.0 Sample ID: MW-22D-20150811-01

Well Diameter (in): 4 Start/Stop Purge Time: 1520 QA/QC Collected? —

Well Volume (gal) = 0.041d²h: 20.8 gal / 78.7L Purge Rate (L/min)[2]: 0.1 QA/QC I.D. —

d = well diameter (inches) h = length of water column (feet) Total Purge Volume (L): 2.5 Laboratory Analyses: COI

Well Condition: Good Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1525	26.56	0.337	1.77	7.57	-168.4	11.5	0.5	13.61	
1530	25.67	0.325	0.35	7.63	-179.4	12.4	1.0	13.66	
1535	25.77	0.324	0.25	7.67	-183.5	11.9	1.5	13.69	
1540	25.83	0.324	0.23	7.69	-177.4	9.82	2.0	13.71	
1545	26.29	0.327	0.031	7.[illegible]	-169.1	9.73	2.5	13.72	7.69 87 turbidity
	Parameters	Stabilized, Well Ready TO Sample							
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WA[illegible] AMPLING LOG SHEET

Client: Atlanta Gas Light Company Project No.: 0280913 phase 052 Sampling Date: 8-11-15

Site/Location: Macon, Georgia Sampler's Name: B. Fischer

Well ID: MW-23D Pump Type/Model: Peristaltic Sample Collection Time: 1200

Total Depth (ft)[1]: 36 (23-36') Tubing Material: LDPE Sample Purge Rate (L/min)[3]: 0.1

Depth to Water (ft): 11.33 Pump Intake Depth (ft): 29.5 Sample ID: MW-23D-20150811-01

Well Diameter (in): 4 Start/Stop Purge Time: 1125 QA/QC Collected? Yes

Well Volume (gal) = 0.041d²h: 16.2 / 61.25 (L) Purge Rate (L/min)[2]: 0.1 QA/QC I.D. MS-01-20150811-01 / MSD-01-20150811-01

d = well diameter (inches) h = length of water column (feet) Total Purge Volume (L): Laboratory Analyses: COI

Well Condition: Good Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1130	26.67	0.337	0.64	5.86	196.5	47.5	0.5	11.39	
1135	27.12	0.300	0.46	5.92	193.4	13.3	1.0	11.38	
1140	27.23	0.301	0.41	5.93	182.2	9.91	1.5	11.38	
1145	27.27	0.300	0.35	5.93	158.3	8.32	2.0	11.38	
1150	27.58	0.304	0.26	5.93	149.7	9.92	2.5	11.38	
	Parameter Stabilized, Well is ready to Sample								
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WA AMPLING LOG SHEET

Client: Atlanta Gas Light Company Project No.: 0280913 phase 052 Sampling Date: 8-13-15

Site/Location: Macon, Georgia Sampler's Name: B. Fincher

Well ID: MW-24D Pump Type/Model: Peristaltic Sample Collection Time: 0915

Total Depth (ft)[1]: 40.5 Tubing Material: LDPE Sample Purge Rate (L/min)[3]: 0.1

Depth to Water (ft): 6.41 Pump Intake Depth (ft): 35.5 Sample ID: MW-24D-20150813-01

Well Diameter (in): 4.0 Start/Stop Purge Time: 0835 QA/QC Collected? —

Well Volume (gal) = 0.041d²h: 22.4 gal / 84.6 L Purge Rate (L/min)[2]: 0.1 QA/QC I.D. —

d = well diameter (inches) h = length of water column (feet) Total Purge Volume (L): Laboratory Analyses: COI

Well Condition: Good Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
0840	21.48	0.503	0.73	6.32	-93.0	56.2	0.5	6.61	
0845	21.62	0.495	1.39	6.11	-91.1	54.7	1.0	6.72	
0850	22.22	0.493	0.42	6.12	-67.6	35.0	1.5	6.71	
0855	21.89	0.487	0.34	6.08	-77.9	36.1	2.0	6.37	
0900	21.59	0.483	0.26	6.08	-80.0	35.9	2.5	6.98	
0905	21.66	0.484	0.21	6.08	-80.8	34.0	3.0	6.43	
	Parameters Stable, Well Ready To Sample								
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WATER 'LING LOG SHEET

Client: Atlanta Gas Light Company | Project No.: 0280913 phase 052 | Sampling Date: 8/12/15

Site/Location: Macon, Georgia | Sampler's Name: J. Mullaney

Well ID: MW-251 | Pump Type/Model: Peristaltic | Sample Collection Time: 10:30

Total Depth (ft)[1]: 57.5' | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: 0.2 L/min

Depth to Water (ft): 11.05 | Pump Intake Depth (ft): ~55' | Sample ID: MW-251-20150812-01

Well Diameter (in): 4" | Start/Stop Purge Time: 09:43 / 10:18 | QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: 7.5 gl / 28.4 L | Purge Rate (L/min)[2]: 0.1 L/min | QA/QC I.D. —

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 3.5 | Laboratory Analyses: COI

Well Condition: Good | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☒ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
09:53	26.34	0.463	1.57	6.98	21.0	0.88	1.0L	11.17	
09:58	26.26	0.454	1.25	6.19	10.2	0.67	1.5	11.25	
10:03	26.22	0.451	0.89	5.80	4.3	0.58	2.0	11.30	
10:08	26.06	0.446	0.69	5.51	2.0	0.51	2.5	11.31	
10:13	26.10	0.445	0.63	5.45	2.9	0.55	3.0	11.32	
10:18	26.25	0.446	0.59	5.40	4.2	0.52	3.5	11.33	Stable. Sampled well at 10:30am
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER S ING LOG SHEET

ERM

Client: Atlanta Gas Light Company Project No.: 0280913 phase 052 Sampling Date: 8/11/15

Site/Location: Macon, Georgia Sampler's Name: T. Mullaly

Well ID: MW-270 Pump Type/Model: Peristaltic Sample Collection Time: 15:55

Total Depth (ft)[1]: ~48' Tubing Material: LDPE Sample Purge Rate (L/min)[3]: 0.2 L/min

Depth to Water (ft): 11.07 Pump Intake Depth (ft): 45' Sample ID: MW-270-20150811-01

Well Diameter (in): 2" Start/Stop Purge Time: 15:23 / 15:48 QA/QC Collected? No

Well Volume (gal) = 0.041d²h: Purge Rate (L/min)[2]: 0.1 L/min QA/QC I.D. —

d = well diameter (inches) h = length of water column (feet) Total Purge Volume (L): 2.5L Laboratory Analyses: COI

Well Condition: Good. Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☒ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
15:33	24.85	0.252	1.67	6.99	-10.3	0.99	1.0	11.21	Clear. Minimal drawdown
15:38	25.26	0.254	1.51	6.83	-15.4	0.70	1.5	11.19	
15:43	25.32	0.255	1.34	6.82	-16.3	1.18	2.0	11.20	
15:48	25.40	0.254	1.29	6.80	-14.5	1.03	2.5	11.20	Stable. Sampled well at 15:55
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WA AMPLING LOG SHEET

Client: Atlanta Gas Light Company Project No.: 0280913 phase 052 Sampling Date: 8-13-15

Site/Location: Macon, Georgia Sampler's Name: B. Fisher

Well ID: MW-101 Pump Type/Model: Peristaltic Sample Collection Time: 1430

Total Depth (ft)[1]: 14.15 Tubing Material: HDPE Sample Purge Rate (L/min)[2]: 0.1

Depth to Water (ft): 14.06 Pump Intake Depth (ft): 16.5 Sample ID: MW-101-20150813-01

Well Diameter (in): 2.0 Start/Stop Purge Time: 1325 / 1425 QA/QC Collected? —

Well Volume (gal) = 0.041d²h: 0.83 gal / 3.2 L Purge Rate (L/min)[2]: 0.1 QA/QC I.D. —

d = well diameter (inches) h = length of water column (feet) Total Purge Volume (L): 6.0 Laboratory Analyses: COI

Well Condition: Good Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1330	27.29	0.594	1.50	5.98	-4.3	45.6	0.5	14.25	
1335	27.29	0.573	0.54	5.85	1.4	45.7	1.0	14.27	
1340	27.75	0.565	0.41	5.84	6.8	39.4	1.5	14.29	
1345	27.98	0.550	0.36	5.83	1.4	37.6	2.0	14.26	
1350	28.06	0.543	0.34	5.83	-2.9	31.1	2.5	14.27	
1355	28.26	0.545	0.30	5.85	-6.5	29.5	3.0	14.27	
1400	27.82	0.538	0.25	5.87	-8.4	19.1	3.5	14.28	
1405	28.47	0.541	0.27	5.87	-11.0	11.9	4.0	14.27	
1410	28.50	0.559	0.22	5.91	-20.7	9.69	4.5	14.27	
1415	28.20	0.538	0.21	5.87	-20.2	5.15	5.0	14.27	
1420	27.45	0.537	0.22	5.87	-23.0	4.55	5.5	14.27	
1425	27.35	0.534	0.19	5.87	-23.1	4.65	6.0	14.27	
	Parameters Stable, Well Ready To Sample								
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER S ING LOG SHEET

ERM

Client: Atlanta Gas Light Company | Project No.: 0280913 phase 052 | Sampling Date: 8/11/15

Site/Location: Macon, Georgia | Sampler's Name: S. Mankosky

Well ID: MW-102 | Pump Type/Model: Peristaltic | Sample Collection Time: 12:35pm

Total Depth (ft)[1]: 13.6' | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: 0.2L/min

Depth to Water (ft): 10.03 | Pump Intake Depth (ft): 12' | Sample ID: MW-102-20150811-01

Well Diameter (in): 2" | Start/Stop Purge Time: 11:52 / 12:27pm | QA/QC Collected? No

Well Volume (gal) = 0.041d²h: 0.55g / 2.2L | Purge Rate (L/min)[2]: 0.2L/min | QA/QC I.D. ——

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 9.6L | Laboratory Analyses: COI

Well Condition: Good | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☒ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
12:02	26.88	0.563	0.96	6.18	-16.0	52.2	1.0	10.53	Flow down one 0.3'. Purged 3 well vols at 0.5L
12:07	26.20	0.582	0.44	6.08	-28.9	21.2	3.2	11.25	Vol 1
12:12	26.26	0.892	0.34	5.92	-35.1	20.6	5.4	12.06	Vol 2
12:17	26.44	0.889	0.36	5.88	-31.3	16.1	7.6	12.78	Vol 3
12:22	27.32	0.888	0.60	5.89	-18.3	11.7	8.6	13.03	Slowed to 0.2L/min
12:27	27.50	0.888	0.98	5.89	-15.6	9.62	9.6	13.11	Stable. Sampled well at 12:35pm
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER S .ING LOG SHEET

ERM

Client: Atlanta Gas Light Company | Project No.: 0280913 phase 052 | Sampling Date: 8/13/15

Site/Location: Macon, Georgia | Sampler's Name: T. Mullowney

Well ID: MW-110D | Pump Type/Model: Peristaltic | Sample Collection Time: 09:20

Total Depth (ft)[1]: 43' | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: 0.2L/min

Depth to Water (ft): 8.83 | Pump Intake Depth (ft): ~35' | Sample ID: MW-110D-20150813-01

Well Diameter (in): 4" | Start/Stop Purge Time: 08:43 / 09:08 | QA/QC Collected? Yes

Well Volume (gal) = 0.041d²h: | Purge Rate (L/min)[2]: 0.1L/min | QA/QC I.D. DUP-02-20150813-01

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): | Laboratory Analyses: COI

Well Condition: Good | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
08:53	26.46	0.568	1.64	6.31	-137.8	10.6	1.0	8.85	Clear. Minimal drawdown
08:58	26.49	0.567	0.79	6.19	-137.3	4.15	1.5	8.86	
09:03	26.53	0.567	0.53	6.16	-135.2	4.53	2.0	8.86	
09:08	26.45	0.565	0.38	6.14	-146.7	2.42	2.5	8.86	Stable. Sampled well at 09:20
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

DUP-02

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WATER LING LOG SHEET

Client: Atlanta Gas Light Company | Project No.: 0280913 phase 052 | Sampling Date: 8/13/15

Site/Location: Macon, Georgia | Sampler's Name: J. Mullaney

Well ID: MW-1110 | Pump Type/Model: Peristaltic | Sample Collection Time: 10:45

Total Depth (ft)[1]: 46.5' | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: 0.2L/min

Depth to Water (ft): 8.56' | Pump Intake Depth (ft): ~40' | Sample ID: MW-1110-20150813-01

Well Diameter (in): 6" | Start/Stop Purge Time: 10:00am / 10:30 | QA/QC Collected? No

Well Volume (gal) = 0.041d²h: | Purge Rate (L/min)[2]: 0.1L/min | QA/QC I.D. —

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 3.0L | Laboratory Analyses: COI

Well Condition: Good | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☒ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
10:10	26.11	0.538	1.19	6.27	-192.9	3.68	1.0	8.63	Clear. Minimal drawdown.
10:15	26.59	0.540	0.73	6.21	-174.6	1.45	1.5	8.61	
10:20	26.89	0.544	0.49	6.25	-191.3	3.31	2.0	8.61	
10:25	26.90	0.543	0.30	6.22	-195.3	3.98	2.5	8.62	
10:30	26.85	0.542	0.23	6.21	-204.5	5.59	3.0	8.62	Stable. Sampled well at 10:45am
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER S ING LOG SHEET

ERM

Client: Atlanta Gas Light Company | Project No.: 0280913 phase 052 | Sampling Date: 8/12/15

Site/Location: Macon, Georgia | Sampler's Name: J. Mullaly

Well ID: MW-2000R | Pump Type/Model: Peristaltic | Sample Collection Time: 13:05

Total Depth (ft)[1]: 39.5' | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: 0.2L/min

Depth to Water (ft): 7.47 | Pump Intake Depth (ft): ~34' | Sample ID: MW-2000R-20150812-01

Well Diameter (in): 2" | Start/Stop Purge Time: 11:20 / 12:58 | QA/QC Collected? Yes

Well Volume (gal) = 0.041d²h: 5.22g / 19.76L | Purge Rate (L/min)[2]: 0.1L/min | QA/QC I.D. Dup-01 - 20150812-01

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 63.0L | Laboratory Analyses: COI

Well Condition: Good. | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☒ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
11:30	24.11	0.638	0.75	6.51	-183.0	0.89	1.0	8.02	Excessive drawdown. Purged 3 vols at 0.75L/min
11:56	24.79	0.570	0.17	6.50	-178.3	4.15	21.0	9.85	Vol 1
12:22	24.63	0.535	0.11	6.37	-163.5	1.02	41.0	10.01	Vol 2
12:48	24.77	0.520	0.11	6.32	-152.2	0.53	61.0	9.98	Vol 3
12:53	25.35	0.525	0.11	6.33	-168.2	0.56	62.0	9.69	Slowed back to 0.2L/min
12:58	25.23	0.529	0.12	6.33	-180.4	0.70	63.0	9.65	Stable. Sampled well at 13:05.
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

Dup-01

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) – Field parameter measurements to be recorded every 3 to 5 minutes.
(5) – Stabilization criteria based on three most recent consecutive measurements.
(6) – Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WA AMPLING LOG SHEET

Client: Atlanta Gas Light Company Project No.: 0280913 phase 052 Sampling Date: 8-12-15

Site/Location: Macon, Georgia Sampler's Name: B. Fischer

Well ID: MW-204D Pump Type/Model: Peristaltic Sample Collection Time: 0920

Total Depth (ft)[1]: 45.5 Tubing Material: LDPE Sample Purge Rate (L/min)[3]: 0.1

Depth to Water (ft): 9.07 Pump Intake Depth (ft): 38.0 Sample ID: MW-204D-20150812-01

Well Diameter (in): 4.0 Start/Stop Purge Time: 0850 QA/QC Collected? —

Well Volume (gal) = 0.041d²h: 23.9 gal / 90.5 L Purge Rate (L/min)[2]: 0.1 QA/QC I.D. —

d = well diameter (inches) h = length of water column (feet) Total Purge Volume (L): 2.5 Laboratory Analyses: COI

Well Condition: Good Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
0855	25.11	0.458	1.38	6.33	-91.5	3.51	0.5	9.11	
0900	25.21	0.455	0.61	6.31	-96.6	1.93	1.0	9.13	
0905	25.17	0.454	0.36	6.31	-96.6	0.67	1.5	9.15	
0910	25.38	0.455	0.32	6.31	-98.4	1.74	2.0	9.15	
0915	25.06	0.453	0.26	6.31	-101.5	0.36	2.5	9.17	
	Parameters Stabilized, Well Ready To Sample								
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER LING LOG SHEET

ERM

Client: Atlanta Gas Light Company | Project No.: 0280913 phase 052 | Sampling Date: 8/12/15

Site/Location: Macon, Georgia | Sampler's Name: J. Mullaly

Well ID: MW-205D | Pump Type/Model: Pinstalth. | Sample Collection Time: 14:55

Total Depth (ft)[1]: 43 | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: 0.2 L/min

Depth to Water (ft): 8.27 | Pump Intake Depth (ft): ~35' | Sample ID: MW-205D-20150812-01

Well Diameter (in): 4" | Start/Stop Purge Time: 14:24 / 14:49 | QA/QC Collected? No

Well Volume (gal) = 0.041d²h: | Purge Rate (L/min)[2]: 0.1 L/min | QA/QC I.D. —

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 2.5 L | Laboratory Analyses: COI

Well Condition: Good - Fire ant nest in casing. | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☒ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
14:34	27.55	0.760	0.48	6.71	-149.6	3.42	1.0	8.33	
14:39	27.42	0.755	0.53	6.65	-154.2	2.13	1.5	8.34	
14:44	27.26	0.746	0.33	6.62	-153.0	2.36	2.0	8.34	
14:49	26.72	0.740	0.28	6.60	-163.5	2.67	2.5	8.35	Stable. Sampled at 14:55
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER [illegible]ING LOG SHEET

ERM

Client: Atlanta Gas Light Company | Project No.: 0280913 phase 052 | Sampling Date: 8/11/15

Site/Location: Macon, Georgia | Sampler's Name: J. Mullinax

Well ID: MW-205M | Pump Type/Model: Peristaltic | Sample Collection Time: 15:05

Total Depth (ft)[1]: 100' | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: 0.2 L/min

Depth to Water (ft): 17.08 | Pump Intake Depth (ft): ~95' | Sample ID: MW-205M-20150811-01

Well Diameter (in): 4" | Start/Stop Purge Time: 14:30 / 14:55 | QA/QC Collected? No

Well Volume (gal) = 0.041d²h: 54g / 206L | Purge Rate (L/min)[2]: 0.1L/min | QA/QC I.D.

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 2.5L | Laboratory Analyses: COI

Well Condition: Good | Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
14:40	24.29	0.242	1.34	9.01	-94.3	4.14	1.0	17.51	Clear. Not practical to purge 3 well vols even
14:45	24.94	0.245	1.05	9.14	-90.8	2.91	1.5	17.69	though drawdown exceeds ~~0.3~~ 0.3 feet
14:50	25.07	0.246	1.03	9.16	-99.4	2.75	2.0	17.86	
14:55	24.87	0.246	1.01	9.17	-101.4	2.40	2.5	18.02	Stable. Sampled well at 15:05.
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WA AMPLING LOG SHEET

Client: Atlanta Gas Light Company Project No.: 0280913 phase 052 Sampling Date: 8-13-15

Site/Location: Macon, Georgia Sampler's Name: B. Fisher

Well ID: MW-301D Pump Type/Model: Peristaltic Sample Collection Time: 1150

Total Depth (ft)[1]: 46.0 Tubing Material: LDPE Sample Purge Rate (L/min)[3]: 0.1

Depth to Water (ft): 14.39 Pump Intake Depth (ft): 41.0 Sample ID: MW-301D-20150813-01

Well Diameter (in): 2.0 Start/Stop Purge Time: 1005 / 1147 QA/QC Collected? —

Well Volume (gal) = 0.041d²h: 5.2 / 19.7 L Purge Rate (L/min)[2]: 0.1 / 0.75 QA/QC I.D. —

d = well diameter (inches) h = length of water column (feet) Total Purge Volume (L): 60.25 Laboratory Analyses: COI

Well Condition: Good Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1010	23.57	0.758	1.92	6.02	-76.9	5.97	0.5	14.55	
1015	23.21	0.751	0.87	6.02	-90.7	4.44	1.0	14.72	
1020	23.29	0.745	0.33	6.03	-107.9	6.48	1.5	14.75	
1025	24.03	0.755	0.29	6.05	-114.1	7.54	2.0	14.79	Excessive Drawdown, Purging 3 well volumes
1049	21.43	0.620	0.02	6.04	-107.6	3.18	20	17.1	Flow Rate = 0.75 L/min 1 vol
1115	21.24	0.593	0.03	6.09	-108.2	0.82	39.5	17.85	2 vol
1142	21.60	0.581	0.05	6.12	-107.0	2.13	59.75	18.40	3 vol
1147	22.07	0.586	0.05	6.13	-104.9	0.86	60.25	17.85	Flow Rate = 0.1 L/min
	Parameters Stable, Well Ready To Sample								
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WA AMPLING LOG SHEET

Client: Atlanta Gas Light Company | Project No.: 0280913 phase 052 | Sampling Date: 8-12-15

Site/Location: Macon, Georgia | Sampler's Name: B. Fisher

Well ID: MW-302D | Pump Type/Model: Paristaltic | Sample Collection Time: 1640

Total Depth (ft)[1]: 45.0 | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: 0.1

Depth to Water (ft): 14.38 | Pump Intake Depth (ft): 40.0 | Sample ID: MW-302D-20150812-01

Well Diameter (in): 2.0 | Start/Stop Purge Time: 1440 / 1629 | QA/QC Collected? —

Well Volume (gal) = 0.041d²h: ~~30.6~~ 4.9 gal / 18.52 | Purge Rate (L/min)[2]: 0.1 | QA/QC I.D. —

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 59.0 | Laboratory Analyses: COI

Well Condition: Good | Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1445	28.06	1.119	1.92	5.76	-30.4	33.1	0.5	15.72	Excessive Drawdown, Purging 3 well volumes
1509	21.95	0.879	0.14	5.70	-3.4	8.38	18.5	[illegible]	1 vol Flow Rate = 0.75 L/min / H_2O Depth = 27.35ft
1534	23.50	0.998	0.17	5.66	-35.3	3.84	37.25	29.29	2 vol
1559	23.52	1.006	0.18	5.69	-45.4	2.72	56.0	29.15	3 vol
1604	25.93	1.048	0.17	5.68	-50.7	2.38	56.5	28.02	Flow Rate = 0.1 L/min
1609	26.94	1.072	0.16	5.67	-53.6	1.78	57.0	27.65	
1614	27.13	1.081	0.16	5.66	-54.3	2.29	57.5	26.95	
1619	26.68	1.066	0.19	5.66	-64.8	2.88	58.0	25.88	
1624	26.70	1.067	0.18	5.67	-64.8	5.73	58.5	25.72	
1629	26.87	1.068	0.18	5.67	-64.0	4.07	59.0	25.56	
	Parameters Stabilized, Well Ready To Sample								
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WA AMPLING LOG SHEET

Client: Atlanta Gas Light Company Project No.: 0280913 phase 052 Sampling Date: 8-12-15

Site/Location: Macon, Georgia Sampler's Name: B. Gischer

Well ID: MW-302DD Pump Type/Model: Peristaltic Sample Collection Time: 1240

Total Depth (ft)[1]: 100 Tubing Material: LDPE Sample Purge Rate (L/min)[3]: 0.1

Depth to Water (ft): 24.7 Pump Intake Depth (ft): 95' Sample ID: MW-302DD-20150812-01

Well Diameter (in): 2.0 Start/Stop Purge Time: 1200 / 1225 QA/QC Collected? —

Well Volume (gal) = 0.041d²h: 12.3 gal / 46.6 L Purge Rate (L/min)[2]: 0.1 QA/QC I.D. —

d = well diameter (inches) h = length of water column (feet) Total Purge Volume (L): 2.5 Laboratory Analyses: COI

Well Condition: Good Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1205	27.80	0.662	2.10	7.42	-176.2	47.8	0.5	24.99	Excessive draw down, however due to
1210	27.31	0.630	0.67	7.44	-198.4	44.3	1.0	24.96	large well volume, well will be stabilized
1215	26.19	0.619	0.47	7.47	-214.4	34.3	1.5	25.03	and sampled without 3 vol purge
1220	26.07	0.614	0.40	7.48	-220.1	33.9	2.0	25.01	
1225	26.20	0.616	0.26	7.47	-215.9	31.9	2.5	25.00	
	Parameters	Stabilized,	Well	Ready	To	Sample			
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER S ING LOG SHEET

ERM

Client: Atlanta Gas Light Company Project No.: 0280913 phase 052 Sampling Date: 8/13/15

Site/Location: Macon, Georgia Sampler's Name: J. Mullaney

Well ID: MW-3050 Pump Type/Model: Peristaltic Sample Collection Time: 13:55

Total Depth (ft)[1]: 41.5 Tubing Material: LDPE Sample Purge Rate (L/min)[3]: 0.2L/min

Depth to Water (ft): 17.38 Pump Intake Depth (ft): ~35' Sample ID: MW-3050-20150813-GW

Well Diameter (in): 4" Start/Stop Purge Time: 13:13 / 13:48 QA/QC Collected? NO

Well Volume (gal) = 0.041d²h: Purge Rate (L/min)[2]: 0.1L/min QA/QC I.D.

d = well diameter (inches) h = length of water column (feet) Total Purge Volume (L): 3.5L Laboratory Analyses: COI

Well Condition: Good Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☒ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
13:23	26.05	3.054	0.98	12.09	-167.4	2.93	1.0	17.51	
13:28	25.92	3.028	0.58	12.12	-169.3	2.97	1.5	17.53	
13:33	26.25	3.027	0.47	12.19	-169.0	2.44	2.0	17.54	
13:38	26.05	2.982	0.40	12.24	-182.3	2.31	2.5	17.55	
13:43	26.17	2.974	0.36	12.25	-182.1	2.33	3.0	17.57	
13:48	26.30	2.966	0.34	12.28	-183.3	2.30	3.5	17.58	Stable Sampled at 13:55
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WA AMPLING LOG SHEET

Client: Atlanta Gas Light Company | Project No.: 0280913 phase 052 | Sampling Date: 3-14-15

Site/Location: Macon, Georgia | Sampler's Name: B. Fisches

Well ID: MW-306D | Pump Type/Model: Rediflo2 | Sample Collection Time: 0840

Total Depth (ft)[1]: 51.0 | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: 0.1

Depth to Water (ft): 7.87 | Pump Intake Depth (ft): 41.75 | Sample ID: MW-306D-20150814-c1

Well Diameter (in): 6 | Start/Stop Purge Time: 0810 | QA/QC Collected? —

Well Volume (gal) = 0.041d²h: 63.7 gal | 24 L | Purge Rate (L/min)[2]: 0.1 | QA/QC I.D. —

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): | Laboratory Analyses: COI

Well Condition: Good | Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Baller (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
0805	24.74	3.152	4.75	11.89	-132.0	16.6	0.5	7.95	
0810	24.53	3.244	3.61	11.97	-124.9	3.33	1.0	8.04	
0815	24.63	3.258	3.16	11.98	-119.7	2.29	1.5	2.29	H2o Depth = 8.08
0820	24.84	3.271	3.34	12.00	-117.8	1.89	2.0	8.12	
0825	24.77	3.277	3.41	12.02	-115.7	1.06	2.5	8.25	Draw down > 0.3', not purging 3 well volumes
0830	24.76	3.275	3.40	12.01	-114.5	1.75	3.0	8.31	due to large well volumes. Sampling
									at Stab. Parameters
	Parameters		Stable,	Well	Ready	To	Sample		
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

ERM

GROUND WA[illegible]AMPLING LOG SHEET

Client: Atlanta Gas Light Company | Project No.: 0280913 phase 052 | Sampling Date: 8-14-15

Site/Location: Macon, Georgia | Sampler's Name: B. Fischer

Well ID: MW-307D | Pump Type/Model: | Sample Collection Time: 0940

Total Depth (ft)[1]: 58.0 | Tubing Material: | Sample Purge Rate (L/min)[3]: 0.1

Depth to Water (ft): 9.95 | Pump Intake Depth (ft): 46.0 | Sample ID: MW-307D-20150814-01

Well Diameter (in): 6.0 | Start/Stop Purge Time: 0900 | QA/QC Collected? —

Well Volume (gal) = 0.041d²h: 71 gal / 268.7L | Purge Rate (L/min)[2]: 0.1 | QA/QC I.D. —

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): | Laboratory Analyses: COI

Well Condition: Good | Sampling Method (check all that apply): ☑ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☑ pump head discharge (inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
0905	23.67	7.842	5.81	12.33	-117.6	8.12	0.5	10.07	
0910	23.60	7.841	5.50	12.36	-115.6	5.79	1.0	10.11	
0915	23.75	7.856	5.39	12.38	-113.7	3.30	1.5	10.20	
0920	23.60	7.848	5.15	12.39	-111.8	4.06	2.0	10.32	Draw down > 0.3', not purging 3 well
0925	23.76	7.857	5.24	12.39	-110.9	4.18	2.5	10.39	volumes due to large well volumes. Sampling at stabilization
	Parameters stable, Well Ready To Sample								
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER SAMPLING LOG SHEET

ERM

Client: Atlanta Gas Light Company | Project No.: 0280913 phase 052 | Sampling Date: 8/12/15

Site/Location: Macon, Georgia | Sampler's Name: J. Mullooly

Well ID: MW-305D | Pump Type/Model: Peristaltic | Sample Collection Time: 09:15

Total Depth (ft)[1]: 110 | Tubing Material: LDPE | Sample Purge Rate (L/min)[3]: 0.2L/min

Depth to Water (ft): 20.15 | Pump Intake Depth (ft): ~80' | Sample ID: MW-305D-20150812-01

Well Diameter (in): 6" | Start/Stop Purge Time: 08:43 / 09:08 | QA/QC Collected? No

Well Volume (gal) = 0.041d²h: 13.9 / 49.9L | Purge Rate (L/min)[2]: 0.1L/min | QA/QC I.D.

d = well diameter (inches) h = length of water column (feet) | Total Purge Volume (L): 2.5 | Laboratory Analyses: COI

Well Condition: Good | Sampling Method (check all that apply): ☒ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☒ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
08:53	24.24	2.852	3.81	12.36	-79.3	0.83	1.0L	20.25	Clear Minimal drawdown
08:58	24.72	2.869	3.48	12.35	-83.4	0.70	1.5	20.31	
09:03	25.15	2.893	3.34	12.38	-85.5	0.76	2.0	20.34	
09:08	25.43	2.905	3.17	12.40	-88.4	0.49	2.5	20.38	Stable. Sampled well at 09:15am
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

GROUND WATER S .ING LOG SHEET

ERM

Client: Atlanta Gas Light Company Project No.: 0280913 phase 052 Sampling Date: 8/14/15

Site/Location: Macon, Georgia Sampler's Name: T. Mullooly

Well ID: MW-3010 Pump Type/Model: Sample Collection Time:

Total Depth (ft)[1]: Tubing Material: Sample Purge Rate (L/min)[3]:

Depth to Water (ft): Pump Intake Depth (ft): Sample ID:

Well Diameter (in): Start/Stop Purge Time: QA/QC Collected?

Well Volume (gal) = 0.041d²h: Purge Rate (L/min)[2]: QA/QC I.D.

d = well diameter (inches) h = length of water column (feet) Total Purge Volume (L): Laboratory Analyses: COI

Well Condition: Sampling Method (check all that apply): ☐ soda straw (VOCs) ☐ vacuum jug (SVOCs) ☐ pump head discharge (Inorganics including cyanide)

☐ Bladder pump = pump discharge (all analytes) ☐ Bailer (only used if necessary)

Time	Temp. (°C)	Spec. Cond. (mS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTUs)	Purge Volume (L)	H_2O Depth (ft)	Notes (Water clarity, odor, purge rate, issues with pump/well/weather/etc.)
									Pumped well with tubing only, no YSI flow cell. Encountered DNAPL at ~35'. Peristaltic pump had trouble pumping DNAPL. DNAPL appears to be at around the depth of casing set into rock
									No Samples
Stabilizing Criteria[5]	+/- 1°C	+/- 3%	+/- 10% (see note below)[7]	+/- 0.1 unit	+/- 10 mV (see note below)[8]	+/- 10% or <10 NTUs	(see note below)[4]	(see note below)[6]	

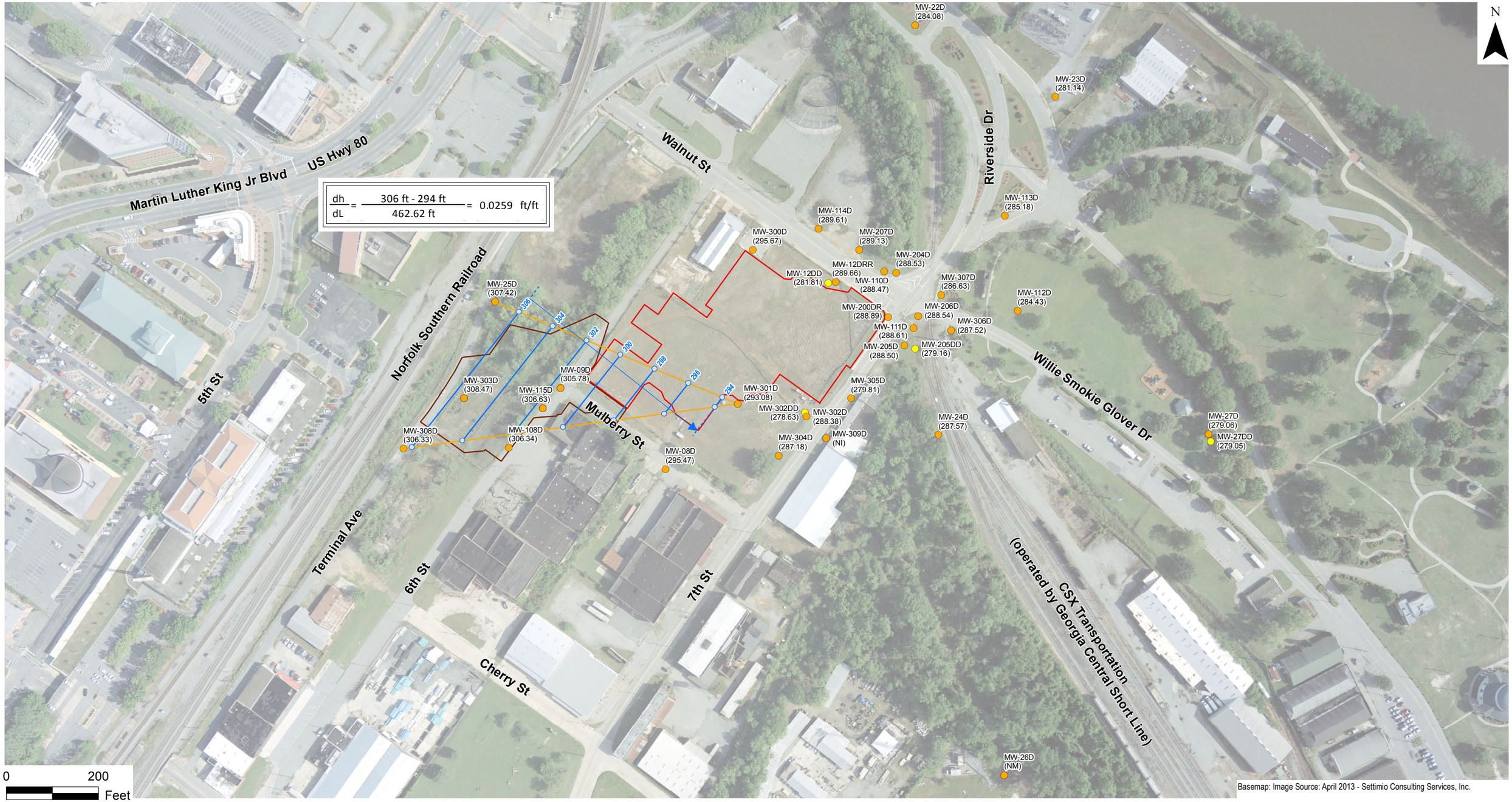
(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Purge rate to be 0.5 lpm or less.
(3) - Sampling rate to be 0.25 lpm or less.
(4) - Field parameter measurements to be recorded every 3 to 5 minutes.
(5) - Stabilization criteria based on three most recent consecutive measurements.
(6) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft.
(7) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.
(8) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

Three-Point Groundwater Gradient Estimation Figures

Appendix E-2

November 21, 2015
Project No. 0176740
Atlanta Gas Light Company

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



ERM

Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	11/19/2015	SCALE:	AS SHOWN	REVISION:	0
FILE:	S:\AGL\AGL_Macon\MXD\11 2015 AppxE VRP PrgRpt#1\AGLMcnAppxE_VRP_E-2A_GWBdrk021615_3PtGrad.mxd				

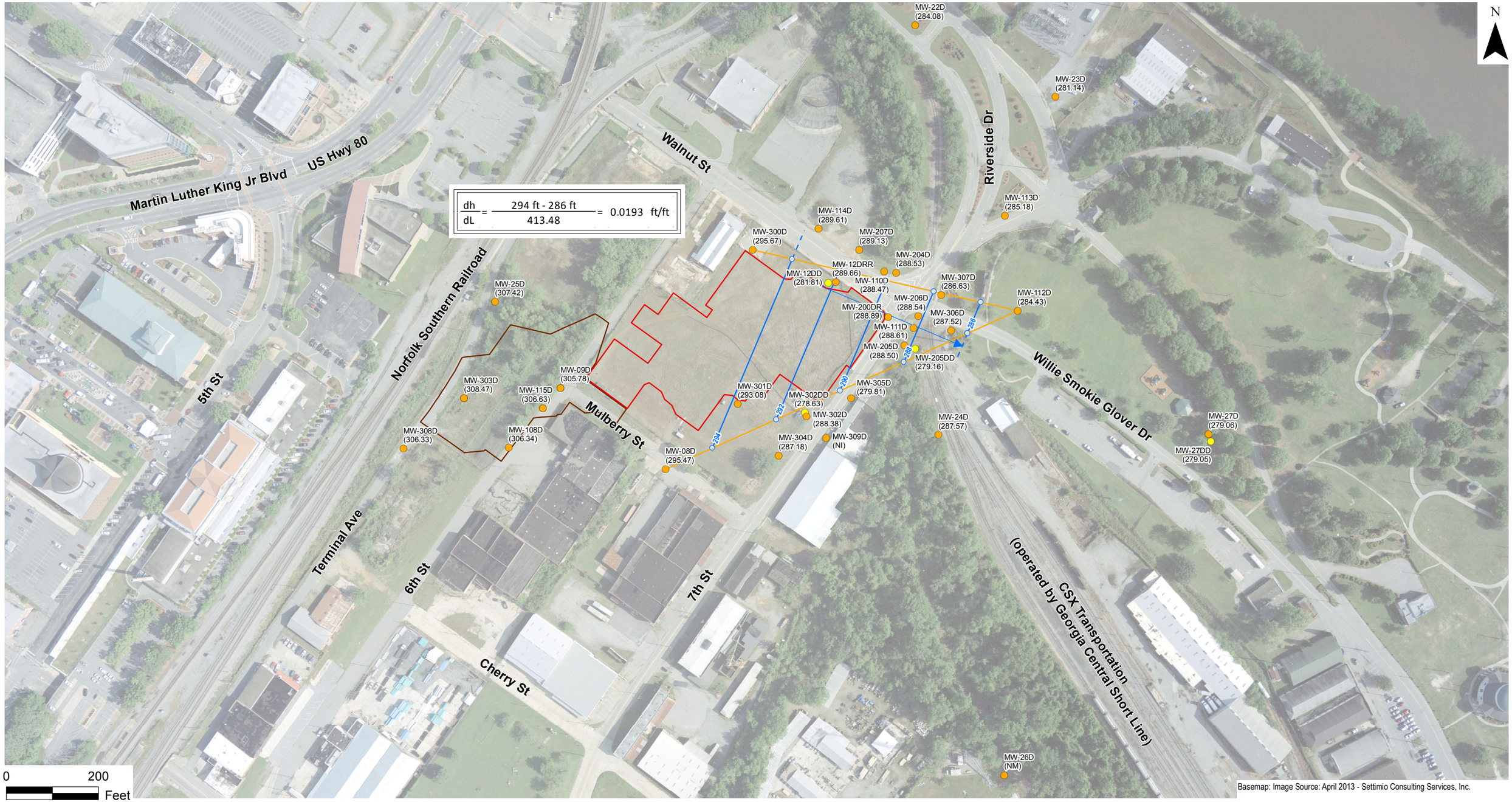
- Shallow Bedrock Well
- Deep Bedrock Well
- Apparent Groundwater Contour
- Former ISS Area
- Current ISS Area
- Apparent Groundwater Flow Direction
- (295.47) Groundwater Elevations from February 2015 Gauging Event
- (NM) Not Measured
- (NI) Not Installed

APPENDIX E-2A - THREE-POINT GROUNDWATER GRADIENT ESTIMATION - FEBRUARY 16, 2015

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	11/19/2015	SCALE:	AS SHOWN	REVISION:	0
FILE:	S:\AGL\AGL_Macon\MXD\11 2015 AppxE VRP PrgRpt#1\AGLMcnAppxE_VRP_E-2B_GWBdrk021615_3PtGrad.mxd				

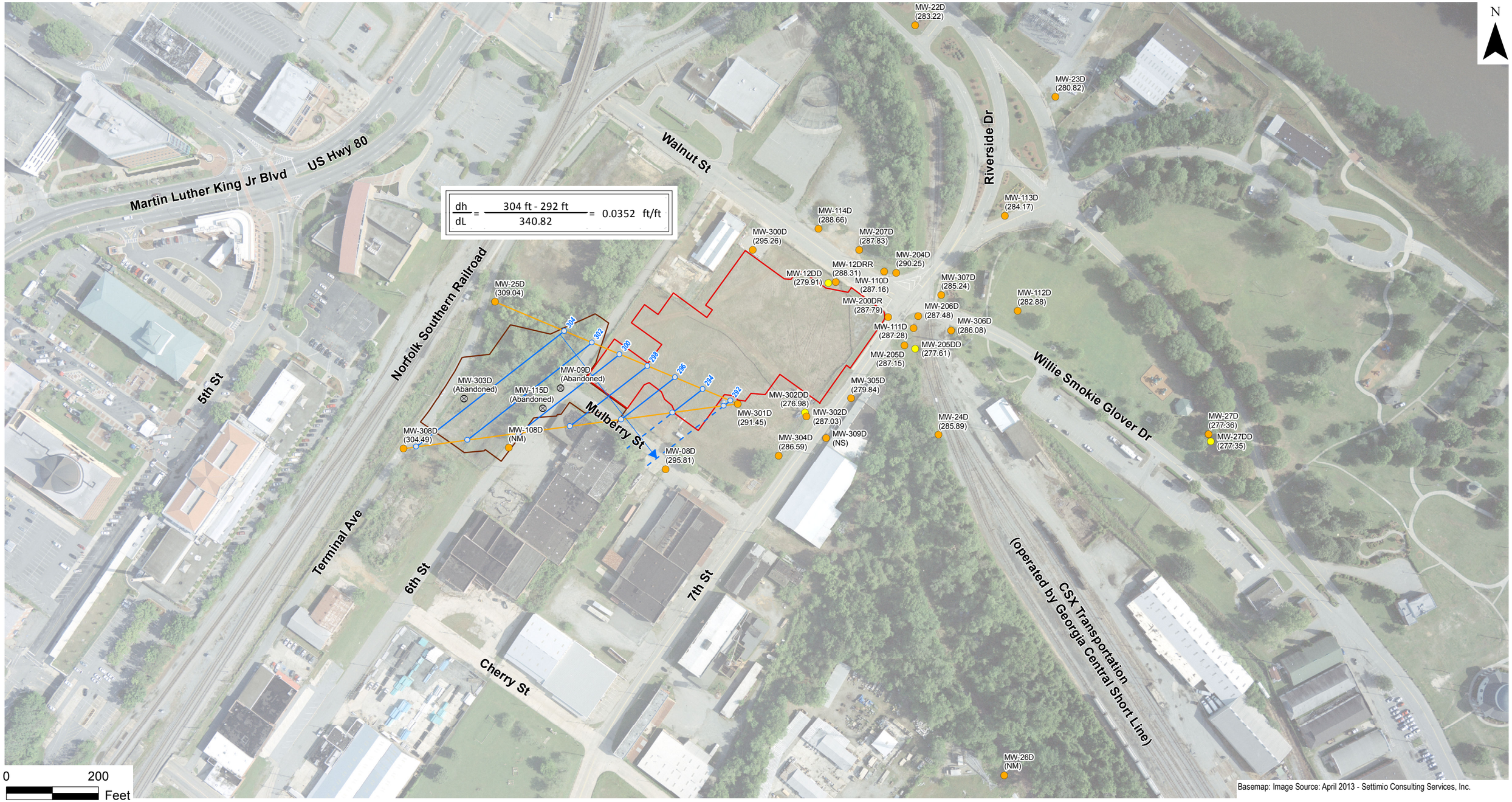
- Shallow Bedrock Well
- Deep Bedrock Well
- Apparent Groundwater Contour
- Former ISS Area
- Current ISS Area
- Apparent Groundwater Flow Direction
- (295.47) Groundwater Elevations from February 2015 Gauging Event
- (NM) Not Measured
- (NI) Not Installed

APPENDIX E-2B - THREE-POINT GROUNDWATER GRADIENT ESTIMATION - FEBRUARY 16, 2015

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



ERM

Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	11/19/2015	SCALE:	AS SHOWN	REVISION:	0
FILE:	S:\AGL\AGL_Macon\MXD\11 2015 AppxE VRP PrgRpt#1\AGLMcnAppxE_VRP_E-2C_GWBdrk081015_3PtGrad.mxd				

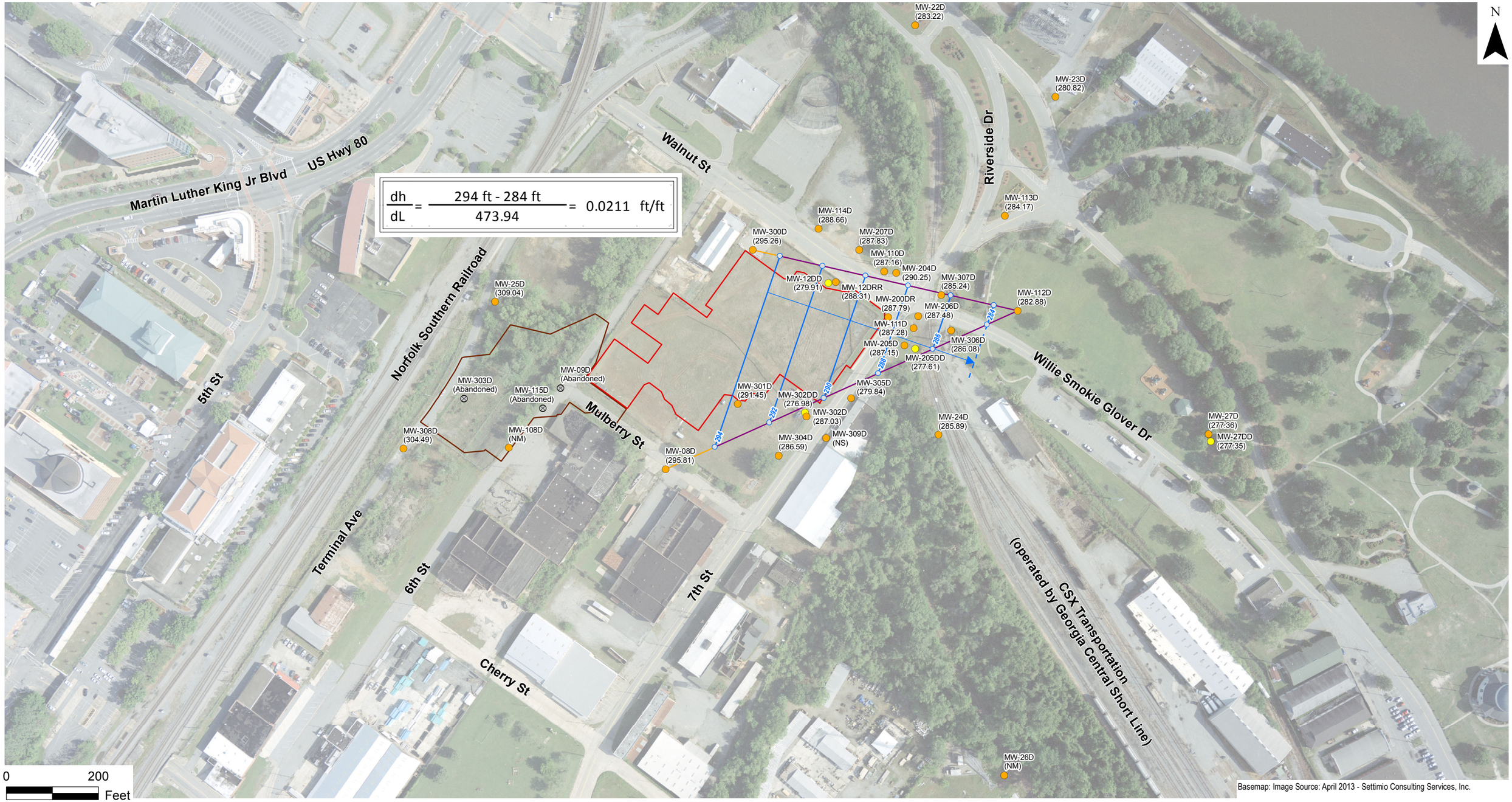
- Shallow Bedrock Well
- Abandoned Shallow Bedrock Well
- Deep Bedrock Well
- Apparent Groundwater Contour
- Former ISS Area
- Current ISS Area
- (288.31) Groundwater Elevations from August 2015 Gauging Event
- Apparent Groundwater Flow Direction
- (NM) Not Measured
- (NS) Not Surveyed

APPENDIX E-2C - THREE-POINT GROUNDWATER GRADIENT ESTIMATION - AUGUST 10, 2015

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	11/19/2015	SCALE:	AS SHOWN	REVISION:	0
FILE:	S:\AGL\AGL_Macon\MXD\11 2015 AppxE VRP PrgRpt#1\AGLMcnAppxE_VRP_E-2D_GWBdrk081015_3PtGrad.mxd				

- Shallow Bedrock Well
- Abandoned Shallow Bedrock Well
- Deep Bedrock Well
- Apparent Groundwater Contour
- Former ISS Area
- Current ISS Area
- (288.31) Groundwater Elevations from August 2015 Gauging Event
- Apparent Groundwater Flow Direction
- (NM) Not Measured
- (NS) Not Surveyed

APPENDIX E-2D - THREE-POINT GROUNDWATER GRADIENT ESTIMATION - AUGUST 10, 2015

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia

Laboratory Analytical Reports (CD ONLY)

Appendix E-3

November 21, 2015
Project No. 0176740
Atlanta Gas Light Company

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

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

February 26, 2015

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

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

RE: AGL Macon

Dear Nic Vrey: Order No: 1502E13

Analytical Environmental Services, Inc. received 10 samples on 2/17/2015 11:15:00 AM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/14-06/30/15.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/15.

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

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

Mirzeta Kararic

Mirzeta Kararic
Project Manager

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

CHAIN OF CUSTODY

Work Order: 1502E13

Date: 2-16-15 Page 1 of 1

COMPANY:	ADDRESS:
E Ran	3200 Windy Hill Rd SE Ste 600 Atlanta, GA 30339
PHONE: 678-486-2700	FAX:
SAMPLED BY: BM, CB, and WW	SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	8260B	8270C	6010B	9012A	7470A	9056/300.0 NO3	TCLP	N. Nitrate	Sulfide	Sulfate	Total Iron			No # of Containers	REMARKS
	PRESERVATION (See codes)																				
1	TB-01-20150216-01	2/16/15					X													2	
2	MW-25D-20150216-01		1035				X	X	X	X	X									6	
3	MW-25DMS-20150216-01		1035				X	X	X	X	X									6	
4	MW-25DMSD-20150216-01		1035				X	X	X	X	X									6	
5	MW-23D-20150216-01		1105				X	X	X	X	X									6	
6	MW-23DMS-20150216-01		1105				X	X	X	X	X									6	
7	MW-23DMSD-20150216-01		1105				X	X	X	X	X									6	
8	MW-12DRR-20150216-01		1410				X	X	X	X	X	X	X	X	X	X	X			17	
9	MW-11ZD-20150216-01		1410				X	X	X	X	X	X	X	X	X	X	X			17	
10	MW-11OD-20150216-01		1415				X	X	X	X	X	X	X	X	X	X	X			17	
11	MW-12OD-20150216-01		1520				X	X	X	X	X									6	
12	MW-20SD-20150216-01		1530				X	X	X	X	X	X	X	X	X	X	X			17	
13	MW-30SD-20150216-01		1605				X	X	X	X	X	X	X	X	X	X	X			17	
14																					

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

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: Bill Mitchell	2-17-15 9:15	1:	2-17-15 9:18
2:		2: Samples received Jam B 2/17/15 11:15	
3:		3: Updated COC received J.M. Karanic 2/19/15 12:16pm	

SPECIAL INSTRUCTIONS/COMMENTS:
Fe 2+ short hold

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

PROJECT INFORMATION
PROJECT NAME: Ash Macon
PROJECT #: 03809113 phase2
SITE ADDRESS: Macon, GA
SEND REPORT TO: Nic Vrtis
INVOICE TO: (IF DIFFERENT FROM ABOVE)
QUOTE #: PO#:

RECEIPT
Total # of Containers: 129

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

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

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

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

White Copy - Original; Yellow Copy - Client

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

CHAIN OF CUSTODY

Work Order: 1502E13

Date: 2-16-15 Page 1 of 1

COMPANY: ERM

ADDRESS: 3200 Windy Hill Rd SE Suite 600W Atlanta, GA 30339

PHONE: 678-486-2700

FAX:

SAMPLED BY: BM, CB, and WV

SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	8260B-	8270C-	6010B-	9012A	7470A	9056-375(0,N)	Fe2+	Nitrate	Sulfate	Sulfide	Alkalinity	No # of Containers
	PRESERVATION (See codes)																	
1	TB-01-20150216-01						X											2
2	MW-25D-20150216-01		1035				X	X	X	X	X							6
3	MW-25DMS-20150216-01		1035				X	X	X	X	X							6
4	MW-25DMSD-20150216-01		1035				X	X	X	X	X							6
5	MW-23D-20150216-01		1105				X	X	X	X	X							6
6	MW-23DMS-20150216-01		1105				X	X	X	X	X							6
7	MW-23DMSD-20150216-01		1105				X	X	X	X	X							6
8	MW-12DRR-20150216-01		1410				X	X	X	X	X	X	X	X	X	X	X	17
9	MW-112D-20150216-01		1410				X	X	X	X	X	X	X	X	X	X	X	17
10	MW-110D-20150216-01		1415				X	X	X	X	X	X	X	X	X	X	X	17
11	MW-12DD-20150216-01		1520				X	X	X	X	X							6
12	MW-205D-20150216-01		1530				X	X	X	X	X	X	X	X	X	X	X	17
13	MW-308D-20150216-01		1605				X	X	X	X	X	X	X	X	X	X	X	17
14																		

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

REMARKS

RELINQUISHED BY / DATE/TIME

1: Bill Mitchell 2-17-15 9:15

2: 2-17-2015 1715

3:

RECEIVED BY / DATE/TIME

1: 2-17-15 9:18

2: 2/17/15 18:15

3:

PROJECT INFORMATION

PROJECT NAME: AGL Macon

PROJECT #: 0208913 phase

SITE ADDRESS: Macon, GA

SEND REPORT TO: Discovery

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: PO#:

RECEIPT

Total # of Containers: 129

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

STATE PROGRAM (if any):

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

DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS: Fe2+ short hold

SHIPMENT METHOD

OUT / / VIA:

IN / / VIA:

CLIENT FedEx UPS MAIL COURIER

GREYHOUND OTHER

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

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

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

White Copy - Original; Yellow Copy - Client

Client: ERM-Southeast
Project: AGL Macon
Lab ID: 1502E13

Case Narrative

An updated copy of the Chain of Custody (COC) was received via email 2/19/2015 12:16pm and was included with the report.

The collection date was not listed on the original COC, but was listed on the sample containers and on the COC that was received via email 2/19/2015.

Two sets of Trip Blanks were received. One set was listed on the COC. The other set was not listed on the COC. Both sets were analyzed at no cost to the client.

The sample IDs for samples 1502E13-006 and -008 did not match the IDs listed on the COC. The IDs were listed on the containers as "MW-110D-16022015-01" and "MW-205D-16022015-01" respectively. The IDs were reported as listed on the COC per Donald Dowling via email 2/19/2015.

Samples requiring O2, N2, CO, and CO2 analyses were subcontracted to Microseeps/Pace Analytical Energy Services, LLC.

PAH Analysis by Method 8270D/SIM:

QC sample 1501E13-003DMSD is reported with target analytes recoveries, RPD values, and internal standard compounds Acenapthene-d10 and Perylene-D12 outside control limits due to a suspected error during extraction/ concentration. Recoveries are demonstrated by the LCS and MS, and no analytical samples were affected.

IC Analysis by Method 9056A:

Due to sample matrix, samples 1502E13-008G and -009G required a dilution during preparation and/or analysis resulting in elevated reporting limits.

Analytical Environmental Services, Inc **Date:** 26-Feb-15

Client:	ERM-Southeast	**Client Sample ID:**	TB-01-20150216-01
Project Name:	AGL Macon	**Collection Date:**	2/16/2015
Lab ID:	1502E13-001	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	203508	1	02/19/2015 22:58	NP
Carbon disulfide	BRL	5.0		ug/L	203508	1	02/19/2015 22:58	NP
Ethylbenzene	BRL	5.0		ug/L	203508	1	02/19/2015 22:58	NP
Toluene	BRL	5.0		ug/L	203508	1	02/19/2015 22:58	NP
Xylenes, Total	BRL	5.0		ug/L	203508	1	02/19/2015 22:58	NP
Surr: 4-Bromofluorobenzene	93.3	70.6-123		%REC	203508	1	02/19/2015 22:58	NP
Surr: Dibromofluoromethane	96.1	78.7-124		%REC	203508	1	02/19/2015 22:58	NP
Surr: Toluene-d8	96.9	81.3-120		%REC	203508	1	02/19/2015 22:58	NP

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 26-Feb-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-25D-20150216-01
Project Name:	AGL Macon	**Collection Date:**	2/16/2015 10:35:00 AM
Lab ID:	1502E13-002	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	203508	1	02/21/2015 02:15	NP
Carbon disulfide	BRL	5.0		ug/L	203508	1	02/21/2015 02:15	NP
Ethylbenzene	BRL	5.0		ug/L	203508	1	02/21/2015 02:15	NP
Toluene	BRL	5.0		ug/L	203508	1	02/21/2015 02:15	NP
Xylenes, Total	BRL	5.0		ug/L	203508	1	02/21/2015 02:15	NP
Surr: 4-Bromofluorobenzene	98.1	70.6-123		%REC	203508	1	02/21/2015 02:15	NP
Surr: Dibromofluoromethane	97	78.7-124		%REC	203508	1	02/21/2015 02:15	NP
Surr: Toluene-d8	97.2	81.3-120		%REC	203508	1	02/21/2015 02:15	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	203549	1	02/23/2015 18:30	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	203549	1	02/23/2015 18:30	YH
Benzo(a)pyrene	BRL	0.050		ug/L	203549	1	02/23/2015 18:30	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	203549	1	02/23/2015 18:30	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	203549	1	02/23/2015 18:30	YH
Surr: 4-Terphenyl-d14	98.5	55.4-136		%REC	203549	1	02/23/2015 18:30	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	203359	1	02/19/2015 20:44	YH
2-Methylphenol	BRL	10		ug/L	203359	1	02/19/2015 20:44	YH
3,4-Methylphenol	BRL	10		ug/L	203359	1	02/19/2015 20:44	YH
Acenaphthene	BRL	10		ug/L	203359	1	02/19/2015 20:44	YH
Acenaphthylene	BRL	10		ug/L	203359	1	02/19/2015 20:44	YH
Anthracene	BRL	10		ug/L	203359	1	02/19/2015 20:44	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	203359	1	02/19/2015 20:44	YH
Benzo(k)fluoranthene	BRL	10		ug/L	203359	1	02/19/2015 20:44	YH
Chrysene	BRL	10		ug/L	203359	1	02/19/2015 20:44	YH
Fluoranthene	BRL	10		ug/L	203359	1	02/19/2015 20:44	YH
Fluorene	BRL	10		ug/L	203359	1	02/19/2015 20:44	YH
Naphthalene	BRL	10		ug/L	203359	1	02/19/2015 20:44	YH
Phenanthrene	BRL	10		ug/L	203359	1	02/19/2015 20:44	YH
Phenol	BRL	10		ug/L	203359	1	02/19/2015 20:44	YH
Pyrene	BRL	10		ug/L	203359	1	02/19/2015 20:44	YH
Surr: 2,4,6-Tribromophenol	107	52-133		%REC	203359	1	02/19/2015 20:44	YH
Surr: 2-Fluorobiphenyl	88.3	50-121		%REC	203359	1	02/19/2015 20:44	YH
Surr: 2-Fluorophenol	58.9	27.5-120		%REC	203359	1	02/19/2015 20:44	YH
Surr: 4-Terphenyl-d14	90.4	46.3-137		%REC	203359	1	02/19/2015 20:44	YH
Surr: Nitrobenzene-d5	89.3	41.2-121		%REC	203359	1	02/19/2015 20:44	YH
Surr: Phenol-d5	41.9	14.3-120		%REC	203359	1	02/19/2015 20:44	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 26-Feb-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-25D-20150216-01
Project Name:	AGL Macon	**Collection Date:**	2/16/2015 10:35:00 AM
Lab ID:	1502E13-002	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	203355	1	02/20/2015 11:13	JG
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	203314	1	02/17/2015 15:55	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	203343	1	02/20/2015 03:25	IO
Arsenic	BRL	0.0500		mg/L	203343	1	02/20/2015 03:25	IO
Barium	3.50	0.0200		mg/L	203343	1	02/20/2015 03:25	IO
Beryllium	BRL	0.0100		mg/L	203343	1	02/20/2015 03:25	IO
Cadmium	BRL	0.0050		mg/L	203343	1	02/20/2015 03:25	IO
Chromium	BRL	0.0100		mg/L	203343	1	02/20/2015 03:25	IO
Copper	BRL	0.0100		mg/L	203343	1	02/20/2015 03:25	IO
Lead	BRL	0.0100		mg/L	203343	1	02/20/2015 03:25	IO
Nickel	BRL	0.0200		mg/L	203343	1	02/20/2015 03:25	IO
Zinc	0.0292	0.0200		mg/L	203343	1	02/20/2015 03:25	IO

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 26-Feb-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-23D-20150216-01
Project Name:	AGL Macon	**Collection Date:**	2/16/2015 11:05:00 AM
Lab ID:	1502E13-003	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	203508	1	02/21/2015 02:40	NP
Carbon disulfide	BRL	5.0		ug/L	203508	1	02/21/2015 02:40	NP
Ethylbenzene	BRL	5.0		ug/L	203508	1	02/21/2015 02:40	NP
Toluene	BRL	5.0		ug/L	203508	1	02/21/2015 02:40	NP
Xylenes, Total	BRL	5.0		ug/L	203508	1	02/21/2015 02:40	NP
Surr: 4-Bromofluorobenzene	96.6	70.6-123		%REC	203508	1	02/21/2015 02:40	NP
Surr: Dibromofluoromethane	96	78.7-124		%REC	203508	1	02/21/2015 02:40	NP
Surr: Toluene-d8	95.9	81.3-120		%REC	203508	1	02/21/2015 02:40	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	203390	1	02/20/2015 17:30	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	203390	1	02/20/2015 17:30	YH
Benzo(a)pyrene	BRL	0.050		ug/L	203390	1	02/20/2015 17:30	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	203390	1	02/20/2015 17:30	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	203390	1	02/20/2015 17:30	YH
Surr: 4-Terphenyl-d14	80	55.4-136		%REC	203390	1	02/20/2015 17:30	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	203552	1	02/23/2015 17:21	YH
2-Methylphenol	BRL	10		ug/L	203552	1	02/23/2015 17:21	YH
3,4-Methylphenol	BRL	10		ug/L	203552	1	02/23/2015 17:21	YH
Acenaphthene	BRL	10		ug/L	203552	1	02/23/2015 17:21	YH
Acenaphthylene	BRL	10		ug/L	203552	1	02/23/2015 17:21	YH
Anthracene	BRL	10		ug/L	203552	1	02/23/2015 17:21	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	203552	1	02/23/2015 17:21	YH
Benzo(k)fluoranthene	BRL	10		ug/L	203552	1	02/23/2015 17:21	YH
Chrysene	BRL	10		ug/L	203552	1	02/23/2015 17:21	YH
Fluoranthene	BRL	10		ug/L	203552	1	02/23/2015 17:21	YH
Fluorene	BRL	10		ug/L	203552	1	02/23/2015 17:21	YH
Naphthalene	BRL	10		ug/L	203552	1	02/23/2015 17:21	YH
Phenanthrene	BRL	10		ug/L	203552	1	02/23/2015 17:21	YH
Phenol	BRL	10		ug/L	203552	1	02/23/2015 17:21	YH
Pyrene	BRL	10		ug/L	203552	1	02/23/2015 17:21	YH
Surr: 2,4,6-Tribromophenol	109	52-133		%REC	203552	1	02/23/2015 17:21	YH
Surr: 2-Fluorobiphenyl	89	50-121		%REC	203552	1	02/23/2015 17:21	YH
Surr: 2-Fluorophenol	47.5	27.5-120		%REC	203552	1	02/23/2015 17:21	YH
Surr: 4-Terphenyl-d14	81.9	46.3-137		%REC	203552	1	02/23/2015 17:21	YH
Surr: Nitrobenzene-d5	80.6	41.2-121		%REC	203552	1	02/23/2015 17:21	YH
Surr: Phenol-d5	33.6	14.3-120		%REC	203552	1	02/23/2015 17:21	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 26-Feb-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-23D-20150216-01
Project Name:	AGL Macon	**Collection Date:**	2/16/2015 11:05:00 AM
Lab ID:	1502E13-003	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	203355	1	02/20/2015 11:29	JG
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	203314	1	02/17/2015 15:55	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	203343	1	02/20/2015 09:57	IO
Arsenic	BRL	0.0500		mg/L	203343	1	02/20/2015 09:57	IO
Barium	0.0661	0.0200		mg/L	203343	1	02/20/2015 09:57	IO
Beryllium	BRL	0.0100		mg/L	203343	1	02/20/2015 09:57	IO
Cadmium	BRL	0.0050		mg/L	203343	1	02/20/2015 09:57	IO
Chromium	BRL	0.0100		mg/L	203343	1	02/20/2015 09:57	IO
Copper	BRL	0.0100		mg/L	203343	1	02/20/2015 09:57	IO
Lead	BRL	0.0100		mg/L	203343	1	02/20/2015 09:57	IO
Nickel	BRL	0.0200		mg/L	203343	1	02/20/2015 09:57	IO
Zinc	BRL	0.0200		mg/L	203343	1	02/20/2015 09:57	IO

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 26-Feb-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-12DRR-20150216-01
Project Name:	AGL Macon	**Collection Date:**	2/16/2015 2:10:00 PM
Lab ID:	1502E13-004	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	280	50		ug/L	203508	10	02/21/2015 01:00	NP
Carbon disulfide	BRL	5.0		ug/L	203508	1	02/20/2015 00:37	NP
Ethylbenzene	100	5.0		ug/L	203508	1	02/20/2015 00:37	NP
Toluene	BRL	5.0		ug/L	203508	1	02/20/2015 00:37	NP
Xylenes, Total	100	5.0		ug/L	203508	1	02/20/2015 00:37	NP
Surr: 4-Bromofluorobenzene	97.8	70.6-123		%REC	203508	1	02/20/2015 00:37	NP
Surr: 4-Bromofluorobenzene	99.4	70.6-123		%REC	203508	10	02/21/2015 01:00	NP
Surr: Dibromofluoromethane	99.4	78.7-124		%REC	203508	1	02/20/2015 00:37	NP
Surr: Dibromofluoromethane	100	78.7-124		%REC	203508	10	02/21/2015 01:00	NP
Surr: Toluene-d8	97.5	81.3-120		%REC	203508	1	02/20/2015 00:37	NP
Surr: Toluene-d8	97.4	81.3-120		%REC	203508	10	02/21/2015 01:00	NP
Sulfide by SM4500-S2-F								
Sulfide	BRL	1.00		mg/L	R286169	1	02/19/2015 09:30	AB
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	0.079	0.050		ug/L	203390	1	02/20/2015 17:56	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	203390	1	02/20/2015 17:56	YH
Benzo(a)pyrene	BRL	0.050		ug/L	203390	1	02/20/2015 17:56	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	203390	1	02/20/2015 17:56	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	203390	1	02/20/2015 17:56	YH
Surr: 4-Terphenyl-d14	74.1	55.4-136		%REC	203390	1	02/20/2015 17:56	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	203359	1	02/19/2015 22:00	YH
2-Methylphenol	BRL	10		ug/L	203359	1	02/19/2015 22:00	YH
3,4-Methylphenol	BRL	10		ug/L	203359	1	02/19/2015 22:00	YH
Acenaphthene	30	10		ug/L	203359	1	02/19/2015 22:00	YH
Acenaphthylene	BRL	10		ug/L	203359	1	02/19/2015 22:00	YH
Anthracene	BRL	10		ug/L	203359	1	02/19/2015 22:00	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	203359	1	02/19/2015 22:00	YH
Benzo(k)fluoranthene	BRL	10		ug/L	203359	1	02/19/2015 22:00	YH
Chrysene	BRL	10		ug/L	203359	1	02/19/2015 22:00	YH
Fluoranthene	BRL	10		ug/L	203359	1	02/19/2015 22:00	YH
Fluorene	31	10		ug/L	203359	1	02/19/2015 22:00	YH
Naphthalene	770	100		ug/L	203359	10	02/20/2015 15:15	YH
Phenanthrene	13	10		ug/L	203359	1	02/19/2015 22:00	YH
Phenol	BRL	10		ug/L	203359	1	02/19/2015 22:00	YH
Pyrene	BRL	10		ug/L	203359	1	02/19/2015 22:00	YH
Surr: 2,4,6-Tribromophenol	114	52-133		%REC	203359	1	02/19/2015 22:00	YH
Surr: 2-Fluorobiphenyl	88.4	50-121		%REC	203359	1	02/19/2015 22:00	YH

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 26-Feb-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-12DRR-20150216-01
Project Name:	AGL Macon	**Collection Date:**	2/16/2015 2:10:00 PM
Lab ID:	1502E13-004	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D					**(SW3510C)**			
Surr: 2-Fluorophenol	68.7	27.5-120		%REC	203359	1	02/19/2015 22:00	YH
Surr: 4-Terphenyl-d14	92.1	46.3-137		%REC	203359	1	02/19/2015 22:00	YH
Surr: Nitrobenzene-d5	85.7	41.2-121		%REC	203359	1	02/19/2015 22:00	YH
Surr: Phenol-d5	58.9	14.3-120		%REC	203359	1	02/19/2015 22:00	YH
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	203355	1	02/20/2015 11:40	JG
ION SCAN SW9056A								
Nitrate	BRL	0.25		mg/L	R286231	1	02/17/2015 15:12	JW
Sulfate	1.4	1.0		mg/L	R286231	1	02/17/2015 15:12	JW
GC Analysis of Gaseous Samples SOP-RSK 175					**(RSK175)**			
Methane	920	40		ug/L	203298	10	02/23/2015 17:34	JM
Ferrous Iron SM3500-Fe-B								
Iron, as Ferrous (Fe+2)	3.98	1.00		mg/L	R286049	10	02/17/2015 13:49	AB
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.033	0.010		mg/L	203314	1	02/17/2015 15:55	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	203343	1	02/20/2015 10:32	IO
Arsenic	BRL	0.0500		mg/L	203343	1	02/20/2015 10:32	IO
Barium	1.55	0.0200		mg/L	203343	1	02/20/2015 10:32	IO
Beryllium	BRL	0.0100		mg/L	203343	1	02/20/2015 10:32	IO
Cadmium	BRL	0.0050		mg/L	203343	1	02/20/2015 10:32	IO
Chromium	BRL	0.0100		mg/L	203343	1	02/20/2015 10:32	IO
Copper	BRL	0.0100		mg/L	203343	1	02/20/2015 10:32	IO
Iron	5.19	0.100		mg/L	203343	1	02/20/2015 10:32	IO
Lead	BRL	0.0100		mg/L	203343	1	02/20/2015 10:32	IO
Nickel	BRL	0.0200		mg/L	203343	1	02/20/2015 10:32	IO
Zinc	0.0428	0.0200		mg/L	203343	1	02/20/2015 10:32	IO

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 26-Feb-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-112D-20150216-01
Project Name:	AGL Macon	**Collection Date:**	2/16/2015 2:10:00 PM
Lab ID:	1502E13-005	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	203508	1	02/21/2015 03:04	NP
Carbon disulfide	BRL	5.0		ug/L	203508	1	02/21/2015 03:04	NP
Ethylbenzene	BRL	5.0		ug/L	203508	1	02/21/2015 03:04	NP
Toluene	BRL	5.0		ug/L	203508	1	02/21/2015 03:04	NP
Xylenes, Total	BRL	5.0		ug/L	203508	1	02/21/2015 03:04	NP
Surr: 4-Bromofluorobenzene	97.1	70.6-123		%REC	203508	1	02/21/2015 03:04	NP
Surr: Dibromofluoromethane	99	78.7-124		%REC	203508	1	02/21/2015 03:04	NP
Surr: Toluene-d8	97.4	81.3-120		%REC	203508	1	02/21/2015 03:04	NP
Sulfide by SM4500-S2-F								
Sulfide	BRL	1.00		mg/L	R286169	1	02/19/2015 09:30	AB
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	203390	1	02/20/2015 18:22	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	203390	1	02/20/2015 18:22	YH
Benzo(a)pyrene	BRL	0.050		ug/L	203390	1	02/20/2015 18:22	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	203390	1	02/20/2015 18:22	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	203390	1	02/20/2015 18:22	YH
Surr: 4-Terphenyl-d14	78.2	55.4-136		%REC	203390	1	02/20/2015 18:22	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	203359	1	02/19/2015 22:26	YH
2-Methylphenol	BRL	10		ug/L	203359	1	02/19/2015 22:26	YH
3,4-Methylphenol	BRL	10		ug/L	203359	1	02/19/2015 22:26	YH
Acenaphthene	BRL	10		ug/L	203359	1	02/19/2015 22:26	YH
Acenaphthylene	BRL	10		ug/L	203359	1	02/19/2015 22:26	YH
Anthracene	BRL	10		ug/L	203359	1	02/19/2015 22:26	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	203359	1	02/19/2015 22:26	YH
Benzo(k)fluoranthene	BRL	10		ug/L	203359	1	02/19/2015 22:26	YH
Chrysene	BRL	10		ug/L	203359	1	02/19/2015 22:26	YH
Fluoranthene	BRL	10		ug/L	203359	1	02/19/2015 22:26	YH
Fluorene	BRL	10		ug/L	203359	1	02/19/2015 22:26	YH
Naphthalene	BRL	10		ug/L	203359	1	02/19/2015 22:26	YH
Phenanthrene	BRL	10		ug/L	203359	1	02/19/2015 22:26	YH
Phenol	BRL	10		ug/L	203359	1	02/19/2015 22:26	YH
Pyrene	BRL	10		ug/L	203359	1	02/19/2015 22:26	YH
Surr: 2,4,6-Tribromophenol	101	52-133		%REC	203359	1	02/19/2015 22:26	YH
Surr: 2-Fluorobiphenyl	83.8	50-121		%REC	203359	1	02/19/2015 22:26	YH
Surr: 2-Fluorophenol	71.7	27.5-120		%REC	203359	1	02/19/2015 22:26	YH
Surr: 4-Terphenyl-d14	87	46.3-137		%REC	203359	1	02/19/2015 22:26	YH
Surr: Nitrobenzene-d5	83.6	41.2-121		%REC	203359	1	02/19/2015 22:26	YH

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 26-Feb-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-112D-20150216-01
Project Name:	AGL Macon	**Collection Date:**	2/16/2015 2:10:00 PM
Lab ID:	1502E13-005	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D					**(SW3510C)**			
Surr: Phenol-d5	57.3	14.3-120		%REC	203359	1	02/19/2015 22:26	YH
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	203355	1	02/20/2015 11:42	JG
ION SCAN SW9056A								
Nitrate	1.0	0.25		mg/L	R286231	1	02/17/2015 13:13	JW
Sulfate	4.1	1.0		mg/L	R286231	1	02/17/2015 13:13	JW
GC Analysis of Gaseous Samples SOP-RSK 175					**(RSK175)**			
Methane	6	4		ug/L	203298	1	02/23/2015 15:58	JM
Ferrous Iron SM3500-Fe-B								
Iron, as Ferrous (Fe+2)	BRL	0.100		mg/L	R286049	1	02/17/2015 13:49	AB
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	203314	1	02/17/2015 15:55	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	203343	1	02/20/2015 10:36	IO
Arsenic	BRL	0.0500		mg/L	203343	1	02/20/2015 10:36	IO
Barium	0.218	0.0200		mg/L	203343	1	02/20/2015 10:36	IO
Beryllium	BRL	0.0100		mg/L	203343	1	02/20/2015 10:36	IO
Cadmium	BRL	0.0050		mg/L	203343	1	02/20/2015 10:36	IO
Chromium	BRL	0.0100		mg/L	203343	1	02/20/2015 10:36	IO
Copper	BRL	0.0100		mg/L	203343	1	02/20/2015 10:36	IO
Iron	0.266	0.100		mg/L	203343	1	02/20/2015 10:36	IO
Lead	BRL	0.0100		mg/L	203343	1	02/20/2015 10:36	IO
Nickel	BRL	0.0200		mg/L	203343	1	02/20/2015 10:36	IO
Zinc	BRL	0.0200		mg/L	203343	1	02/20/2015 10:36	IO

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 26-Feb-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-110D-20150216-01
Project Name:	AGL Macon	**Collection Date:**	2/16/2015 2:15:00 PM
Lab ID:	1502E13-006	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	340	50		ug/L	203508	10	02/21/2015 01:51	NP
Carbon disulfide	BRL	5.0		ug/L	203508	1	02/21/2015 01:25	NP
Ethylbenzene	560	50		ug/L	203508	10	02/21/2015 01:51	NP
Toluene	BRL	5.0		ug/L	203508	1	02/21/2015 01:25	NP
Xylenes, Total	47	5.0		ug/L	203508	1	02/21/2015 01:25	NP
Surr: 4-Bromofluorobenzene	96.3	70.6-123		%REC	203508	10	02/21/2015 01:51	NP
Surr: 4-Bromofluorobenzene	98.6	70.6-123		%REC	203508	1	02/21/2015 01:25	NP
Surr: Dibromofluoromethane	94	78.7-124		%REC	203508	10	02/21/2015 01:51	NP
Surr: Dibromofluoromethane	97	78.7-124		%REC	203508	1	02/21/2015 01:25	NP
Surr: Toluene-d8	95.5	81.3-120		%REC	203508	10	02/21/2015 01:51	NP
Surr: Toluene-d8	96.6	81.3-120		%REC	203508	1	02/21/2015 01:25	NP
Sulfide by SM4500-S2-F								
Sulfide	BRL	1.00		mg/L	R286169	1	02/19/2015 09:30	AB
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	0.20	0.050		ug/L	203390	1	02/20/2015 18:48	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	203390	1	02/20/2015 18:48	YH
Benzo(a)pyrene	BRL	0.050		ug/L	203390	1	02/20/2015 18:48	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	203390	1	02/20/2015 18:48	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	203390	1	02/20/2015 18:48	YH
Surr: 4-Terphenyl-d14	71.5	55.4-136		%REC	203390	1	02/20/2015 18:48	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	203359	1	02/19/2015 22:51	YH
2-Methylphenol	BRL	10		ug/L	203359	1	02/19/2015 22:51	YH
3,4-Methylphenol	BRL	10		ug/L	203359	1	02/19/2015 22:51	YH
Acenaphthene	97	10		ug/L	203359	1	02/19/2015 22:51	YH
Acenaphthylene	BRL	10		ug/L	203359	1	02/19/2015 22:51	YH
Anthracene	BRL	10		ug/L	203359	1	02/19/2015 22:51	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	203359	1	02/19/2015 22:51	YH
Benzo(k)fluoranthene	BRL	10		ug/L	203359	1	02/19/2015 22:51	YH
Chrysene	BRL	10		ug/L	203359	1	02/19/2015 22:51	YH
Fluoranthene	BRL	10		ug/L	203359	1	02/19/2015 22:51	YH
Fluorene	33	10		ug/L	203359	1	02/19/2015 22:51	YH
Naphthalene	3400	1000		ug/L	203359	100	02/20/2015 15:42	YH
Phenanthrene	53	10		ug/L	203359	1	02/19/2015 22:51	YH
Phenol	BRL	10		ug/L	203359	1	02/19/2015 22:51	YH
Pyrene	BRL	10		ug/L	203359	1	02/19/2015 22:51	YH
Surr: 2,4,6-Tribromophenol	115	52-133		%REC	203359	1	02/19/2015 22:51	YH
Surr: 2-Fluorobiphenyl	90.1	50-121		%REC	203359	1	02/19/2015 22:51	YH

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 26-Feb-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-110D-20150216-01
Project Name:	AGL Macon	**Collection Date:**	2/16/2015 2:15:00 PM
Lab ID:	1502E13-006	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
Surr: 2-Fluorophenol	69.4	27.5-120		%REC	203359	1	02/19/2015 22:51	YH
Surr: 4-Terphenyl-d14	91.1	46.3-137		%REC	203359	1	02/19/2015 22:51	YH
Surr: Nitrobenzene-d5	105	41.2-121		%REC	203359	1	02/19/2015 22:51	YH
Surr: Phenol-d5	59.6	14.3-120		%REC	203359	1	02/19/2015 22:51	YH
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	203355	1	02/20/2015 11:44	JG
ION SCAN SW9056A								
Nitrate	BRL	0.25		mg/L	R286231	1	02/17/2015 15:27	JW
Sulfate	1.1	1.0		mg/L	R286231	1	02/17/2015 15:27	JW
GC Analysis of Gaseous Samples SOP-RSK 175				**(RSK175)**				
Methane	960	40		ug/L	203298	10	02/23/2015 17:39	JM
Ferrous Iron SM3500-Fe-B								
Iron, as Ferrous (Fe+2)	5.60	1.00		mg/L	R286049	10	02/17/2015 13:49	AB
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	BRL	0.010		mg/L	203314	1	02/17/2015 15:55	PF
METALS, TOTAL SW6010C				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	203343	1	02/20/2015 10:39	IO
Arsenic	BRL	0.0500		mg/L	203343	1	02/20/2015 10:39	IO
Barium	4.07	0.0200		mg/L	203343	1	02/20/2015 10:39	IO
Beryllium	BRL	0.0100		mg/L	203343	1	02/20/2015 10:39	IO
Cadmium	BRL	0.0050		mg/L	203343	1	02/20/2015 10:39	IO
Chromium	BRL	0.0100		mg/L	203343	1	02/20/2015 10:39	IO
Copper	BRL	0.0100		mg/L	203343	1	02/20/2015 10:39	IO
Iron	6.61	0.100		mg/L	203343	1	02/20/2015 10:39	IO
Lead	BRL	0.0100		mg/L	203343	1	02/20/2015 10:39	IO
Nickel	0.107	0.0200		mg/L	203343	1	02/20/2015 10:39	IO
Zinc	BRL	0.0200		mg/L	203343	1	02/20/2015 10:39	IO

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 26-Feb-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-12DD-20150216-01
Project Name:	AGL Macon	**Collection Date:**	2/16/2015 3:20:00 PM
Lab ID:	1502E13-007	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	44	5.0		ug/L	203508	1	02/21/2015 03:30	NP
Carbon disulfide	BRL	5.0		ug/L	203508	1	02/21/2015 03:30	NP
Ethylbenzene	10	5.0		ug/L	203508	1	02/21/2015 03:30	NP
Toluene	BRL	5.0		ug/L	203508	1	02/21/2015 03:30	NP
Xylenes, Total	11	5.0		ug/L	203508	1	02/21/2015 03:30	NP
Surr: 4-Bromofluorobenzene	98.1	70.6-123		%REC	203508	1	02/21/2015 03:30	NP
Surr: Dibromofluoromethane	97.7	78.7-124		%REC	203508	1	02/21/2015 03:30	NP
Surr: Toluene-d8	97.1	81.3-120		%REC	203508	1	02/21/2015 03:30	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	203390	1	02/20/2015 19:15	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	203390	1	02/20/2015 19:15	YH
Benzo(a)pyrene	BRL	0.050		ug/L	203390	1	02/20/2015 19:15	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	203390	1	02/20/2015 19:15	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	203390	1	02/20/2015 19:15	YH
Surr: 4-Terphenyl-d14	73.2	55.4-136		%REC	203390	1	02/20/2015 19:15	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	203359	1	02/19/2015 23:17	YH
2-Methylphenol	BRL	10		ug/L	203359	1	02/19/2015 23:17	YH
3,4-Methylphenol	BRL	10		ug/L	203359	1	02/19/2015 23:17	YH
Acenaphthene	BRL	10		ug/L	203359	1	02/19/2015 23:17	YH
Acenaphthylene	BRL	10		ug/L	203359	1	02/19/2015 23:17	YH
Anthracene	BRL	10		ug/L	203359	1	02/19/2015 23:17	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	203359	1	02/19/2015 23:17	YH
Benzo(k)fluoranthene	BRL	10		ug/L	203359	1	02/19/2015 23:17	YH
Chrysene	BRL	10		ug/L	203359	1	02/19/2015 23:17	YH
Fluoranthene	BRL	10		ug/L	203359	1	02/19/2015 23:17	YH
Fluorene	BRL	10		ug/L	203359	1	02/19/2015 23:17	YH
Naphthalene	13	10		ug/L	203359	1	02/19/2015 23:17	YH
Phenanthrene	BRL	10		ug/L	203359	1	02/19/2015 23:17	YH
Phenol	BRL	10		ug/L	203359	1	02/19/2015 23:17	YH
Pyrene	BRL	10		ug/L	203359	1	02/19/2015 23:17	YH
Surr: 2,4,6-Tribromophenol	119	52-133		%REC	203359	1	02/19/2015 23:17	YH
Surr: 2-Fluorobiphenyl	87.6	50-121		%REC	203359	1	02/19/2015 23:17	YH
Surr: 2-Fluorophenol	69	27.5-120		%REC	203359	1	02/19/2015 23:17	YH
Surr: 4-Terphenyl-d14	92.7	46.3-137		%REC	203359	1	02/19/2015 23:17	YH
Surr: Nitrobenzene-d5	85.4	41.2-121		%REC	203359	1	02/19/2015 23:17	YH
Surr: Phenol-d5	70.1	14.3-120		%REC	203359	1	02/19/2015 23:17	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 26-Feb-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-12DD-20150216-01
Project Name:	AGL Macon	**Collection Date:**	2/16/2015 3:20:00 PM
Lab ID:	1502E13-007	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	203355	1	02/20/2015 11:46	JG
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	203314	1	02/17/2015 15:55	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	203343	1	02/20/2015 10:43	IO
Arsenic	BRL	0.0500		mg/L	203343	1	02/20/2015 10:43	IO
Barium	0.0948	0.0200		mg/L	203343	1	02/20/2015 10:43	IO
Beryllium	BRL	0.0100		mg/L	203343	1	02/20/2015 10:43	IO
Cadmium	BRL	0.0050		mg/L	203343	1	02/20/2015 10:43	IO
Chromium	BRL	0.0100		mg/L	203343	1	02/20/2015 10:43	IO
Copper	BRL	0.0100		mg/L	203343	1	02/20/2015 10:43	IO
Lead	BRL	0.0100		mg/L	203343	1	02/20/2015 10:43	IO
Nickel	BRL	0.0200		mg/L	203343	1	02/20/2015 10:43	IO
Zinc	BRL	0.0200		mg/L	203343	1	02/20/2015 10:43	IO

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 26-Feb-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-205D-20150216-01
Project Name:	AGL Macon	**Collection Date:**	2/16/2015 3:30:00 PM
Lab ID:	1502E13-008	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	4400	250		ug/L	203508	50	02/20/2015 00:12	NP
Carbon disulfide	BRL	5.0		ug/L	203508	1	02/21/2015 08:29	NP
Ethylbenzene	990	250		ug/L	203508	50	02/20/2015 00:12	NP
Toluene	12	5.0		ug/L	203508	1	02/21/2015 08:29	NP
Xylenes, Total	560	250		ug/L	203508	50	02/20/2015 00:12	NP
Surr: 4-Bromofluorobenzene	97	70.6-123		%REC	203508	50	02/20/2015 00:12	NP
Surr: 4-Bromofluorobenzene	102	70.6-123		%REC	203508	1	02/21/2015 08:29	NP
Surr: Dibromofluoromethane	98.2	78.7-124		%REC	203508	50	02/20/2015 00:12	NP
Surr: Dibromofluoromethane	97.4	78.7-124		%REC	203508	1	02/21/2015 08:29	NP
Surr: Toluene-d8	96.8	81.3-120		%REC	203508	50	02/20/2015 00:12	NP
Surr: Toluene-d8	97.3	81.3-120		%REC	203508	1	02/21/2015 08:29	NP
Sulfide by SM4500-S2-F								
Sulfide	BRL	1.00		mg/L	R286169	1	02/19/2015 09:30	AB
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	203390	1	02/20/2015 19:43	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	203390	1	02/20/2015 19:43	YH
Benzo(a)pyrene	BRL	0.050		ug/L	203390	1	02/20/2015 19:43	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	203390	1	02/20/2015 19:43	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	203390	1	02/20/2015 19:43	YH
Surr: 4-Terphenyl-d14	75	55.4-136		%REC	203390	1	02/20/2015 19:43	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	203359	1	02/19/2015 23:42	YH
2-Methylphenol	BRL	10		ug/L	203359	1	02/19/2015 23:42	YH
3,4-Methylphenol	BRL	10		ug/L	203359	1	02/19/2015 23:42	YH
Acenaphthene	130	10		ug/L	203359	1	02/19/2015 23:42	YH
Acenaphthylene	BRL	10		ug/L	203359	1	02/19/2015 23:42	YH
Anthracene	BRL	10		ug/L	203359	1	02/19/2015 23:42	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	203359	1	02/19/2015 23:42	YH
Benzo(k)fluoranthene	BRL	10		ug/L	203359	1	02/19/2015 23:42	YH
Chrysene	BRL	10		ug/L	203359	1	02/19/2015 23:42	YH
Fluoranthene	BRL	10		ug/L	203359	1	02/19/2015 23:42	YH
Fluorene	31	10		ug/L	203359	1	02/19/2015 23:42	YH
Naphthalene	4200	1000		ug/L	203359	100	02/20/2015 16:09	YH
Phenanthrene	29	10		ug/L	203359	1	02/19/2015 23:42	YH
Phenol	BRL	10		ug/L	203359	1	02/19/2015 23:42	YH
Pyrene	BRL	10		ug/L	203359	1	02/19/2015 23:42	YH
Surr: 2,4,6-Tribromophenol	115	52-133		%REC	203359	1	02/19/2015 23:42	YH
Surr: 2-Fluorobiphenyl	88.8	50-121		%REC	203359	1	02/19/2015 23:42	YH

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 26-Feb-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-205D-20150216-01
Project Name:	AGL Macon	**Collection Date:**	2/16/2015 3:30:00 PM
Lab ID:	1502E13-008	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
Surr: 2-Fluorophenol	65.8	27.5-120		%REC	203359	1	02/19/2015 23:42	YH
Surr: 4-Terphenyl-d14	90.6	46.3-137		%REC	203359	1	02/19/2015 23:42	YH
Surr: Nitrobenzene-d5	114	41.2-121		%REC	203359	1	02/19/2015 23:42	YH
Surr: Phenol-d5	56.9	14.3-120		%REC	203359	1	02/19/2015 23:42	YH
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	203355	1	02/20/2015 11:52	JG
ION SCAN SW9056A								
Nitrate	BRL	2.5		mg/L	R286231	10	02/17/2015 13:57	JW
Sulfate	BRL	10		mg/L	R286231	10	02/17/2015 13:57	JW
GC Analysis of Gaseous Samples SOP-RSK 175				**(RSK175)**				
Methane	3000	80		ug/L	203298	20	02/23/2015 17:45	JM
Ferrous Iron SM3500-Fe-B								
Iron, as Ferrous (Fe+2)	0.844	0.100		mg/L	R286049	1	02/17/2015 13:49	AB
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	BRL	0.010		mg/L	203314	1	02/17/2015 15:55	PF
METALS, TOTAL SW6010C				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	203343	1	02/20/2015 10:47	IO
Arsenic	BRL	0.0500		mg/L	203343	1	02/20/2015 10:47	IO
Barium	3.16	0.0200		mg/L	203343	1	02/20/2015 10:47	IO
Beryllium	BRL	0.0100		mg/L	203343	1	02/20/2015 10:47	IO
Cadmium	BRL	0.0050		mg/L	203343	1	02/20/2015 10:47	IO
Chromium	BRL	0.0100		mg/L	203343	1	02/20/2015 10:47	IO
Copper	BRL	0.0100		mg/L	203343	1	02/20/2015 10:47	IO
Iron	4.37	0.100		mg/L	203343	1	02/20/2015 10:47	IO
Lead	BRL	0.0100		mg/L	203343	1	02/20/2015 10:47	IO
Nickel	BRL	0.0200		mg/L	203343	1	02/20/2015 10:47	IO
Zinc	BRL	0.0200		mg/L	203343	1	02/20/2015 10:47	IO

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 26-Feb-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-308D-20150216-01
Project Name:	AGL Macon	**Collection Date:**	2/16/2015 4:05:00 PM
Lab ID:	1502E13-009	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	8.2	5.0		ug/L	203508	1	02/21/2015 03:55	NP
Carbon disulfide	BRL	5.0		ug/L	203508	1	02/21/2015 03:55	NP
Ethylbenzene	BRL	5.0		ug/L	203508	1	02/21/2015 03:55	NP
Toluene	BRL	5.0		ug/L	203508	1	02/21/2015 03:55	NP
Xylenes, Total	BRL	5.0		ug/L	203508	1	02/21/2015 03:55	NP
Surr: 4-Bromofluorobenzene	97.5	70.6-123		%REC	203508	1	02/21/2015 03:55	NP
Surr: Dibromofluoromethane	100	78.7-124		%REC	203508	1	02/21/2015 03:55	NP
Surr: Toluene-d8	98.4	81.3-120		%REC	203508	1	02/21/2015 03:55	NP
Sulfide by SM4500-S2-F								
Sulfide	BRL	1.00		mg/L	R286169	1	02/19/2015 09:30	AB
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	203390	1	02/20/2015 20:10	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	203390	1	02/20/2015 20:10	YH
Benzo(a)pyrene	BRL	0.050		ug/L	203390	1	02/20/2015 20:10	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	203390	1	02/20/2015 20:10	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	203390	1	02/20/2015 20:10	YH
Surr: 4-Terphenyl-d14	83.5	55.4-136		%REC	203390	1	02/20/2015 20:10	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	203359	1	02/20/2015 00:08	YH
2-Methylphenol	BRL	10		ug/L	203359	1	02/20/2015 00:08	YH
3,4-Methylphenol	BRL	10		ug/L	203359	1	02/20/2015 00:08	YH
Acenaphthene	BRL	10		ug/L	203359	1	02/20/2015 00:08	YH
Acenaphthylene	BRL	10		ug/L	203359	1	02/20/2015 00:08	YH
Anthracene	BRL	10		ug/L	203359	1	02/20/2015 00:08	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	203359	1	02/20/2015 00:08	YH
Benzo(k)fluoranthene	BRL	10		ug/L	203359	1	02/20/2015 00:08	YH
Chrysene	BRL	10		ug/L	203359	1	02/20/2015 00:08	YH
Fluoranthene	BRL	10		ug/L	203359	1	02/20/2015 00:08	YH
Fluorene	BRL	10		ug/L	203359	1	02/20/2015 00:08	YH
Naphthalene	BRL	10		ug/L	203359	1	02/20/2015 00:08	YH
Phenanthrene	BRL	10		ug/L	203359	1	02/20/2015 00:08	YH
Phenol	BRL	10		ug/L	203359	1	02/20/2015 00:08	YH
Pyrene	BRL	10		ug/L	203359	1	02/20/2015 00:08	YH
Surr: 2,4,6-Tribromophenol	114	52-133		%REC	203359	1	02/20/2015 00:08	YH
Surr: 2-Fluorobiphenyl	89	50-121		%REC	203359	1	02/20/2015 00:08	YH
Surr: 2-Fluorophenol	73.4	27.5-120		%REC	203359	1	02/20/2015 00:08	YH
Surr: 4-Terphenyl-d14	92.2	46.3-137		%REC	203359	1	02/20/2015 00:08	YH
Surr: Nitrobenzene-d5	85.2	41.2-121		%REC	203359	1	02/20/2015 00:08	YH

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 26-Feb-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-308D-20150216-01
Project Name:	AGL Macon	**Collection Date:**	2/16/2015 4:05:00 PM
Lab ID:	1502E13-009	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D					**(SW3510C)**			
Surr: Phenol-d5	62.7	14.3-120		%REC	203359	1	02/20/2015 00:08	YH
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	203355	1	02/20/2015 11:54	JG
ION SCAN SW9056A								
Nitrate	BRL	2.5		mg/L	R286231	10	02/17/2015 14:12	JW
Sulfate	19	10		mg/L	R286231	10	02/17/2015 14:12	JW
GC Analysis of Gaseous Samples SOP-RSK 175					**(RSK175)**			
Methane	47	4		ug/L	203298	1	02/23/2015 16:11	JM
Ferrous Iron SM3500-Fe-B								
Iron, as Ferrous (Fe+2)	BRL	0.100		mg/L	R286049	1	02/17/2015 13:49	AB
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	203314	1	02/17/2015 15:55	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	203343	1	02/20/2015 10:51	IO
Arsenic	BRL	0.0500		mg/L	203343	1	02/20/2015 10:51	IO
Barium	0.124	0.0200		mg/L	203343	1	02/20/2015 10:51	IO
Beryllium	BRL	0.0100		mg/L	203343	1	02/20/2015 10:51	IO
Cadmium	BRL	0.0050		mg/L	203343	1	02/20/2015 10:51	IO
Chromium	0.0339	0.0100		mg/L	203343	1	02/20/2015 10:51	IO
Copper	BRL	0.0100		mg/L	203343	1	02/20/2015 10:51	IO
Iron	BRL	0.100		mg/L	203343	1	02/20/2015 10:51	IO
Lead	BRL	0.0100		mg/L	203343	1	02/20/2015 10:51	IO
Nickel	BRL	0.0200		mg/L	203343	1	02/20/2015 10:51	IO
Zinc	BRL	0.0200		mg/L	203343	1	02/20/2015 10:51	IO

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 26-Feb-15

Client:	ERM-Southeast	**Client Sample ID:**	TRIP BLANK
Project Name:	AGL Macon	**Collection Date:**	2/17/2015
Lab ID:	1502E13-010	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	203508	1	02/19/2015 23:22	NP
Carbon disulfide	BRL	5.0		ug/L	203508	1	02/19/2015 23:22	NP
Ethylbenzene	BRL	5.0		ug/L	203508	1	02/19/2015 23:22	NP
Toluene	BRL	5.0		ug/L	203508	1	02/19/2015 23:22	NP
Xylenes, Total	BRL	5.0		ug/L	203508	1	02/19/2015 23:22	NP
Surr: 4-Bromofluorobenzene	93.5	70.6-123		%REC	203508	1	02/19/2015 23:22	NP
Surr: Dibromofluoromethane	97.9	78.7-124		%REC	203508	1	02/19/2015 23:22	NP
Surr: Toluene-d8	97.3	81.3-120		%REC	203508	1	02/19/2015 23:22	NP

Qualifiers:

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

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM Work Order Number 1502E13

Checklist completed by Jason B 2/17/15
Signature Date

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

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

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

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

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

Cooler #1 3.2 Cooler #2 3.4 Cooler #3 3.6 Cooler #4 3.8 Cooler#5 3.9 Cooler #6 _____

Chain of custody present? Yes ✓ No __

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

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

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

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

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

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

Adjusted? _____ Checked by JB

Sample Condition: Good ✓ Other(Explain) _____

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

See Case Narrative for resolution of the Non-Conformance.

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

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

Client: ERM-Southeast
Project Name: AGL Macon
Lab Order: 1502E13

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1502E13-001A	TB-01-20150216-01	2/16/2015 12:00:00AM	Aqueous	Volatile Organic Compounds by GC/MS		2/19/2015 10:07:00PM	02/19/2015
1502E13-002A	MW-25D-20150216-01	2/16/2015 10:35:00AM	Aqueous	Volatile Organic Compounds by GC/MS		2/19/2015 10:07:00PM	02/21/2015
1502E13-002B	MW-25D-20150216-01	2/16/2015 10:35:00AM	Aqueous	TOTAL METALS BY ICP		2/18/2015 12:20:00PM	02/20/2015
1502E13-002B	MW-25D-20150216-01	2/16/2015 10:35:00AM	Aqueous	TOTAL MERCURY		2/19/2015 10:50:00AM	02/20/2015
1502E13-002C	MW-25D-20150216-01	2/16/2015 10:35:00AM	Aqueous	Cyanide		2/17/2015 12:00:00PM	02/17/2015
1502E13-002D	MW-25D-20150216-01	2/16/2015 10:35:00AM	Aqueous	Polynuclear Aromatic Hydrocarbons		2/23/2015 11:00:00AM	02/23/2015
1502E13-002D	MW-25D-20150216-01	2/16/2015 10:35:00AM	Aqueous	TCL-SEMIVOLATILE ORGANICS		2/19/2015 9:00:00AM	02/19/2015
1502E13-002D	MW-25D-20150216-01	2/16/2015 10:35:00AM	Aqueous	Semivolatile Org. Comp. by GC/MS		2/19/2015 9:00:00AM	02/19/2015
1502E13-003A	MW-23D-20150216-01	2/16/2015 11:05:00AM	Aqueous	Volatile Organic Compounds by GC/MS		2/19/2015 10:07:00PM	02/21/2015
1502E13-003B	MW-23D-20150216-01	2/16/2015 11:05:00AM	Aqueous	TOTAL METALS BY ICP		2/18/2015 12:20:00PM	02/20/2015
1502E13-003B	MW-23D-20150216-01	2/16/2015 11:05:00AM	Aqueous	TOTAL MERCURY		2/19/2015 10:50:00AM	02/20/2015
1502E13-003C	MW-23D-20150216-01	2/16/2015 11:05:00AM	Aqueous	Cyanide		2/17/2015 12:00:00PM	02/17/2015
1502E13-003D	MW-23D-20150216-01	2/16/2015 11:05:00AM	Aqueous	Polynuclear Aromatic Hydrocarbons		2/19/2015 1:00:00PM	02/20/2015
1502E13-003D	MW-23D-20150216-01	2/16/2015 11:05:00AM	Aqueous	TCL-SEMIVOLATILE ORGANICS		2/23/2015 9:00:00AM	02/23/2015
1502E13-003D	MW-23D-20150216-01	2/16/2015 11:05:00AM	Aqueous	Semivolatile Org. Comp. by GC/MS		2/23/2015 9:00:00AM	02/23/2015
1502E13-004A	MW-12DRR-20150216-01	2/16/2015 2:10:00PM	Aqueous	Volatile Organic Compounds by GC/MS		2/19/2015 10:07:00PM	02/20/2015
1502E13-004A	MW-12DRR-20150216-01	2/16/2015 2:10:00PM	Aqueous	Volatile Organic Compounds by GC/MS		2/19/2015 10:07:00PM	02/21/2015
1502E13-004B	MW-12DRR-20150216-01	2/16/2015 2:10:00PM	Aqueous	GC Analysis of Gaseous Samples		2/17/2015 2:07:07PM	02/23/2015
1502E13-004C	MW-12DRR-20150216-01	2/16/2015 2:10:00PM	Aqueous	TOTAL METALS BY ICP		2/18/2015 12:20:00PM	02/20/2015
1502E13-004C	MW-12DRR-20150216-01	2/16/2015 2:10:00PM	Aqueous	TOTAL MERCURY		2/19/2015 10:50:00AM	02/20/2015
1502E13-004D	MW-12DRR-20150216-01	2/16/2015 2:10:00PM	Aqueous	Cyanide		2/17/2015 12:00:00PM	02/17/2015
1502E13-004E	MW-12DRR-20150216-01	2/16/2015 2:10:00PM	Aqueous	Polynuclear Aromatic Hydrocarbons		2/19/2015 1:00:00PM	02/20/2015
1502E13-004E	MW-12DRR-20150216-01	2/16/2015 2:10:00PM	Aqueous	Semivolatile Org. Comp. by GC/MS		2/19/2015 9:00:00AM	02/19/2015
1502E13-004E	MW-12DRR-20150216-01	2/16/2015 2:10:00PM	Aqueous	Semivolatile Org. Comp. by GC/MS		2/19/2015 9:00:00AM	02/20/2015
1502E13-004F	MW-12DRR-20150216-01	2/16/2015 2:10:00PM	Aqueous	Ferrous Iron			02/17/2015
1502E13-004G	MW-12DRR-20150216-01	2/16/2015 2:10:00PM	Aqueous	ION SCAN			02/17/2015
1502E13-004H	MW-12DRR-20150216-01	2/16/2015 2:10:00PM	Aqueous	Sulfide by SM4500-S2-F			02/19/2015
1502E13-005A	MW-112D-20150216-01	2/16/2015 2:10:00PM	Aqueous	Volatile Organic Compounds by GC/MS		2/19/2015 10:07:00PM	02/21/2015
1502E13-005B	MW-112D-20150216-01	2/16/2015 2:10:00PM	Aqueous	GC Analysis of Gaseous Samples		2/17/2015 2:07:07PM	02/23/2015

Client: ERM-Southeast
Project Name: AGL Macon
Lab Order: 1502E13

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1502E13-005C	MW-112D-20150216-01	2/16/2015 2:10:00PM	Aqueous	TOTAL METALS BY ICP		2/18/2015 12:20:00PM	02/20/2015
1502E13-005C	MW-112D-20150216-01	2/16/2015 2:10:00PM	Aqueous	TOTAL MERCURY		2/19/2015 10:50:00AM	02/20/2015
1502E13-005D	MW-112D-20150216-01	2/16/2015 2:10:00PM	Aqueous	Cyanide		2/17/2015 12:00:00PM	02/17/2015
1502E13-005E	MW-112D-20150216-01	2/16/2015 2:10:00PM	Aqueous	Polynuclear Aromatic Hydrocarbons		2/19/2015 1:00:00PM	02/20/2015
1502E13-005E	MW-112D-20150216-01	2/16/2015 2:10:00PM	Aqueous	Semivolatile Org. Comp. by GC/MS		2/19/2015 9:00:00AM	02/19/2015
1502E13-005F	MW-112D-20150216-01	2/16/2015 2:10:00PM	Aqueous	Ferrous Iron			02/17/2015
1502E13-005G	MW-112D-20150216-01	2/16/2015 2:10:00PM	Aqueous	ION SCAN			02/17/2015
1502E13-005H	MW-112D-20150216-01	2/16/2015 2:10:00PM	Aqueous	Sulfide by SM4500-S2-F			02/19/2015
1502E13-006A	MW-110D-20150216-01	2/16/2015 2:15:00PM	Aqueous	Volatile Organic Compounds by GC/MS		2/19/2015 10:07:00PM	02/21/2015
1502E13-006B	MW-110D-20150216-01	2/16/2015 2:15:00PM	Aqueous	GC Analysis of Gaseous Samples		2/17/2015 2:07:07PM	02/23/2015
1502E13-006C	MW-110D-20150216-01	2/16/2015 2:15:00PM	Aqueous	TOTAL METALS BY ICP		2/18/2015 12:20:00PM	02/20/2015
1502E13-006C	MW-110D-20150216-01	2/16/2015 2:15:00PM	Aqueous	TOTAL MERCURY		2/19/2015 10:50:00AM	02/20/2015
1502E13-006D	MW-110D-20150216-01	2/16/2015 2:15:00PM	Aqueous	Cyanide		2/17/2015 12:00:00PM	02/17/2015
1502E13-006E	MW-110D-20150216-01	2/16/2015 2:15:00PM	Aqueous	Polynuclear Aromatic Hydrocarbons		2/19/2015 1:00:00PM	02/20/2015
1502E13-006E	MW-110D-20150216-01	2/16/2015 2:15:00PM	Aqueous	Semivolatile Org. Comp. by GC/MS		2/19/2015 9:00:00AM	02/19/2015
1502E13-006E	MW-110D-20150216-01	2/16/2015 2:15:00PM	Aqueous	Semivolatile Org. Comp. by GC/MS		2/19/2015 9:00:00AM	02/20/2015
1502E13-006F	MW-110D-20150216-01	2/16/2015 2:15:00PM	Aqueous	Ferrous Iron			02/17/2015
1502E13-006G	MW-110D-20150216-01	2/16/2015 2:15:00PM	Aqueous	ION SCAN			02/17/2015
1502E13-006H	MW-110D-20150216-01	2/16/2015 2:15:00PM	Aqueous	Sulfide by SM4500-S2-F			02/19/2015
1502E13-007A	MW-12DD-20150216-01	2/16/2015 3:20:00PM	Aqueous	Volatile Organic Compounds by GC/MS		2/19/2015 10:07:00PM	02/21/2015
1502E13-007B	MW-12DD-20150216-01	2/16/2015 3:20:00PM	Aqueous	TOTAL METALS BY ICP		2/18/2015 12:20:00PM	02/20/2015
1502E13-007B	MW-12DD-20150216-01	2/16/2015 3:20:00PM	Aqueous	TOTAL MERCURY		2/19/2015 10:50:00AM	02/20/2015
1502E13-007C	MW-12DD-20150216-01	2/16/2015 3:20:00PM	Aqueous	Cyanide		2/17/2015 12:00:00PM	02/17/2015
1502E13-007D	MW-12DD-20150216-01	2/16/2015 3:20:00PM	Aqueous	Polynuclear Aromatic Hydrocarbons		2/19/2015 1:00:00PM	02/20/2015
1502E13-007D	MW-12DD-20150216-01	2/16/2015 3:20:00PM	Aqueous	Semivolatile Org. Comp. by GC/MS		2/19/2015 9:00:00AM	02/19/2015
1502E13-008A	MW-205D-20150216-01	2/16/2015 3:30:00PM	Aqueous	Volatile Organic Compounds by GC/MS		2/19/2015 10:07:00PM	02/20/2015
1502E13-008A	MW-205D-20150216-01	2/16/2015 3:30:00PM	Aqueous	Volatile Organic Compounds by GC/MS		2/19/2015 10:07:00PM	02/21/2015
1502E13-008B	MW-205D-20150216-01	2/16/2015 3:30:00PM	Aqueous	GC Analysis of Gaseous Samples		2/17/2015 2:07:07PM	02/23/2015
1502E13-008C	MW-205D-20150216-01	2/16/2015 3:30:00PM	Aqueous	TOTAL METALS BY ICP		2/18/2015 12:20:00PM	02/20/2015

Client: ERM-Southeast
Project Name: AGL Macon
Lab Order: 1502E13

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1502E13-008C	MW-205D-20150216-01	2/16/2015 3:30:00PM	Aqueous	TOTAL MERCURY		2/19/2015 10:50:00AM	02/20/2015
1502E13-008D	MW-205D-20150216-01	2/16/2015 3:30:00PM	Aqueous	Cyanide		2/17/2015 12:00:00PM	02/17/2015
1502E13-008E	MW-205D-20150216-01	2/16/2015 3:30:00PM	Aqueous	Polynuclear Aromatic Hydrocarbons		2/19/2015 1:00:00PM	02/20/2015
1502E13-008E	MW-205D-20150216-01	2/16/2015 3:30:00PM	Aqueous	Semivolatile Org. Comp. by GC/MS		2/19/2015 9:00:00AM	02/19/2015
1502E13-008E	MW-205D-20150216-01	2/16/2015 3:30:00PM	Aqueous	Semivolatile Org. Comp. by GC/MS		2/19/2015 9:00:00AM	02/20/2015
1502E13-008F	MW-205D-20150216-01	2/16/2015 3:30:00PM	Aqueous	Ferrous Iron			02/17/2015
1502E13-008G	MW-205D-20150216-01	2/16/2015 3:30:00PM	Aqueous	ION SCAN			02/17/2015
1502E13-008H	MW-205D-20150216-01	2/16/2015 3:30:00PM	Aqueous	Sulfide by SM4500-S2-F			02/19/2015
1502E13-009A	MW-308D-20150216-01	2/16/2015 4:05:00PM	Aqueous	Volatile Organic Compounds by GC/MS		2/19/2015 10:07:00PM	02/21/2015
1502E13-009B	MW-308D-20150216-01	2/16/2015 4:05:00PM	Aqueous	GC Analysis of Gaseous Samples		2/17/2015 2:07:07PM	02/23/2015
1502E13-009C	MW-308D-20150216-01	2/16/2015 4:05:00PM	Aqueous	TOTAL METALS BY ICP		2/18/2015 12:20:00PM	02/20/2015
1502E13-009C	MW-308D-20150216-01	2/16/2015 4:05:00PM	Aqueous	TOTAL MERCURY		2/19/2015 10:50:00AM	02/20/2015
1502E13-009D	MW-308D-20150216-01	2/16/2015 4:05:00PM	Aqueous	Cyanide		2/17/2015 12:00:00PM	02/17/2015
1502E13-009E	MW-308D-20150216-01	2/16/2015 4:05:00PM	Aqueous	Polynuclear Aromatic Hydrocarbons		2/19/2015 1:00:00PM	02/20/2015
1502E13-009E	MW-308D-20150216-01	2/16/2015 4:05:00PM	Aqueous	Semivolatile Org. Comp. by GC/MS		2/19/2015 9:00:00AM	02/20/2015
1502E13-009F	MW-308D-20150216-01	2/16/2015 4:05:00PM	Aqueous	Ferrous Iron			02/17/2015
1502E13-009G	MW-308D-20150216-01	2/16/2015 4:05:00PM	Aqueous	ION SCAN			02/17/2015
1502E13-009H	MW-308D-20150216-01	2/16/2015 4:05:00PM	Aqueous	Sulfide by SM4500-S2-F			02/19/2015
1502E13-010A	TRIP BLANK	2/17/2015 12:00:00AM	Aqueous	Volatile Organic Compounds by GC/MS		2/19/2015 10:07:00PM	02/19/2015

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502E13

ANALYTICAL QC SUMMARY REPORT

BatchID: 203298

Sample ID: **MB-203298**	Client ID:				Units: **ug/L**		Prep Date: **02/17/2015**		Run No: **286383**
SampleType: **MBLK**	TestCode: **GC Analysis of Gaseous Samples SOP-RSK 175**				BatchID: **203298**		Analysis Date: **02/23/2015**		Seq No: **6078664**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Methane	BRL	4									

Sample ID: **LCS-203298**	Client ID:				Units: **ug/L**		Prep Date: **02/17/2015**		Run No: **286383**
SampleType: **LCS**	TestCode: **GC Analysis of Gaseous Samples SOP-RSK 175**				BatchID: **203298**		Analysis Date: **02/23/2015**		Seq No: **6078666**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Methane	107.5	4	200.0		53.7	45.1	115				

Sample ID: **LCSD-203298**	Client ID:				Units: **ug/L**		Prep Date: **02/17/2015**		Run No: **286383**
SampleType: **LCSD**	TestCode: **GC Analysis of Gaseous Samples SOP-RSK 175**				BatchID: **203298**		Analysis Date: **02/23/2015**		Seq No: **6078665**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Methane	107.1	4	200.0		53.5	45.1	115	0	0	20	

Sample ID: **1502E13-005BMS**	Client ID: **MW-112D-20150216-01**				Units: **ug/L**		Prep Date: **02/17/2015**		Run No: **286383**
SampleType: **MS**	TestCode: **GC Analysis of Gaseous Samples SOP-RSK 175**				BatchID: **203298**		Analysis Date: **02/23/2015**		Seq No: **6078672**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Methane	129.5	4	200.0	5.573	62.0	40.4	115				

Sample ID: **1502E13-005BMSD**	Client ID: **MW-112D-20150216-01**				Units: **ug/L**		Prep Date: **02/17/2015**		Run No: **286383**
SampleType: **MSD**	TestCode: **GC Analysis of Gaseous Samples SOP-RSK 175**				BatchID: **203298**		Analysis Date: **02/23/2015**		Seq No: **6078673**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Methane	131.0	4	200.0	5.573	62.7	40.4	115	129.5	1.16	20	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502E13

ANALYTICAL QC SUMMARY REPORT

BatchID: 203314

Sample ID: **MB-203314**	Client ID:				Units: **mg/L**		Prep Date: **02/17/2015**		Run No: **286029**
SampleType: **MBLK**	TestCode: **Cyanide SW9014**				BatchID: **203314**		Analysis Date: **02/17/2015**		Seq No: **6069808**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	0.010									

Sample ID: **LCS-203314**	Client ID:				Units: **mg/L**		Prep Date: **02/17/2015**		Run No: **286029**
SampleType: **LCS**	TestCode: **Cyanide SW9014**				BatchID: **203314**		Analysis Date: **02/17/2015**		Seq No: **6069809**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2326	0.010	0.2500		93.0	85	115				

Sample ID: **1502930-001BMS**	Client ID:				Units: **mg/L**		Prep Date: **02/17/2015**		Run No: **286029**
SampleType: **MS**	TestCode: **Cyanide SW9014**				BatchID: **203314**		Analysis Date: **02/17/2015**		Seq No: **6069811**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2452	0.010	0.2500		98.1	70	130				

Sample ID: **1502E13-002CMS**	Client ID: **MW-25D-20150216-01**				Units: **mg/L**		Prep Date: **02/17/2015**		Run No: **286029**
SampleType: **MS**	TestCode: **Cyanide SW9014**				BatchID: **203314**		Analysis Date: **02/17/2015**		Seq No: **6072064**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2485	0.010	0.2500		99.4	70	130				

Sample ID: **1502E13-003CMS**	Client ID: **MW-23D-20150216-01**				Units: **mg/L**		Prep Date: **02/17/2015**		Run No: **286029**
SampleType: **MS**	TestCode: **Cyanide SW9014**				BatchID: **203314**		Analysis Date: **02/17/2015**		Seq No: **6072066**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2542	0.010	0.2500		102	70	130				

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502E13

ANALYTICAL QC SUMMARY REPORT

BatchID: 203314

Sample ID: **1502930-001BMSD**	Client ID:				Units: **mg/L**		Prep Date: **02/17/2015**		Run No: **286029**	
SampleType: **MSD**	TestCode: **Cyanide SW9014**				BatchID: **203314**		Analysis Date: **02/17/2015**		Seq No: **6069812**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit Qual
Cyanide, Total	0.2482	0.010	0.2500		99.3	70	130	0.2452	1.22	20

Sample ID: **1502E13-002CMSD**	Client ID: **MW-25D-20150216-01**				Units: **mg/L**		Prep Date: **02/17/2015**		Run No: **286029**	
SampleType: **MSD**	TestCode: **Cyanide SW9014**				BatchID: **203314**		Analysis Date: **02/17/2015**		Seq No: **6072065**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit Qual
Cyanide, Total	0.2680	0.010	0.2500		107	70	130	0.2485	7.55	20

Sample ID: **1502E13-003CMSD**	Client ID: **MW-23D-20150216-01**				Units: **mg/L**		Prep Date: **02/17/2015**		Run No: **286029**	
SampleType: **MSD**	TestCode: **Cyanide SW9014**				BatchID: **203314**		Analysis Date: **02/17/2015**		Seq No: **6072067**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit Qual
Cyanide, Total	0.2449	0.010	0.2500		98.0	70	130	0.2542	3.73	20

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502E13

ANALYTICAL QC SUMMARY REPORT

BatchID: 203343

Sample ID: **MB-203343** Client ID: Units: **mg/L** Prep Date: **02/18/2015** Run No: **286491**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **203343** Analysis Date: **02/20/2015** Seq No: **6081172**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	0.0200									
Arsenic	BRL	0.0500									
Barium	BRL	0.0200									
Beryllium	BRL	0.0100									
Cadmium	BRL	0.0050									
Chromium	BRL	0.0100									
Copper	BRL	0.0100									
Iron	BRL	0.100									
Lead	BRL	0.0100									
Nickel	BRL	0.0200									
Zinc	BRL	0.0200									

Sample ID: **LCS-203343** Client ID: Units: **mg/L** Prep Date: **02/18/2015** Run No: **286491**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **203343** Analysis Date: **02/20/2015** Seq No: **6081173**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.071	0.0200	1.000		107	80	120				
Arsenic	1.063	0.0500	1.000		106	80	120				
Barium	1.068	0.0200	1.000		107	80	120				
Beryllium	1.056	0.0100	1.000		106	80	120				
Cadmium	1.065	0.0050	1.000		106	80	120				
Chromium	1.051	0.0100	1.000		105	80	120				
Copper	1.041	0.0100	1.000		104	80	120				
Iron	10.65	0.100	10.00		106	80	120				
Lead	1.041	0.0100	1.000		104	80	120				
Nickel	1.066	0.0200	1.000		107	80	120				
Zinc	1.063	0.0200	1.000		106	80	120				

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502E13

ANALYTICAL QC SUMMARY REPORT

BatchID: 203343

Sample ID: **1502E13-002BMS** Client ID: **MW-25D-20150216-01** Units: **mg/L** Prep Date: **02/18/2015** Run No: **286491**
SampleType: **MS** TestCode: **METALS, TOTAL SW6010C** BatchID: **203343** Analysis Date: **02/20/2015** Seq No: **6081175**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.039	0.0200	1.000		104	75	125				
Arsenic	1.050	0.0500	1.000		105	75	125				
Barium	4.328	0.0200	1.000	3.503	82.6	75	125				
Beryllium	1.045	0.0100	1.000	0.005275	104	75	125				
Cadmium	1.045	0.0050	1.000		104	75	125				
Chromium	1.027	0.0100	1.000	0.001298	103	75	125				
Copper	1.021	0.0100	1.000	0.003907	102	75	125				
Iron	10.47	0.100	10.00	0.07706	104	75	125				
Lead	1.004	0.0100	1.000		100	75	125				
Nickel	1.010	0.0200	1.000	0.01218	99.7	75	125				
Zinc	1.063	0.0200	1.000	0.02922	103	75	125				

Sample ID: **1502E13-003BMS** Client ID: **MW-23D-20150216-01** Units: **mg/L** Prep Date: **02/18/2015** Run No: **286491**
SampleType: **MS** TestCode: **METALS, TOTAL SW6010C** BatchID: **203343** Analysis Date: **02/20/2015** Seq No: **6081182**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.045	0.0200	1.000		104	75	125				
Arsenic	0.8287	0.0500	1.000		82.9	75	125				
Barium	0.8892	0.0200	1.000	0.06607	82.3	75	125				
Beryllium	0.8243	0.0100	1.000		82.4	75	125				
Cadmium	0.8296	0.0050	1.000		83.0	75	125				
Chromium	0.8061	0.0100	1.000		80.6	75	125				
Copper	0.8067	0.0100	1.000		80.7	75	125				
Iron	8.247	0.100	10.00	0.1389	81.1	75	125				
Lead	0.7937	0.0100	1.000		79.4	75	125				
Nickel	0.8067	0.0200	1.000		80.7	75	125				
Zinc	0.8220	0.0200	1.000	0.006496	81.6	75	125				

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502E13

ANALYTICAL QC SUMMARY REPORT

BatchID: 203343

Sample ID: **1502E13-002BMSD** Client ID: **MW-25D-20150216-01** Units: **mg/L** Prep Date: **02/18/2015** Run No: **286491**
SampleType: **MSD** TestCode: **METALS, TOTAL SW6010C** BatchID: **203343** Analysis Date: **02/20/2015** Seq No: **6081176**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.048	0.0200	1.000		105	75	125	1.039	0.864	20	
Arsenic	0.8483	0.0500	1.000		84.8	75	125	1.050	21.2	20	R
Barium	4.240	0.0200	1.000	3.503	73.7	75	125	4.328	2.06	20	S
Beryllium	0.8434	0.0100	1.000	0.005275	83.8	75	125	1.045	21.3	20	R
Cadmium	0.8398	0.0050	1.000		84.0	75	125	1.045	21.8	20	R
Chromium	0.8275	0.0100	1.000	0.001298	82.6	75	125	1.027	21.6	20	R
Copper	0.8224	0.0100	1.000	0.003907	81.8	75	125	1.021	21.5	20	R
Iron	8.400	0.100	10.00	0.07706	83.2	75	125	10.47	22.0	20	R
Lead	0.8105	0.0100	1.000		81.0	75	125	1.004	21.3	20	R
Nickel	0.8162	0.0200	1.000	0.01218	80.4	75	125	1.010	21.2	20	R
Zinc	0.8618	0.0200	1.000	0.02922	83.3	75	125	1.063	20.9	20	R

Sample ID: **1502E13-003BMSD** Client ID: **MW-23D-20150216-01** Units: **mg/L** Prep Date: **02/18/2015** Run No: **286491**
SampleType: **MSD** TestCode: **METALS, TOTAL SW6010C** BatchID: **203343** Analysis Date: **02/20/2015** Seq No: **6081183**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.037	0.0200	1.000		104	75	125	1.045	0.729	20	
Arsenic	1.051	0.0500	1.000		105	75	125	0.8287	23.7	20	R
Barium	1.097	0.0200	1.000	0.06607	103	75	125	0.8892	20.9	20	R
Beryllium	1.034	0.0100	1.000		103	75	125	0.8243	22.6	20	R
Cadmium	1.039	0.0050	1.000		104	75	125	0.8296	22.4	20	R
Chromium	1.013	0.0100	1.000		101	75	125	0.8061	22.8	20	R
Copper	1.013	0.0100	1.000		101	75	125	0.8067	22.7	20	R
Iron	10.36	0.100	10.00	0.1389	102	75	125	8.247	22.7	20	R
Lead	0.9920	0.0100	1.000		99.2	75	125	0.7937	22.2	20	R
Nickel	1.012	0.0200	1.000		101	75	125	0.8067	22.6	20	R
Zinc	1.029	0.0200	1.000	0.006496	102	75	125	0.8220	22.4	20	R

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502E13

ANALYTICAL QC SUMMARY REPORT

BatchID: 203355

Sample ID: **MB-203355**	Client ID:			Units: **mg/L**	Prep Date: **02/19/2015**	Run No: **286251**
SampleType: **MBLK**	TestCode: **Mercury, Total SW7470A**			BatchID: **203355**	Analysis Date: **02/20/2015**	Seq No: **6075325**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.00020									

Sample ID: **LCS-203355**	Client ID:			Units: **mg/L**	Prep Date: **02/19/2015**	Run No: **286251**
SampleType: **LCS**	TestCode: **Mercury, Total SW7470A**			BatchID: **203355**	Analysis Date: **02/20/2015**	Seq No: **6075326**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.004719	0.00020	0.0050		94.4	80	120				

Sample ID: **1502E13-002BMS**	Client ID: **MW-25D-20150216-01**			Units: **mg/L**	Prep Date: **02/19/2015**	Run No: **286251**
SampleType: **MS**	TestCode: **Mercury, Total SW7470A**			BatchID: **203355**	Analysis Date: **02/20/2015**	Seq No: **6075328**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005171	0.00020	0.0050		103	70	130				

Sample ID: **1502E13-003BMS**	Client ID: **MW-23D-20150216-01**			Units: **mg/L**	Prep Date: **02/19/2015**	Run No: **286251**
SampleType: **MS**	TestCode: **Mercury, Total SW7470A**			BatchID: **203355**	Analysis Date: **02/20/2015**	Seq No: **6075334**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.004085	0.00020	0.0050		81.7	70	130				

Sample ID: **1502E13-002BMSD**	Client ID: **MW-25D-20150216-01**			Units: **mg/L**	Prep Date: **02/19/2015**	Run No: **286251**
SampleType: **MSD**	TestCode: **Mercury, Total SW7470A**			BatchID: **203355**	Analysis Date: **02/20/2015**	Seq No: **6075329**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005122	0.00020	0.0050		102	70	130	0.005171	0.964	20	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502E13

ANALYTICAL QC SUMMARY REPORT

BatchID: 203355

Sample ID: **1502E13-003BMSD**	Client ID: **MW-23D-20150216-01**	Units: **mg/L**	Prep Date: **02/19/2015**	Run No: **286251**
SampleType: **MSD**	TestCode: **Mercury, Total SW7470A**	BatchID: **203355**	Analysis Date: **02/20/2015**	Seq No: **6075336**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.003898	0.00020	0.0050		78.0	70	130	0.004085	4.69	20	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502E13

ANALYTICAL QC SUMMARY REPORT

BatchID: 203359

Sample ID: **MB-203359** Client ID: Units: **ug/L** Prep Date: **02/19/2015** Run No: **286216**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **203359** Analysis Date: **02/19/2015** Seq No: **6074331**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	10									
2-Methylphenol	BRL	10									
3,4-Methylphenol	BRL	10									
Acenaphthene	BRL	10									
Acenaphthylene	BRL	10									
Anthracene	BRL	10									
Benzo(g,h,i)perylene	BRL	10									
Benzo(k)fluoranthene	BRL	10									
Chrysene	BRL	10									
Fluoranthene	BRL	10									
Fluorene	BRL	10									
Naphthalene	BRL	10									
Phenanthrene	BRL	10									
Phenol	BRL	10									
Pyrene	BRL	10									
Surr: 2,4,6-Tribromophenol	114.0	0	100.0		114	52	133				
Surr: 2-Fluorobiphenyl	45.48	0	50.00		91.0	50	121				
Surr: 2-Fluorophenol	61.56	0	100.0		61.6	27.5	120				
Surr: 4-Terphenyl-d14	46.70	0	50.00		93.4	46.3	137				
Surr: Nitrobenzene-d5	45.91	0	50.00		91.8	41.2	121				
Surr: Phenol-d5	43.03	0	100.0		43.0	14.3	120				

Sample ID: **LCS-203359** Client ID: Units: **ug/L** Prep Date: **02/19/2015** Run No: **286216**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **203359** Analysis Date: **02/19/2015** Seq No: **6074332**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	96.41	10	100.0		96.4	68.2	124				
Phenol	43.37	10	100.0		43.4	25.6	120				

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502E13

ANALYTICAL QC SUMMARY REPORT

BatchID: 203359

Sample ID: **LCS-203359** Client ID: Units: **ug/L** Prep Date: **02/19/2015** Run No: **286216**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **203359** Analysis Date: **02/19/2015** Seq No: **6074332**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Pyrene	87.34	10	100.0		87.3	70.1	124				
Surr: 2,4,6-Tribromophenol	126.7	0	100.0		127	52	133				
Surr: 2-Fluorobiphenyl	51.73	0	50.00		103	50	121				
Surr: 2-Fluorophenol	71.40	0	100.0		71.4	27.5	120				
Surr: 4-Terphenyl-d14	51.74	0	50.00		103	46.3	137				
Surr: Nitrobenzene-d5	52.20	0	50.00		104	41.2	121				
Surr: Phenol-d5	50.14	0	100.0		50.1	14.3	120				

Sample ID: **1502E13-002DMS** Client ID: **MW-25D-20150216-01** Units: **ug/L** Prep Date: **02/19/2015** Run No: **286216**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **203359** Analysis Date: **02/19/2015** Seq No: **6075025**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	89.62	10	100.0		89.6	53.9	120				
Phenol	39.43	10	100.0		39.4	31	120				
Pyrene	80.94	10	100.0		80.9	53	112				
Surr: 2,4,6-Tribromophenol	113.0	0	100.0		113	52	133				
Surr: 2-Fluorobiphenyl	47.66	0	50.00		95.3	50	121				
Surr: 2-Fluorophenol	62.32	0	100.0		62.3	27.5	120				
Surr: 4-Terphenyl-d14	45.78	0	50.00		91.6	46.3	137				
Surr: Nitrobenzene-d5	46.56	0	50.00		93.1	41.2	121				
Surr: Phenol-d5	44.01	0	100.0		44.0	14.3	120				

Sample ID: **1502E13-002DMSD** Client ID: **MW-25D-20150216-01** Units: **ug/L** Prep Date: **02/19/2015** Run No: **286216**
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **203359** Analysis Date: **02/19/2015** Seq No: **6075032**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	83.86	10	100.0		83.9	53.9	120	89.62	6.64	22.5	
Phenol	32.08	10	100.0		32.1	31	120	39.43	20.6	31.9	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502E13

ANALYTICAL QC SUMMARY REPORT

BatchID: 203359

Sample ID: **1502E13-002DMSD** Client ID: **MW-25D-20150216-01** Units: **ug/L** Prep Date: **02/19/2015** Run No: **286216**
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **203359** Analysis Date: **02/19/2015** Seq No: **6075032**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Pyrene	76.35	10	100.0		76.4	53	112	80.94	5.84	22.3	
Surr: 2,4,6-Tribromophenol	104.2	0	100.0		104	52	133	113.0	0	0	
Surr: 2-Fluorobiphenyl	43.84	0	50.00		87.7	50	121	47.66	0	0	
Surr: 2-Fluorophenol	49.76	0	100.0		49.8	27.5	120	62.32	0	0	
Surr: 4-Terphenyl-d14	44.01	0	50.00		88.0	46.3	137	45.78	0	0	
Surr: Nitrobenzene-d5	42.65	0	50.00		85.3	41.2	121	46.56	0	0	
Surr: Phenol-d5	36.87	0	100.0		36.9	14.3	120	44.01	0	0	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502E13

ANALYTICAL QC SUMMARY REPORT

BatchID: 203390

Sample ID: **MB-203390** Client ID: Units: **ug/L** Prep Date: **02/19/2015** Run No: **286281**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **203390** Analysis Date: **02/20/2015** Seq No: **6076200**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	BRL	0.050									
Benzo(a)pyrene	BRL	0.050									
Benzo(b)fluoranthene	BRL	0.10									
Dibenz(a,h)anthracene	BRL	0.10									
Indeno(1,2,3-cd)pyrene	BRL	0.050									
Surr: 4-Terphenyl-d14	1.650	0	2.000		82.5	55.4	136				

Sample ID: **LCS-203390** Client ID: Units: **ug/L** Prep Date: **02/19/2015** Run No: **286281**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **203390** Analysis Date: **02/20/2015** Seq No: **6076201**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	1.600	0.050	2.000		80.0	60.6	137				
Benzo(a)pyrene	1.452	0.050	2.000		72.6	64	124				
Benzo(b)fluoranthene	1.707	0.10	2.000		85.3	56.4	133				
Dibenz(a,h)anthracene	1.370	0.10	2.000		68.5	52.4	130				
Indeno(1,2,3-cd)pyrene	1.450	0.050	2.000		72.5	50.4	139				
Surr: 4-Terphenyl-d14	1.686	0	2.000		84.3	55.4	136				

Sample ID: **1502E13-003DMS** Client ID: **MW-23D-20150216-01** Units: **ug/L** Prep Date: **02/19/2015** Run No: **286281**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **203390** Analysis Date: **02/21/2015** Seq No: **6077175**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	1.643	0.050	2.000		82.2	50.3	143	1.269			
Benzo(a)pyrene	1.418	0.050	2.000		70.9	44.2	127				
Benzo(b)fluoranthene	1.715	0.10	2.000		85.8	48.4	125				
Dibenz(a,h)anthracene	1.412	0.10	2.000		70.6	40.1	128				
Indeno(1,2,3-cd)pyrene	1.413	0.050	2.000		70.7	40.3	129				
Surr: 4-Terphenyl-d14	1.733	0	2.000		86.7	55.4	136	1.586			

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502E13

ANALYTICAL QC SUMMARY REPORT

BatchID: 203390

Sample ID: **1502E13-003DMSD** Client ID: **MW-23D-20150216-01** Units: **ug/L** Prep Date: **02/19/2015** Run No: **286281**
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **203390** Analysis Date: **02/21/2015** Seq No: **6077173**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	1.269	0.050	2.000		63.5	50.3	143	1.643	25.7	26.8	
Benzo(a)pyrene	BRL	0.050	2.000		0	44.2	127	1.418	0	40.9	S
Benzo(b)fluoranthene	BRL	0.10	2.000		0	48.4	125	1.715	0	24.2	S
Dibenz(a,h)anthracene	BRL	0.10	2.000		0	40.1	128	1.412	0	23.6	S
Indeno(1,2,3-cd)pyrene	BRL	0.050	2.000		0	40.3	129	1.413	0	28.8	S
Surr: 4-Terphenyl-d14	1.586	0	2.000		79.3	55.4	136	1.733	0	0	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502E13

ANALYTICAL QC SUMMARY REPORT

BatchID: 203508

Sample ID: **MB-203508**	Client ID:		Units: **ug/L**	Prep Date: **02/19/2015**	Run No: **286229**
SampleType: **MBLK**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **203508**	Analysis Date: **02/19/2015**	Seq No: **6074662**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	5.0									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	46.76	0	50.00		93.5	70.6	123				
Surr: Dibromofluoromethane	48.09	0	50.00		96.2	78.7	124				
Surr: Toluene-d8	47.91	0	50.00		95.8	81.3	120				

Sample ID: **LCS-203508**	Client ID:		Units: **ug/L**	Prep Date: **02/19/2015**	Run No: **286229**
SampleType: **LCS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **203508**	Analysis Date: **02/19/2015**	Seq No: **6074661**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	52.25	5.0	50.00		104	72.8	128				
Toluene	53.04	5.0	50.00		106	74.9	127				
Surr: 4-Bromofluorobenzene	46.71	0	50.00		93.4	70.6	123				
Surr: Dibromofluoromethane	47.36	0	50.00		94.7	78.7	124				
Surr: Toluene-d8	47.48	0	50.00		95.0	81.3	120				

Sample ID: **1502E13-002AMS**	Client ID: **MW-25D-20150216-01**		Units: **ug/L**	Prep Date: **02/19/2015**	Run No: **286295**
SampleType: **MS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **203508**	Analysis Date: **02/21/2015**	Seq No: **6076484**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	48.33	5.0	50.00		96.7	70	135				
Toluene	46.96	5.0	50.00		93.9	70.5	137				
Surr: 4-Bromofluorobenzene	48.76	0	50.00		97.5	70.6	123				
Surr: Dibromofluoromethane	49.03	0	50.00		98.1	78.7	124				
Surr: Toluene-d8	48.02	0	50.00		96.0	81.3	120				

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502E13

ANALYTICAL QC SUMMARY REPORT

BatchID: 203508

Sample ID: **1502E13-003AMS** Client ID: **MW-23D-20150216-01** Units: **ug/L** Prep Date: **02/19/2015** Run No: **286295**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **203508** Analysis Date: **02/21/2015** Seq No: **6076486**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	50.20	5.0	50.00		100	70	135				
Toluene	50.30	5.0	50.00		101	70.5	137				
Surr: 4-Bromofluorobenzene	48.01	0	50.00		96.0	70.6	123				
Surr: Dibromofluoromethane	49.05	0	50.00		98.1	78.7	124				
Surr: Toluene-d8	48.45	0	50.00		96.9	81.3	120				

Sample ID: **1502E13-002AMSD** Client ID: **MW-25D-20150216-01** Units: **ug/L** Prep Date: **02/19/2015** Run No: **286295**
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **203508** Analysis Date: **02/21/2015** Seq No: **6076485**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	47.90	5.0	50.00		95.8	70	135	48.33	0.894	20	
Toluene	46.94	5.0	50.00		93.9	70.5	137	46.96	0.043	20	
Surr: 4-Bromofluorobenzene	49.02	0	50.00		98.0	70.6	123	48.76	0	0	
Surr: Dibromofluoromethane	49.18	0	50.00		98.4	78.7	124	49.03	0	0	
Surr: Toluene-d8	48.93	0	50.00		97.9	81.3	120	48.02	0	0	

Sample ID: **1502E13-003AMSD** Client ID: **MW-23D-20150216-01** Units: **ug/L** Prep Date: **02/19/2015** Run No: **286295**
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **203508** Analysis Date: **02/21/2015** Seq No: **6076488**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	50.83	5.0	50.00		102	70	135	50.20	1.25	20	
Toluene	50.77	5.0	50.00		102	70.5	137	50.30	0.930	20	
Surr: 4-Bromofluorobenzene	47.88	0	50.00		95.8	70.6	123	48.01	0	0	
Surr: Dibromofluoromethane	49.94	0	50.00		99.9	78.7	124	49.05	0	0	
Surr: Toluene-d8	48.89	0	50.00		97.8	81.3	120	48.45	0	0	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502E13

ANALYTICAL QC SUMMARY REPORT

BatchID: 203549

Sample ID: **MB-203549** Client ID: Units: **ug/L** Prep Date: **02/23/2015** Run No: **286429**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D** BatchID: **203549** Analysis Date: **02/23/2015** Seq No: **6079681**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	BRL	0.050									
Benzo(a)pyrene	BRL	0.050									
Benzo(b)fluoranthene	BRL	0.10									
Dibenz(a,h)anthracene	BRL	0.10									
Indeno(1,2,3-cd)pyrene	BRL	0.050									
Surr: 4-Terphenyl-d14	1.229	0	2.000		61.4	55.4	136				

Sample ID: **LCS-203549** Client ID: Units: **ug/L** Prep Date: **02/23/2015** Run No: **286429**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D** BatchID: **203549** Analysis Date: **02/23/2015** Seq No: **6079682**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	1.660	0.050	2.000		83.0	60.6	137				
Benzo(a)pyrene	1.584	0.050	2.000		79.2	64	124				
Benzo(b)fluoranthene	1.682	0.10	2.000		84.1	56.4	133				
Dibenz(a,h)anthracene	1.227	0.10	2.000		61.3	52.4	130				
Indeno(1,2,3-cd)pyrene	1.412	0.050	2.000		70.6	50.4	139				
Surr: 4-Terphenyl-d14	1.749	0	2.000		87.5	55.4	136				

Sample ID: **1502E13-002DMS** Client ID: **MW-25D-20150216-01** Units: **ug/L** Prep Date: **02/23/2015** Run No: **286429**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D** BatchID: **203549** Analysis Date: **02/23/2015** Seq No: **6079684**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	1.659	0.050	2.000		83.0	50.3	143				
Benzo(a)pyrene	1.493	0.050	2.000		74.7	44.2	127				
Benzo(b)fluoranthene	1.656	0.10	2.000		82.8	48.4	125				
Dibenz(a,h)anthracene	1.261	0.10	2.000		63.0	40.1	128				
Indeno(1,2,3-cd)pyrene	1.345	0.050	2.000		67.2	40.3	129				
Surr: 4-Terphenyl-d14	1.614	0	2.000		80.7	55.4	136				

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502E13

ANALYTICAL QC SUMMARY REPORT

BatchID: 203549

Sample ID: **1502E13-002DMSD** Client ID: **MW-25D-20150216-01** Units: **ug/L** Prep Date: **02/23/2015** Run No: **286429**
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **203549** Analysis Date: **02/23/2015** Seq No: **6079685**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	1.299	0.050	2.000		65.0	50.3	143	1.659	24.3	26.8	
Benzo(a)pyrene	1.207	0.050	2.000		60.4	44.2	127	1.493	21.2	40.9	
Benzo(b)fluoranthene	1.352	0.10	2.000		67.6	48.4	125	1.656	20.3	24.2	
Dibenz(a,h)anthracene	0.9617	0.10	2.000		48.1	40.1	128	1.261	26.9	23.6	R
Indeno(1,2,3-cd)pyrene	1.086	0.050	2.000		54.3	40.3	129	1.345	21.3	28.8	
Surr: 4-Terphenyl-d14	1.306	0	2.000		65.3	55.4	136	1.614	0	0	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502E13

ANALYTICAL QC SUMMARY REPORT

BatchID: 203552

Sample ID: **MB-203552** Client ID: Units: **ug/L** Prep Date: **02/23/2015** Run No: **286393**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **203552** Analysis Date: **02/23/2015** Seq No: **6079387**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	10									
2-Methylphenol	BRL	10									
3,4-Methylphenol	BRL	10									
Acenaphthene	BRL	10									
Acenaphthylene	BRL	10									
Anthracene	BRL	10									
Benzo(g,h,i)perylene	BRL	10									
Benzo(k)fluoranthene	BRL	10									
Chrysene	BRL	10									
Fluoranthene	BRL	10									
Fluorene	BRL	10									
Naphthalene	BRL	10									
Phenanthrene	BRL	10									
Phenol	BRL	10									
Pyrene	BRL	10									
Surr: 2,4,6-Tribromophenol	102.9	0	100.0		103	52	133				
Surr: 2-Fluorobiphenyl	44.29	0	50.00		88.6	50	121				
Surr: 2-Fluorophenol	59.02	0	100.0		59.0	27.5	120				
Surr: 4-Terphenyl-d14	41.78	0	50.00		83.6	46.3	137				
Surr: Nitrobenzene-d5	42.70	0	50.00		85.4	41.2	121				
Surr: Phenol-d5	33.86	0	100.0		33.9	14.3	120				

Sample ID: **LCS-203552** Client ID: Units: **ug/L** Prep Date: **02/23/2015** Run No: **286435**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **203552** Analysis Date: **02/24/2015** Seq No: **6079829**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	105.8	10	100.0		106	68.2	124				
Phenol	45.81	10	100.0		45.8	25.6	120				

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502E13

ANALYTICAL QC SUMMARY REPORT

BatchID: 203552

Sample ID: **LCS-203552**	Client ID:		Units: **ug/L**	Prep Date: **02/23/2015**	Run No: **286435**
SampleType: **LCS**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **203552**	Analysis Date: **02/24/2015**	Seq No: **6079829**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Pyrene	95.50	10	100.0		95.5	70.1	124				
Surr: 2,4,6-Tribromophenol	119.3	0	100.0		119	52	133				
Surr: 2-Fluorobiphenyl	53.79	0	50.00		108	50	121				
Surr: 2-Fluorophenol	69.16	0	100.0		69.2	27.5	120				
Surr: 4-Terphenyl-d14	55.75	0	50.00		112	46.3	137				
Surr: Nitrobenzene-d5	53.04	0	50.00		106	41.2	121				
Surr: Phenol-d5	50.09	0	100.0		50.1	14.3	120				

Sample ID: **1502E13-003DMS**	Client ID: **MW-23D-20150216-01**		Units: **ug/L**	Prep Date: **02/23/2015**	Run No: **286393**
SampleType: **MS**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **203552**	Analysis Date: **02/23/2015**	Seq No: **6079389**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	86.19	10	100.0		86.2	53.9	120				
Phenol	49.55	10	100.0		49.6	31	120				
Pyrene	78.52	10	100.0		78.5	53	112				
Surr: 2,4,6-Tribromophenol	105.8	0	100.0		106	52	133				
Surr: 2-Fluorobiphenyl	41.93	0	50.00		83.9	50	121				
Surr: 2-Fluorophenol	62.50	0	100.0		62.5	27.5	120				
Surr: 4-Terphenyl-d14	41.22	0	50.00		82.4	46.3	137				
Surr: Nitrobenzene-d5	40.01	0	50.00		80.0	41.2	121				
Surr: Phenol-d5	52.58	0	100.0		52.6	14.3	120				

Sample ID: **1502E13-003DMSD**	Client ID: **MW-23D-20150216-01**		Units: **ug/L**	Prep Date: **02/23/2015**	Run No: **286393**
SampleType: **MSD**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **203552**	Analysis Date: **02/23/2015**	Seq No: **6079390**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	86.93	10	100.0		86.9	53.9	120	86.19	0.855	22.5	
Phenol	51.14	10	100.0		51.1	31	120	49.55	3.16	31.9	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502E13

ANALYTICAL QC SUMMARY REPORT

BatchID: 203552

Sample ID: **1502E13-003DMSD** Client ID: **MW-23D-20150216-01** Units: **ug/L** Prep Date: **02/23/2015** Run No: **286393**
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **203552** Analysis Date: **02/23/2015** Seq No: **6079390**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Pyrene	78.47	10	100.0		78.5	53	112	78.52	0.064	22.3	
Surr: 2,4,6-Tribromophenol	106.2	0	100.0		106	52	133	105.8	0	0	
Surr: 2-Fluorobiphenyl	43.44	0	50.00		86.9	50	121	41.93	0	0	
Surr: 2-Fluorophenol	65.37	0	100.0		65.4	27.5	120	62.50	0	0	
Surr: 4-Terphenyl-d14	41.45	0	50.00		82.9	46.3	137	41.22	0	0	
Surr: Nitrobenzene-d5	42.19	0	50.00		84.4	41.2	121	40.01	0	0	
Surr: Phenol-d5	55.26	0	100.0		55.3	14.3	120	52.58	0	0	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502E13

ANALYTICAL QC SUMMARY REPORT

BatchID: R286049

Sample ID: **MB-R286049**	Client ID:			Units: **mg/L**	Prep Date:	Run No: **286049**
SampleType: **MBLK**	TestCode: **Ferrous Iron** **SM3500-Fe-B**			BatchID: **R286049**	Analysis Date: **02/17/2015**	Seq No: **6070562**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Iron, as Ferrous (Fe+2)	BRL	0.100									

Sample ID: **LCS-R286049**	Client ID:			Units: **mg/L**	Prep Date:	Run No: **286049**
SampleType: **LCS**	TestCode: **Ferrous Iron** **SM3500-Fe-B**			BatchID: **R286049**	Analysis Date: **02/17/2015**	Seq No: **6070563**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Iron, as Ferrous (Fe+2)	0.5297	0.100	0.5000		106	85	115				

Sample ID: **1502E13-004FMS**	Client ID: **MW-12DRR-20150216-01**			Units: **mg/L**	Prep Date:	Run No: **286049**
SampleType: **MS**	TestCode: **Ferrous Iron** **SM3500-Fe-B**			BatchID: **R286049**	Analysis Date: **02/17/2015**	Seq No: **6070569**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Iron, as Ferrous (Fe+2)	8.114	1.00	5.000	3.984	82.6	80	120				

Sample ID: **1502E13-004FMSD**	Client ID: **MW-12DRR-20150216-01**			Units: **mg/L**	Prep Date:	Run No: **286049**
SampleType: **MSD**	TestCode: **Ferrous Iron** **SM3500-Fe-B**			BatchID: **R286049**	Analysis Date: **02/17/2015**	Seq No: **6070570**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Iron, as Ferrous (Fe+2)	8.169	1.00	5.000	3.984	83.7	80	120	8.114	0.676	30	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502E13

ANALYTICAL QC SUMMARY REPORT

BatchID: R286169

Sample ID: **MB-R286169**	Client ID:				Units: **mg/L**		Prep Date:		Run No: **286169**	
SampleType: **MBLK**	TestCode: **Sulfide by SM4500-S2-F**				BatchID: **R286169**		Analysis Date: **02/19/2015**		Seq No: **6073325**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Sulfide	BRL	1.00									

Sample ID: **LCS-R286169**	Client ID:				Units: **mg/L**		Prep Date:		Run No: **286169**	
SampleType: **LCS**	TestCode: **Sulfide by SM4500-S2-F**				BatchID: **R286169**		Analysis Date: **02/19/2015**		Seq No: **6073326**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Sulfide	308.0	1.00	308.0		100	90	110				

Sample ID: **1502E13-004HMS**	Client ID: **MW-12DRR-20150216-01**				Units: **mg/L**		Prep Date:		Run No: **286169**	
SampleType: **MS**	TestCode: **Sulfide by SM4500-S2-F**				BatchID: **R286169**		Analysis Date: **02/19/2015**		Seq No: **6073340**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Sulfide	16.40	1.00	15.40		106	80	120				

Sample ID: **1502E13-004HMSD**	Client ID: **MW-12DRR-20150216-01**				Units: **mg/L**		Prep Date:		Run No: **286169**	
SampleType: **MSD**	TestCode: **Sulfide by SM4500-S2-F**				BatchID: **R286169**		Analysis Date: **02/19/2015**		Seq No: **6073341**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Sulfide	15.60	1.00	15.40		101	80	120	16.40	5.00	20	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502E13

ANALYTICAL QC SUMMARY REPORT

BatchID: R286231

Sample ID: **MB-R286231**	Client ID:				Units: **mg/L**		Prep Date:		Run No: **286231**	
SampleType: **MBLK**	TestCode: **ION SCAN SW9056A**				BatchID: **R286231**		Analysis Date: **02/17/2015**		Seq No: **6074742**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrate	BRL	0.25									
Sulfate	BRL	1.0									

Sample ID: **LCS-R286231**	Client ID:				Units: **mg/L**		Prep Date:		Run No: **286231**	
SampleType: **LCS**	TestCode: **ION SCAN SW9056A**				BatchID: **R286231**		Analysis Date: **02/17/2015**		Seq No: **6074741**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrate	5.160	0.25	5.000		103	90	110				
Sulfate	26.30	1.0	25.00		105	90	110				

Sample ID: **1502E14-001BMS**	Client ID:				Units: **mg/L**		Prep Date:		Run No: **286231**	
SampleType: **MS**	TestCode: **ION SCAN SW9056A**				BatchID: **R286231**		Analysis Date: **02/17/2015**		Seq No: **6074747**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrate	68.04	2.5	50.00	16.34	103	90	110				
Sulfate	308.8	10	250.0	45.23	105	90	110				

Sample ID: **1502E30-002BMS**	Client ID:				Units: **mg/L**		Prep Date:		Run No: **286231**	
SampleType: **MS**	TestCode: **ION SCAN SW9056A**				BatchID: **R286231**		Analysis Date: **02/17/2015**		Seq No: **6074781**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrate	56.95	2.5	50.00	3.459	107	90	110				
Sulfate	303.2	10	250.0	36.59	107	90	110				

Sample ID: **1502E14-001BMSD**	Client ID:				Units: **mg/L**		Prep Date:		Run No: **286231**	
SampleType: **MSD**	TestCode: **ION SCAN SW9056A**				BatchID: **R286231**		Analysis Date: **02/17/2015**		Seq No: **6074750**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Nitrate	68.11	2.5	50.00	16.34	104	90	110	68.04	0.106	20	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502E13

ANALYTICAL QC SUMMARY REPORT

BatchID: R286231

Sample ID: **1502E14-001BMSD** Client ID:
SampleType: **MSD** TestCode: **ION SCAN SW9056A**
Units: **mg/L** Prep Date: Run No: **286231**
BatchID: **R286231** Analysis Date: **02/17/2015** Seq No: **6074750**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Sulfate	296.5	10	250.0	45.23	100	90	110	308.8	4.08	20	

Qualifiers:

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

Microseeps/Pace Analytical Energy Services, LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

February 25, 2015

Mirzeta Kararic
Analytical Environmental Services, Inc.
3785 Presidential Parkway
Suite 111
Atlanta, GA 30340

RE: **1502E13**

Microseeps Workorder: 14748

Dear Mirzeta Kararic:

Enclosed are the analytical results for sample(s) received by the laboratory on Wednesday, February 18, 2015. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Robbin Robl 02/25/2015 RW 2-25-15
rrobl@microseeps.com

Customer Service Representative

Enclosures

As a valued client we would appreciate your comments on our service.
Please email info@microseeps.com.

Total Number of Pages ____

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Microseeps/Pace Analytical Energy Services, LLC.

Microseeps/Pace Analytical Energy Services, LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

LABORATORY ACCREDITATIONS & CERTIFICATIONS

Accreditor:	Pennsylvania Department of Environmental Protection, Bureau of Laboratories
Accreditation ID:	02-00538
Scope:	NELAP Non-Potable Water and Solid & Hazardous Waste
Accreditor:	South Carolina Department of Health and Environmental Control, Office of Environmental Laboratory Certification
Accreditation ID:	89009003
Scope:	Clean Water Act (CWA); Resource Conservation and Recovery Act (RCRA)
Accreditor:	NELAP: New Jersey, Department of Environmental Protection
Accreditation ID:	PA026
Scope:	Non-Potable Water; Solid and Chemical Materials
Accreditor:	NELAP: New York, Department of Health Wadsworth Center
Accreditation ID:	11815
Scope:	Non-Potable Water; Solid and Hazardous Waste
Accreditor:	State of Connecticut, Department of Public Health, Division of Environmental Health
Accreditation ID:	PH-0263
Scope:	Clean Water Act (CWA) Resource Conservation and Recovery Act (RCRA)
Accreditor:	NELAP: Texas, Commission on Environmental Quality
Accreditation ID:	T104704453-09-TX
Scope:	Non-Potable Water
Accreditor:	State of New Hampshire
Accreditation ID:	299409
Scope:	Non-potable water
Accreditor:	State of Georgia
Accreditation ID:	Chapter 391-3-26
Scope:	As per the Georgia EPD Rules and Regulations for Commercial Laboratories, PAES is accredited by the Pennsylvania Department of Environmental Protection Bureau of Laboratories under the National Environmental Laboratory Approval Program (NELAC).

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Microseeps/Pace Analytical Energy Services, LLC.

Microseeps/Pace Analytical Energy Services, LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

SAMPLE SUMMARY

Workorder: 14748 1502E13

Lab ID	Sample ID	Matrix	Date Collected	Date Received
147480001	MW-12DRR-20150216-01	Water	2/16/2015 14:10	2/18/2015 12:30
147480002	MW-112D-20150216-01	Water	2/16/2015 14:10	2/18/2015 12:30
147480003	MW-110D-20150216-01	Water	2/16/2015 14:15	2/18/2015 12:30
147480004	MW-205D-20150216-01	Water	2/16/2015 15:30	2/18/2015 12:30
147480005	MW-308D-20150216-01	Water	2/16/2015 16:05	2/18/2015 12:30

CERTIFICATE OF ANALYSIS
This report shall not be reproduced, except in full,
without the written consent of Microseeps/Pace Analytical Energy Services, LLC.

Microseeps/Pace Analytical Energy Services, LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

PROJECT SUMMARY

Workorder: 14748 1502E13

Batch Comments

Batch: DISG/4387 - AM20GAX Water QC

The percent recovery for the opening calibration verification analysis was above laboratory control limits. Analytes n-Butane. Results associated to the analytes in samples may be bias high.

CERTIFICATE OF ANALYSIS
This report shall not be reproduced, except in full,
without the written consent of Microseeps/Pace Analytical Energy Services, LLC.

Microseeps/Pace Analytical Energy Services, LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 14748 1502E13

Lab ID: **147480001** Date Received: 2/18/2015 12:30 Matrix: Water

Sample ID: **MW-12DRR-20150216-01** Date Collected: 2/16/2015 14:10

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
RISK - MICR										
Analysis Desc: AM20GAX			Analytical Method: AM20GAX							
Carbon Dioxide	**94**	mg/l	5.0	0.36	1			2/22/2015 18:35	GT	
Oxygen	**2.7**	mg/l	0.50	0.048	1			2/22/2015 18:35	GT	
Nitrogen	**21**	mg/l	2.0	0.16	1			2/22/2015 18:35	GT	
Carbon Monoxide	**<1.0**	mg/l	1.0	0.11	1			2/22/2015 18:35	GT	

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Microseeps/Pace Analytical Energy Services, LLC.

Microseeps/Pace Analytical Energy Services, LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 14748 1502E13

Lab ID: **147480002** Date Received: 2/18/2015 12:30 Matrix: Water

Sample ID: **MW-112D-20150216-01** Date Collected: 2/16/2015 14:10

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
RISK - MICR										
Analysis Desc: AM20GAX			Analytical Method: AM20GAX							
Carbon Dioxide	**<5.0**	mg/l	5.0	0.36	1			2/22/2015 18:48	GT	
Oxygen	**8.0**	mg/l	0.50	0.048	1			2/22/2015 18:48	GT	
Nitrogen	**20**	mg/l	2.0	0.16	1			2/22/2015 18:48	GT	
Carbon Monoxide	**<1.0**	mg/l	1.0	0.11	1			2/22/2015 18:48	GT	

CERTIFICATE OF ANALYSIS
This report shall not be reproduced, except in full,
without the written consent of Microseeps/Pace Analytical Energy Services, LLC.

Microseeps/Pace Analytical Energy Services, LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 14748 1502E13

Lab ID: **147480003** Date Received: 2/18/2015 12:30 Matrix: Water

Sample ID: **MW-110D-20150216-01** Date Collected: 2/16/2015 14:15

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
RISK - MICR										
Analysis Desc: AM20GAX			Analytical Method: AM20GAX							
Carbon Dioxide	**150**	mg/l	5.0	0.36	1			2/22/2015 19:01	GT	
Oxygen	**3.9**	mg/l	0.50	0.048	1			2/22/2015 19:01	GT	
Nitrogen	**21**	mg/l	2.0	0.16	1			2/22/2015 19:01	GT	
Carbon Monoxide	**<1.0**	mg/l	1.0	0.11	1			2/22/2015 19:01	GT	

CERTIFICATE OF ANALYSIS
This report shall not be reproduced, except in full,
without the written consent of Microseeps/Pace Analytical Energy Services, LLC.

Microseeps/Pace Analytical Energy Services, LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 14748 1502E13

Lab ID: **147480004** Date Received: 2/18/2015 12:30 Matrix: Water

Sample ID: **MW-205D-20150216-01** Date Collected: 2/16/2015 15:30

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
RISK - MICR										
Analysis Desc: AM20GAX			Analytical Method: AM20GAX							
Carbon Dioxide	**77**	mg/l	5.0	0.36	1			2/22/2015 19:13	GT	
Oxygen	**4.7**	mg/l	0.50	0.048	1			2/22/2015 19:13	GT	
Nitrogen	**20**	mg/l	2.0	0.16	1			2/22/2015 19:13	GT	
Carbon Monoxide	**<1.0**	mg/l	1.0	0.11	1			2/22/2015 19:13	GT	

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Microseeps/Pace Analytical Energy Services, LLC.

Microseeps/Pace Analytical Energy Services, LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 14748 1502E13

Lab ID: **147480005** Date Received: 2/18/2015 12:30 Matrix: Water

Sample ID: **MW-308D-20150216-01** Date Collected: 2/16/2015 16:05

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
RISK - MICR										
Analysis Desc: AM20GAX			Analytical Method: AM20GAX							
Carbon Dioxide	**<5.0**	mg/l	5.0	0.36	1			2/22/2015 19:25	GT	
Oxygen	**5.6**	mg/l	0.50	0.048	1			2/22/2015 19:25	GT	
Nitrogen	**17**	mg/l	2.0	0.16	1			2/22/2015 19:25	GT	
Carbon Monoxide	**<1.0**	mg/l	1.0	0.11	1			2/22/2015 19:25	GT	

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Microseeps/Pace Analytical Energy Services, LLC.

Microseeps/Pace Analytical Energy Services, LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS QUALIFIERS

Workorder: 14748 1502E13

DEFINITIONS/QUALIFIERS

Disclaimer : The Pennsylvania Department of Environmental Protection (PADEP) has decided to no longer recognize analyses that do not produce data for primary compliance, for NELAP accreditation. The methods affected by this decision are AM20GAx, AM21G, SW846 7199 and AM4.02. The laboratory shall continue to administer the NELAP/TNI standard requirements in the performance of these methods.

MDL	Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.
PQL	Practical Quanitation Limit. Can be used synonymously with LOQ; Limit Of Quantitation.
ND	Not detected at or above reporting limit.
DF	Dilution Factor.
S	Surrogate.
RPD	Relative Percent Difference.
% Rec	Percent Recovery.
U	Indicates the compound was analyzed for, but not detected at or above the noted concentration.
J	Estimated concentration greater than the set method detection limit (MDL) and less than the set reporting limit (PQL).

CERTIFICATE OF ANALYSIS
This report shall not be reproduced, except in full,
without the written consent of Microseeps/Pace Analytical Energy Services, LLC.

Microseeps/Pace Analytical Energy Services, LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

QUALITY CONTROL DATA

Workorder: 14748 1502E13

QC Batch: DISG/4387 Analysis Method: AM20GAX

QC Batch Method: AM20GAX

Associated Lab Samples: 147480001, 147480002, 147480003, 147480004, 147480005

METHOD BLANK: 33410

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
RISK				
Carbon Dioxide	mg/l	<5.0	5.0	
Oxygen	mg/l	<0.50	0.50	
Nitrogen	mg/l	<2.0	2.0	
Carbon Monoxide	mg/l	<1.0	1.0	

LABORATORY CONTROL SAMPLE & LCSD: 33412 33414

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
RISK										
Carbon Dioxide	mg/l	120	120	130	106	109	80-120	2.8	20	
Oxygen	mg/l	11	13	11	114	93	80-120	20	20	
Nitrogen	mg/l	140	140	130	98	97	80-120	1	20	
Carbon Monoxide	mg/l	2	2.3	2.1	118	107	80-120	9.8	20	

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Microseeps/Pace Analytical Energy Services, LLC.

Microseeps/Pace Analytical Energy Services, LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 14748 1502E13

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
147480001	MW-12DRR-20150216-01			AM20GAX	DISG/4387
147480002	MW-112D-20150216-01			AM20GAX	DISG/4387
147480003	MW-110D-20150216-01			AM20GAX	DISG/4387
147480004	MW-205D-20150216-01			AM20GAX	DISG/4387
147480005	MW-308D-20150216-01			AM20GAX	DISG/4387

CERTIFICATE OF ANALYSIS
This report shall not be reproduced, except in full,
without the written consent of Microseeps/Pace Analytical Energy Services, LLC.

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

CHAIN OF CUSTODY

Work Order: _____

Date: _____ Page _____ of _____

COMPANY: ↓ ADDRESS: ↓ 14748

PHONE: FAX:

SAMPLED BY: SIGNATURE:

ANALYSIS REQUESTED: O2, N2, CO2

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	PRESERVATION (See codes)	REMARKS	No # of Containers
1	MW-12DRR-20150216-01	2-16-15	12:10			GW	X		
2	MW-112D-20150216-01		14:10				X		
3	MW-110D-20150216-01		14:15				X		
4	MW-205D-20150216-01		15:30				X		
5	MW-308D-20150216	↓	16:05			↓	X		
6									
7									
8									
9									
10									
11									
12									
13									
14									

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

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: [signature]	2/17/15	1: LEA PAES	2.18.15 1230
2:		2:	3.6°C
3:		3:	

PROJECT INFORMATION

PROJECT NAME: ISOZ.E13

PROJECT #:

SITE ADDRESS:

SEND REPORT TO: mkavic@aesatlanta.com

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: _____ PO#: _____

RECEIPT

Total # of Containers: 8000

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

STATE PROGRAM (if any): _____

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

DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD

OUT / / VIA:

IN / / VIA:

CLIENT FedEx UPS MAIL COURIER

GREYHOUND OTHER_____

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

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

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

White Copy - Original; Yellow Copy - Client

Cooler Receipt Form

Client Name: AES **Project:** 1502E13 **Lab Work Order:** 14748

A. **Shipping/Container Information** (circle appropriate response)

Courier: (FedEx) UPS USPS Client Other:_____ **Air bill Present:** (Yes) No

Tracking Number: 6257 6584 7239

Custody Seal on Cooler/Box Present: Yes (No) **Seals Intact:** Yes No

Cooler/Box Packing Material: (Bubble Wrap) Absorbent Foam Other:_____

Type of Ice: (Wet) Blue None **Ice Intact:** (Yes) Melted

Cooler Temperature: 3.6°C **Radiation Screened:** Yes (No) **Chain of Custody Present:** (Yes) No

Comments:_____

B. **Laboratory Assignment/Log-in** (check appropriate response)

	YES	NO	N/A	Comment Reference non-Conformance
Chain of Custody properly filled out	✓			
Chain of Custody relinquished	✓			
Sampler Name & Signature on COC		✓		
Containers intact	✓			
Were samples in separate bags	✓			
Sample container labels match COC Sample name/date and time collected		✓		
Sufficient volume provided	✓			
PAES containers used	✓			
Are containers properly preserved for the requested testing? (as labeled)	✓			
If an unknown preservation state, were containers checked? Exception: VOA's coliform			✓	If yes, see pH form.
Was volume for dissolved testing field filtered, as noted on the COC? Was volume received in a preserved container?			✓	

Comments:_____

Cooler contents examined/received by : LY **Date:** 2.18.15

Project Manager Review : AR **Date:** 2/18/15

NON-CONFORMANCE FORM

PAES Work Order #: 14748

Date: 2.18.15 Time of Receipt: 1230 Receiver: LY

Client: Analytical Environment

REASON FOR NON-CONFORMANCE:

1. Samples 1, 2 & 5: COC time matched original time, however times on AES label were incorrect.
2. MW-308D-20150216:
Vials ID was MW-308D-20150216-01

ACTION TAKEN:

Client name: Mirzeta Karanic Date: 2/18/15 Time: email

1.) Per conversation with Mirzeta - log with times from COC.
2.) Sample ID is MW-308D-20150216-01.

Customer Service Initials: RK Date: 2/18/15

F-PAE-Q-014-rev.00, 20 Nov2014

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

March 06, 2015

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

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

RE: AGL Macon

Dear Nic Vrey: Order No: 1502F52

Analytical Environmental Services, Inc. received 23 samples on 2/18/2015 2:55:00 PM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/14-06/30/15.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/15.

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

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

Mirzeta Kararic

Mirzeta Kararic
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC

3080 Presidential Drive, Atlanta GA 30340-3704

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

CHAIN OF CUSTODY

Work Order: 1502F52

Date: 2/18/15 Page 1 of 2

COMPANY: ERM

ADDRESS: 3200 Windy Hill Rd SE Ste 1500W Atlanta, GA 30339

PHONE: 678-486 2700

FAX:

SAMPLED BY: BM, CB WV

SIGNATURE:

ANALYSIS REQUESTED: COI / NA

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	8260B	8270C	6010B	9012A	7470A	RSK-175	Fe2+	Nitrate	Sulfide	Sulfide	Total Iron			PRESERVATION (See codes)	REMARKS	No # of Containers
1	MW-113D-20150217-01	2/17/15	0826			GW	X	X	X	X	X											6
2	MW-24D-20150217-01		1020			GW																
3	MW-206D-20150217-01		1026																			
4	MW-300D-20150217-01		1040																			
5	MW-108D-20150217-01		1255																			
6	MW-15-20150217-01	2	1305																			
7	MW-304D-20150217-01		1400																			
8	MW-200D2-20150217-01		1415																			
9	MW-205DD-20150217-01		1515																			
10	MW-204D-20150217-01		1530																			
11	MW-207D-20150217-01		1705																			
12	MW-301D-20150217-01		1720																			
13	MW-302DD-20150217-01		1742																			
14	DUP-01-20150217-01		—																			

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

Page 2 of 96

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: Bill Mitchell	2-18-15 2:55	1: Catayja Reeves	2/18/15 2:55P
2:		2:	
3:		3:	

PROJECT INFORMATION

PROJECT NAME: AGL Macon

PROJECT #: 0208913 PH052

SITE ADDRESS: Macon, GA

SEND REPORT TO: Nic Vrey

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: PO#:

RECEIPT

Total # of Containers: 84

Turnaround Time Request

- (X) Standard 5 Business Days
- ( ) 2 Business Day Rush
- ( ) Next Business Day Rush
- ( ) Same Day Rush (auth req.)
- ( ) Other

STATE PROGRAM (if any):

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

DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD

OUT / / VIA:

IN / / VIA:

CLIENT FedEx UPS MAIL COURIER GREYHOUND OTHER

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

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

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

White Copy - Original; Yellow Copy - Client

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

CHAIN OF CUSTODY

Work Order: 1502F52

Date: 2/18/15 Page 1 of 2

COMPANY: ERM
ADDRESS: 3200 Windy Hill Rd SE Ste 1500W Atlanta, GA 30339
PHONE: 678-486-2700
FAX:
SAMPLED BY: BM, CB, W.V.
SIGNATURE:

ANALYSIS REQUESTED: COI / MNA

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	8260B	8270C	6010B	9012A	7470A	RSK175	Fe2+	Nitrate	Sulfide	Sulfate	Total Iron	PRESERVATION (See codes)	REMARKS	No # of Containers
1	DUP-02-20150217-01	2/17/15	—			GW	X	X	X	X	X									6
2	DUP-03-20150217-01	↓	—			↓														6
3	MW-306D-20150218-01	2/18/15	0830									X	X	X	X	X	X			13
4	MW-307D-20150218-01		0900									X	X	X	X	X	X			13
5	MW-101-20150218-01		0915																	6
6	MW-305D-20150218-01		0955																	5
7	MW-102-20150218-01		1125																	↓
8	MW-302D-20150218-01		1203			↓														
9	TB-01-20150218-01	↓	—			W	X													2
10																				
11																				
12																				
13																				
14																				

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

Page 3 of 96

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: Bill Mitchell	2-18-15 2:55pm	1: Latoya Reeves	2/18/15 2:55p
2:		2:	
3:		3:	

PROJECT INFORMATION
PROJECT NAME: AGL Macon
PROJECT #: 020813 PH 057
SITE ADDRESS: Macon, GA
SEND REPORT TO: V:C Utley
INVOICE TO: (IF DIFFERENT FROM ABOVE)
QUOTE #: PO#:

RECEIPT
Total # of Containers: 63

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

BJM 2-18-15

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

SPECIAL INSTRUCTIONS/COMMENTS:

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

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

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

White Copy - Original; Yellow Copy - Client

Client: ERM-Southeast
Project: AGL Macon
Lab ID: 1502F52

Case Narrative

Samples requiring O2, N2, CO, and CO2 analyses were subcontracted to Microseeps/Pace Analytical Energy Services, LLC.

Sample 1502F52-018 for metals and mercury analysis as received did not meet the method specified pH range for the requested test methods. No attempt to further adjust the pH was made due to sample matrix.

Volatile Organic Compounds Analysis by Method 8260B:

Due to sample matrix, sample 1502F52-020A required dilution during preparation and/or analysis resulting in elevated reporting limits.

IC Analysis by Method 9056A:

Due to sample matrix, samples 1502F52-017 and -018 required dilution during preparation and/or analysis resulting in elevated reporting limits.

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-113D-20150217-01
Project Name:	AGL Macon	**Collection Date:**	2/17/2015 8:26:00 AM
Lab ID:	1502F52-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	203573	1	02/21/2015 15:42	TH
Carbon disulfide	BRL	5.0		ug/L	203573	1	02/21/2015 15:42	TH
Ethylbenzene	BRL	5.0		ug/L	203573	1	02/21/2015 15:42	TH
Toluene	BRL	5.0		ug/L	203573	1	02/21/2015 15:42	TH
Xylenes, Total	BRL	5.0		ug/L	203573	1	02/21/2015 15:42	TH
Surr: 4-Bromofluorobenzene	90.3	70.6-123		%REC	203573	1	02/21/2015 15:42	TH
Surr: Dibromofluoromethane	118	78.7-124		%REC	203573	1	02/21/2015 15:42	TH
Surr: Toluene-d8	105	81.3-120		%REC	203573	1	02/21/2015 15:42	TH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	203390	1	02/20/2015 20:37	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	203390	1	02/20/2015 20:37	YH
Benzo(a)pyrene	BRL	0.050		ug/L	203390	1	02/20/2015 20:37	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	203390	1	02/20/2015 20:37	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	203390	1	02/20/2015 20:37	YH
Surr: 4-Terphenyl-d14	88.1	55.4-136		%REC	203390	1	02/20/2015 20:37	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	203359	1	02/20/2015 00:59	YH
2-Methylphenol	BRL	10		ug/L	203359	1	02/20/2015 00:59	YH
3,4-Methylphenol	BRL	10		ug/L	203359	1	02/20/2015 00:59	YH
Acenaphthene	BRL	10		ug/L	203359	1	02/20/2015 00:59	YH
Acenaphthylene	BRL	10		ug/L	203359	1	02/20/2015 00:59	YH
Anthracene	BRL	10		ug/L	203359	1	02/20/2015 00:59	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	203359	1	02/20/2015 00:59	YH
Benzo(k)fluoranthene	BRL	10		ug/L	203359	1	02/20/2015 00:59	YH
Chrysene	BRL	10		ug/L	203359	1	02/20/2015 00:59	YH
Fluoranthene	BRL	10		ug/L	203359	1	02/20/2015 00:59	YH
Fluorene	BRL	10		ug/L	203359	1	02/20/2015 00:59	YH
Naphthalene	BRL	10		ug/L	203359	1	02/20/2015 00:59	YH
Phenanthrene	BRL	10		ug/L	203359	1	02/20/2015 00:59	YH
Phenol	BRL	10		ug/L	203359	1	02/20/2015 00:59	YH
Pyrene	BRL	10		ug/L	203359	1	02/20/2015 00:59	YH
Surr: 2,4,6-Tribromophenol	112	52-133		%REC	203359	1	02/20/2015 00:59	YH
Surr: 2-Fluorobiphenyl	90.4	50-121		%REC	203359	1	02/20/2015 00:59	YH
Surr: 2-Fluorophenol	75.2	27.5-120		%REC	203359	1	02/20/2015 00:59	YH
Surr: 4-Terphenyl-d14	92.8	46.3-137		%REC	203359	1	02/20/2015 00:59	YH
Surr: Nitrobenzene-d5	92.1	41.2-121		%REC	203359	1	02/20/2015 00:59	YH
Surr: Phenol-d5	61	14.3-120		%REC	203359	1	02/20/2015 00:59	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-113D-20150217-01
Project Name:	AGL Macon	**Collection Date:**	2/17/2015 8:26:00 AM
Lab ID:	1502F52-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	203486	1	02/23/2015 14:03	JG
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	203669	1	02/24/2015 14:30	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	203402	1	02/23/2015 23:26	JL
Arsenic	BRL	0.0500		mg/L	203402	1	02/23/2015 23:26	JL
Barium	0.0750	0.0200		mg/L	203402	1	02/23/2015 23:26	JL
Beryllium	BRL	0.0100		mg/L	203402	1	02/23/2015 23:26	JL
Cadmium	BRL	0.0050		mg/L	203402	1	02/23/2015 23:26	JL
Chromium	BRL	0.0100		mg/L	203402	1	02/23/2015 23:26	JL
Copper	BRL	0.0100		mg/L	203402	1	02/23/2015 23:26	JL
Lead	BRL	0.0100		mg/L	203402	1	02/23/2015 23:26	JL
Nickel	BRL	0.0200		mg/L	203402	1	02/23/2015 23:26	JL
Zinc	BRL	0.0200		mg/L	203402	1	02/23/2015 23:26	JL

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-24D-20150217-01
Project Name:	AGL Macon	**Collection Date:**	2/17/2015 10:20:00 AM
Lab ID:	1502F52-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	203573	1	02/21/2015 18:34	TH
Carbon disulfide	BRL	5.0		ug/L	203573	1	02/21/2015 18:34	TH
Ethylbenzene	BRL	5.0		ug/L	203573	1	02/21/2015 18:34	TH
Toluene	BRL	5.0		ug/L	203573	1	02/21/2015 18:34	TH
Xylenes, Total	BRL	5.0		ug/L	203573	1	02/21/2015 18:34	TH
Surr: 4-Bromofluorobenzene	93.4	70.6-123		%REC	203573	1	02/21/2015 18:34	TH
Surr: Dibromofluoromethane	117	78.7-124		%REC	203573	1	02/21/2015 18:34	TH
Surr: Toluene-d8	102	81.3-120		%REC	203573	1	02/21/2015 18:34	TH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	203390	1	02/20/2015 21:04	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	203390	1	02/20/2015 21:04	YH
Benzo(a)pyrene	BRL	0.050		ug/L	203390	1	02/20/2015 21:04	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	203390	1	02/20/2015 21:04	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	203390	1	02/20/2015 21:04	YH
Surr: 4-Terphenyl-d14	87.8	55.4-136		%REC	203390	1	02/20/2015 21:04	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	203359	1	02/20/2015 01:24	YH
2-Methylphenol	BRL	10		ug/L	203359	1	02/20/2015 01:24	YH
3,4-Methylphenol	BRL	10		ug/L	203359	1	02/20/2015 01:24	YH
Acenaphthene	BRL	10		ug/L	203359	1	02/20/2015 01:24	YH
Acenaphthylene	BRL	10		ug/L	203359	1	02/20/2015 01:24	YH
Anthracene	BRL	10		ug/L	203359	1	02/20/2015 01:24	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	203359	1	02/20/2015 01:24	YH
Benzo(k)fluoranthene	BRL	10		ug/L	203359	1	02/20/2015 01:24	YH
Chrysene	BRL	10		ug/L	203359	1	02/20/2015 01:24	YH
Fluoranthene	BRL	10		ug/L	203359	1	02/20/2015 01:24	YH
Fluorene	BRL	10		ug/L	203359	1	02/20/2015 01:24	YH
Naphthalene	BRL	10		ug/L	203359	1	02/20/2015 01:24	YH
Phenanthrene	BRL	10		ug/L	203359	1	02/20/2015 01:24	YH
Phenol	BRL	10		ug/L	203359	1	02/20/2015 01:24	YH
Pyrene	BRL	10		ug/L	203359	1	02/20/2015 01:24	YH
Surr: 2,4,6-Tribromophenol	114	52-133		%REC	203359	1	02/20/2015 01:24	YH
Surr: 2-Fluorobiphenyl	89.5	50-121		%REC	203359	1	02/20/2015 01:24	YH
Surr: 2-Fluorophenol	73.1	27.5-120		%REC	203359	1	02/20/2015 01:24	YH
Surr: 4-Terphenyl-d14	93.7	46.3-137		%REC	203359	1	02/20/2015 01:24	YH
Surr: Nitrobenzene-d5	88.9	41.2-121		%REC	203359	1	02/20/2015 01:24	YH
Surr: Phenol-d5	59.5	14.3-120		%REC	203359	1	02/20/2015 01:24	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-24D-20150217-01
Project Name:	AGL Macon	**Collection Date:**	2/17/2015 10:20:00 AM
Lab ID:	1502F52-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	203486	1	02/23/2015 14:14	JG
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	203669	1	02/24/2015 14:30	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	203402	1	02/23/2015 23:44	JL
Arsenic	BRL	0.0500		mg/L	203402	1	02/23/2015 23:44	JL
Barium	0.422	0.0200		mg/L	203402	1	02/23/2015 23:44	JL
Beryllium	BRL	0.0100		mg/L	203402	1	02/23/2015 23:44	JL
Cadmium	BRL	0.0050		mg/L	203402	1	02/23/2015 23:44	JL
Chromium	BRL	0.0100		mg/L	203402	1	02/23/2015 23:44	JL
Copper	BRL	0.0100		mg/L	203402	1	02/23/2015 23:44	JL
Lead	BRL	0.0100		mg/L	203402	1	02/23/2015 23:44	JL
Nickel	BRL	0.0200		mg/L	203402	1	02/23/2015 23:44	JL
Zinc	0.0398	0.0200		mg/L	203402	1	02/23/2015 23:44	JL

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-206D-20150217-01
Project Name:	AGL Macon	**Collection Date:**	2/17/2015 10:26:00 AM
Lab ID:	1502F52-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	203573	1	02/21/2015 19:48	TH
Carbon disulfide	BRL	5.0		ug/L	203573	1	02/21/2015 19:48	TH
Ethylbenzene	BRL	5.0		ug/L	203573	1	02/21/2015 19:48	TH
Toluene	BRL	5.0		ug/L	203573	1	02/21/2015 19:48	TH
Xylenes, Total	BRL	5.0		ug/L	203573	1	02/21/2015 19:48	TH
Surr: 4-Bromofluorobenzene	93.1	70.6-123		%REC	203573	1	02/21/2015 19:48	TH
Surr: Dibromofluoromethane	117	78.7-124		%REC	203573	1	02/21/2015 19:48	TH
Surr: Toluene-d8	106	81.3-120		%REC	203573	1	02/21/2015 19:48	TH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	0.10	0.050		ug/L	203390	1	02/20/2015 21:29	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	203390	1	02/20/2015 21:29	YH
Benzo(a)pyrene	BRL	0.050		ug/L	203390	1	02/20/2015 21:29	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	203390	1	02/20/2015 21:29	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	203390	1	02/20/2015 21:29	YH
Surr: 4-Terphenyl-d14	86.5	55.4-136		%REC	203390	1	02/20/2015 21:29	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	203359	1	02/20/2015 01:50	YH
2-Methylphenol	BRL	10		ug/L	203359	1	02/20/2015 01:50	YH
3,4-Methylphenol	BRL	10		ug/L	203359	1	02/20/2015 01:50	YH
Acenaphthene	BRL	10		ug/L	203359	1	02/20/2015 01:50	YH
Acenaphthylene	BRL	10		ug/L	203359	1	02/20/2015 01:50	YH
Anthracene	BRL	10		ug/L	203359	1	02/20/2015 01:50	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	203359	1	02/20/2015 01:50	YH
Benzo(k)fluoranthene	BRL	10		ug/L	203359	1	02/20/2015 01:50	YH
Chrysene	BRL	10		ug/L	203359	1	02/20/2015 01:50	YH
Fluoranthene	BRL	10		ug/L	203359	1	02/20/2015 01:50	YH
Fluorene	BRL	10		ug/L	203359	1	02/20/2015 01:50	YH
Naphthalene	BRL	10		ug/L	203359	1	02/20/2015 01:50	YH
Phenanthrene	BRL	10		ug/L	203359	1	02/20/2015 01:50	YH
Phenol	BRL	10		ug/L	203359	1	02/20/2015 01:50	YH
Pyrene	BRL	10		ug/L	203359	1	02/20/2015 01:50	YH
Surr: 2,4,6-Tribromophenol	120	52-133		%REC	203359	1	02/20/2015 01:50	YH
Surr: 2-Fluorobiphenyl	96.2	50-121		%REC	203359	1	02/20/2015 01:50	YH
Surr: 2-Fluorophenol	75.7	27.5-120		%REC	203359	1	02/20/2015 01:50	YH
Surr: 4-Terphenyl-d14	95.2	46.3-137		%REC	203359	1	02/20/2015 01:50	YH
Surr: Nitrobenzene-d5	96.3	41.2-121		%REC	203359	1	02/20/2015 01:50	YH
Surr: Phenol-d5	63.3	14.3-120		%REC	203359	1	02/20/2015 01:50	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-206D-20150217-01
Project Name:	AGL Macon	**Collection Date:**	2/17/2015 10:26:00 AM
Lab ID:	1502F52-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	203486	1	02/23/2015 14:16	JG
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	203669	1	02/24/2015 14:30	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	203402	1	02/23/2015 23:47	JL
Arsenic	BRL	0.0500		mg/L	203402	1	02/23/2015 23:47	JL
Barium	0.120	0.0200		mg/L	203402	1	02/23/2015 23:47	JL
Beryllium	BRL	0.0100		mg/L	203402	1	02/23/2015 23:47	JL
Cadmium	BRL	0.0050		mg/L	203402	1	02/23/2015 23:47	JL
Chromium	BRL	0.0100		mg/L	203402	1	02/23/2015 23:47	JL
Copper	BRL	0.0100		mg/L	203402	1	02/23/2015 23:47	JL
Lead	BRL	0.0100		mg/L	203402	1	02/23/2015 23:47	JL
Nickel	0.0208	0.0200		mg/L	203402	1	02/23/2015 23:47	JL
Zinc	BRL	0.0200		mg/L	203402	1	02/23/2015 23:47	JL

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-300D-20150217-01
Project Name:	AGL Macon	**Collection Date:**	2/17/2015 10:40:00 AM
Lab ID:	1502F52-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	203573	1	02/21/2015 18:59	TH
Carbon disulfide	BRL	5.0		ug/L	203573	1	02/21/2015 18:59	TH
Ethylbenzene	BRL	5.0		ug/L	203573	1	02/21/2015 18:59	TH
Toluene	BRL	5.0		ug/L	203573	1	02/21/2015 18:59	TH
Xylenes, Total	BRL	5.0		ug/L	203573	1	02/21/2015 18:59	TH
Surr: 4-Bromofluorobenzene	92.3	70.6-123		%REC	203573	1	02/21/2015 18:59	TH
Surr: Dibromofluoromethane	117	78.7-124		%REC	203573	1	02/21/2015 18:59	TH
Surr: Toluene-d8	102	81.3-120		%REC	203573	1	02/21/2015 18:59	TH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	203390	1	02/20/2015 21:57	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	203390	1	02/20/2015 21:57	YH
Benzo(a)pyrene	BRL	0.050		ug/L	203390	1	02/20/2015 21:57	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	203390	1	02/20/2015 21:57	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	203390	1	02/20/2015 21:57	YH
Surr: 4-Terphenyl-d14	83.8	55.4-136		%REC	203390	1	02/20/2015 21:57	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	203359	1	02/20/2015 02:16	YH
2-Methylphenol	BRL	10		ug/L	203359	1	02/20/2015 02:16	YH
3,4-Methylphenol	BRL	10		ug/L	203359	1	02/20/2015 02:16	YH
Acenaphthene	BRL	10		ug/L	203359	1	02/20/2015 02:16	YH
Acenaphthylene	BRL	10		ug/L	203359	1	02/20/2015 02:16	YH
Anthracene	BRL	10		ug/L	203359	1	02/20/2015 02:16	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	203359	1	02/20/2015 02:16	YH
Benzo(k)fluoranthene	BRL	10		ug/L	203359	1	02/20/2015 02:16	YH
Chrysene	BRL	10		ug/L	203359	1	02/20/2015 02:16	YH
Fluoranthene	BRL	10		ug/L	203359	1	02/20/2015 02:16	YH
Fluorene	BRL	10		ug/L	203359	1	02/20/2015 02:16	YH
Naphthalene	BRL	10		ug/L	203359	1	02/20/2015 02:16	YH
Phenanthrene	BRL	10		ug/L	203359	1	02/20/2015 02:16	YH
Phenol	BRL	10		ug/L	203359	1	02/20/2015 02:16	YH
Pyrene	BRL	10		ug/L	203359	1	02/20/2015 02:16	YH
Surr: 2,4,6-Tribromophenol	114	52-133		%REC	203359	1	02/20/2015 02:16	YH
Surr: 2-Fluorobiphenyl	95.4	50-121		%REC	203359	1	02/20/2015 02:16	YH
Surr: 2-Fluorophenol	77.5	27.5-120		%REC	203359	1	02/20/2015 02:16	YH
Surr: 4-Terphenyl-d14	93.9	46.3-137		%REC	203359	1	02/20/2015 02:16	YH
Surr: Nitrobenzene-d5	94	41.2-121		%REC	203359	1	02/20/2015 02:16	YH
Surr: Phenol-d5	61.8	14.3-120		%REC	203359	1	02/20/2015 02:16	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-300D-20150217-01
Project Name:	AGL Macon	**Collection Date:**	2/17/2015 10:40:00 AM
Lab ID:	1502F52-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	203486	1	02/23/2015 14:18	JG
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	BRL	0.010		mg/L	203669	1	02/24/2015 14:30	PF
METALS, TOTAL SW6010C				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	203402	1	02/23/2015 23:50	JL
Arsenic	BRL	0.0500		mg/L	203402	1	02/23/2015 23:50	JL
Barium	1.55	0.0200		mg/L	203402	1	02/23/2015 23:50	JL
Beryllium	0.0151	0.0100		mg/L	203402	1	02/23/2015 23:50	JL
Cadmium	BRL	0.0050		mg/L	203402	1	02/23/2015 23:50	JL
Chromium	BRL	0.0100		mg/L	203402	1	02/23/2015 23:50	JL
Copper	BRL	0.0100		mg/L	203402	1	02/23/2015 23:50	JL
Lead	BRL	0.0100		mg/L	203402	1	02/23/2015 23:50	JL
Nickel	0.0253	0.0200		mg/L	203402	1	02/23/2015 23:50	JL
Zinc	0.0522	0.0200		mg/L	203402	1	02/23/2015 23:50	JL

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-108D-20150217-01
Project Name:	AGL Macon	**Collection Date:**	2/17/2015 12:55:00 PM
Lab ID:	1502F52-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	203573	1	02/21/2015 19:24	TH
Carbon disulfide	BRL	5.0		ug/L	203573	1	02/21/2015 19:24	TH
Ethylbenzene	BRL	5.0		ug/L	203573	1	02/21/2015 19:24	TH
Toluene	BRL	5.0		ug/L	203573	1	02/21/2015 19:24	TH
Xylenes, Total	BRL	5.0		ug/L	203573	1	02/21/2015 19:24	TH
Surr: 4-Bromofluorobenzene	90.3	70.6-123		%REC	203573	1	02/21/2015 19:24	TH
Surr: Dibromofluoromethane	116	78.7-124		%REC	203573	1	02/21/2015 19:24	TH
Surr: Toluene-d8	104	81.3-120		%REC	203573	1	02/21/2015 19:24	TH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	203390	1	02/20/2015 22:24	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	203390	1	02/20/2015 22:24	YH
Benzo(a)pyrene	BRL	0.050		ug/L	203390	1	02/20/2015 22:24	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	203390	1	02/20/2015 22:24	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	203390	1	02/20/2015 22:24	YH
Surr: 4-Terphenyl-d14	90.1	55.4-136		%REC	203390	1	02/20/2015 22:24	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	203359	1	02/20/2015 02:41	YH
2-Methylphenol	BRL	10		ug/L	203359	1	02/20/2015 02:41	YH
3,4-Methylphenol	BRL	10		ug/L	203359	1	02/20/2015 02:41	YH
Acenaphthene	BRL	10		ug/L	203359	1	02/20/2015 02:41	YH
Acenaphthylene	BRL	10		ug/L	203359	1	02/20/2015 02:41	YH
Anthracene	BRL	10		ug/L	203359	1	02/20/2015 02:41	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	203359	1	02/20/2015 02:41	YH
Benzo(k)fluoranthene	BRL	10		ug/L	203359	1	02/20/2015 02:41	YH
Chrysene	BRL	10		ug/L	203359	1	02/20/2015 02:41	YH
Fluoranthene	BRL	10		ug/L	203359	1	02/20/2015 02:41	YH
Fluorene	BRL	10		ug/L	203359	1	02/20/2015 02:41	YH
Naphthalene	BRL	10		ug/L	203359	1	02/20/2015 02:41	YH
Phenanthrene	BRL	10		ug/L	203359	1	02/20/2015 02:41	YH
Phenol	BRL	10		ug/L	203359	1	02/20/2015 02:41	YH
Pyrene	BRL	10		ug/L	203359	1	02/20/2015 02:41	YH
Surr: 2,4,6-Tribromophenol	109	52-133		%REC	203359	1	02/20/2015 02:41	YH
Surr: 2-Fluorobiphenyl	84.7	50-121		%REC	203359	1	02/20/2015 02:41	YH
Surr: 2-Fluorophenol	67.1	27.5-120		%REC	203359	1	02/20/2015 02:41	YH
Surr: 4-Terphenyl-d14	93.1	46.3-137		%REC	203359	1	02/20/2015 02:41	YH
Surr: Nitrobenzene-d5	85.5	41.2-121		%REC	203359	1	02/20/2015 02:41	YH
Surr: Phenol-d5	55.4	14.3-120		%REC	203359	1	02/20/2015 02:41	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-108D-20150217-01
Project Name:	AGL Macon	**Collection Date:**	2/17/2015 12:55:00 PM
Lab ID:	1502F52-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	203486	1	02/23/2015 14:20	JG
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	203669	1	02/24/2015 14:30	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	203402	1	02/24/2015 00:00	JL
Arsenic	BRL	0.0500		mg/L	203402	1	02/24/2015 00:00	JL
Barium	0.631	0.0200		mg/L	203402	1	02/24/2015 00:00	JL
Beryllium	BRL	0.0100		mg/L	203402	1	02/24/2015 00:00	JL
Cadmium	0.0066	0.0050		mg/L	203402	1	02/24/2015 00:00	JL
Chromium	BRL	0.0100		mg/L	203402	1	02/24/2015 00:00	JL
Copper	BRL	0.0100		mg/L	203402	1	02/24/2015 00:00	JL
Lead	BRL	0.0100		mg/L	203402	1	02/24/2015 00:00	JL
Nickel	BRL	0.0200		mg/L	203402	1	02/24/2015 00:00	JL
Zinc	0.0433	0.0200		mg/L	203402	1	02/24/2015 00:00	JL

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-15-20150217-01
Project Name:	AGL Macon	**Collection Date:**	2/17/2015 1:05:00 PM
Lab ID:	1502F52-006	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	203573	1	02/21/2015 20:12	TH
Carbon disulfide	BRL	5.0		ug/L	203573	1	02/21/2015 20:12	TH
Ethylbenzene	BRL	5.0		ug/L	203573	1	02/21/2015 20:12	TH
Toluene	BRL	5.0		ug/L	203573	1	02/21/2015 20:12	TH
Xylenes, Total	BRL	5.0		ug/L	203573	1	02/21/2015 20:12	TH
Surr: 4-Bromofluorobenzene	91.4	70.6-123		%REC	203573	1	02/21/2015 20:12	TH
Surr: Dibromofluoromethane	117	78.7-124		%REC	203573	1	02/21/2015 20:12	TH
Surr: Toluene-d8	103	81.3-120		%REC	203573	1	02/21/2015 20:12	TH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	203390	1	02/20/2015 22:51	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	203390	1	02/20/2015 22:51	YH
Benzo(a)pyrene	BRL	0.050		ug/L	203390	1	02/20/2015 22:51	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	203390	1	02/20/2015 22:51	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	203390	1	02/20/2015 22:51	YH
Surr: 4-Terphenyl-d14	81.1	55.4-136		%REC	203390	1	02/20/2015 22:51	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	203359	1	02/20/2015 03:07	YH
2-Methylphenol	BRL	10		ug/L	203359	1	02/20/2015 03:07	YH
3,4-Methylphenol	BRL	10		ug/L	203359	1	02/20/2015 03:07	YH
Acenaphthene	BRL	10		ug/L	203359	1	02/20/2015 03:07	YH
Acenaphthylene	BRL	10		ug/L	203359	1	02/20/2015 03:07	YH
Anthracene	BRL	10		ug/L	203359	1	02/20/2015 03:07	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	203359	1	02/20/2015 03:07	YH
Benzo(k)fluoranthene	BRL	10		ug/L	203359	1	02/20/2015 03:07	YH
Chrysene	BRL	10		ug/L	203359	1	02/20/2015 03:07	YH
Fluoranthene	BRL	10		ug/L	203359	1	02/20/2015 03:07	YH
Fluorene	BRL	10		ug/L	203359	1	02/20/2015 03:07	YH
Naphthalene	BRL	10		ug/L	203359	1	02/20/2015 03:07	YH
Phenanthrene	BRL	10		ug/L	203359	1	02/20/2015 03:07	YH
Phenol	BRL	10		ug/L	203359	1	02/20/2015 03:07	YH
Pyrene	BRL	10		ug/L	203359	1	02/20/2015 03:07	YH
Surr: 2,4,6-Tribromophenol	112	52-133		%REC	203359	1	02/20/2015 03:07	YH
Surr: 2-Fluorobiphenyl	87.8	50-121		%REC	203359	1	02/20/2015 03:07	YH
Surr: 2-Fluorophenol	70.8	27.5-120		%REC	203359	1	02/20/2015 03:07	YH
Surr: 4-Terphenyl-d14	90.8	46.3-137		%REC	203359	1	02/20/2015 03:07	YH
Surr: Nitrobenzene-d5	85.8	41.2-121		%REC	203359	1	02/20/2015 03:07	YH
Surr: Phenol-d5	59	14.3-120		%REC	203359	1	02/20/2015 03:07	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-15-20150217-01
Project Name:	AGL Macon	**Collection Date:**	2/17/2015 1:05:00 PM
Lab ID:	1502F52-006	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	203486	1	02/23/2015 14:22	JG
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.108	0.010		mg/L	203669	1	02/24/2015 14:30	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	203402	1	02/24/2015 00:04	JL
Arsenic	BRL	0.0500		mg/L	203402	1	02/24/2015 00:04	JL
Barium	0.0500	0.0200		mg/L	203402	1	02/24/2015 00:04	JL
Beryllium	BRL	0.0100		mg/L	203402	1	02/24/2015 00:04	JL
Cadmium	BRL	0.0050		mg/L	203402	1	02/24/2015 00:04	JL
Chromium	BRL	0.0100		mg/L	203402	1	02/24/2015 00:04	JL
Copper	BRL	0.0100		mg/L	203402	1	02/24/2015 00:04	JL
Lead	BRL	0.0100		mg/L	203402	1	02/24/2015 00:04	JL
Nickel	BRL	0.0200		mg/L	203402	1	02/24/2015 00:04	JL
Zinc	0.297	0.0200		mg/L	203402	1	02/24/2015 00:04	JL

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-304D-20150217-01
Project Name:	AGL Macon	**Collection Date:**	2/17/2015 2:00:00 PM
Lab ID:	1502F52-007	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	203573	1	02/21/2015 20:37	TH
Carbon disulfide	BRL	5.0		ug/L	203573	1	02/21/2015 20:37	TH
Ethylbenzene	BRL	5.0		ug/L	203573	1	02/21/2015 20:37	TH
Toluene	BRL	5.0		ug/L	203573	1	02/21/2015 20:37	TH
Xylenes, Total	BRL	5.0		ug/L	203573	1	02/21/2015 20:37	TH
Surr: 4-Bromofluorobenzene	91.1	70.6-123		%REC	203573	1	02/21/2015 20:37	TH
Surr: Dibromofluoromethane	119	78.7-124		%REC	203573	1	02/21/2015 20:37	TH
Surr: Toluene-d8	104	81.3-120		%REC	203573	1	02/21/2015 20:37	TH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	203390	1	02/20/2015 23:17	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	203390	1	02/20/2015 23:17	YH
Benzo(a)pyrene	BRL	0.050		ug/L	203390	1	02/20/2015 23:17	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	203390	1	02/20/2015 23:17	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	203390	1	02/20/2015 23:17	YH
Surr: 4-Terphenyl-d14	89.7	55.4-136		%REC	203390	1	02/20/2015 23:17	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	203359	1	02/20/2015 03:33	YH
2-Methylphenol	BRL	10		ug/L	203359	1	02/20/2015 03:33	YH
3,4-Methylphenol	BRL	10		ug/L	203359	1	02/20/2015 03:33	YH
Acenaphthene	BRL	10		ug/L	203359	1	02/20/2015 03:33	YH
Acenaphthylene	BRL	10		ug/L	203359	1	02/20/2015 03:33	YH
Anthracene	BRL	10		ug/L	203359	1	02/20/2015 03:33	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	203359	1	02/20/2015 03:33	YH
Benzo(k)fluoranthene	BRL	10		ug/L	203359	1	02/20/2015 03:33	YH
Chrysene	BRL	10		ug/L	203359	1	02/20/2015 03:33	YH
Fluoranthene	BRL	10		ug/L	203359	1	02/20/2015 03:33	YH
Fluorene	BRL	10		ug/L	203359	1	02/20/2015 03:33	YH
Naphthalene	BRL	10		ug/L	203359	1	02/20/2015 03:33	YH
Phenanthrene	BRL	10		ug/L	203359	1	02/20/2015 03:33	YH
Phenol	BRL	10		ug/L	203359	1	02/20/2015 03:33	YH
Pyrene	BRL	10		ug/L	203359	1	02/20/2015 03:33	YH
Surr: 2,4,6-Tribromophenol	112	52-133		%REC	203359	1	02/20/2015 03:33	YH
Surr: 2-Fluorobiphenyl	89.1	50-121		%REC	203359	1	02/20/2015 03:33	YH
Surr: 2-Fluorophenol	69.7	27.5-120		%REC	203359	1	02/20/2015 03:33	YH
Surr: 4-Terphenyl-d14	91.6	46.3-137		%REC	203359	1	02/20/2015 03:33	YH
Surr: Nitrobenzene-d5	87.9	41.2-121		%REC	203359	1	02/20/2015 03:33	YH
Surr: Phenol-d5	59.1	14.3-120		%REC	203359	1	02/20/2015 03:33	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-304D-20150217-01
Project Name:	AGL Macon	**Collection Date:**	2/17/2015 2:00:00 PM
Lab ID:	1502F52-007	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	203486	1	02/23/2015 14:24	JG
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	203669	1	02/24/2015 14:30	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	203402	1	02/24/2015 00:07	JL
Arsenic	BRL	0.0500		mg/L	203402	1	02/24/2015 00:07	JL
Barium	4.44	0.0200		mg/L	203402	1	02/24/2015 00:07	JL
Beryllium	BRL	0.0100		mg/L	203402	1	02/24/2015 00:07	JL
Cadmium	BRL	0.0050		mg/L	203402	1	02/24/2015 00:07	JL
Chromium	BRL	0.0100		mg/L	203402	1	02/24/2015 00:07	JL
Copper	BRL	0.0100		mg/L	203402	1	02/24/2015 00:07	JL
Lead	BRL	0.0100		mg/L	203402	1	02/24/2015 00:07	JL
Nickel	BRL	0.0200		mg/L	203402	1	02/24/2015 00:07	JL
Zinc	BRL	0.0200		mg/L	203402	1	02/24/2015 00:07	JL

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-200DR-20150217-01
Project Name:	AGL Macon	**Collection Date:**	2/17/2015 2:15:00 PM
Lab ID:	1502F52-008	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	203573	1	02/21/2015 21:01	TH
Carbon disulfide	BRL	5.0		ug/L	203573	1	02/21/2015 21:01	TH
Ethylbenzene	BRL	5.0		ug/L	203573	1	02/21/2015 21:01	TH
Toluene	BRL	5.0		ug/L	203573	1	02/21/2015 21:01	TH
Xylenes, Total	BRL	5.0		ug/L	203573	1	02/21/2015 21:01	TH
Surr: 4-Bromofluorobenzene	92.3	70.6-123		%REC	203573	1	02/21/2015 21:01	TH
Surr: Dibromofluoromethane	119	78.7-124		%REC	203573	1	02/21/2015 21:01	TH
Surr: Toluene-d8	106	81.3-120		%REC	203573	1	02/21/2015 21:01	TH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	203390	1	02/20/2015 23:44	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	203390	1	02/20/2015 23:44	YH
Benzo(a)pyrene	BRL	0.050		ug/L	203390	1	02/20/2015 23:44	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	203390	1	02/20/2015 23:44	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	203390	1	02/20/2015 23:44	YH
Surr: 4-Terphenyl-d14	86.1	55.4-136		%REC	203390	1	02/20/2015 23:44	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	203552	1	02/23/2015 20:48	YH
2-Methylphenol	BRL	10		ug/L	203552	1	02/23/2015 20:48	YH
3,4-Methylphenol	BRL	10		ug/L	203552	1	02/23/2015 20:48	YH
Acenaphthene	BRL	10		ug/L	203552	1	02/23/2015 20:48	YH
Acenaphthylene	BRL	10		ug/L	203552	1	02/23/2015 20:48	YH
Anthracene	BRL	10		ug/L	203552	1	02/23/2015 20:48	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	203552	1	02/23/2015 20:48	YH
Benzo(k)fluoranthene	BRL	10		ug/L	203552	1	02/23/2015 20:48	YH
Chrysene	BRL	10		ug/L	203552	1	02/23/2015 20:48	YH
Fluoranthene	BRL	10		ug/L	203552	1	02/23/2015 20:48	YH
Fluorene	BRL	10		ug/L	203552	1	02/23/2015 20:48	YH
Naphthalene	BRL	10		ug/L	203552	1	02/23/2015 20:48	YH
Phenanthrene	BRL	10		ug/L	203552	1	02/23/2015 20:48	YH
Phenol	BRL	10		ug/L	203552	1	02/23/2015 20:48	YH
Pyrene	BRL	10		ug/L	203552	1	02/23/2015 20:48	YH
Surr: 2,4,6-Tribromophenol	109	52-133		%REC	203552	1	02/23/2015 20:48	YH
Surr: 2-Fluorobiphenyl	83.8	50-121		%REC	203552	1	02/23/2015 20:48	YH
Surr: 2-Fluorophenol	57.2	27.5-120		%REC	203552	1	02/23/2015 20:48	YH
Surr: 4-Terphenyl-d14	90.9	46.3-137		%REC	203552	1	02/23/2015 20:48	YH
Surr: Nitrobenzene-d5	77.2	41.2-121		%REC	203552	1	02/23/2015 20:48	YH
Surr: Phenol-d5	51.9	14.3-120		%REC	203552	1	02/23/2015 20:48	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-200DR-20150217-01
Project Name:	AGL Macon	**Collection Date:**	2/17/2015 2:15:00 PM
Lab ID:	1502F52-008	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	203486	1	02/23/2015 14:26	JG
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	0.034	0.010		mg/L	203669	1	02/24/2015 14:30	PF
METALS, TOTAL SW6010C				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	203402	1	02/24/2015 00:11	JL
Arsenic	BRL	0.0500		mg/L	203402	1	02/24/2015 00:11	JL
Barium	0.682	0.0200		mg/L	203402	1	02/24/2015 00:11	JL
Beryllium	BRL	0.0100		mg/L	203402	1	02/24/2015 00:11	JL
Cadmium	BRL	0.0050		mg/L	203402	1	02/24/2015 00:11	JL
Chromium	BRL	0.0100		mg/L	203402	1	02/24/2015 00:11	JL
Copper	BRL	0.0100		mg/L	203402	1	02/24/2015 00:11	JL
Lead	BRL	0.0100		mg/L	203402	1	02/24/2015 00:11	JL
Nickel	BRL	0.0200		mg/L	203402	1	02/24/2015 00:11	JL
Zinc	0.0204	0.0200		mg/L	203402	1	02/24/2015 00:11	JL

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-205DD-20150217-01
Project Name:	AGL Macon	**Collection Date:**	2/17/2015 3:15:00 PM
Lab ID:	1502F52-009	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	203573	1	02/21/2015 21:26	TH
Carbon disulfide	BRL	5.0		ug/L	203573	1	02/21/2015 21:26	TH
Ethylbenzene	BRL	5.0		ug/L	203573	1	02/21/2015 21:26	TH
Toluene	BRL	5.0		ug/L	203573	1	02/21/2015 21:26	TH
Xylenes, Total	BRL	5.0		ug/L	203573	1	02/21/2015 21:26	TH
Surr: 4-Bromofluorobenzene	90.4	70.6-123		%REC	203573	1	02/21/2015 21:26	TH
Surr: Dibromofluoromethane	121	78.7-124		%REC	203573	1	02/21/2015 21:26	TH
Surr: Toluene-d8	106	81.3-120		%REC	203573	1	02/21/2015 21:26	TH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	203390	1	02/21/2015 00:10	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	203390	1	02/21/2015 00:10	YH
Benzo(a)pyrene	BRL	0.050		ug/L	203390	1	02/21/2015 00:10	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	203390	1	02/21/2015 00:10	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	203390	1	02/21/2015 00:10	YH
Surr: 4-Terphenyl-d14	80	55.4-136		%REC	203390	1	02/21/2015 00:10	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	203552	1	02/23/2015 21:13	YH
2-Methylphenol	BRL	10		ug/L	203552	1	02/23/2015 21:13	YH
3,4-Methylphenol	BRL	10		ug/L	203552	1	02/23/2015 21:13	YH
Acenaphthene	BRL	10		ug/L	203552	1	02/23/2015 21:13	YH
Acenaphthylene	BRL	10		ug/L	203552	1	02/23/2015 21:13	YH
Anthracene	BRL	10		ug/L	203552	1	02/23/2015 21:13	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	203552	1	02/23/2015 21:13	YH
Benzo(k)fluoranthene	BRL	10		ug/L	203552	1	02/23/2015 21:13	YH
Chrysene	BRL	10		ug/L	203552	1	02/23/2015 21:13	YH
Fluoranthene	BRL	10		ug/L	203552	1	02/23/2015 21:13	YH
Fluorene	BRL	10		ug/L	203552	1	02/23/2015 21:13	YH
Naphthalene	BRL	10		ug/L	203552	1	02/23/2015 21:13	YH
Phenanthrene	BRL	10		ug/L	203552	1	02/23/2015 21:13	YH
Phenol	BRL	10		ug/L	203552	1	02/23/2015 21:13	YH
Pyrene	BRL	10		ug/L	203552	1	02/23/2015 21:13	YH
Surr: 2,4,6-Tribromophenol	97.4	52-133		%REC	203552	1	02/23/2015 21:13	YH
Surr: 2-Fluorobiphenyl	87.6	50-121		%REC	203552	1	02/23/2015 21:13	YH
Surr: 2-Fluorophenol	62.2	27.5-120		%REC	203552	1	02/23/2015 21:13	YH
Surr: 4-Terphenyl-d14	80.1	46.3-137		%REC	203552	1	02/23/2015 21:13	YH
Surr: Nitrobenzene-d5	81.9	41.2-121		%REC	203552	1	02/23/2015 21:13	YH
Surr: Phenol-d5	55	14.3-120		%REC	203552	1	02/23/2015 21:13	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-205DD-20150217-01
Project Name:	AGL Macon	**Collection Date:**	2/17/2015 3:15:00 PM
Lab ID:	1502F52-009	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	203486	1	02/23/2015 14:32	JG
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	203669	1	02/24/2015 14:30	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	203402	1	02/24/2015 00:14	JL
Arsenic	BRL	0.0500		mg/L	203402	1	02/24/2015 00:14	JL
Barium	0.0331	0.0200		mg/L	203402	1	02/24/2015 00:14	JL
Beryllium	BRL	0.0100		mg/L	203402	1	02/24/2015 00:14	JL
Cadmium	BRL	0.0050		mg/L	203402	1	02/24/2015 00:14	JL
Chromium	BRL	0.0100		mg/L	203402	1	02/24/2015 00:14	JL
Copper	BRL	0.0100		mg/L	203402	1	02/24/2015 00:14	JL
Lead	BRL	0.0100		mg/L	203402	1	02/24/2015 00:14	JL
Nickel	BRL	0.0200		mg/L	203402	1	02/24/2015 00:14	JL
Zinc	0.0433	0.0200		mg/L	203402	1	02/24/2015 00:14	JL

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-204D-20150217-01
Project Name:	AGL Macon	**Collection Date:**	2/17/2015 3:30:00 PM
Lab ID:	1502F52-010	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	500	50		ug/L	203573	10	02/23/2015 14:31	NP
Carbon disulfide	BRL	5.0		ug/L	203573	1	02/21/2015 21:50	TH
Ethylbenzene	440	50		ug/L	203573	10	02/23/2015 14:31	NP
Toluene	BRL	5.0		ug/L	203573	1	02/21/2015 21:50	TH
Xylenes, Total	46	5.0		ug/L	203573	1	02/21/2015 21:50	TH
Surr: 4-Bromofluorobenzene	97.8	70.6-123		%REC	203573	10	02/23/2015 14:31	NP
Surr: 4-Bromofluorobenzene	106	70.6-123		%REC	203573	1	02/21/2015 21:50	TH
Surr: Dibromofluoromethane	99.4	78.7-124		%REC	203573	10	02/23/2015 14:31	NP
Surr: Dibromofluoromethane	105	78.7-124		%REC	203573	1	02/21/2015 21:50	TH
Surr: Toluene-d8	96.8	81.3-120		%REC	203573	10	02/23/2015 14:31	NP
Surr: Toluene-d8	101	81.3-120		%REC	203573	1	02/21/2015 21:50	TH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	0.10	0.050		ug/L	203390	1	02/21/2015 00:36	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	203390	1	02/21/2015 00:36	YH
Benzo(a)pyrene	BRL	0.050		ug/L	203390	1	02/21/2015 00:36	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	203390	1	02/21/2015 00:36	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	203390	1	02/21/2015 00:36	YH
Surr: 4-Terphenyl-d14	86.2	55.4-136		%REC	203390	1	02/21/2015 00:36	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	203552	1	02/23/2015 21:38	YH
2-Methylphenol	BRL	10		ug/L	203552	1	02/23/2015 21:38	YH
3,4-Methylphenol	BRL	10		ug/L	203552	1	02/23/2015 21:38	YH
Acenaphthene	71	10		ug/L	203552	1	02/23/2015 21:38	YH
Acenaphthylene	BRL	10		ug/L	203552	1	02/23/2015 21:38	YH
Anthracene	BRL	10		ug/L	203552	1	02/23/2015 21:38	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	203552	1	02/23/2015 21:38	YH
Benzo(k)fluoranthene	BRL	10		ug/L	203552	1	02/23/2015 21:38	YH
Chrysene	BRL	10		ug/L	203552	1	02/23/2015 21:38	YH
Fluoranthene	BRL	10		ug/L	203552	1	02/23/2015 21:38	YH
Fluorene	27	10		ug/L	203552	1	02/23/2015 21:38	YH
Naphthalene	1400	100		ug/L	203552	10	02/24/2015 12:58	YH
Phenanthrene	23	10		ug/L	203552	1	02/23/2015 21:38	YH
Phenol	BRL	10		ug/L	203552	1	02/23/2015 21:38	YH
Pyrene	BRL	10		ug/L	203552	1	02/23/2015 21:38	YH
Surr: 2,4,6-Tribromophenol	104	52-133		%REC	203552	1	02/23/2015 21:38	YH
Surr: 2-Fluorobiphenyl	86	50-121		%REC	203552	1	02/23/2015 21:38	YH
Surr: 2-Fluorophenol	61.7	27.5-120		%REC	203552	1	02/23/2015 21:38	YH
Surr: 4-Terphenyl-d14	84.7	46.3-137		%REC	203552	1	02/23/2015 21:38	YH
Surr: Nitrobenzene-d5	87.2	41.2-121		%REC	203552	1	02/23/2015 21:38	YH

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-204D-20150217-01
Project Name:	AGL Macon	**Collection Date:**	2/17/2015 3:30:00 PM
Lab ID:	1502F52-010	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
Surr: Phenol-d5	53.1	14.3-120		%REC	203552	1	02/23/2015 21:38	YH
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	203486	1	02/23/2015 14:34	JG
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	0.023	0.010		mg/L	203669	1	02/24/2015 14:30	PF
METALS, TOTAL SW6010C				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	203402	1	02/24/2015 00:18	JL
Arsenic	BRL	0.0500		mg/L	203402	1	02/24/2015 00:18	JL
Barium	4.97	0.0200		mg/L	203402	1	02/24/2015 00:18	JL
Beryllium	BRL	0.0100		mg/L	203402	1	02/24/2015 00:18	JL
Cadmium	BRL	0.0050		mg/L	203402	1	02/24/2015 00:18	JL
Chromium	BRL	0.0100		mg/L	203402	1	02/24/2015 00:18	JL
Copper	BRL	0.0100		mg/L	203402	1	02/24/2015 00:18	JL
Lead	BRL	0.0100		mg/L	203402	1	02/24/2015 00:18	JL
Nickel	0.0602	0.0200		mg/L	203402	1	02/24/2015 00:18	JL
Zinc	BRL	0.0200		mg/L	203402	1	02/24/2015 00:18	JL

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-207D-20150217-01
Project Name:	AGL Macon	**Collection Date:**	2/17/2015 5:05:00 PM
Lab ID:	1502F52-011	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	203573	1	02/21/2015 22:15	TH
Carbon disulfide	BRL	5.0		ug/L	203573	1	02/21/2015 22:15	TH
Ethylbenzene	BRL	5.0		ug/L	203573	1	02/21/2015 22:15	TH
Toluene	BRL	5.0		ug/L	203573	1	02/21/2015 22:15	TH
Xylenes, Total	BRL	5.0		ug/L	203573	1	02/21/2015 22:15	TH
Surr: 4-Bromofluorobenzene	96.8	70.6-123		%REC	203573	1	02/21/2015 22:15	TH
Surr: Dibromofluoromethane	113	78.7-124		%REC	203573	1	02/21/2015 22:15	TH
Surr: Toluene-d8	101	81.3-120		%REC	203573	1	02/21/2015 22:15	TH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	203390	1	02/21/2015 01:03	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	203390	1	02/21/2015 01:03	YH
Benzo(a)pyrene	BRL	0.050		ug/L	203390	1	02/21/2015 01:03	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	203390	1	02/21/2015 01:03	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	203390	1	02/21/2015 01:03	YH
Surr: 4-Terphenyl-d14	84.1	55.4-136		%REC	203390	1	02/21/2015 01:03	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	203552	1	02/23/2015 22:04	YH
2-Methylphenol	BRL	10		ug/L	203552	1	02/23/2015 22:04	YH
3,4-Methylphenol	BRL	10		ug/L	203552	1	02/23/2015 22:04	YH
Acenaphthene	BRL	10		ug/L	203552	1	02/23/2015 22:04	YH
Acenaphthylene	BRL	10		ug/L	203552	1	02/23/2015 22:04	YH
Anthracene	BRL	10		ug/L	203552	1	02/23/2015 22:04	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	203552	1	02/23/2015 22:04	YH
Benzo(k)fluoranthene	BRL	10		ug/L	203552	1	02/23/2015 22:04	YH
Chrysene	BRL	10		ug/L	203552	1	02/23/2015 22:04	YH
Fluoranthene	BRL	10		ug/L	203552	1	02/23/2015 22:04	YH
Fluorene	BRL	10		ug/L	203552	1	02/23/2015 22:04	YH
Naphthalene	BRL	10		ug/L	203552	1	02/23/2015 22:04	YH
Phenanthrene	BRL	10		ug/L	203552	1	02/23/2015 22:04	YH
Phenol	BRL	10		ug/L	203552	1	02/23/2015 22:04	YH
Pyrene	BRL	10		ug/L	203552	1	02/23/2015 22:04	YH
Surr: 2,4,6-Tribromophenol	106	52-133		%REC	203552	1	02/23/2015 22:04	YH
Surr: 2-Fluorobiphenyl	83.7	50-121		%REC	203552	1	02/23/2015 22:04	YH
Surr: 2-Fluorophenol	63.2	27.5-120		%REC	203552	1	02/23/2015 22:04	YH
Surr: 4-Terphenyl-d14	84.9	46.3-137		%REC	203552	1	02/23/2015 22:04	YH
Surr: Nitrobenzene-d5	78.5	41.2-121		%REC	203552	1	02/23/2015 22:04	YH
Surr: Phenol-d5	52.4	14.3-120		%REC	203552	1	02/23/2015 22:04	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-207D-20150217-01
Project Name:	AGL Macon	**Collection Date:**	2/17/2015 5:05:00 PM
Lab ID:	1502F52-011	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	203486	1	02/23/2015 14:36	JG
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.036	0.010		mg/L	203669	1	02/24/2015 14:30	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	203402	1	02/24/2015 00:21	JL
Arsenic	BRL	0.0500		mg/L	203402	1	02/24/2015 00:21	JL
Barium	2.89	0.0200		mg/L	203402	1	02/24/2015 00:21	JL
Beryllium	BRL	0.0100		mg/L	203402	1	02/24/2015 00:21	JL
Cadmium	BRL	0.0050		mg/L	203402	1	02/24/2015 00:21	JL
Chromium	BRL	0.0100		mg/L	203402	1	02/24/2015 00:21	JL
Copper	0.0108	0.0100		mg/L	203402	1	02/24/2015 00:21	JL
Lead	0.0173	0.0100		mg/L	203402	1	02/24/2015 00:21	JL
Nickel	BRL	0.0200		mg/L	203402	1	02/24/2015 00:21	JL
Zinc	0.0288	0.0200		mg/L	203402	1	02/24/2015 00:21	JL

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-301D-20150217-01
Project Name:	AGL Macon	**Collection Date:**	2/17/2015 5:20:00 PM
Lab ID:	1502F52-012	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	9.2	5.0		ug/L	203573	1	02/21/2015 22:40	TH
Carbon disulfide	BRL	5.0		ug/L	203573	1	02/21/2015 22:40	TH
Ethylbenzene	BRL	5.0		ug/L	203573	1	02/21/2015 22:40	TH
Toluene	BRL	5.0		ug/L	203573	1	02/21/2015 22:40	TH
Xylenes, Total	BRL	5.0		ug/L	203573	1	02/21/2015 22:40	TH
Surr: 4-Bromofluorobenzene	94	70.6-123		%REC	203573	1	02/21/2015 22:40	TH
Surr: Dibromofluoromethane	110	78.7-124		%REC	203573	1	02/21/2015 22:40	TH
Surr: Toluene-d8	102	81.3-120		%REC	203573	1	02/21/2015 22:40	TH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	203390	1	02/21/2015 01:28	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	203390	1	02/21/2015 01:28	YH
Benzo(a)pyrene	BRL	0.050		ug/L	203390	1	02/21/2015 01:28	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	203390	1	02/21/2015 01:28	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	203390	1	02/21/2015 01:28	YH
Surr: 4-Terphenyl-d14	77.2	55.4-136		%REC	203390	1	02/21/2015 01:28	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	203552	1	02/23/2015 22:30	YH
2-Methylphenol	BRL	10		ug/L	203552	1	02/23/2015 22:30	YH
3,4-Methylphenol	BRL	10		ug/L	203552	1	02/23/2015 22:30	YH
Acenaphthene	BRL	10		ug/L	203552	1	02/23/2015 22:30	YH
Acenaphthylene	BRL	10		ug/L	203552	1	02/23/2015 22:30	YH
Anthracene	BRL	10		ug/L	203552	1	02/23/2015 22:30	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	203552	1	02/23/2015 22:30	YH
Benzo(k)fluoranthene	BRL	10		ug/L	203552	1	02/23/2015 22:30	YH
Chrysene	BRL	10		ug/L	203552	1	02/23/2015 22:30	YH
Fluoranthene	BRL	10		ug/L	203552	1	02/23/2015 22:30	YH
Fluorene	BRL	10		ug/L	203552	1	02/23/2015 22:30	YH
Naphthalene	BRL	10		ug/L	203552	1	02/23/2015 22:30	YH
Phenanthrene	BRL	10		ug/L	203552	1	02/23/2015 22:30	YH
Phenol	BRL	10		ug/L	203552	1	02/23/2015 22:30	YH
Pyrene	BRL	10		ug/L	203552	1	02/23/2015 22:30	YH
Surr: 2,4,6-Tribromophenol	111	52-133		%REC	203552	1	02/23/2015 22:30	YH
Surr: 2-Fluorobiphenyl	87.2	50-121		%REC	203552	1	02/23/2015 22:30	YH
Surr: 2-Fluorophenol	68.1	27.5-120		%REC	203552	1	02/23/2015 22:30	YH
Surr: 4-Terphenyl-d14	86.2	46.3-137		%REC	203552	1	02/23/2015 22:30	YH
Surr: Nitrobenzene-d5	83.1	41.2-121		%REC	203552	1	02/23/2015 22:30	YH
Surr: Phenol-d5	59.4	14.3-120		%REC	203552	1	02/23/2015 22:30	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-301D-20150217-01
Project Name:	AGL Macon	**Collection Date:**	2/17/2015 5:20:00 PM
Lab ID:	1502F52-012	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	203486	1	02/23/2015 14:38	JG
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.087	0.010		mg/L	203669	1	02/24/2015 14:30	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	203402	1	02/24/2015 00:25	JL
Arsenic	BRL	0.0500		mg/L	203402	1	02/24/2015 00:25	JL
Barium	0.713	0.0200		mg/L	203402	1	02/24/2015 00:25	JL
Beryllium	BRL	0.0100		mg/L	203402	1	02/24/2015 00:25	JL
Cadmium	BRL	0.0050		mg/L	203402	1	02/24/2015 00:25	JL
Chromium	BRL	0.0100		mg/L	203402	1	02/24/2015 00:25	JL
Copper	BRL	0.0100		mg/L	203402	1	02/24/2015 00:25	JL
Lead	BRL	0.0100		mg/L	203402	1	02/24/2015 00:25	JL
Nickel	BRL	0.0200		mg/L	203402	1	02/24/2015 00:25	JL
Zinc	BRL	0.0200		mg/L	203402	1	02/24/2015 00:25	JL

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-302DD-20150217-01
Project Name:	AGL Macon	**Collection Date:**	2/17/2015 5:42:00 PM
Lab ID:	1502F52-013	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	13	5.0		ug/L	203573	1	02/21/2015 23:05	TH
Carbon disulfide	BRL	5.0		ug/L	203573	1	02/21/2015 23:05	TH
Ethylbenzene	45	5.0		ug/L	203573	1	02/21/2015 23:05	TH
Toluene	BRL	5.0		ug/L	203573	1	02/21/2015 23:05	TH
Xylenes, Total	BRL	5.0		ug/L	203573	1	02/21/2015 23:05	TH
Surr: 4-Bromofluorobenzene	97.2	70.6-123		%REC	203573	1	02/21/2015 23:05	TH
Surr: Dibromofluoromethane	114	78.7-124		%REC	203573	1	02/21/2015 23:05	TH
Surr: Toluene-d8	104	81.3-120		%REC	203573	1	02/21/2015 23:05	TH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	203390	1	02/21/2015 01:55	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	203390	1	02/21/2015 01:55	YH
Benzo(a)pyrene	BRL	0.050		ug/L	203390	1	02/21/2015 01:55	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	203390	1	02/21/2015 01:55	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	203390	1	02/21/2015 01:55	YH
Surr: 4-Terphenyl-d14	79	55.4-136		%REC	203390	1	02/21/2015 01:55	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	203552	1	02/23/2015 22:55	YH
2-Methylphenol	BRL	10		ug/L	203552	1	02/23/2015 22:55	YH
3,4-Methylphenol	BRL	10		ug/L	203552	1	02/23/2015 22:55	YH
Acenaphthene	BRL	10		ug/L	203552	1	02/23/2015 22:55	YH
Acenaphthylene	BRL	10		ug/L	203552	1	02/23/2015 22:55	YH
Anthracene	BRL	10		ug/L	203552	1	02/23/2015 22:55	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	203552	1	02/23/2015 22:55	YH
Benzo(k)fluoranthene	BRL	10		ug/L	203552	1	02/23/2015 22:55	YH
Chrysene	BRL	10		ug/L	203552	1	02/23/2015 22:55	YH
Fluoranthene	BRL	10		ug/L	203552	1	02/23/2015 22:55	YH
Fluorene	BRL	10		ug/L	203552	1	02/23/2015 22:55	YH
Naphthalene	BRL	10		ug/L	203552	1	02/23/2015 22:55	YH
Phenanthrene	BRL	10		ug/L	203552	1	02/23/2015 22:55	YH
Phenol	BRL	10		ug/L	203552	1	02/23/2015 22:55	YH
Pyrene	BRL	10		ug/L	203552	1	02/23/2015 22:55	YH
Surr: 2,4,6-Tribromophenol	105	52-133		%REC	203552	1	02/23/2015 22:55	YH
Surr: 2-Fluorobiphenyl	81.7	50-121		%REC	203552	1	02/23/2015 22:55	YH
Surr: 2-Fluorophenol	62.6	27.5-120		%REC	203552	1	02/23/2015 22:55	YH
Surr: 4-Terphenyl-d14	82.3	46.3-137		%REC	203552	1	02/23/2015 22:55	YH
Surr: Nitrobenzene-d5	76.9	41.2-121		%REC	203552	1	02/23/2015 22:55	YH
Surr: Phenol-d5	54.9	14.3-120		%REC	203552	1	02/23/2015 22:55	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-302DD-20150217-01
Project Name:	AGL Macon	**Collection Date:**	2/17/2015 5:42:00 PM
Lab ID:	1502F52-013	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	203486	1	02/23/2015 14:40	JG
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.024	0.010		mg/L	203669	1	02/24/2015 14:30	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	203402	1	02/24/2015 00:29	JL
Arsenic	BRL	0.0500		mg/L	203402	1	02/24/2015 00:29	JL
Barium	0.757	0.0200		mg/L	203402	1	02/24/2015 00:29	JL
Beryllium	BRL	0.0100		mg/L	203402	1	02/24/2015 00:29	JL
Cadmium	BRL	0.0050		mg/L	203402	1	02/24/2015 00:29	JL
Chromium	BRL	0.0100		mg/L	203402	1	02/24/2015 00:29	JL
Copper	BRL	0.0100		mg/L	203402	1	02/24/2015 00:29	JL
Lead	BRL	0.0100		mg/L	203402	1	02/24/2015 00:29	JL
Nickel	BRL	0.0200		mg/L	203402	1	02/24/2015 00:29	JL
Zinc	BRL	0.0200		mg/L	203402	1	02/24/2015 00:29	JL

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	DUP-01-20150217-01
Project Name:	AGL Macon	**Collection Date:**	2/17/2015
Lab ID:	1502F52-014	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	203573	1	02/22/2015 00:19	TH
Carbon disulfide	BRL	5.0		ug/L	203573	1	02/22/2015 00:19	TH
Ethylbenzene	BRL	5.0		ug/L	203573	1	02/22/2015 00:19	TH
Toluene	BRL	5.0		ug/L	203573	1	02/22/2015 00:19	TH
Xylenes, Total	BRL	5.0		ug/L	203573	1	02/22/2015 00:19	TH
Surr: 4-Bromofluorobenzene	92.8	70.6-123		%REC	203573	1	02/22/2015 00:19	TH
Surr: Dibromofluoromethane	113	78.7-124		%REC	203573	1	02/22/2015 00:19	TH
Surr: Toluene-d8	102	81.3-120		%REC	203573	1	02/22/2015 00:19	TH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	203549	1	02/24/2015 10:02	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	203549	1	02/24/2015 10:02	YH
Benzo(a)pyrene	BRL	0.050		ug/L	203549	1	02/24/2015 10:02	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	203549	1	02/24/2015 10:02	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	203549	1	02/24/2015 10:02	YH
Surr: 4-Terphenyl-d14	84.7	55.4-136		%REC	203549	1	02/24/2015 10:02	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	203552	1	02/23/2015 23:21	YH
2-Methylphenol	BRL	10		ug/L	203552	1	02/23/2015 23:21	YH
3,4-Methylphenol	BRL	10		ug/L	203552	1	02/23/2015 23:21	YH
Acenaphthene	BRL	10		ug/L	203552	1	02/23/2015 23:21	YH
Acenaphthylene	BRL	10		ug/L	203552	1	02/23/2015 23:21	YH
Anthracene	BRL	10		ug/L	203552	1	02/23/2015 23:21	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	203552	1	02/23/2015 23:21	YH
Benzo(k)fluoranthene	BRL	10		ug/L	203552	1	02/23/2015 23:21	YH
Chrysene	BRL	10		ug/L	203552	1	02/23/2015 23:21	YH
Fluoranthene	BRL	10		ug/L	203552	1	02/23/2015 23:21	YH
Fluorene	BRL	10		ug/L	203552	1	02/23/2015 23:21	YH
Naphthalene	BRL	10		ug/L	203552	1	02/23/2015 23:21	YH
Phenanthrene	BRL	10		ug/L	203552	1	02/23/2015 23:21	YH
Phenol	BRL	10		ug/L	203552	1	02/23/2015 23:21	YH
Pyrene	BRL	10		ug/L	203552	1	02/23/2015 23:21	YH
Surr: 2,4,6-Tribromophenol	111	52-133		%REC	203552	1	02/23/2015 23:21	YH
Surr: 2-Fluorobiphenyl	86.6	50-121		%REC	203552	1	02/23/2015 23:21	YH
Surr: 2-Fluorophenol	59.4	27.5-120		%REC	203552	1	02/23/2015 23:21	YH
Surr: 4-Terphenyl-d14	89	46.3-137		%REC	203552	1	02/23/2015 23:21	YH
Surr: Nitrobenzene-d5	80.5	41.2-121		%REC	203552	1	02/23/2015 23:21	YH
Surr: Phenol-d5	48.8	14.3-120		%REC	203552	1	02/23/2015 23:21	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	DUP-01-20150217-01
Project Name:	AGL Macon	**Collection Date:**	2/17/2015
Lab ID:	1502F52-014	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	203486	1	02/23/2015 14:42	JG
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	0.034	0.010		mg/L	203669	1	02/24/2015 14:30	PF
METALS, TOTAL SW6010C				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	203402	1	02/24/2015 00:32	JL
Arsenic	BRL	0.0500		mg/L	203402	1	02/24/2015 00:32	JL
Barium	0.738	0.0200		mg/L	203402	1	02/24/2015 00:32	JL
Beryllium	BRL	0.0100		mg/L	203402	1	02/24/2015 00:32	JL
Cadmium	BRL	0.0050		mg/L	203402	1	02/24/2015 00:32	JL
Chromium	BRL	0.0100		mg/L	203402	1	02/24/2015 00:32	JL
Copper	BRL	0.0100		mg/L	203402	1	02/24/2015 00:32	JL
Lead	BRL	0.0100		mg/L	203402	1	02/24/2015 00:32	JL
Nickel	BRL	0.0200		mg/L	203402	1	02/24/2015 00:32	JL
Zinc	BRL	0.0200		mg/L	203402	1	02/24/2015 00:32	JL

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	DUP-02-20150217-01
Project Name:	AGL Macon	**Collection Date:**	2/17/2015
Lab ID:	1502F52-015	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	470	50		ug/L	203573	10	02/23/2015 15:22	NP
Carbon disulfide	BRL	5.0		ug/L	203573	1	02/23/2015 14:57	NP
Ethylbenzene	430	50		ug/L	203573	10	02/23/2015 15:22	NP
Toluene	BRL	5.0		ug/L	203573	1	02/23/2015 14:57	NP
Xylenes, Total	48	5.0		ug/L	203573	1	02/23/2015 14:57	NP
Surr: 4-Bromofluorobenzene	99.6	70.6-123		%REC	203573	1	02/23/2015 14:57	NP
Surr: 4-Bromofluorobenzene	98.3	70.6-123		%REC	203573	10	02/23/2015 15:22	NP
Surr: Dibromofluoromethane	97.5	78.7-124		%REC	203573	1	02/23/2015 14:57	NP
Surr: Dibromofluoromethane	96	78.7-124		%REC	203573	10	02/23/2015 15:22	NP
Surr: Toluene-d8	96.2	81.3-120		%REC	203573	10	02/23/2015 15:22	NP
Surr: Toluene-d8	98	81.3-120		%REC	203573	1	02/23/2015 14:57	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	0.11	0.050		ug/L	203549	1	02/23/2015 19:48	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	203549	1	02/23/2015 19:48	YH
Benzo(a)pyrene	BRL	0.050		ug/L	203549	1	02/23/2015 19:48	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	203549	1	02/23/2015 19:48	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	203549	1	02/23/2015 19:48	YH
Surr: 4-Terphenyl-d14	84	55.4-136		%REC	203549	1	02/23/2015 19:48	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	203552	1	02/23/2015 23:46	YH
2-Methylphenol	BRL	10		ug/L	203552	1	02/23/2015 23:46	YH
3,4-Methylphenol	BRL	10		ug/L	203552	1	02/23/2015 23:46	YH
Acenaphthene	74	10		ug/L	203552	1	02/23/2015 23:46	YH
Acenaphthylene	BRL	10		ug/L	203552	1	02/23/2015 23:46	YH
Anthracene	BRL	10		ug/L	203552	1	02/23/2015 23:46	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	203552	1	02/23/2015 23:46	YH
Benzo(k)fluoranthene	BRL	10		ug/L	203552	1	02/23/2015 23:46	YH
Chrysene	BRL	10		ug/L	203552	1	02/23/2015 23:46	YH
Fluoranthene	BRL	10		ug/L	203552	1	02/23/2015 23:46	YH
Fluorene	28	10		ug/L	203552	1	02/23/2015 23:46	YH
Naphthalene	2500	1000		ug/L	203552	100	02/24/2015 14:17	YH
Phenanthrene	27	10		ug/L	203552	1	02/23/2015 23:46	YH
Phenol	BRL	10		ug/L	203552	1	02/23/2015 23:46	YH
Pyrene	BRL	10		ug/L	203552	1	02/23/2015 23:46	YH
Surr: 2,4,6-Tribromophenol	112	52-133		%REC	203552	1	02/23/2015 23:46	YH
Surr: 2-Fluorobiphenyl	87.9	50-121		%REC	203552	1	02/23/2015 23:46	YH
Surr: 2-Fluorophenol	56.9	27.5-120		%REC	203552	1	02/23/2015 23:46	YH
Surr: 4-Terphenyl-d14	84.9	46.3-137		%REC	203552	1	02/23/2015 23:46	YH
Surr: Nitrobenzene-d5	92.4	41.2-121		%REC	203552	1	02/23/2015 23:46	YH

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	DUP-02-20150217-01
Project Name:	AGL Macon	**Collection Date:**	2/17/2015
Lab ID:	1502F52-015	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D					**(SW3510C)**			
Surr: Phenol-d5	49.8	14.3-120		%REC	203552	1	02/23/2015 23:46	YH
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	203486	1	02/23/2015 14:44	JG
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.022	0.010		mg/L	203669	1	02/24/2015 14:30	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	203402	1	02/24/2015 00:42	JL
Arsenic	BRL	0.0500		mg/L	203402	1	02/24/2015 00:42	JL
Barium	5.18	0.0200		mg/L	203402	1	02/24/2015 00:42	JL
Beryllium	BRL	0.0100		mg/L	203402	1	02/24/2015 00:42	JL
Cadmium	BRL	0.0050		mg/L	203402	1	02/24/2015 00:42	JL
Chromium	BRL	0.0100		mg/L	203402	1	02/24/2015 00:42	JL
Copper	BRL	0.0100		mg/L	203402	1	02/24/2015 00:42	JL
Lead	BRL	0.0100		mg/L	203402	1	02/24/2015 00:42	JL
Nickel	0.0637	0.0200		mg/L	203402	1	02/24/2015 00:42	JL
Zinc	BRL	0.0200		mg/L	203402	1	02/24/2015 00:42	JL

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	DUP-03-20150217-01
Project Name:	AGL Macon	**Collection Date:**	2/17/2015
Lab ID:	1502F52-016	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	203573	1	02/22/2015 00:43	TH
Carbon disulfide	BRL	5.0		ug/L	203573	1	02/22/2015 00:43	TH
Ethylbenzene	BRL	5.0		ug/L	203573	1	02/22/2015 00:43	TH
Toluene	BRL	5.0		ug/L	203573	1	02/22/2015 00:43	TH
Xylenes, Total	BRL	5.0		ug/L	203573	1	02/22/2015 00:43	TH
Surr: 4-Bromofluorobenzene	94.4	70.6-123		%REC	203573	1	02/22/2015 00:43	TH
Surr: Dibromofluoromethane	116	78.7-124		%REC	203573	1	02/22/2015 00:43	TH
Surr: Toluene-d8	104	81.3-120		%REC	203573	1	02/22/2015 00:43	TH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	203549	1	02/24/2015 10:28	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	203549	1	02/24/2015 10:28	YH
Benzo(a)pyrene	BRL	0.050		ug/L	203549	1	02/24/2015 10:28	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	203549	1	02/24/2015 10:28	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	203549	1	02/24/2015 10:28	YH
Surr: 4-Terphenyl-d14	86.6	55.4-136		%REC	203549	1	02/24/2015 10:28	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	203552	1	02/24/2015 00:12	YH
2-Methylphenol	BRL	10		ug/L	203552	1	02/24/2015 00:12	YH
3,4-Methylphenol	BRL	10		ug/L	203552	1	02/24/2015 00:12	YH
Acenaphthene	BRL	10		ug/L	203552	1	02/24/2015 00:12	YH
Acenaphthylene	BRL	10		ug/L	203552	1	02/24/2015 00:12	YH
Anthracene	BRL	10		ug/L	203552	1	02/24/2015 00:12	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	203552	1	02/24/2015 00:12	YH
Benzo(k)fluoranthene	BRL	10		ug/L	203552	1	02/24/2015 00:12	YH
Chrysene	BRL	10		ug/L	203552	1	02/24/2015 00:12	YH
Fluoranthene	BRL	10		ug/L	203552	1	02/24/2015 00:12	YH
Fluorene	BRL	10		ug/L	203552	1	02/24/2015 00:12	YH
Naphthalene	BRL	10		ug/L	203552	1	02/24/2015 00:12	YH
Phenanthrene	BRL	10		ug/L	203552	1	02/24/2015 00:12	YH
Phenol	BRL	10		ug/L	203552	1	02/24/2015 00:12	YH
Pyrene	BRL	10		ug/L	203552	1	02/24/2015 00:12	YH
Surr: 2,4,6-Tribromophenol	102	52-133		%REC	203552	1	02/24/2015 00:12	YH
Surr: 2-Fluorobiphenyl	81.6	50-121		%REC	203552	1	02/24/2015 00:12	YH
Surr: 2-Fluorophenol	60.2	27.5-120		%REC	203552	1	02/24/2015 00:12	YH
Surr: 4-Terphenyl-d14	81.3	46.3-137		%REC	203552	1	02/24/2015 00:12	YH
Surr: Nitrobenzene-d5	74.4	41.2-121		%REC	203552	1	02/24/2015 00:12	YH
Surr: Phenol-d5	50.2	14.3-120		%REC	203552	1	02/24/2015 00:12	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	DUP-03-20150217-01
Project Name:	AGL Macon	**Collection Date:**	2/17/2015
Lab ID:	1502F52-016	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	203486	1	02/23/2015 14:46	JG
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	BRL	0.010		mg/L	203669	1	02/24/2015 14:30	PF
METALS, TOTAL SW6010C				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	203402	1	02/24/2015 00:46	JL
Arsenic	BRL	0.0500		mg/L	203402	1	02/24/2015 00:46	JL
Barium	0.0298	0.0200		mg/L	203402	1	02/24/2015 00:46	JL
Beryllium	BRL	0.0100		mg/L	203402	1	02/24/2015 00:46	JL
Cadmium	BRL	0.0050		mg/L	203402	1	02/24/2015 00:46	JL
Chromium	BRL	0.0100		mg/L	203402	1	02/24/2015 00:46	JL
Copper	BRL	0.0100		mg/L	203402	1	02/24/2015 00:46	JL
Lead	BRL	0.0100		mg/L	203402	1	02/24/2015 00:46	JL
Nickel	BRL	0.0200		mg/L	203402	1	02/24/2015 00:46	JL
Zinc	0.0293	0.0200		mg/L	203402	1	02/24/2015 00:46	JL

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-306D-20150218-01
Project Name:	AGL Macon	**Collection Date:**	2/18/2015 8:30:00 AM
Lab ID:	1502F52-017	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	790	50		ug/L	203573	10	02/21/2015 18:10	TH
Carbon disulfide	BRL	5.0		ug/L	203573	1	02/21/2015 17:45	TH
Ethylbenzene	130	5.0		ug/L	203573	1	02/21/2015 17:45	TH
Toluene	37	5.0		ug/L	203573	1	02/21/2015 17:45	TH
Xylenes, Total	130	5.0		ug/L	203573	1	02/21/2015 17:45	TH
Surr: 4-Bromofluorobenzene	97.8	70.6-123		%REC	203573	10	02/21/2015 18:10	TH
Surr: 4-Bromofluorobenzene	107	70.6-123		%REC	203573	1	02/21/2015 17:45	TH
Surr: Dibromofluoromethane	107	78.7-124		%REC	203573	1	02/21/2015 17:45	TH
Surr: Dibromofluoromethane	111	78.7-124		%REC	203573	10	02/21/2015 18:10	TH
Surr: Toluene-d8	98.7	81.3-120		%REC	203573	1	02/21/2015 17:45	TH
Surr: Toluene-d8	99.8	81.3-120		%REC	203573	10	02/21/2015 18:10	TH
Sulfide by SM4500-S2-F								
Sulfide	BRL	1.00		mg/L	R286347	1	02/23/2015 12:00	AB
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	203549	1	02/24/2015 10:55	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	203549	1	02/24/2015 10:55	YH
Benzo(a)pyrene	BRL	0.050		ug/L	203549	1	02/24/2015 10:55	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	203549	1	02/24/2015 10:55	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	203549	1	02/24/2015 10:55	YH
Surr: 4-Terphenyl-d14	83.6	55.4-136		%REC	203549	1	02/24/2015 10:55	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	203552	1	02/24/2015 00:38	YH
2-Methylphenol	BRL	10		ug/L	203552	1	02/24/2015 00:38	YH
3,4-Methylphenol	BRL	10		ug/L	203552	1	02/24/2015 00:38	YH
Acenaphthene	29	10		ug/L	203552	1	02/24/2015 00:38	YH
Acenaphthylene	BRL	10		ug/L	203552	1	02/24/2015 00:38	YH
Anthracene	BRL	10		ug/L	203552	1	02/24/2015 00:38	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	203552	1	02/24/2015 00:38	YH
Benzo(k)fluoranthene	BRL	10		ug/L	203552	1	02/24/2015 00:38	YH
Chrysene	BRL	10		ug/L	203552	1	02/24/2015 00:38	YH
Fluoranthene	BRL	10		ug/L	203552	1	02/24/2015 00:38	YH
Fluorene	BRL	10		ug/L	203552	1	02/24/2015 00:38	YH
Naphthalene	31	10		ug/L	203552	1	02/24/2015 00:38	YH
Phenanthrene	BRL	10		ug/L	203552	1	02/24/2015 00:38	YH
Phenol	BRL	10		ug/L	203552	1	02/24/2015 00:38	YH
Pyrene	BRL	10		ug/L	203552	1	02/24/2015 00:38	YH
Surr: 2,4,6-Tribromophenol	115	52-133		%REC	203552	1	02/24/2015 00:38	YH
Surr: 2-Fluorobiphenyl	88.1	50-121		%REC	203552	1	02/24/2015 00:38	YH

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-306D-20150218-01
Project Name:	AGL Macon	**Collection Date:**	2/18/2015 8:30:00 AM
Lab ID:	1502F52-017	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
Surr: 2-Fluorophenol	56.7	27.5-120		%REC	203552	1	02/24/2015 00:38	YH
Surr: 4-Terphenyl-d14	87.5	46.3-137		%REC	203552	1	02/24/2015 00:38	YH
Surr: Nitrobenzene-d5	80.9	41.2-121		%REC	203552	1	02/24/2015 00:38	YH
Surr: Phenol-d5	51	14.3-120		%REC	203552	1	02/24/2015 00:38	YH
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	203486	1	02/23/2015 14:47	JG
ION SCAN SW9056A								
Nitrate	BRL	2.5		mg/L	R286350	10	02/18/2015 19:01	JW
Sulfate	BRL	10		mg/L	R286350	10	02/18/2015 19:01	JW
GC Analysis of Gaseous Samples SOP-RSK 175				**(RSK175)**				
Methane	96	4		ug/L	203536	1	02/24/2015 15:08	JM
Ferrous Iron SM3500-Fe-B								
Iron, as Ferrous (Fe+2)	BRL	0.100		mg/L	R286204	1	02/19/2015 08:29	AB
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	BRL	0.010		mg/L	203669	1	02/24/2015 14:30	PF
METALS, TOTAL SW6010C				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	203402	1	02/24/2015 00:49	JL
Arsenic	BRL	0.0500		mg/L	203402	1	02/24/2015 00:49	JL
Barium	0.229	0.0200		mg/L	203402	1	02/24/2015 00:49	JL
Beryllium	BRL	0.0100		mg/L	203402	1	02/24/2015 00:49	JL
Cadmium	BRL	0.0050		mg/L	203402	1	02/24/2015 00:49	JL
Chromium	0.0270	0.0100		mg/L	203402	1	02/24/2015 00:49	JL
Copper	0.0168	0.0100		mg/L	203402	1	02/24/2015 00:49	JL
Iron	BRL	0.100		mg/L	203402	1	02/24/2015 00:49	JL
Lead	BRL	0.0100		mg/L	203402	1	02/24/2015 00:49	JL
Nickel	BRL	0.0200		mg/L	203402	1	02/24/2015 00:49	JL
Zinc	BRL	0.0200		mg/L	203402	1	02/24/2015 00:49	JL

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-307D-20150218-01
Project Name:	AGL Macon	**Collection Date:**	2/18/2015 9:00:00 AM
Lab ID:	1502F52-018	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	203573	1	02/21/2015 23:29	TH
Carbon disulfide	BRL	5.0		ug/L	203573	1	02/21/2015 23:29	TH
Ethylbenzene	BRL	5.0		ug/L	203573	1	02/21/2015 23:29	TH
Toluene	BRL	5.0		ug/L	203573	1	02/21/2015 23:29	TH
Xylenes, Total	BRL	5.0		ug/L	203573	1	02/21/2015 23:29	TH
Surr: 4-Bromofluorobenzene	94.6	70.6-123		%REC	203573	1	02/21/2015 23:29	TH
Surr: Dibromofluoromethane	112	78.7-124		%REC	203573	1	02/21/2015 23:29	TH
Surr: Toluene-d8	105	81.3-120		%REC	203573	1	02/21/2015 23:29	TH
Sulfide by SM4500-S2-F								
Sulfide	BRL	1.00		mg/L	R286347	1	02/23/2015 12:00	AB
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	203549	1	02/24/2015 11:21	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	203549	1	02/24/2015 11:21	YH
Benzo(a)pyrene	BRL	0.050		ug/L	203549	1	02/24/2015 11:21	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	203549	1	02/24/2015 11:21	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	203549	1	02/24/2015 11:21	YH
Surr: 4-Terphenyl-d14	83.5	55.4-136		%REC	203549	1	02/24/2015 11:21	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	203552	1	02/24/2015 01:03	YH
2-Methylphenol	BRL	10		ug/L	203552	1	02/24/2015 01:03	YH
3,4-Methylphenol	BRL	10		ug/L	203552	1	02/24/2015 01:03	YH
Acenaphthene	BRL	10		ug/L	203552	1	02/24/2015 01:03	YH
Acenaphthylene	BRL	10		ug/L	203552	1	02/24/2015 01:03	YH
Anthracene	BRL	10		ug/L	203552	1	02/24/2015 01:03	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	203552	1	02/24/2015 01:03	YH
Benzo(k)fluoranthene	BRL	10		ug/L	203552	1	02/24/2015 01:03	YH
Chrysene	BRL	10		ug/L	203552	1	02/24/2015 01:03	YH
Fluoranthene	BRL	10		ug/L	203552	1	02/24/2015 01:03	YH
Fluorene	BRL	10		ug/L	203552	1	02/24/2015 01:03	YH
Naphthalene	BRL	10		ug/L	203552	1	02/24/2015 01:03	YH
Phenanthrene	BRL	10		ug/L	203552	1	02/24/2015 01:03	YH
Phenol	BRL	10		ug/L	203552	1	02/24/2015 01:03	YH
Pyrene	BRL	10		ug/L	203552	1	02/24/2015 01:03	YH
Surr: 2,4,6-Tribromophenol	101	52-133		%REC	203552	1	02/24/2015 01:03	YH
Surr: 2-Fluorobiphenyl	82.6	50-121		%REC	203552	1	02/24/2015 01:03	YH
Surr: 2-Fluorophenol	52.7	27.5-120		%REC	203552	1	02/24/2015 01:03	YH
Surr: 4-Terphenyl-d14	80.5	46.3-137		%REC	203552	1	02/24/2015 01:03	YH
Surr: Nitrobenzene-d5	70.5	41.2-121		%REC	203552	1	02/24/2015 01:03	YH

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-307D-20150218-01
Project Name:	AGL Macon	**Collection Date:**	2/18/2015 9:00:00 AM
Lab ID:	1502F52-018	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D					**(SW3510C)**			
Surr: Phenol-d5	43.9	14.3-120		%REC	203552	1	02/24/2015 01:03	YH
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	203486	1	02/23/2015 14:49	JG
ION SCAN SW9056A								
Nitrate	BRL	2.5		mg/L	R286350	10	02/18/2015 19:16	JW
Sulfate	BRL	10		mg/L	R286350	10	02/18/2015 19:16	JW
GC Analysis of Gaseous Samples SOP-RSK 175					**(RSK175)**			
Methane	79	4		ug/L	203536	1	02/24/2015 15:12	JM
Ferrous Iron SM3500-Fe-B								
Iron, as Ferrous (Fe+2)	BRL	0.100		mg/L	R286204	1	02/19/2015 08:29	AB
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	203669	1	02/24/2015 14:30	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	203402	1	02/24/2015 00:53	JL
Arsenic	BRL	0.0500		mg/L	203402	1	02/24/2015 00:53	JL
Barium	1.40	0.0200		mg/L	203402	1	02/24/2015 00:53	JL
Beryllium	BRL	0.0100		mg/L	203402	1	02/24/2015 00:53	JL
Cadmium	BRL	0.0050		mg/L	203402	1	02/24/2015 00:53	JL
Chromium	0.0784	0.0100		mg/L	203402	1	02/24/2015 00:53	JL
Copper	BRL	0.0100		mg/L	203402	1	02/24/2015 00:53	JL
Iron	BRL	0.100		mg/L	203402	1	02/24/2015 00:53	JL
Lead	BRL	0.0100		mg/L	203402	1	02/24/2015 00:53	JL
Nickel	BRL	0.0200		mg/L	203402	1	02/24/2015 00:53	JL
Zinc	BRL	0.0200		mg/L	203402	1	02/24/2015 00:53	JL

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-101-20150218-01
Project Name:	AGL Macon	**Collection Date:**	2/18/2015 9:15:00 AM
Lab ID:	1502F52-019	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	49	5.0		ug/L	203573	1	02/21/2015 23:54	TH
Carbon disulfide	BRL	5.0		ug/L	203573	1	02/21/2015 23:54	TH
Ethylbenzene	BRL	5.0		ug/L	203573	1	02/21/2015 23:54	TH
Toluene	6.9	5.0		ug/L	203573	1	02/21/2015 23:54	TH
Xylenes, Total	18	5.0		ug/L	203573	1	02/21/2015 23:54	TH
Surr: 4-Bromofluorobenzene	99.8	70.6-123		%REC	203573	1	02/21/2015 23:54	TH
Surr: Dibromofluoromethane	112	78.7-124		%REC	203573	1	02/21/2015 23:54	TH
Surr: Toluene-d8	101	81.3-120		%REC	203573	1	02/21/2015 23:54	TH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	203549	1	02/24/2015 11:48	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	203549	1	02/24/2015 11:48	YH
Benzo(a)pyrene	BRL	0.050		ug/L	203549	1	02/24/2015 11:48	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	203549	1	02/24/2015 11:48	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	203549	1	02/24/2015 11:48	YH
Surr: 4-Terphenyl-d14	89.7	55.4-136		%REC	203549	1	02/24/2015 11:48	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	203552	1	02/24/2015 01:29	YH
2-Methylphenol	BRL	10		ug/L	203552	1	02/24/2015 01:29	YH
3,4-Methylphenol	BRL	10		ug/L	203552	1	02/24/2015 01:29	YH
Acenaphthene	BRL	10		ug/L	203552	1	02/24/2015 01:29	YH
Acenaphthylene	BRL	10		ug/L	203552	1	02/24/2015 01:29	YH
Anthracene	BRL	10		ug/L	203552	1	02/24/2015 01:29	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	203552	1	02/24/2015 01:29	YH
Benzo(k)fluoranthene	BRL	10		ug/L	203552	1	02/24/2015 01:29	YH
Chrysene	BRL	10		ug/L	203552	1	02/24/2015 01:29	YH
Fluoranthene	BRL	10		ug/L	203552	1	02/24/2015 01:29	YH
Fluorene	BRL	10		ug/L	203552	1	02/24/2015 01:29	YH
Naphthalene	310	100		ug/L	203552	10	02/24/2015 13:25	YH
Phenanthrene	BRL	10		ug/L	203552	1	02/24/2015 01:29	YH
Phenol	BRL	10		ug/L	203552	1	02/24/2015 01:29	YH
Pyrene	BRL	10		ug/L	203552	1	02/24/2015 01:29	YH
Surr: 2,4,6-Tribromophenol	102	52-133		%REC	203552	1	02/24/2015 01:29	YH
Surr: 2-Fluorobiphenyl	83.3	50-121		%REC	203552	1	02/24/2015 01:29	YH
Surr: 2-Fluorophenol	66.1	27.5-120		%REC	203552	1	02/24/2015 01:29	YH
Surr: 4-Terphenyl-d14	78.1	46.3-137		%REC	203552	1	02/24/2015 01:29	YH
Surr: Nitrobenzene-d5	82.1	41.2-121		%REC	203552	1	02/24/2015 01:29	YH
Surr: Phenol-d5	54.5	14.3-120		%REC	203552	1	02/24/2015 01:29	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-101-20150218-01
Project Name:	AGL Macon	**Collection Date:**	2/18/2015 9:15:00 AM
Lab ID:	1502F52-019	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	203486	1	02/23/2015 14:55	JG
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.030	0.010		mg/L	203669	1	02/24/2015 14:30	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	203402	1	02/24/2015 00:56	JL
Arsenic	BRL	0.0500		mg/L	203402	1	02/24/2015 00:56	JL
Barium	0.0767	0.0200		mg/L	203402	1	02/24/2015 00:56	JL
Beryllium	BRL	0.0100		mg/L	203402	1	02/24/2015 00:56	JL
Cadmium	BRL	0.0050		mg/L	203402	1	02/24/2015 00:56	JL
Chromium	BRL	0.0100		mg/L	203402	1	02/24/2015 00:56	JL
Copper	BRL	0.0100		mg/L	203402	1	02/24/2015 00:56	JL
Lead	BRL	0.0100		mg/L	203402	1	02/24/2015 00:56	JL
Nickel	BRL	0.0200		mg/L	203402	1	02/24/2015 00:56	JL
Zinc	0.0263	0.0200		mg/L	203402	1	02/24/2015 00:56	JL

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-305D-20150218-01
Project Name:	AGL Macon	**Collection Date:**	2/18/2015 9:55:00 AM
Lab ID:	1502F52-020	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	11000	500		ug/L	203573	100	02/21/2015 16:07	TH
Carbon disulfide	BRL	500		ug/L	203573	100	02/21/2015 16:07	TH
Ethylbenzene	BRL	500		ug/L	203573	100	02/21/2015 16:07	TH
Toluene	4500	500		ug/L	203573	100	02/21/2015 16:07	TH
Xylenes, Total	BRL	500		ug/L	203573	100	02/21/2015 16:07	TH
Surr: 4-Bromofluorobenzene	98.9	70.6-123		%REC	203573	100	02/21/2015 16:07	TH
Surr: Dibromofluoromethane	112	78.7-124		%REC	203573	100	02/21/2015 16:07	TH
Surr: Toluene-d8	101	81.3-120		%REC	203573	100	02/21/2015 16:07	TH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	0.64	0.050		ug/L	203549	1	02/24/2015 12:14	YH
Benzo(b)fluoranthene	0.45	0.10		ug/L	203549	1	02/24/2015 12:14	YH
Benzo(a)pyrene	0.49	0.050		ug/L	203549	1	02/24/2015 12:14	YH
Indeno(1,2,3-cd)pyrene	0.13	0.050		ug/L	203549	1	02/24/2015 12:14	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	203549	1	02/24/2015 12:14	YH
Surr: 4-Terphenyl-d14	82.5	55.4-136		%REC	203549	1	02/24/2015 12:14	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	203552	1	02/24/2015 01:54	YH
2-Methylphenol	BRL	10		ug/L	203552	1	02/24/2015 01:54	YH
3,4-Methylphenol	BRL	10		ug/L	203552	1	02/24/2015 01:54	YH
Acenaphthene	BRL	10		ug/L	203552	1	02/24/2015 01:54	YH
Acenaphthylene	73	10		ug/L	203552	1	02/24/2015 01:54	YH
Anthracene	BRL	10		ug/L	203552	1	02/24/2015 01:54	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	203552	1	02/24/2015 01:54	YH
Benzo(k)fluoranthene	BRL	10		ug/L	203552	1	02/24/2015 01:54	YH
Chrysene	BRL	10		ug/L	203552	1	02/24/2015 01:54	YH
Fluoranthene	BRL	10		ug/L	203552	1	02/24/2015 01:54	YH
Fluorene	21	10		ug/L	203552	1	02/24/2015 01:54	YH
Naphthalene	1300	100		ug/L	203552	10	02/24/2015 13:51	YH
Phenanthrene	33	10		ug/L	203552	1	02/24/2015 01:54	YH
Phenol	BRL	10		ug/L	203552	1	02/24/2015 01:54	YH
Pyrene	BRL	10		ug/L	203552	1	02/24/2015 01:54	YH
Surr: 2,4,6-Tribromophenol	105	52-133		%REC	203552	1	02/24/2015 01:54	YH
Surr: 2-Fluorobiphenyl	80.6	50-121		%REC	203552	1	02/24/2015 01:54	YH
Surr: 2-Fluorophenol	60	27.5-120		%REC	203552	1	02/24/2015 01:54	YH
Surr: 4-Terphenyl-d14	77.9	46.3-137		%REC	203552	1	02/24/2015 01:54	YH
Surr: Nitrobenzene-d5	83.4	41.2-121		%REC	203552	1	02/24/2015 01:54	YH
Surr: Phenol-d5	53	14.3-120		%REC	203552	1	02/24/2015 01:54	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-305D-20150218-01
Project Name:	AGL Macon	**Collection Date:**	2/18/2015 9:55:00 AM
Lab ID:	1502F52-020	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	203486	1	02/23/2015 14:57	JG
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	203669	1	02/24/2015 14:30	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	203402	1	02/24/2015 00:59	JL
Arsenic	BRL	0.0500		mg/L	203402	1	02/24/2015 00:59	JL
Barium	0.236	0.0200		mg/L	203402	1	02/24/2015 00:59	JL
Beryllium	BRL	0.0100		mg/L	203402	1	02/24/2015 00:59	JL
Cadmium	BRL	0.0050		mg/L	203402	1	02/24/2015 00:59	JL
Chromium	0.0107	0.0100		mg/L	203402	1	02/24/2015 00:59	JL
Copper	BRL	0.0100		mg/L	203402	1	02/24/2015 00:59	JL
Lead	BRL	0.0100		mg/L	203402	1	02/24/2015 00:59	JL
Nickel	BRL	0.0200		mg/L	203402	1	02/24/2015 00:59	JL
Zinc	BRL	0.0200		mg/L	203402	1	02/24/2015 00:59	JL

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-102-20150218-01
Project Name:	AGL Macon	**Collection Date:**	2/18/2015 11:25:00 AM
Lab ID:	1502F52-021	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	203508	1	02/21/2015 04:44	NP
Carbon disulfide	BRL	5.0		ug/L	203508	1	02/21/2015 04:44	NP
Ethylbenzene	BRL	5.0		ug/L	203508	1	02/21/2015 04:44	NP
Toluene	BRL	5.0		ug/L	203508	1	02/21/2015 04:44	NP
Xylenes, Total	BRL	5.0		ug/L	203508	1	02/21/2015 04:44	NP
Surr: 4-Bromofluorobenzene	96.7	70.6-123		%REC	203508	1	02/21/2015 04:44	NP
Surr: Dibromofluoromethane	98.8	78.7-124		%REC	203508	1	02/21/2015 04:44	NP
Surr: Toluene-d8	96.1	81.3-120		%REC	203508	1	02/21/2015 04:44	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	203549	1	02/24/2015 12:41	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	203549	1	02/24/2015 12:41	YH
Benzo(a)pyrene	BRL	0.050		ug/L	203549	1	02/24/2015 12:41	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	203549	1	02/24/2015 12:41	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	203549	1	02/24/2015 12:41	YH
Surr: 4-Terphenyl-d14	73.3	55.4-136		%REC	203549	1	02/24/2015 12:41	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	203552	1	02/24/2015 02:20	YH
2-Methylphenol	BRL	10		ug/L	203552	1	02/24/2015 02:20	YH
3,4-Methylphenol	BRL	10		ug/L	203552	1	02/24/2015 02:20	YH
Acenaphthene	BRL	10		ug/L	203552	1	02/24/2015 02:20	YH
Acenaphthylene	BRL	10		ug/L	203552	1	02/24/2015 02:20	YH
Anthracene	BRL	10		ug/L	203552	1	02/24/2015 02:20	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	203552	1	02/24/2015 02:20	YH
Benzo(k)fluoranthene	BRL	10		ug/L	203552	1	02/24/2015 02:20	YH
Chrysene	BRL	10		ug/L	203552	1	02/24/2015 02:20	YH
Fluoranthene	BRL	10		ug/L	203552	1	02/24/2015 02:20	YH
Fluorene	BRL	10		ug/L	203552	1	02/24/2015 02:20	YH
Naphthalene	BRL	10		ug/L	203552	1	02/24/2015 02:20	YH
Phenanthrene	BRL	10		ug/L	203552	1	02/24/2015 02:20	YH
Phenol	BRL	10		ug/L	203552	1	02/24/2015 02:20	YH
Pyrene	BRL	10		ug/L	203552	1	02/24/2015 02:20	YH
Surr: 2,4,6-Tribromophenol	104	52-133		%REC	203552	1	02/24/2015 02:20	YH
Surr: 2-Fluorobiphenyl	82.4	50-121		%REC	203552	1	02/24/2015 02:20	YH
Surr: 2-Fluorophenol	64.9	27.5-120		%REC	203552	1	02/24/2015 02:20	YH
Surr: 4-Terphenyl-d14	81.9	46.3-137		%REC	203552	1	02/24/2015 02:20	YH
Surr: Nitrobenzene-d5	80.4	41.2-121		%REC	203552	1	02/24/2015 02:20	YH
Surr: Phenol-d5	51.8	14.3-120		%REC	203552	1	02/24/2015 02:20	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-102-20150218-01
Project Name:	AGL Macon	**Collection Date:**	2/18/2015 11:25:00 AM
Lab ID:	1502F52-021	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	203487	1	02/23/2015 13:22	JG
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.017	0.010		mg/L	203670	1	02/24/2015 14:30	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	203497	1	02/24/2015 20:04	JL
Arsenic	BRL	0.0500		mg/L	203497	1	02/24/2015 20:04	JL
Barium	0.0687	0.0200		mg/L	203497	1	02/24/2015 20:04	JL
Beryllium	BRL	0.0100		mg/L	203497	1	02/24/2015 20:04	JL
Cadmium	BRL	0.0050		mg/L	203497	1	02/24/2015 20:04	JL
Chromium	BRL	0.0100		mg/L	203497	1	02/24/2015 20:04	JL
Copper	BRL	0.0100		mg/L	203497	1	02/24/2015 20:04	JL
Lead	BRL	0.0100		mg/L	203497	1	02/24/2015 20:04	JL
Nickel	BRL	0.0200		mg/L	203497	1	02/24/2015 20:04	JL
Zinc	0.124	0.0200		mg/L	203497	1	02/24/2015 20:04	JL

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-302D-20150218-01
Project Name:	AGL Macon	**Collection Date:**	2/18/2015 12:03:00 PM
Lab ID:	1502F52-022	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	12	5.0		ug/L	203508	1	02/21/2015 05:09	NP
Carbon disulfide	BRL	5.0		ug/L	203508	1	02/21/2015 05:09	NP
Ethylbenzene	BRL	5.0		ug/L	203508	1	02/21/2015 05:09	NP
Toluene	12	5.0		ug/L	203508	1	02/21/2015 05:09	NP
Xylenes, Total	13	5.0		ug/L	203508	1	02/21/2015 05:09	NP
Surr: 4-Bromofluorobenzene	96.5	70.6-123		%REC	203508	1	02/21/2015 05:09	NP
Surr: Dibromofluoromethane	99.4	78.7-124		%REC	203508	1	02/21/2015 05:09	NP
Surr: Toluene-d8	96.1	81.3-120		%REC	203508	1	02/21/2015 05:09	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	0.26	0.050		ug/L	203549	1	02/24/2015 13:07	YH
Benzo(b)fluoranthene	0.22	0.10		ug/L	203549	1	02/24/2015 13:07	YH
Benzo(a)pyrene	0.28	0.050		ug/L	203549	1	02/24/2015 13:07	YH
Indeno(1,2,3-cd)pyrene	0.087	0.050		ug/L	203549	1	02/24/2015 13:07	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	203549	1	02/24/2015 13:07	YH
Surr: 4-Terphenyl-d14	75.6	55.4-136		%REC	203549	1	02/24/2015 13:07	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	203552	1	02/24/2015 02:45	YH
2-Methylphenol	BRL	10		ug/L	203552	1	02/24/2015 02:45	YH
3,4-Methylphenol	BRL	10		ug/L	203552	1	02/24/2015 02:45	YH
Acenaphthene	BRL	10		ug/L	203552	1	02/24/2015 02:45	YH
Acenaphthylene	17	10		ug/L	203552	1	02/24/2015 02:45	YH
Anthracene	BRL	10		ug/L	203552	1	02/24/2015 02:45	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	203552	1	02/24/2015 02:45	YH
Benzo(k)fluoranthene	BRL	10		ug/L	203552	1	02/24/2015 02:45	YH
Chrysene	BRL	10		ug/L	203552	1	02/24/2015 02:45	YH
Fluoranthene	BRL	10		ug/L	203552	1	02/24/2015 02:45	YH
Fluorene	12	10		ug/L	203552	1	02/24/2015 02:45	YH
Naphthalene	120	10		ug/L	203552	1	02/24/2015 02:45	YH
Phenanthrene	15	10		ug/L	203552	1	02/24/2015 02:45	YH
Phenol	BRL	10		ug/L	203552	1	02/24/2015 02:45	YH
Pyrene	BRL	10		ug/L	203552	1	02/24/2015 02:45	YH
Surr: 2,4,6-Tribromophenol	87.6	52-133		%REC	203552	1	02/24/2015 02:45	YH
Surr: 2-Fluorobiphenyl	71.9	50-121		%REC	203552	1	02/24/2015 02:45	YH
Surr: 2-Fluorophenol	57.8	27.5-120		%REC	203552	1	02/24/2015 02:45	YH
Surr: 4-Terphenyl-d14	70.2	46.3-137		%REC	203552	1	02/24/2015 02:45	YH
Surr: Nitrobenzene-d5	67.8	41.2-121		%REC	203552	1	02/24/2015 02:45	YH
Surr: Phenol-d5	44.6	14.3-120		%REC	203552	1	02/24/2015 02:45	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-302D-20150218-01
Project Name:	AGL Macon	**Collection Date:**	2/18/2015 12:03:00 PM
Lab ID:	1502F52-022	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	203487	1	02/23/2015 13:55	JG
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.022	0.010		mg/L	203670	1	02/24/2015 14:30	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	203497	1	02/24/2015 19:47	JL
Arsenic	BRL	0.0500		mg/L	203497	1	02/24/2015 19:47	JL
Barium	0.0371	0.0200		mg/L	203497	1	02/24/2015 19:47	JL
Beryllium	BRL	0.0100		mg/L	203497	1	02/24/2015 19:47	JL
Cadmium	BRL	0.0050		mg/L	203497	1	02/24/2015 19:47	JL
Chromium	BRL	0.0100		mg/L	203497	1	02/24/2015 19:47	JL
Copper	BRL	0.0100		mg/L	203497	1	02/24/2015 19:47	JL
Lead	BRL	0.0100		mg/L	203497	1	02/24/2015 19:47	JL
Nickel	BRL	0.0200		mg/L	203497	1	02/24/2015 19:47	JL
Zinc	BRL	0.0200		mg/L	203497	1	02/24/2015 19:47	JL

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 6-Mar-15

Client:	ERM-Southeast	**Client Sample ID:**	TB-01-20150218-01
Project Name:	AGL Macon	**Collection Date:**	2/18/2015
Lab ID:	1502F52-023	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	203508	1	02/19/2015 23:47	NP
Carbon disulfide	BRL	5.0		ug/L	203508	1	02/19/2015 23:47	NP
Ethylbenzene	BRL	5.0		ug/L	203508	1	02/19/2015 23:47	NP
Toluene	BRL	5.0		ug/L	203508	1	02/19/2015 23:47	NP
Xylenes, Total	BRL	5.0		ug/L	203508	1	02/19/2015 23:47	NP
Surr: 4-Bromofluorobenzene	91.1	70.6-123		%REC	203508	1	02/19/2015 23:47	NP
Surr: Dibromofluoromethane	98	78.7-124		%REC	203508	1	02/19/2015 23:47	NP
Surr: Toluene-d8	96.5	81.3-120		%REC	203508	1	02/19/2015 23:47	NP

Qualifiers:

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

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM Work Order Number 1502F52

Checklist completed by _____ 2/18/15
Signature Date

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

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

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

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

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

Cooler #1 3.6 Cooler #2 3.4 Cooler #3 3.2 Cooler #4 3.4 Cooler#5 3.6 Cooler #6 3.2

Chain of custody present? Yes ✓ No __

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

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

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

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

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

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

Adjusted? _____ Checked by MS

Sample Condition: Good ✓ Other(Explain) _____

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

See Case Narrative for resolution of the Non-Conformance.

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

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

Analytical Environmental Services, Inc

Date: 6-Mar-15

Client: ERM-Southeast
Project Name: AGL Macon
Lab Order: 1502F52

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1502F52-001A	MW-113D-20150217-01	2/17/2015 8:26:00AM	Groundwater	Volatile Organic Compounds by GC/MS		2/21/2015 10:00:00AM	02/21/2015
1502F52-001B	MW-113D-20150217-01	2/17/2015 8:26:00AM	Groundwater	TOTAL METALS BY ICP		2/19/2015 12:13:00PM	02/23/2015
1502F52-001B	MW-113D-20150217-01	2/17/2015 8:26:00AM	Groundwater	TOTAL MERCURY		2/23/2015 9:45:00AM	02/23/2015
1502F52-001C	MW-113D-20150217-01	2/17/2015 8:26:00AM	Groundwater	Cyanide		2/24/2015 8:35:00AM	02/24/2015
1502F52-001D	MW-113D-20150217-01	2/17/2015 8:26:00AM	Groundwater	Polynuclear Aromatic Hydrocarbons		2/19/2015 1:00:00PM	02/20/2015
1502F52-001D	MW-113D-20150217-01	2/17/2015 8:26:00AM	Groundwater	Semivolatile Org. Comp. by GC/MS		2/19/2015 9:00:00AM	02/20/2015
1502F52-002A	MW-24D-20150217-01	2/17/2015 10:20:00AM	Groundwater	Volatile Organic Compounds by GC/MS		2/21/2015 10:00:00AM	02/21/2015
1502F52-002B	MW-24D-20150217-01	2/17/2015 10:20:00AM	Groundwater	TOTAL METALS BY ICP		2/19/2015 12:13:00PM	02/23/2015
1502F52-002B	MW-24D-20150217-01	2/17/2015 10:20:00AM	Groundwater	TOTAL MERCURY		2/23/2015 9:45:00AM	02/23/2015
1502F52-002C	MW-24D-20150217-01	2/17/2015 10:20:00AM	Groundwater	Cyanide		2/24/2015 8:35:00AM	02/24/2015
1502F52-002D	MW-24D-20150217-01	2/17/2015 10:20:00AM	Groundwater	Polynuclear Aromatic Hydrocarbons		2/19/2015 1:00:00PM	02/20/2015
1502F52-002D	MW-24D-20150217-01	2/17/2015 10:20:00AM	Groundwater	Semivolatile Org. Comp. by GC/MS		2/19/2015 9:00:00AM	02/20/2015
1502F52-003A	MW-206D-20150217-01	2/17/2015 10:26:00AM	Groundwater	Volatile Organic Compounds by GC/MS		2/21/2015 10:00:00AM	02/21/2015
1502F52-003B	MW-206D-20150217-01	2/17/2015 10:26:00AM	Groundwater	TOTAL METALS BY ICP		2/19/2015 12:13:00PM	02/23/2015
1502F52-003B	MW-206D-20150217-01	2/17/2015 10:26:00AM	Groundwater	TOTAL MERCURY		2/23/2015 9:45:00AM	02/23/2015
1502F52-003C	MW-206D-20150217-01	2/17/2015 10:26:00AM	Groundwater	Cyanide		2/24/2015 8:35:00AM	02/24/2015
1502F52-003D	MW-206D-20150217-01	2/17/2015 10:26:00AM	Groundwater	Polynuclear Aromatic Hydrocarbons		2/19/2015 1:00:00PM	02/20/2015
1502F52-003D	MW-206D-20150217-01	2/17/2015 10:26:00AM	Groundwater	Semivolatile Org. Comp. by GC/MS		2/19/2015 9:00:00AM	02/20/2015
1502F52-004A	MW-300D-20150217-01	2/17/2015 10:40:00AM	Groundwater	Volatile Organic Compounds by GC/MS		2/21/2015 10:00:00AM	02/21/2015
1502F52-004B	MW-300D-20150217-01	2/17/2015 10:40:00AM	Groundwater	TOTAL METALS BY ICP		2/19/2015 12:13:00PM	02/23/2015
1502F52-004B	MW-300D-20150217-01	2/17/2015 10:40:00AM	Groundwater	TOTAL MERCURY		2/23/2015 9:45:00AM	02/23/2015
1502F52-004C	MW-300D-20150217-01	2/17/2015 10:40:00AM	Groundwater	Cyanide		2/24/2015 8:35:00AM	02/24/2015
1502F52-004D	MW-300D-20150217-01	2/17/2015 10:40:00AM	Groundwater	Polynuclear Aromatic Hydrocarbons		2/19/2015 1:00:00PM	02/20/2015
1502F52-004D	MW-300D-20150217-01	2/17/2015 10:40:00AM	Groundwater	Semivolatile Org. Comp. by GC/MS		2/19/2015 9:00:00AM	02/20/2015
1502F52-005A	MW-108D-20150217-01	2/17/2015 12:55:00PM	Groundwater	Volatile Organic Compounds by GC/MS		2/21/2015 10:00:00AM	02/21/2015
1502F52-005B	MW-108D-20150217-01	2/17/2015 12:55:00PM	Groundwater	TOTAL METALS BY ICP		2/19/2015 12:13:00PM	02/24/2015
1502F52-005B	MW-108D-20150217-01	2/17/2015 12:55:00PM	Groundwater	TOTAL MERCURY		2/23/2015 9:45:00AM	02/23/2015
1502F52-005C	MW-108D-20150217-01	2/17/2015 12:55:00PM	Groundwater	Cyanide		2/24/2015 8:35:00AM	02/24/2015
1502F52-005D	MW-108D-20150217-01	2/17/2015 12:55:00PM	Groundwater	Polynuclear Aromatic Hydrocarbons		2/19/2015 1:00:00PM	02/20/2015

Analytical Environmental Services, Inc

Date: 6-Mar-15

Client: ERM-Southeast
Project Name: AGL Macon
Lab Order: 1502F52

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1502F52-005D	MW-108D-20150217-01	2/17/2015 12:55:00PM	Groundwater	Semivolatile Org. Comp. by GC/MS		2/19/2015 9:00:00AM	02/20/2015
1502F52-006A	MW-15-20150217-01	2/17/2015 1:05:00PM	Groundwater	Volatile Organic Compounds by GC/MS		2/21/2015 10:00:00AM	02/21/2015
1502F52-006B	MW-15-20150217-01	2/17/2015 1:05:00PM	Groundwater	TOTAL METALS BY ICP		2/19/2015 12:13:00PM	02/24/2015
1502F52-006B	MW-15-20150217-01	2/17/2015 1:05:00PM	Groundwater	TOTAL MERCURY		2/23/2015 9:45:00AM	02/23/2015
1502F52-006C	MW-15-20150217-01	2/17/2015 1:05:00PM	Groundwater	Cyanide		2/24/2015 8:35:00AM	02/24/2015
1502F52-006D	MW-15-20150217-01	2/17/2015 1:05:00PM	Groundwater	Polynuclear Aromatic Hydrocarbons		2/19/2015 1:00:00PM	02/20/2015
1502F52-006D	MW-15-20150217-01	2/17/2015 1:05:00PM	Groundwater	Semivolatile Org. Comp. by GC/MS		2/19/2015 9:00:00AM	02/20/2015
1502F52-007A	MW-304D-20150217-01	2/17/2015 2:00:00PM	Groundwater	Volatile Organic Compounds by GC/MS		2/21/2015 10:00:00AM	02/21/2015
1502F52-007B	MW-304D-20150217-01	2/17/2015 2:00:00PM	Groundwater	TOTAL METALS BY ICP		2/19/2015 12:13:00PM	02/24/2015
1502F52-007B	MW-304D-20150217-01	2/17/2015 2:00:00PM	Groundwater	TOTAL MERCURY		2/23/2015 9:45:00AM	02/23/2015
1502F52-007C	MW-304D-20150217-01	2/17/2015 2:00:00PM	Groundwater	Cyanide		2/24/2015 8:35:00AM	02/24/2015
1502F52-007D	MW-304D-20150217-01	2/17/2015 2:00:00PM	Groundwater	Polynuclear Aromatic Hydrocarbons		2/19/2015 1:00:00PM	02/20/2015
1502F52-007D	MW-304D-20150217-01	2/17/2015 2:00:00PM	Groundwater	Semivolatile Org. Comp. by GC/MS		2/19/2015 9:00:00AM	02/20/2015
1502F52-008A	MW-200DR-20150217-01	2/17/2015 2:15:00PM	Groundwater	Volatile Organic Compounds by GC/MS		2/21/2015 10:00:00AM	02/21/2015
1502F52-008B	MW-200DR-20150217-01	2/17/2015 2:15:00PM	Groundwater	TOTAL METALS BY ICP		2/19/2015 12:13:00PM	02/24/2015
1502F52-008B	MW-200DR-20150217-01	2/17/2015 2:15:00PM	Groundwater	TOTAL MERCURY		2/23/2015 9:45:00AM	02/23/2015
1502F52-008C	MW-200DR-20150217-01	2/17/2015 2:15:00PM	Groundwater	Cyanide		2/24/2015 8:35:00AM	02/24/2015
1502F52-008D	MW-200DR-20150217-01	2/17/2015 2:15:00PM	Groundwater	Polynuclear Aromatic Hydrocarbons		2/19/2015 1:00:00PM	02/20/2015
1502F52-008D	MW-200DR-20150217-01	2/17/2015 2:15:00PM	Groundwater	Semivolatile Org. Comp. by GC/MS		2/23/2015 9:00:00AM	02/23/2015
1502F52-009A	MW-205DD-20150217-01	2/17/2015 3:15:00PM	Groundwater	Volatile Organic Compounds by GC/MS		2/21/2015 10:00:00AM	02/21/2015
1502F52-009B	MW-205DD-20150217-01	2/17/2015 3:15:00PM	Groundwater	TOTAL METALS BY ICP		2/19/2015 12:13:00PM	02/24/2015
1502F52-009B	MW-205DD-20150217-01	2/17/2015 3:15:00PM	Groundwater	TOTAL MERCURY		2/23/2015 9:45:00AM	02/23/2015
1502F52-009C	MW-205DD-20150217-01	2/17/2015 3:15:00PM	Groundwater	Cyanide		2/24/2015 8:35:00AM	02/24/2015
1502F52-009D	MW-205DD-20150217-01	2/17/2015 3:15:00PM	Groundwater	Polynuclear Aromatic Hydrocarbons		2/19/2015 1:00:00PM	02/21/2015
1502F52-009D	MW-205DD-20150217-01	2/17/2015 3:15:00PM	Groundwater	Semivolatile Org. Comp. by GC/MS		2/23/2015 9:00:00AM	02/23/2015
1502F52-010A	MW-204D-20150217-01	2/17/2015 3:30:00PM	Groundwater	Volatile Organic Compounds by GC/MS		2/21/2015 10:00:00AM	02/21/2015
1502F52-010A	MW-204D-20150217-01	2/17/2015 3:30:00PM	Groundwater	Volatile Organic Compounds by GC/MS		2/21/2015 10:00:00AM	02/23/2015
1502F52-010B	MW-204D-20150217-01	2/17/2015 3:30:00PM	Groundwater	TOTAL METALS BY ICP		2/19/2015 12:13:00PM	02/24/2015
1502F52-010B	MW-204D-20150217-01	2/17/2015 3:30:00PM	Groundwater	TOTAL MERCURY		2/23/2015 9:45:00AM	02/23/2015

Client: ERM-Southeast
Project Name: AGL Macon
Lab Order: 1502F52

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1502F52-010C	MW-204D-20150217-01	2/17/2015 3:30:00PM	Groundwater	Cyanide		2/24/2015 8:35:00AM	02/24/2015
1502F52-010D	MW-204D-20150217-01	2/17/2015 3:30:00PM	Groundwater	Polynuclear Aromatic Hydrocarbons		2/19/2015 1:00:00PM	02/21/2015
1502F52-010D	MW-204D-20150217-01	2/17/2015 3:30:00PM	Groundwater	Semivolatile Org. Comp. by GC/MS		2/23/2015 9:00:00AM	02/23/2015
1502F52-010D	MW-204D-20150217-01	2/17/2015 3:30:00PM	Groundwater	Semivolatile Org. Comp. by GC/MS		2/23/2015 9:00:00AM	02/24/2015
1502F52-011A	MW-207D-20150217-01	2/17/2015 5:05:00PM	Groundwater	Volatile Organic Compounds by GC/MS		2/21/2015 10:00:00AM	02/21/2015
1502F52-011B	MW-207D-20150217-01	2/17/2015 5:05:00PM	Groundwater	TOTAL METALS BY ICP		2/19/2015 12:13:00PM	02/24/2015
1502F52-011B	MW-207D-20150217-01	2/17/2015 5:05:00PM	Groundwater	TOTAL MERCURY		2/23/2015 9:45:00AM	02/23/2015
1502F52-011C	MW-207D-20150217-01	2/17/2015 5:05:00PM	Groundwater	Cyanide		2/24/2015 8:35:00AM	02/24/2015
1502F52-011D	MW-207D-20150217-01	2/17/2015 5:05:00PM	Groundwater	Polynuclear Aromatic Hydrocarbons		2/19/2015 1:00:00PM	02/21/2015
1502F52-011D	MW-207D-20150217-01	2/17/2015 5:05:00PM	Groundwater	Semivolatile Org. Comp. by GC/MS		2/23/2015 9:00:00AM	02/23/2015
1502F52-012A	MW-301D-20150217-01	2/17/2015 5:20:00PM	Groundwater	Volatile Organic Compounds by GC/MS		2/21/2015 10:00:00AM	02/21/2015
1502F52-012B	MW-301D-20150217-01	2/17/2015 5:20:00PM	Groundwater	TOTAL METALS BY ICP		2/19/2015 12:13:00PM	02/24/2015
1502F52-012B	MW-301D-20150217-01	2/17/2015 5:20:00PM	Groundwater	TOTAL MERCURY		2/23/2015 9:45:00AM	02/23/2015
1502F52-012C	MW-301D-20150217-01	2/17/2015 5:20:00PM	Groundwater	Cyanide		2/24/2015 8:35:00AM	02/24/2015
1502F52-012D	MW-301D-20150217-01	2/17/2015 5:20:00PM	Groundwater	Polynuclear Aromatic Hydrocarbons		2/19/2015 1:00:00PM	02/21/2015
1502F52-012D	MW-301D-20150217-01	2/17/2015 5:20:00PM	Groundwater	Semivolatile Org. Comp. by GC/MS		2/23/2015 9:00:00AM	02/23/2015
1502F52-013A	MW-302DD-20150217-01	2/17/2015 5:42:00PM	Groundwater	Volatile Organic Compounds by GC/MS		2/21/2015 10:00:00AM	02/21/2015
1502F52-013B	MW-302DD-20150217-01	2/17/2015 5:42:00PM	Groundwater	TOTAL METALS BY ICP		2/19/2015 12:13:00PM	02/24/2015
1502F52-013B	MW-302DD-20150217-01	2/17/2015 5:42:00PM	Groundwater	TOTAL MERCURY		2/23/2015 9:45:00AM	02/23/2015
1502F52-013C	MW-302DD-20150217-01	2/17/2015 5:42:00PM	Groundwater	Cyanide		2/24/2015 8:35:00AM	02/24/2015
1502F52-013D	MW-302DD-20150217-01	2/17/2015 5:42:00PM	Groundwater	Polynuclear Aromatic Hydrocarbons		2/19/2015 1:00:00PM	02/21/2015
1502F52-013D	MW-302DD-20150217-01	2/17/2015 5:42:00PM	Groundwater	Semivolatile Org. Comp. by GC/MS		2/23/2015 9:00:00AM	02/23/2015
1502F52-014A	DUP-01-20150217-01	2/17/2015 12:00:00AM	Groundwater	Volatile Organic Compounds by GC/MS		2/21/2015 10:00:00AM	02/22/2015
1502F52-014B	DUP-01-20150217-01	2/17/2015 12:00:00AM	Groundwater	TOTAL METALS BY ICP		2/19/2015 12:13:00PM	02/24/2015
1502F52-014B	DUP-01-20150217-01	2/17/2015 12:00:00AM	Groundwater	TOTAL MERCURY		2/23/2015 9:45:00AM	02/23/2015
1502F52-014C	DUP-01-20150217-01	2/17/2015 12:00:00AM	Groundwater	Cyanide		2/24/2015 8:35:00AM	02/24/2015
1502F52-014D	DUP-01-20150217-01	2/17/2015 12:00:00AM	Groundwater	Polynuclear Aromatic Hydrocarbons		2/23/2015 11:00:00AM	02/24/2015
1502F52-014D	DUP-01-20150217-01	2/17/2015 12:00:00AM	Groundwater	Semivolatile Org. Comp. by GC/MS		2/23/2015 9:00:00AM	02/23/2015
1502F52-015A	DUP-02-20150217-01	2/17/2015 12:00:00AM	Groundwater	Volatile Organic Compounds by GC/MS		2/21/2015 10:00:00AM	02/23/2015

Client: ERM-Southeast
Project Name: AGL Macon
Lab Order: 1502F52

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1502F52-015B	DUP-02-20150217-01	2/17/2015 12:00:00AM	Groundwater	TOTAL METALS BY ICP		2/19/2015 12:13:00PM	02/24/2015
1502F52-015B	DUP-02-20150217-01	2/17/2015 12:00:00AM	Groundwater	TOTAL MERCURY		2/23/2015 9:45:00AM	02/23/2015
1502F52-015C	DUP-02-20150217-01	2/17/2015 12:00:00AM	Groundwater	Cyanide		2/24/2015 8:35:00AM	02/24/2015
1502F52-015D	DUP-02-20150217-01	2/17/2015 12:00:00AM	Groundwater	Polynuclear Aromatic Hydrocarbons		2/23/2015 11:00:00AM	02/23/2015
1502F52-015D	DUP-02-20150217-01	2/17/2015 12:00:00AM	Groundwater	Semivolatile Org. Comp. by GC/MS		2/23/2015 9:00:00AM	02/23/2015
1502F52-015D	DUP-02-20150217-01	2/17/2015 12:00:00AM	Groundwater	Semivolatile Org. Comp. by GC/MS		2/23/2015 9:00:00AM	02/24/2015
1502F52-016A	DUP-03-20150217-01	2/17/2015 12:00:00AM	Groundwater	Volatile Organic Compounds by GC/MS		2/21/2015 10:00:00AM	02/22/2015
1502F52-016B	DUP-03-20150217-01	2/17/2015 12:00:00AM	Groundwater	TOTAL METALS BY ICP		2/19/2015 12:13:00PM	02/24/2015
1502F52-016B	DUP-03-20150217-01	2/17/2015 12:00:00AM	Groundwater	TOTAL MERCURY		2/23/2015 9:45:00AM	02/23/2015
1502F52-016C	DUP-03-20150217-01	2/17/2015 12:00:00AM	Groundwater	Cyanide		2/24/2015 8:35:00AM	02/24/2015
1502F52-016D	DUP-03-20150217-01	2/17/2015 12:00:00AM	Groundwater	Polynuclear Aromatic Hydrocarbons		2/23/2015 11:00:00AM	02/24/2015
1502F52-016D	DUP-03-20150217-01	2/17/2015 12:00:00AM	Groundwater	Semivolatile Org. Comp. by GC/MS		2/23/2015 9:00:00AM	02/24/2015
1502F52-017A	MW-306D-20150218-01	2/18/2015 8:30:00AM	Groundwater	Volatile Organic Compounds by GC/MS		2/21/2015 10:00:00AM	02/21/2015
1502F52-017B	MW-306D-20150218-01	2/18/2015 8:30:00AM	Groundwater	TOTAL METALS BY ICP		2/19/2015 12:13:00PM	02/24/2015
1502F52-017B	MW-306D-20150218-01	2/18/2015 8:30:00AM	Groundwater	TOTAL MERCURY		2/23/2015 9:45:00AM	02/23/2015
1502F52-017C	MW-306D-20150218-01	2/18/2015 8:30:00AM	Groundwater	Cyanide		2/24/2015 8:35:00AM	02/24/2015
1502F52-017D	MW-306D-20150218-01	2/18/2015 8:30:00AM	Groundwater	Polynuclear Aromatic Hydrocarbons		2/23/2015 11:00:00AM	02/24/2015
1502F52-017D	MW-306D-20150218-01	2/18/2015 8:30:00AM	Groundwater	Semivolatile Org. Comp. by GC/MS		2/23/2015 9:00:00AM	02/24/2015
1502F52-017E	MW-306D-20150218-01	2/18/2015 8:30:00AM	Groundwater	ION SCAN			02/18/2015
1502F52-017F	MW-306D-20150218-01	2/18/2015 8:30:00AM	Groundwater	Ferrous Iron			02/19/2015
1502F52-017G	MW-306D-20150218-01	2/18/2015 8:30:00AM	Groundwater	Sulfide by SM4500-S2-F			02/23/2015
1502F52-017H	MW-306D-20150218-01	2/18/2015 8:30:00AM	Groundwater	GC Analysis of Gaseous Samples		2/24/2015 2:30:56PM	02/24/2015
1502F52-018A	MW-307D-20150218-01	2/18/2015 9:00:00AM	Groundwater	Volatile Organic Compounds by GC/MS		2/21/2015 10:00:00AM	02/21/2015
1502F52-018B	MW-307D-20150218-01	2/18/2015 9:00:00AM	Groundwater	TOTAL METALS BY ICP		2/19/2015 12:13:00PM	02/24/2015
1502F52-018B	MW-307D-20150218-01	2/18/2015 9:00:00AM	Groundwater	TOTAL MERCURY		2/23/2015 9:45:00AM	02/23/2015
1502F52-018C	MW-307D-20150218-01	2/18/2015 9:00:00AM	Groundwater	Cyanide		2/24/2015 8:35:00AM	02/24/2015
1502F52-018D	MW-307D-20150218-01	2/18/2015 9:00:00AM	Groundwater	Polynuclear Aromatic Hydrocarbons		2/23/2015 11:00:00AM	02/24/2015
1502F52-018D	MW-307D-20150218-01	2/18/2015 9:00:00AM	Groundwater	Semivolatile Org. Comp. by GC/MS		2/23/2015 9:00:00AM	02/24/2015
1502F52-018E	MW-307D-20150218-01	2/18/2015 9:00:00AM	Groundwater	ION SCAN			02/18/2015

Client: ERM-Southeast
Project Name: AGL Macon
Lab Order: 1502F52

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1502F52-018F	MW-307D-20150218-01	2/18/2015 9:00:00AM	Groundwater	Ferrous Iron			02/19/2015
1502F52-018G	MW-307D-20150218-01	2/18/2015 9:00:00AM	Groundwater	Sulfide by SM4500-S2-F			02/23/2015
1502F52-018H	MW-307D-20150218-01	2/18/2015 9:00:00AM	Groundwater	GC Analysis of Gaseous Samples		2/24/2015 2:30:56PM	02/24/2015
1502F52-019A	MW-101-20150218-01	2/18/2015 9:15:00AM	Groundwater	Volatile Organic Compounds by GC/MS		2/21/2015 10:00:00AM	02/21/2015
1502F52-019B	MW-101-20150218-01	2/18/2015 9:15:00AM	Groundwater	TOTAL METALS BY ICP		2/19/2015 12:13:00PM	02/24/2015
1502F52-019B	MW-101-20150218-01	2/18/2015 9:15:00AM	Groundwater	TOTAL MERCURY		2/23/2015 9:45:00AM	02/23/2015
1502F52-019C	MW-101-20150218-01	2/18/2015 9:15:00AM	Groundwater	Cyanide		2/24/2015 8:35:00AM	02/24/2015
1502F52-019D	MW-101-20150218-01	2/18/2015 9:15:00AM	Groundwater	Polynuclear Aromatic Hydrocarbons		2/23/2015 11:00:00AM	02/24/2015
1502F52-019D	MW-101-20150218-01	2/18/2015 9:15:00AM	Groundwater	Semivolatile Org. Comp. by GC/MS		2/23/2015 9:00:00AM	02/24/2015
1502F52-020A	MW-305D-20150218-01	2/18/2015 9:55:00AM	Groundwater	Volatile Organic Compounds by GC/MS		2/21/2015 10:00:00AM	02/21/2015
1502F52-020B	MW-305D-20150218-01	2/18/2015 9:55:00AM	Groundwater	TOTAL METALS BY ICP		2/19/2015 12:13:00PM	02/24/2015
1502F52-020B	MW-305D-20150218-01	2/18/2015 9:55:00AM	Groundwater	TOTAL MERCURY		2/23/2015 9:45:00AM	02/23/2015
1502F52-020C	MW-305D-20150218-01	2/18/2015 9:55:00AM	Groundwater	Cyanide		2/24/2015 8:35:00AM	02/24/2015
1502F52-020D	MW-305D-20150218-01	2/18/2015 9:55:00AM	Groundwater	Polynuclear Aromatic Hydrocarbons		2/23/2015 11:00:00AM	02/24/2015
1502F52-020D	MW-305D-20150218-01	2/18/2015 9:55:00AM	Groundwater	Semivolatile Org. Comp. by GC/MS		2/23/2015 9:00:00AM	02/24/2015
1502F52-021A	MW-102-20150218-01	2/18/2015 11:25:00AM	Groundwater	Volatile Organic Compounds by GC/MS		2/19/2015 10:07:00PM	02/21/2015
1502F52-021B	MW-102-20150218-01	2/18/2015 11:25:00AM	Groundwater	TOTAL METALS BY ICP		2/20/2015 10:20:00AM	02/24/2015
1502F52-021B	MW-102-20150218-01	2/18/2015 11:25:00AM	Groundwater	TOTAL MERCURY		2/23/2015 9:45:00AM	02/23/2015
1502F52-021C	MW-102-20150218-01	2/18/2015 11:25:00AM	Groundwater	Cyanide		2/24/2015 11:00:00AM	02/24/2015
1502F52-021D	MW-102-20150218-01	2/18/2015 11:25:00AM	Groundwater	Polynuclear Aromatic Hydrocarbons		2/23/2015 11:00:00AM	02/24/2015
1502F52-021D	MW-102-20150218-01	2/18/2015 11:25:00AM	Groundwater	Semivolatile Org. Comp. by GC/MS		2/23/2015 9:00:00AM	02/24/2015
1502F52-022A	MW-302D-20150218-01	2/18/2015 12:03:00PM	Groundwater	Volatile Organic Compounds by GC/MS		2/19/2015 10:07:00PM	02/21/2015
1502F52-022B	MW-302D-20150218-01	2/18/2015 12:03:00PM	Groundwater	TOTAL METALS BY ICP		2/20/2015 10:20:00AM	02/24/2015
1502F52-022B	MW-302D-20150218-01	2/18/2015 12:03:00PM	Groundwater	TOTAL MERCURY		2/23/2015 9:45:00AM	02/23/2015
1502F52-022C	MW-302D-20150218-01	2/18/2015 12:03:00PM	Groundwater	Cyanide		2/24/2015 11:00:00AM	02/24/2015
1502F52-022D	MW-302D-20150218-01	2/18/2015 12:03:00PM	Groundwater	Polynuclear Aromatic Hydrocarbons		2/23/2015 11:00:00AM	02/24/2015
1502F52-022D	MW-302D-20150218-01	2/18/2015 12:03:00PM	Groundwater	Semivolatile Org. Comp. by GC/MS		2/23/2015 9:00:00AM	02/24/2015
1502F52-023A	TB-01-20150218-01	2/18/2015 12:00:00AM	Aqueous	Volatile Organic Compounds by GC/MS		2/19/2015 10:07:00PM	02/19/2015

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502F52

ANALYTICAL QC SUMMARY REPORT

BatchID: 203359

Sample ID: **MB-203359** Client ID: Units: **ug/L** Prep Date: **02/19/2015** Run No: **286216**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **203359** Analysis Date: **02/19/2015** Seq No: **6074331**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	10									
2-Methylphenol	BRL	10									
3,4-Methylphenol	BRL	10									
Acenaphthene	BRL	10									
Acenaphthylene	BRL	10									
Anthracene	BRL	10									
Benzo(g,h,i)perylene	BRL	10									
Benzo(k)fluoranthene	BRL	10									
Chrysene	BRL	10									
Fluoranthene	BRL	10									
Fluorene	BRL	10									
Naphthalene	BRL	10									
Phenanthrene	BRL	10									
Phenol	BRL	10									
Pyrene	BRL	10									
Surr: 2,4,6-Tribromophenol	114.0	0	100.0		114	52	133				
Surr: 2-Fluorobiphenyl	45.48	0	50.00		91.0	50	121				
Surr: 2-Fluorophenol	61.56	0	100.0		61.6	27.5	120				
Surr: 4-Terphenyl-d14	46.70	0	50.00		93.4	46.3	137				
Surr: Nitrobenzene-d5	45.91	0	50.00		91.8	41.2	121				
Surr: Phenol-d5	43.03	0	100.0		43.0	14.3	120				

Sample ID: **LCS-203359** Client ID: Units: **ug/L** Prep Date: **02/19/2015** Run No: **286216**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **203359** Analysis Date: **02/19/2015** Seq No: **6074332**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	96.41	10	100.0		96.4	68.2	124				

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502F52

ANALYTICAL QC SUMMARY REPORT

BatchID: 203359

Sample ID: **LCS-203359** Client ID: Units: **ug/L** Prep Date: **02/19/2015** Run No: **286216**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **203359** Analysis Date: **02/19/2015** Seq No: **6074332**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	43.37	10	100.0		43.4	25.6	120				
Pyrene	87.34	10	100.0		87.3	70.1	124				
Surr: 2,4,6-Tribromophenol	126.7	0	100.0		127	52	133				
Surr: 2-Fluorobiphenyl	51.73	0	50.00		103	50	121				
Surr: 2-Fluorophenol	71.40	0	100.0		71.4	27.5	120				
Surr: 4-Terphenyl-d14	51.74	0	50.00		103	46.3	137				
Surr: Nitrobenzene-d5	52.20	0	50.00		104	41.2	121				
Surr: Phenol-d5	50.14	0	100.0		50.1	14.3	120				

Sample ID: **1502E13-002DMS** Client ID: Units: **ug/L** Prep Date: **02/19/2015** Run No: **286216**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **203359** Analysis Date: **02/19/2015** Seq No: **6075025**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	89.62	10	100.0		89.6	53.9	120				
Phenol	39.43	10	100.0		39.4	31	120				
Pyrene	80.94	10	100.0		80.9	53	112				
Surr: 2,4,6-Tribromophenol	113.0	0	100.0		113	52	133				
Surr: 2-Fluorobiphenyl	47.66	0	50.00		95.3	50	121				
Surr: 2-Fluorophenol	62.32	0	100.0		62.3	27.5	120				
Surr: 4-Terphenyl-d14	45.78	0	50.00		91.6	46.3	137				
Surr: Nitrobenzene-d5	46.56	0	50.00		93.1	41.2	121				
Surr: Phenol-d5	44.01	0	100.0		44.0	14.3	120				

Sample ID: **1502E13-002DMSD** Client ID: Units: **ug/L** Prep Date: **02/19/2015** Run No: **286216**
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **203359** Analysis Date: **02/19/2015** Seq No: **6075032**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	83.86	10	100.0		83.9	53.9	120	89.62	6.64	22.5	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502F52

ANALYTICAL QC SUMMARY REPORT

BatchID: 203359

Sample ID: **1502E13-002DMSD** Client ID:
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/L** Prep Date: **02/19/2015** Run No: **286216**
BatchID: **203359** Analysis Date: **02/19/2015** Seq No: **6075032**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	32.08	10	100.0		32.1	31	120	39.43	20.6	31.9	
Pyrene	76.35	10	100.0		76.4	53	112	80.94	5.84	22.3	
Surr: 2,4,6-Tribromophenol	104.2	0	100.0		104	52	133	113.0	0	0	
Surr: 2-Fluorobiphenyl	43.84	0	50.00		87.7	50	121	47.66	0	0	
Surr: 2-Fluorophenol	49.76	0	100.0		49.8	27.5	120	62.32	0	0	
Surr: 4-Terphenyl-d14	44.01	0	50.00		88.0	46.3	137	45.78	0	0	
Surr: Nitrobenzene-d5	42.65	0	50.00		85.3	41.2	121	46.56	0	0	
Surr: Phenol-d5	36.87	0	100.0		36.9	14.3	120	44.01	0	0	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502F52

ANALYTICAL QC SUMMARY REPORT

BatchID: 203390

Sample ID: **MB-203390** Client ID: Units: **ug/L** Prep Date: **02/19/2015** Run No: **286281**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D** BatchID: **203390** Analysis Date: **02/20/2015** Seq No: **6076200**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	BRL	0.050									
Benzo(a)pyrene	BRL	0.050									
Benzo(b)fluoranthene	BRL	0.10									
Dibenz(a,h)anthracene	BRL	0.10									
Indeno(1,2,3-cd)pyrene	BRL	0.050									
Surr: 4-Terphenyl-d14	1.650	0	2.000		82.5	55.4	136				

Sample ID: **LCS-203390** Client ID: Units: **ug/L** Prep Date: **02/19/2015** Run No: **286281**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D** BatchID: **203390** Analysis Date: **02/20/2015** Seq No: **6076201**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	1.600	0.050	2.000		80.0	60.6	137				
Benzo(a)pyrene	1.452	0.050	2.000		72.6	64	124				
Benzo(b)fluoranthene	1.707	0.10	2.000		85.3	56.4	133				
Dibenz(a,h)anthracene	1.370	0.10	2.000		68.5	52.4	130				
Indeno(1,2,3-cd)pyrene	1.450	0.050	2.000		72.5	50.4	139				
Surr: 4-Terphenyl-d14	1.686	0	2.000		84.3	55.4	136				

Sample ID: **1502E13-003DMS** Client ID: Units: **ug/L** Prep Date: **02/19/2015** Run No: **286281**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D** BatchID: **203390** Analysis Date: **02/21/2015** Seq No: **6077175**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	1.643	0.050	2.000		82.2	50.3	143	1.269			
Benzo(a)pyrene	1.418	0.050	2.000		70.9	44.2	127				
Benzo(b)fluoranthene	1.715	0.10	2.000		85.8	48.4	125				
Dibenz(a,h)anthracene	1.412	0.10	2.000		70.6	40.1	128				
Indeno(1,2,3-cd)pyrene	1.413	0.050	2.000		70.7	40.3	129				
Surr: 4-Terphenyl-d14	1.733	0	2.000		86.7	55.4	136	1.586			

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502F52

ANALYTICAL QC SUMMARY REPORT

BatchID: 203390

Sample ID: **1502E13-003DMSD** Client ID:
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**
Units: **ug/L** Prep Date: **02/19/2015** Run No: **286281**
BatchID: **203390** Analysis Date: **02/21/2015** Seq No: **6077173**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	1.269	0.050	2.000		63.5	50.3	143	1.643	25.7	26.8	
Benzo(a)pyrene	BRL	0.050	2.000		0	44.2	127	1.418	0	40.9	S
Benzo(b)fluoranthene	BRL	0.10	2.000		0	48.4	125	1.715	0	24.2	S
Dibenz(a,h)anthracene	BRL	0.10	2.000		0	40.1	128	1.412	0	23.6	S
Indeno(1,2,3-cd)pyrene	BRL	0.050	2.000		0	40.3	129	1.413	0	28.8	S
Surr: 4-Terphenyl-d14	1.586	0	2.000		79.3	55.4	136	1.733	0	0	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502F52

ANALYTICAL QC SUMMARY REPORT

BatchID: 203402

Sample ID: **MB-203402** Client ID: Units: **mg/L** Prep Date: **02/19/2015** Run No: **286407**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **203402** Analysis Date: **02/23/2015** Seq No: **6079314**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	0.0200									
Arsenic	BRL	0.0500									
Barium	BRL	0.0200									
Beryllium	BRL	0.0100									
Cadmium	BRL	0.0050									
Chromium	BRL	0.0100									
Copper	BRL	0.0100									
Iron	BRL	0.100									
Lead	BRL	0.0100									
Nickel	BRL	0.0200									
Zinc	BRL	0.0200									

Sample ID: **LCS-203402** Client ID: Units: **mg/L** Prep Date: **02/19/2015** Run No: **286407**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **203402** Analysis Date: **02/23/2015** Seq No: **6079316**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.034	0.0200	1.000		103	80	120				
Arsenic	1.040	0.0500	1.000		104	80	120				
Barium	1.019	0.0200	1.000		102	80	120				
Beryllium	1.028	0.0100	1.000		103	80	120				
Cadmium	1.036	0.0050	1.000		104	80	120				
Chromium	1.018	0.0100	1.000		102	80	120				
Copper	1.013	0.0100	1.000		101	80	120				
Iron	10.40	0.100	10.00	0.04418	104	80	120				
Lead	1.029	0.0100	1.000		103	80	120				
Nickel	1.036	0.0200	1.000		104	80	120				
Zinc	1.042	0.0200	1.000		104	80	120				

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502F52

ANALYTICAL QC SUMMARY REPORT

BatchID: 203402

Sample ID: **1502F52-001BMS** Client ID: **MW-113D-20150217-01** Units: **mg/L** Prep Date: **02/19/2015** Run No: **286407**
SampleType: **MS** TestCode: **METALS, TOTAL SW6010C** BatchID: **203402** Analysis Date: **02/23/2015** Seq No: **6079327**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.036	0.0200	1.000		104	75	125				
Arsenic	1.032	0.0500	1.000		103	75	125				
Barium	1.073	0.0200	1.000	0.07498	99.8	75	125				
Beryllium	1.012	0.0100	1.000		101	75	125				
Cadmium	1.020	0.0050	1.000		102	75	125				
Chromium	1.004	0.0100	1.000	0.001056	100	75	125				
Copper	0.9915	0.0100	1.000	0.003379	98.8	75	125				
Iron	10.54	0.100	10.00	0.3138	102	75	125				
Lead	1.002	0.0100	1.000		100	75	125				
Nickel	1.009	0.0200	1.000	0.01853	99.0	75	125				
Zinc	1.031	0.0200	1.000	0.01141	102	75	125				

Sample ID: **1502F52-001BMSD** Client ID: **MW-113D-20150217-01** Units: **mg/L** Prep Date: **02/19/2015** Run No: **286407**
SampleType: **MSD** TestCode: **METALS, TOTAL SW6010C** BatchID: **203402** Analysis Date: **02/23/2015** Seq No: **6079329**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	0.9623	0.0200	1.000		96.2	75	125	1.036	7.37	20	
Arsenic	1.045	0.0500	1.000		105	75	125	1.032	1.29	20	
Barium	1.078	0.0200	1.000	0.07498	100	75	125	1.073	0.443	20	
Beryllium	1.022	0.0100	1.000		102	75	125	1.012	0.957	20	
Cadmium	1.026	0.0050	1.000		103	75	125	1.020	0.606	20	
Chromium	1.011	0.0100	1.000	0.001056	101	75	125	1.004	0.696	20	
Copper	1.001	0.0100	1.000	0.003379	99.8	75	125	0.9915	0.969	20	
Iron	10.63	0.100	10.00	0.3138	103	75	125	10.54	0.881	20	
Lead	1.006	0.0100	1.000		101	75	125	1.002	0.410	20	
Nickel	1.014	0.0200	1.000	0.01853	99.6	75	125	1.009	0.543	20	
Zinc	1.035	0.0200	1.000	0.01141	102	75	125	1.031	0.407	20	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502F52

ANALYTICAL QC SUMMARY REPORT

BatchID: 203486

Sample ID: **MB-203486**	Client ID:				Units: **mg/L**		Prep Date: **02/23/2015**		Run No: **286365**
SampleType: **MBLK**	TestCode: **Mercury, Total SW7470A**				BatchID: **203486**		Analysis Date: **02/23/2015**		Seq No: **6078225**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.00020									

Sample ID: **LCS-203486**	Client ID:				Units: **mg/L**		Prep Date: **02/23/2015**		Run No: **286365**
SampleType: **LCS**	TestCode: **Mercury, Total SW7470A**				BatchID: **203486**		Analysis Date: **02/23/2015**		Seq No: **6078226**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.004945	0.00020	0.0050		98.9	80	120				

Sample ID: **1502F52-001BMS**	Client ID: **MW-113D-20150217-01**				Units: **mg/L**		Prep Date: **02/23/2015**		Run No: **286365**
SampleType: **MS**	TestCode: **Mercury, Total SW7470A**				BatchID: **203486**		Analysis Date: **02/23/2015**		Seq No: **6078230**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.003829	0.00020	0.0050		76.6	70	130				

Sample ID: **1502F52-001BMSD**	Client ID: **MW-113D-20150217-01**				Units: **mg/L**		Prep Date: **02/23/2015**		Run No: **286365**
SampleType: **MSD**	TestCode: **Mercury, Total SW7470A**				BatchID: **203486**		Analysis Date: **02/23/2015**		Seq No: **6078234**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.003760	0.00020	0.0050		75.2	70	130	0.003829	1.81	20	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502F52

ANALYTICAL QC SUMMARY REPORT

BatchID: 203487

Sample ID: **MB-203487**	Client ID:			Units: **mg/L**	Prep Date: **02/23/2015**	Run No: **286364**
SampleType: **MBLK**	TestCode: **Mercury, Total SW7470A**			BatchID: **203487**	Analysis Date: **02/23/2015**	Seq No: **6078204**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.00020									

Sample ID: **LCS-203487**	Client ID:			Units: **mg/L**	Prep Date: **02/23/2015**	Run No: **286364**
SampleType: **LCS**	TestCode: **Mercury, Total SW7470A**			BatchID: **203487**	Analysis Date: **02/23/2015**	Seq No: **6078205**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005058	0.00020	0.0050		101	80	120				

Sample ID: **1502F52-021BMS**	Client ID: **MW-102-20150218-01**			Units: **mg/L**	Prep Date: **02/23/2015**	Run No: **286364**
SampleType: **MS**	TestCode: **Mercury, Total SW7470A**			BatchID: **203487**	Analysis Date: **02/23/2015**	Seq No: **6078209**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005431	0.00020	0.0050	0.00003920	108	70	130				

Sample ID: **1502F52-021BMSD**	Client ID: **MW-102-20150218-01**			Units: **mg/L**	Prep Date: **02/23/2015**	Run No: **286364**
SampleType: **MSD**	TestCode: **Mercury, Total SW7470A**			BatchID: **203487**	Analysis Date: **02/23/2015**	Seq No: **6078210**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005566	0.00020	0.0050	0.00003920	111	70	130	0.005431	2.45	20	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502F52

ANALYTICAL QC SUMMARY REPORT

BatchID: 203497

Sample ID: **MB-203497** Client ID: Units: **mg/L** Prep Date: **02/20/2015** Run No: **286520**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **203497** Analysis Date: **02/24/2015** Seq No: **6081892**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	0.0200									
Arsenic	BRL	0.0500									
Barium	BRL	0.0200									
Beryllium	BRL	0.0100									
Cadmium	BRL	0.0050									
Chromium	BRL	0.0100									
Copper	BRL	0.0100									
Lead	BRL	0.0100									
Nickel	BRL	0.0200									
Zinc	BRL	0.0200									

Sample ID: **LCS-203497** Client ID: Units: **mg/L** Prep Date: **02/20/2015** Run No: **286520**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **203497** Analysis Date: **02/24/2015** Seq No: **6081893**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.009	0.0200	1.000		101	80	120				
Arsenic	0.9984	0.0500	1.000		99.8	80	120				
Barium	0.9871	0.0200	1.000		98.7	80	120				
Beryllium	1.001	0.0100	1.000		100	80	120				
Cadmium	1.004	0.0050	1.000		100	80	120				
Chromium	0.9854	0.0100	1.000		98.5	80	120				
Copper	0.9872	0.0100	1.000		98.7	80	120				
Lead	0.9818	0.0100	1.000		98.2	80	120				
Nickel	0.9922	0.0200	1.000		99.2	80	120				
Zinc	0.9935	0.0200	1.000		99.3	80	120				

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502F52

ANALYTICAL QC SUMMARY REPORT

BatchID: 203497

Sample ID: **1502F52-022BMS** Client ID: **MW-302D-20150218-01** Units: **mg/L** Prep Date: **02/20/2015** Run No: **286520**
SampleType: **MS** TestCode: **METALS, TOTAL SW6010C** BatchID: **203497** Analysis Date: **02/24/2015** Seq No: **6081895**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.009	0.0200	1.000		101	75	125				
Arsenic	1.014	0.0500	1.000	0.004902	101	75	125				
Barium	0.9971	0.0200	1.000	0.03707	96.0	75	125				
Beryllium	0.9801	0.0100	1.000	0.001642	97.8	75	125				
Cadmium	0.9903	0.0050	1.000		99.0	75	125				
Chromium	0.9627	0.0100	1.000	0.002107	96.1	75	125				
Copper	0.9630	0.0100	1.000		96.3	75	125				
Lead	0.9330	0.0100	1.000		93.3	75	125				
Nickel	0.9248	0.0200	1.000	0.01328	91.2	75	125				
Zinc	0.9621	0.0200	1.000	0.01196	95.0	75	125				

Sample ID: **1502F52-022BMSD** Client ID: **MW-302D-20150218-01** Units: **mg/L** Prep Date: **02/20/2015** Run No: **286520**
SampleType: **MSD** TestCode: **METALS, TOTAL SW6010C** BatchID: **203497** Analysis Date: **02/24/2015** Seq No: **6081896**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	0.9967	0.0200	1.000		99.7	75	125	1.009	1.21	20	
Arsenic	1.008	0.0500	1.000	0.004902	100	75	125	1.014	0.550	20	
Barium	0.9902	0.0200	1.000	0.03707	95.3	75	125	0.9971	0.698	20	
Beryllium	0.9739	0.0100	1.000	0.001642	97.2	75	125	0.9801	0.634	20	
Cadmium	0.9844	0.0050	1.000		98.4	75	125	0.9903	0.596	20	
Chromium	0.9533	0.0100	1.000	0.002107	95.1	75	125	0.9627	0.986	20	
Copper	0.9571	0.0100	1.000		95.7	75	125	0.9630	0.619	20	
Lead	0.9268	0.0100	1.000		92.7	75	125	0.9330	0.671	20	
Nickel	0.9227	0.0200	1.000	0.01328	90.9	75	125	0.9248	0.228	20	
Zinc	0.9544	0.0200	1.000	0.01196	94.2	75	125	0.9621	0.804	20	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502F52

ANALYTICAL QC SUMMARY REPORT

BatchID: 203508

Sample ID: **MB-203508**	Client ID:		Units: **ug/L**	Prep Date: **02/19/2015**	Run No: **286229**
SampleType: **MBLK**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **203508**	Analysis Date: **02/19/2015**	Seq No: **6074662**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	5.0									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	46.76	0	50.00		93.5	70.6	123				
Surr: Dibromofluoromethane	48.09	0	50.00		96.2	78.7	124				
Surr: Toluene-d8	47.91	0	50.00		95.8	81.3	120				

Sample ID: **LCS-203508**	Client ID:		Units: **ug/L**	Prep Date: **02/19/2015**	Run No: **286229**
SampleType: **LCS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **203508**	Analysis Date: **02/19/2015**	Seq No: **6074661**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	52.25	5.0	50.00		104	72.8	128				
Toluene	53.04	5.0	50.00		106	74.9	127				
Surr: 4-Bromofluorobenzene	46.71	0	50.00		93.4	70.6	123				
Surr: Dibromofluoromethane	47.36	0	50.00		94.7	78.7	124				
Surr: Toluene-d8	47.48	0	50.00		95.0	81.3	120				

Sample ID: **1502E13-002AMS**	Client ID:		Units: **ug/L**	Prep Date: **02/19/2015**	Run No: **286295**
SampleType: **MS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **203508**	Analysis Date: **02/21/2015**	Seq No: **6076484**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	48.33	5.0	50.00		96.7	70	135				
Toluene	46.96	5.0	50.00		93.9	70.5	137				
Surr: 4-Bromofluorobenzene	48.76	0	50.00		97.5	70.6	123				
Surr: Dibromofluoromethane	49.03	0	50.00		98.1	78.7	124				
Surr: Toluene-d8	48.02	0	50.00		96.0	81.3	120				

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502F52

ANALYTICAL QC SUMMARY REPORT

BatchID: 203508

Sample ID: **1502E13-003AMS** Client ID: Units: **ug/L** Prep Date: **02/19/2015** Run No: **286295**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **203508** Analysis Date: **02/21/2015** Seq No: **6076486**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	50.20	5.0	50.00		100	70	135				
Toluene	50.30	5.0	50.00		101	70.5	137				
Surr: 4-Bromofluorobenzene	48.01	0	50.00		96.0	70.6	123				
Surr: Dibromofluoromethane	49.05	0	50.00		98.1	78.7	124				
Surr: Toluene-d8	48.45	0	50.00		96.9	81.3	120				

Sample ID: **1502E13-002AMSD** Client ID: Units: **ug/L** Prep Date: **02/19/2015** Run No: **286295**
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **203508** Analysis Date: **02/21/2015** Seq No: **6076485**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	47.90	5.0	50.00		95.8	70	135	48.33	0.894	20	
Toluene	46.94	5.0	50.00		93.9	70.5	137	46.96	0.043	20	
Surr: 4-Bromofluorobenzene	49.02	0	50.00		98.0	70.6	123	48.76	0	0	
Surr: Dibromofluoromethane	49.18	0	50.00		98.4	78.7	124	49.03	0	0	
Surr: Toluene-d8	48.93	0	50.00		97.9	81.3	120	48.02	0	0	

Sample ID: **1502E13-003AMSD** Client ID: Units: **ug/L** Prep Date: **02/19/2015** Run No: **286295**
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **203508** Analysis Date: **02/21/2015** Seq No: **6076488**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	50.83	5.0	50.00		102	70	135	50.20	1.25	20	
Toluene	50.77	5.0	50.00		102	70.5	137	50.30	0.930	20	
Surr: 4-Bromofluorobenzene	47.88	0	50.00		95.8	70.6	123	48.01	0	0	
Surr: Dibromofluoromethane	49.94	0	50.00		99.9	78.7	124	49.05	0	0	
Surr: Toluene-d8	48.89	0	50.00		97.8	81.3	120	48.45	0	0	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502F52

ANALYTICAL QC SUMMARY REPORT

BatchID: 203536

Sample ID: **MB-203536**	Client ID:				Units: **ug/L**		Prep Date: **02/24/2015**		Run No: **286477**
SampleType: **MBLK**	TestCode: **GC Analysis of Gaseous Samples SOP-RSK 175**				BatchID: **203536**		Analysis Date: **02/24/2015**		Seq No: **6080663**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Methane	BRL	4									

Sample ID: **LCS-203536**	Client ID:				Units: **ug/L**		Prep Date: **02/24/2015**		Run No: **286477**
SampleType: **LCS**	TestCode: **GC Analysis of Gaseous Samples SOP-RSK 175**				BatchID: **203536**		Analysis Date: **02/24/2015**		Seq No: **6080664**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Methane	130.8	4	200.0		65.4	45.1	115				

Sample ID: **LCSD-203536**	Client ID:				Units: **ug/L**		Prep Date: **02/24/2015**		Run No: **286477**
SampleType: **LCSD**	TestCode: **GC Analysis of Gaseous Samples SOP-RSK 175**				BatchID: **203536**		Analysis Date: **02/24/2015**		Seq No: **6080665**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Methane	132.9	4	200.0		66.4	45.1	115	130.8	1.60	20	

Sample ID: **1502F52-017HMS**	Client ID: **MW-306D-20150218-01**				Units: **ug/L**		Prep Date: **02/24/2015**		Run No: **286477**
SampleType: **MS**	TestCode: **GC Analysis of Gaseous Samples SOP-RSK 175**				BatchID: **203536**		Analysis Date: **02/24/2015**		Seq No: **6080672**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Methane	357.5	4	200.0	215.3	71.1	40.4	115				

Sample ID: **1502F52-017HMSD**	Client ID: **MW-306D-20150218-01**				Units: **ug/L**		Prep Date: **02/24/2015**		Run No: **286477**
SampleType: **MSD**	TestCode: **GC Analysis of Gaseous Samples SOP-RSK 175**				BatchID: **203536**		Analysis Date: **02/24/2015**		Seq No: **6080673**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Methane	350.3	4	200.0	215.3	67.5	40.4	115	357.5	2.03	20	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502F52

ANALYTICAL QC SUMMARY REPORT

BatchID: 203549

Sample ID: **MB-203549**	Client ID:		Units: **ug/L**	Prep Date: **02/23/2015**	Run No: **286429**
SampleType: **MBLK**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **203549**	Analysis Date: **02/23/2015**	Seq No: **6079681**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	BRL	0.050									
Benzo(a)pyrene	BRL	0.050									
Benzo(b)fluoranthene	BRL	0.10									
Dibenz(a,h)anthracene	BRL	0.10									
Indeno(1,2,3-cd)pyrene	BRL	0.050									
Surr: 4-Terphenyl-d14	1.229	0	2.000		61.4	55.4	136				

Sample ID: **LCS-203549**	Client ID:		Units: **ug/L**	Prep Date: **02/23/2015**	Run No: **286429**
SampleType: **LCS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **203549**	Analysis Date: **02/23/2015**	Seq No: **6079682**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	1.660	0.050	2.000		83.0	60.6	137				
Benzo(a)pyrene	1.584	0.050	2.000		79.2	64	124				
Benzo(b)fluoranthene	1.682	0.10	2.000		84.1	56.4	133				
Dibenz(a,h)anthracene	1.227	0.10	2.000		61.3	52.4	130				
Indeno(1,2,3-cd)pyrene	1.412	0.050	2.000		70.6	50.4	139				
Surr: 4-Terphenyl-d14	1.749	0	2.000		87.5	55.4	136				

Sample ID: **1502E13-002DMS**	Client ID:		Units: **ug/L**	Prep Date: **02/23/2015**	Run No: **286429**
SampleType: **MS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **203549**	Analysis Date: **02/23/2015**	Seq No: **6079684**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	1.659	0.050	2.000		83.0	50.3	143				
Benzo(a)pyrene	1.493	0.050	2.000		74.7	44.2	127				
Benzo(b)fluoranthene	1.656	0.10	2.000		82.8	48.4	125				
Dibenz(a,h)anthracene	1.261	0.10	2.000		63.0	40.1	128				
Indeno(1,2,3-cd)pyrene	1.345	0.050	2.000		67.2	40.3	129				
Surr: 4-Terphenyl-d14	1.614	0	2.000		80.7	55.4	136				

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502F52

ANALYTICAL QC SUMMARY REPORT

BatchID: 203549

Sample ID: **1502E13-002DMSD** Client ID:
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**
Units: **ug/L** Prep Date: **02/23/2015** Run No: **286429**
BatchID: **203549** Analysis Date: **02/23/2015** Seq No: **6079685**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	1.299	0.050	2.000		65.0	50.3	143	1.659	24.3	26.8	
Benzo(a)pyrene	1.207	0.050	2.000		60.4	44.2	127	1.493	21.2	40.9	
Benzo(b)fluoranthene	1.352	0.10	2.000		67.6	48.4	125	1.656	20.3	24.2	
Dibenz(a,h)anthracene	0.9617	0.10	2.000		48.1	40.1	128	1.261	26.9	23.6	R
Indeno(1,2,3-cd)pyrene	1.086	0.050	2.000		54.3	40.3	129	1.345	21.3	28.8	
Surr: 4-Terphenyl-d14	1.306	0	2.000		65.3	55.4	136	1.614	0	0	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502F52

ANALYTICAL QC SUMMARY REPORT

BatchID: 203552

Sample ID: **MB-203552** Client ID: Units: **ug/L** Prep Date: **02/23/2015** Run No: **286393**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **203552** Analysis Date: **02/23/2015** Seq No: **6079387**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	10									
2-Methylphenol	BRL	10									
3,4-Methylphenol	BRL	10									
Acenaphthene	BRL	10									
Acenaphthylene	BRL	10									
Anthracene	BRL	10									
Benzo(g,h,i)perylene	BRL	10									
Benzo(k)fluoranthene	BRL	10									
Chrysene	BRL	10									
Fluoranthene	BRL	10									
Fluorene	BRL	10									
Naphthalene	BRL	10									
Phenanthrene	BRL	10									
Phenol	BRL	10									
Pyrene	BRL	10									
Surr: 2,4,6-Tribromophenol	102.9	0	100.0		103	52	133				
Surr: 2-Fluorobiphenyl	44.29	0	50.00		88.6	50	121				
Surr: 2-Fluorophenol	59.02	0	100.0		59.0	27.5	120				
Surr: 4-Terphenyl-d14	41.78	0	50.00		83.6	46.3	137				
Surr: Nitrobenzene-d5	42.70	0	50.00		85.4	41.2	121				
Surr: Phenol-d5	33.86	0	100.0		33.9	14.3	120				

Sample ID: **LCS-203552** Client ID: Units: **ug/L** Prep Date: **02/23/2015** Run No: **286435**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **203552** Analysis Date: **02/24/2015** Seq No: **6079829**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	105.8	10	100.0		106	68.2	124				
Phenol	45.81	10	100.0		45.8	25.6	120				

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502F52

ANALYTICAL QC SUMMARY REPORT

BatchID: 203552

Sample ID: **LCS-203552** Client ID: Units: **ug/L** Prep Date: **02/23/2015** Run No: **286435**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **203552** Analysis Date: **02/24/2015** Seq No: **6079829**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Pyrene	95.50	10	100.0		95.5	70.1	124				
Surr: 2,4,6-Tribromophenol	119.3	0	100.0		119	52	133				
Surr: 2-Fluorobiphenyl	53.79	0	50.00		108	50	121				
Surr: 2-Fluorophenol	69.16	0	100.0		69.2	27.5	120				
Surr: 4-Terphenyl-d14	55.75	0	50.00		112	46.3	137				
Surr: Nitrobenzene-d5	53.04	0	50.00		106	41.2	121				
Surr: Phenol-d5	50.09	0	100.0		50.1	14.3	120				

Sample ID: **1502E13-003DMS** Client ID: Units: **ug/L** Prep Date: **02/23/2015** Run No: **286393**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **203552** Analysis Date: **02/23/2015** Seq No: **6079389**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	86.19	10	100.0		86.2	53.9	120				
Phenol	49.55	10	100.0		49.6	31	120				
Pyrene	78.52	10	100.0		78.5	53	112				
Surr: 2,4,6-Tribromophenol	105.8	0	100.0		106	52	133				
Surr: 2-Fluorobiphenyl	41.93	0	50.00		83.9	50	121				
Surr: 2-Fluorophenol	62.50	0	100.0		62.5	27.5	120				
Surr: 4-Terphenyl-d14	41.22	0	50.00		82.4	46.3	137				
Surr: Nitrobenzene-d5	40.01	0	50.00		80.0	41.2	121				
Surr: Phenol-d5	52.58	0	100.0		52.6	14.3	120				

Sample ID: **1502E13-003DMSD** Client ID: Units: **ug/L** Prep Date: **02/23/2015** Run No: **286393**
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **203552** Analysis Date: **02/23/2015** Seq No: **6079390**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	86.93	10	100.0		86.9	53.9	120	86.19	0.855	22.5	
Phenol	51.14	10	100.0		51.1	31	120	49.55	3.16	31.9	

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502F52

ANALYTICAL QC SUMMARY REPORT

BatchID: 203552

Sample ID: **1502E13-003DMSD** Client ID:
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/L** Prep Date: **02/23/2015** Run No: **286393**
BatchID: **203552** Analysis Date: **02/23/2015** Seq No: **6079390**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Pyrene	78.47	10	100.0		78.5	53	112	78.52	0.064	22.3	
Surr: 2,4,6-Tribromophenol	106.2	0	100.0		106	52	133	105.8	0	0	
Surr: 2-Fluorobiphenyl	43.44	0	50.00		86.9	50	121	41.93	0	0	
Surr: 2-Fluorophenol	65.37	0	100.0		65.4	27.5	120	62.50	0	0	
Surr: 4-Terphenyl-d14	41.45	0	50.00		82.9	46.3	137	41.22	0	0	
Surr: Nitrobenzene-d5	42.19	0	50.00		84.4	41.2	121	40.01	0	0	
Surr: Phenol-d5	55.26	0	100.0		55.3	14.3	120	52.58	0	0	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502F52

ANALYTICAL QC SUMMARY REPORT

BatchID: 203573

Sample ID: **MB-203573** Client ID: Units: **ug/L** Prep Date: **02/21/2015** Run No: **286304**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **203573** Analysis Date: **02/21/2015** Seq No: **6076548**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	5.0									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	46.60	0	50.00		93.2	70.6	123				
Surr: Dibromofluoromethane	60.72	0	50.00		121	78.7	124				
Surr: Toluene-d8	52.49	0	50.00		105	81.3	120				

Sample ID: **LCS-203573** Client ID: Units: **ug/L** Prep Date: **02/21/2015** Run No: **286317**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **203573** Analysis Date: **02/23/2015** Seq No: **6077217**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	63.03	5.0	50.00		126	72.8	128				
Toluene	52.67	5.0	50.00		105	74.9	127				
Surr: 4-Bromofluorobenzene	46.97	0	50.00		93.9	70.6	123				
Surr: Dibromofluoromethane	55.52	0	50.00		111	78.7	124				
Surr: Toluene-d8	50.65	0	50.00		101	81.3	120				

Sample ID: **1502F52-020AMS** Client ID: **MW-305D-20150218-01** Units: **ug/L** Prep Date: **02/21/2015** Run No: **286304**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **203573** Analysis Date: **02/21/2015** Seq No: **6076695**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	16630	500	5000	11150	110	70	135				
Toluene	9546	500	5000	4529	100	70.5	137				
Surr: 4-Bromofluorobenzene	4903	0	5000		98.1	70.6	123				
Surr: Dibromofluoromethane	5390	0	5000		108	78.7	124				
Surr: Toluene-d8	4974	0	5000		99.5	81.3	120				

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502F52

ANALYTICAL QC SUMMARY REPORT

BatchID: 203573

Sample ID: **1502F52-020AMSD** Client ID: **MW-305D-20150218-01** Units: **ug/L** Prep Date: **02/21/2015** Run No: **286304**
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **203573** Analysis Date: **02/21/2015** Seq No: **6076696**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	16410	500	5000	11150	105	70	135	16630	1.32	20	
Toluene	9332	500	5000	4529	96.1	70.5	137	9546	2.27	20	
Surr: 4-Bromofluorobenzene	4805	0	5000		96.1	70.6	123	4903	0	0	
Surr: Dibromofluoromethane	5533	0	5000		111	78.7	124	5390	0	0	
Surr: Toluene-d8	5062	0	5000		101	81.3	120	4974	0	0	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502F52

ANALYTICAL QC SUMMARY REPORT

BatchID: 203669

Sample ID: **MB-203669**	Client ID:					Units: **mg/L**		Prep Date: **02/24/2015**		Run No: **286467**	
SampleType: **MBLK**	TestCode: **Cyanide SW9014**					BatchID: **203669**		Analysis Date: **02/24/2015**		Seq No: **6080518**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	0.010									

Sample ID: **LCS-203669**	Client ID:					Units: **mg/L**		Prep Date: **02/24/2015**		Run No: **286467**	
SampleType: **LCS**	TestCode: **Cyanide SW9014**					BatchID: **203669**		Analysis Date: **02/24/2015**		Seq No: **6080519**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2344	0.010	0.2500		93.8	85	115				

Sample ID: **1502F52-001CMS**	Client ID: **MW-113D-20150217-01**					Units: **mg/L**		Prep Date: **02/24/2015**		Run No: **286467**	
SampleType: **MS**	TestCode: **Cyanide SW9014**					BatchID: **203669**		Analysis Date: **02/24/2015**		Seq No: **6080540**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.1979	0.010	0.2500		79.2	70	130				

Sample ID: **1502F52-001CMSD**	Client ID: **MW-113D-20150217-01**					Units: **mg/L**		Prep Date: **02/24/2015**		Run No: **286467**	
SampleType: **MSD**	TestCode: **Cyanide SW9014**					BatchID: **203669**		Analysis Date: **02/24/2015**		Seq No: **6080541**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.1982	0.010	0.2500		79.3	70	130	0.1979	0.151	20	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502F52

ANALYTICAL QC SUMMARY REPORT

BatchID: 203670

Sample ID: **MB-203670**	Client ID:					Units: **mg/L**		Prep Date: **02/24/2015**		Run No: **286469**	
SampleType: **MBLK**	TestCode: **Cyanide SW9014**					BatchID: **203670**		Analysis Date: **02/24/2015**		Seq No: **6080571**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	0.010									

Sample ID: **LCS-203670**	Client ID:					Units: **mg/L**		Prep Date: **02/24/2015**		Run No: **286469**	
SampleType: **LCS**	TestCode: **Cyanide SW9014**					BatchID: **203670**		Analysis Date: **02/24/2015**		Seq No: **6080572**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2344	0.010	0.2500		93.8	85	115				

Sample ID: **1502F52-021CMS**	Client ID: **MW-102-20150218-01**					Units: **mg/L**		Prep Date: **02/24/2015**		Run No: **286469**	
SampleType: **MS**	TestCode: **Cyanide SW9014**					BatchID: **203670**		Analysis Date: **02/24/2015**		Seq No: **6080575**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2081	0.010	0.2500	0.01710	76.4	70	130				

Sample ID: **1502F52-021CMSD**	Client ID: **MW-102-20150218-01**					Units: **mg/L**		Prep Date: **02/24/2015**		Run No: **286469**	
SampleType: **MSD**	TestCode: **Cyanide SW9014**					BatchID: **203670**		Analysis Date: **02/24/2015**		Seq No: **6080576**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2075	0.010	0.2500	0.01710	76.2	70	130	0.2081	0.289	20	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502F52

ANALYTICAL QC SUMMARY REPORT

BatchID: R286204

Sample ID: **MB-R286204**	Client ID:			Units: **mg/L**	Prep Date:	Run No: **286204**
SampleType: **MBLK**	TestCode: **Ferrous Iron**	**SM3500-Fe-B**		BatchID: **R286204**	Analysis Date: **02/19/2015**	Seq No: **6074055**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Iron, as Ferrous (Fe+2)	BRL	0.100									

Sample ID: **LCS-R286204**	Client ID:			Units: **mg/L**	Prep Date:	Run No: **286204**
SampleType: **LCS**	TestCode: **Ferrous Iron**	**SM3500-Fe-B**		BatchID: **R286204**	Analysis Date: **02/19/2015**	Seq No: **6074056**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Iron, as Ferrous (Fe+2)	0.4996	0.100	0.5000		99.9	85	115				

Sample ID: **1502F52-018FMS**	Client ID: **MW-307D-20150218-01**			Units: **mg/L**	Prep Date:	Run No: **286204**
SampleType: **MS**	TestCode: **Ferrous Iron**	**SM3500-Fe-B**		BatchID: **R286204**	Analysis Date: **02/19/2015**	Seq No: **6074060**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Iron, as Ferrous (Fe+2)	0.4421	0.100	0.5000		88.4	80	120				

Sample ID: **1502F52-018FMSD**	Client ID: **MW-307D-20150218-01**			Units: **mg/L**	Prep Date:	Run No: **286204**
SampleType: **MSD**	TestCode: **Ferrous Iron**	**SM3500-Fe-B**		BatchID: **R286204**	Analysis Date: **02/19/2015**	Seq No: **6074061**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Iron, as Ferrous (Fe+2)	0.4914	0.100	0.5000		98.3	80	120	0.4421	10.6	30	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502F52

ANALYTICAL QC SUMMARY REPORT

BatchID: R286347

Sample ID: **MB-R286347**	Client ID:				Units: **mg/L**		Prep Date:		Run No: **286347**	
SampleType: **MBLK**	TestCode: **Sulfide by SM4500-S2-F**				BatchID: **R286347**		Analysis Date: **02/23/2015**		Seq No: **6077650**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Sulfide	BRL	1.00									

Sample ID: **LCS-R286347**	Client ID:				Units: **mg/L**		Prep Date:		Run No: **286347**	
SampleType: **LCS**	TestCode: **Sulfide by SM4500-S2-F**				BatchID: **R286347**		Analysis Date: **02/23/2015**		Seq No: **6077651**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Sulfide	288.0	1.00	288.0		100	90	110				

Sample ID: **1502F52-018GMS**	Client ID: **MW-307D-20150218-01**				Units: **mg/L**		Prep Date:		Run No: **286347**	
SampleType: **MS**	TestCode: **Sulfide by SM4500-S2-F**				BatchID: **R286347**		Analysis Date: **02/23/2015**		Seq No: **6077658**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Sulfide	14.80	1.00	14.40		103	80	120				

Sample ID: **1502F52-018GMSD**	Client ID: **MW-307D-20150218-01**				Units: **mg/L**		Prep Date:		Run No: **286347**	
SampleType: **MSD**	TestCode: **Sulfide by SM4500-S2-F**				BatchID: **R286347**		Analysis Date: **02/23/2015**		Seq No: **6077659**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Sulfide	14.20	1.00	14.40		98.6	80	120	14.80	4.14	20	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502F52

ANALYTICAL QC SUMMARY REPORT

BatchID: R286350

Sample ID: **MB-R286350**	Client ID:				Units: **mg/L**		Prep Date:		Run No: **286350**	
SampleType: **MBLK**	TestCode: **ION SCAN SW9056A**				BatchID: **R286350**		Analysis Date: **02/18/2015**		Seq No: **6077712**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit Qual
Nitrate	BRL	0.25								
Sulfate	BRL	1.0								

Sample ID: **LCS-R286350**	Client ID:				Units: **mg/L**		Prep Date:		Run No: **286350**	
SampleType: **LCS**	TestCode: **ION SCAN SW9056A**				BatchID: **R286350**		Analysis Date: **02/18/2015**		Seq No: **6077711**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit Qual
Nitrate	5.057	0.25	5.000		101	90	110			
Sulfate	25.98	1.0	25.00		104	90	110			

Sample ID: **1502F22-002BMS**	Client ID:				Units: **mg/L**		Prep Date:		Run No: **286350**	
SampleType: **MS**	TestCode: **ION SCAN SW9056A**				BatchID: **R286350**		Analysis Date: **02/18/2015**		Seq No: **6077715**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit Qual
Nitrate	64.63	2.5	50.00	13.07	103	90	110			
Sulfate	306.5	10	250.0	47.42	104	90	110			

Sample ID: **1502F23-002BMS**	Client ID:				Units: **mg/L**		Prep Date:		Run No: **286350**	
SampleType: **MS**	TestCode: **ION SCAN SW9056A**				BatchID: **R286350**		Analysis Date: **02/18/2015**		Seq No: **6077720**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit Qual
Nitrate	56.42	2.5	50.00	4.268	104	90	110			
Sulfate	289.4	10	250.0	35.16	102	90	110			

Sample ID: **1502F22-002BMSD**	Client ID:				Units: **mg/L**		Prep Date:		Run No: **286350**	
SampleType: **MSD**	TestCode: **ION SCAN SW9056A**				BatchID: **R286350**		Analysis Date: **02/18/2015**		Seq No: **6077716**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit Qual
Nitrate	64.00	2.5	50.00	13.07	102	90	110	64.63	0.979	20

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1502F52

ANALYTICAL QC SUMMARY REPORT

BatchID: R286350

Sample ID: **1502F22-002BMSD** Client ID:
SampleType: **MSD** TestCode: **ION SCAN SW9056A**
Units: **mg/L** Prep Date: Run No: **286350**
BatchID: **R286350** Analysis Date: **02/18/2015** Seq No: **6077716**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Sulfate	306.0	10	250.0	47.42	103	90	110	306.5	0.158	20	

Qualifiers:

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

Microseeps/Pace Analytical Energy Services, LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

March 11, 2015

Mirzeta Kararic
Analytical Environmental Services, Inc.
3785 Presidential Parkway
Suite 111
Atlanta, GA 30340

RE: **1502F52**

Microseeps Workorder: 14780

Dear Mirzeta Kararic:

Enclosed are the analytical results for sample(s) received by the laboratory on Monday, February 23, 2015. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Robbin Robl 03/11/2015
rrobl@microseeps.com

Customer Service Representative

Enclosures

As a valued client we would appreciate your comments on our service.
Please email info@microseeps.com.

Total Number of Pages 14

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Microseeps/Pace Analytical Energy Services, LLC.

Microseeps/Pace Analytical Energy Services, LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

LABORATORY ACCREDITATIONS & CERTIFICATIONS

Accreditor:	Pennsylvania Department of Environmental Protection, Bureau of Laboratories
Accreditation ID:	02-00538
Scope:	NELAP Non-Potable Water and Solid & Hazardous Waste
Accreditor:	South Carolina Department of Health and Environmental Control, Office of Environmental Laboratory Certification
Accreditation ID:	89009003
Scope:	Clean Water Act (CWA); Resource Conservation and Recovery Act (RCRA)
Accreditor:	NELAP: New Jersey, Department of Environmental Protection
Accreditation ID:	PA026
Scope:	Non-Potable Water; Solid and Chemical Materials
Accreditor:	NELAP: New York, Department of Health Wadsworth Center
Accreditation ID:	11815
Scope:	Non-Potable Water; Solid and Hazardous Waste
Accreditor:	State of Connecticut, Department of Public Health, Division of Environmental Health
Accreditation ID:	PH-0263
Scope:	Clean Water Act (CWA) Resource Conservation and Recovery Act (RCRA)
Accreditor:	NELAP: Texas, Commission on Environmental Quality
Accreditation ID:	T104704453-09-TX
Scope:	Non-Potable Water
Accreditor:	State of New Hampshire
Accreditation ID:	299409
Scope:	Non-potable water
Accreditor:	State of Georgia
Accreditation ID:	Chapter 391-3-26
Scope:	As per the Georgia EPD Rules and Regulations for Commercial Laboratories, PAES is accredited by the Pennsylvania Department of Environmental Protection Bureau of Laboratories under the National Environmental Laboratory Approval Program (NELAC).

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Microseeps/Pace Analytical Energy Services, LLC.

Microseeps/Pace Analytical Energy Services, LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

SAMPLE SUMMARY

Workorder: 14780 1502F52

Lab ID	Sample ID	Matrix	Date Collected	Date Received
147800001	MW-306D-20150218-01	Water	2/18/2015 08:30	2/23/2015 10:30
147800002	MW-307D-20150218-01	Water	2/18/2015 09:00	2/23/2015 10:30

CERTIFICATE OF ANALYSIS
This report shall not be reproduced, except in full,
without the written consent of Microseeps/Pace Analytical Energy Services, LLC.

Microseeps/Pace Analytical Energy Services, LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

PROJECT SUMMARY

Workorder: 14780 1502F52

Workorder Comments

This report is being re-issued following corrections made to the project name; changed from 1502FS2 to 1502F52; 03/11/2015.

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Microseeps/Pace Analytical Energy Services, LLC.

Microseeps/Pace Analytical Energy Services, LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 14780 1502F52

Lab ID: **147800001** Date Received: 2/23/2015 10:30 Matrix: Water

Sample ID: **MW-306D-20150218-01** Date Collected: 2/18/2015 08:30

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
RISK - MICR										
Analysis Desc: AM20GAX			Analytical Method: AM20GAX							
Carbon Dioxide	**5.0 U**	mg/l	5.0	0.36	1			3/3/2015 12:10	GT	n
Oxygen	**9.7**	mg/l	0.50	0.048	1			3/3/2015 12:10	GT	n
Nitrogen	**22**	mg/l	2.0	0.16	1			3/3/2015 12:10	GT	n
Carbon Monoxide	**1.0 U**	mg/l	1.0	0.11	1			3/3/2015 12:10	GT	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Microseeps/Pace Analytical Energy Services, LLC.

Microseeps/Pace Analytical Energy Services, LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 14780 1502F52

Lab ID: **147800002** Date Received: 2/23/2015 10:30 Matrix: Water

Sample ID: **MW-307D-20150218-01** Date Collected: 2/18/2015 09:00

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
RISK - MICR										
Analysis Desc: AM20GAX			Analytical Method: AM20GAX							
Carbon Dioxide	**5.0 U**	mg/l	5.0	0.36	1			3/3/2015 12:23	GT	n
Oxygen	**8.2**	mg/l	0.50	0.048	1			3/3/2015 12:23	GT	n
Nitrogen	**24**	mg/l	2.0	0.16	1			3/3/2015 12:23	GT	n
Carbon Monoxide	**1.0 U**	mg/l	1.0	0.11	1			3/3/2015 12:23	GT	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Microseeps/Pace Analytical Energy Services, LLC.

Microseeps/Pace Analytical Energy Services, LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS QUALIFIERS

Workorder: 14780 1502F52

DEFINITIONS/QUALIFIERS

Disclaimer : The Pennsylvania Department of Environmental Protection (PADEP) has decided to no longer recognize analyses that do not produce data for primary compliance, for NELAP accreditation. The methods affected by this decision are AM20GAx, AM21G, SW846 7199 and AM4.02. The laboratory shall continue to administer the NELAP/TNI standard requirements in the performance of these methods.

MDL	Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.
PQL	Practical Quanitation Limit. Can be used synonymously with LOQ; Limit Of Quantitation.
ND	Not detected at or above reporting limit.
DF	Dilution Factor.
S	Surrogate.
RPD	Relative Percent Difference.
% Rec	Percent Recovery.
U	Indicates the compound was analyzed for, but not detected at or above the noted concentration.
J	Estimated concentration greater than the set method detection limit (MDL) and less than the set reporting limit (PQL).
n	The laboratory does not hold NELAP/TNI accreditation for this method or analyte.

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Microseeps/Pace Analytical Energy Services, LLC.

Microseeps/Pace Analytical Energy Services, LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

QUALITY CONTROL DATA

Workorder: 14780 1502F52

QC Batch: DISG/4406 Analysis Method: AM20GAX

QC Batch Method: AM20GAX

Associated Lab Samples: 147800001, 147800002

METHOD BLANK: 33534

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
RISK				
Carbon Dioxide	mg/l	5.0 U	5.0	n
Oxygen	mg/l	0.50 U	0.50	n
Nitrogen	mg/l	2.0 U	2.0	n
Carbon Monoxide	mg/l	1.0 U	1.0	n

LABORATORY CONTROL SAMPLE & LCSD: 33536 33538

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
RISK										
Carbon Dioxide	mg/l	120	130	130	111	109	80-120	1.8	20	n
Oxygen	mg/l	11	13	13	113	113	80-120	0	20	n
Nitrogen	mg/l	140	140	140	101	101	80-120	0	20	n
Carbon Monoxide	mg/l	2	2.2	2.3	110	117	80-120	6.2	20	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Microseeps/Pace Analytical Energy Services, LLC.

Microseeps/Pace Analytical Energy Services, LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

QUALITY CONTROL DATA QUALIFIERS

Workorder: 14780 1502F52

QUALITY CONTROL PARAMETER QUALIFIERS

n	The laboratory does not hold NELAP/TNI accreditation for this method or analyte.

CERTIFICATE OF ANALYSIS
This report shall not be reproduced, except in full,
without the written consent of Microseeps/Pace Analytical Energy Services, LLC.

Microseeps/Pace Analytical Energy Services, LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 14780 1502F52

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
147800001	MW-306D-20150218-01			AM20GAX	DISG/4406
147800002	MW-307D-20150218-01			AM20GAX	DISG/4406

CERTIFICATE OF ANALYSIS
This report shall not be reproduced, except in full,
without the written consent of Microseeps/Pace Analytical Energy Services, LLC.

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

14780

CHAIN OF CUSTODY

Work Order: _____

Date: _____ Page _____ of _____

COMPANY:	ADDRESS:
PHONE:	FAX:
SAMPLED BY:	SIGNATURE:

ANALYSIS REQUESTED: O2, N2, CO2, CH4

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

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	PRESERVATION (See codes)	REMARKS	No # of Containers
1	MW-306D-20150218-01	2-18-15	08:30			GW	X		
2	MW-307D-20150218-01	"	09:00			GW	X		
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:	2/20/15	1: KARL PACE	2.23.15 1030
2:		2: 1°C	
3:		3:	

PROJECT INFORMATION

PROJECT NAME: 1502FS2

PROJECT #:

SITE ADDRESS:

SEND REPORT TO: mkaraic@aesatlanta.com

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: _____ PO#: _____

RECEIPT

Total # of Containers

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

STATE PROGRAM (if any): _____

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

DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD

OUT / / VIA:

IN / / VIA:

CLIENT FedEx UPS MAIL COURIER

GREYHOUND OTHER_____

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

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

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

White Copy - Original; Yellow Copy - Client

Mark Mikesell

From: Robbin Robl
Sent: Wednesday, March 11, 2015 12:30 PM
To: Mark Mikesell
Subject: FW: 1502FS2
Attachments: AES 14780 inv.pdf; AES 14780.pdf

Please see below – she needs some kind of explanation for the "n" qualifier and a reissued report.

From: Sharissa Hall [mailto:shall@aesatlanta.com]
Sent: Monday, March 09, 2015 2:58 PM
To: Robbin Robl
Cc: mkararic@aesatlanta.com
Subject: FW: 1502FS2

33410
33412
33414

missing "n" DIS 03/15/4387 03/15

Hello Robbin,

I have a question regarding the reports for your work orders 14748 1502E13 and 14780 1502FS2. For 14748 1502E13, there were no "n" qualifiers reporting but they are reporting for 14780 1502FS2. If this is correct, can you let me know why. Also, for 14780 1502FS2, the AES project name should be 1502F52 instead of 1502FS2. Please update.

Thank you for your assistance.

Sharissa Hall

Analytical Environmental Services, Inc
3080 Presidential Drive
Atlanta, GA 30340
Tel.: (770) 457-8177 Ext 247
Fax: (770) 457-8188

NOTICE OF CONFIDENTIALITY: The information in this email and / or attachments may be legally privileged and is confidential information intended for the use of the individual or entity named in the email address. If the reader of this message is not the intended recipient, you are hereby notified that any use, dissemination, distribution, or copy of this email and / or attachments is strictly prohibited. If you have received this email in error, please notify Analytical Environmental Services Customer Service by telephone at (770) 457-8177 or by email at info@aesatlanta.com and delete the message. Thank you.

From: Mirzeta Kararic [mailto:mkararic@aesatlanta.com]
Sent: Friday, March 06, 2015 8:17 AM
To: shall@aesatlanta.com
Subject: FW: 1502FS2

See attached

Thanks!

Mirzeta Kararic
Project Manager
Analytical Environmental Services, Inc
3080 Presidential Drive
Atlanta, GA 30340
Tel.: (770) 457-8177 ext.245
Fax: (770) 457-8188

From: Robbin Robl [mailto:rrobl@microseeps.com]
Sent: Thursday, March 05, 2015 4:51 PM
To: mkararic@aesatlanta.com
Cc: njessupt@aesatlanta.com
Subject: 1502FS2

Please see attached data and invoice.

Robbin Robl
Pace Analytical Energy Services, LLC
220 William Pitt Way
Pittsburgh, PA 15238
Direct: 412-826-4483
Fax: 412-826-3433
Main: 412-826-5245

Disclaimer: This message contains confidential information and is intended only for the individual(s) named. If you are not the named addressee, you should permanently delete this e-mail from your system and should not disseminate, distribute or copy this e-mail. E-mail transmission cannot be guaranteed to be secure or error-free as information delivered over the internet could be corrupted, lost, destroyed, delayed, or contain viruses.

Cooler Receipt Form

Client Name: AES **Project:** 1502 FS2 **Lab Work Order:** 14780

A. **Shipping/Container Information** (circle appropriate response)

Courier: (FedEx) UPS USPS Client Other:_____ **Air bill Present:** (Yes) No

Tracking Number: 6251 6584 7787

Custody Seal on Cooler/Box Present: (Yes) No **Seals Intact:** (Yes) No

Cooler/Box Packing Material: (Bubble Wrap) Absorbent Foam Other:_____

Type of Ice: (Wet) Blue None **Ice Intact:** (Yes) Melted

Cooler Temperature: 1°C **Radiation Screened:** Yes (No) **Chain of Custody Present:** (Yes) No

Comments:_____

B. **Laboratory Assignment/Log-in** (check appropriate response)

	YES	NO	N/A	Comment Reference non-Conformance
Chain of Custody properly filled out	✓			
Chain of Custody relinquished	✓			
Sampler Name & Signature on COC		✓		
Containers intact	✓			
Were samples in separate bags	✓			
Sample container labels match COC Sample name/date and time collected	✓			
Sufficient volume provided	✓			
PAES containers used	✓			
Are containers properly preserved for the requested testing? (as labeled)	✓			
If an unknown preservation state, were containers checked? Exception: VOA's coliform			✓	If yes, see pH form.
Was volume for dissolved testing field filtered, as noted on the COC? Was volume received in a preserved container?			✓	

Comments:_____

Cooler contents examined/received by : 2.23.15 **Date:** LY

Project Manager Review : RR **Date:** 2/23/15

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

May 07, 2015

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

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

RE: AGLC Macon

Dear Nic Vrey: Order No: 1504N02

Analytical Environmental Services, Inc. received 5 samples on 4/28/2015 7:45:00 AM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/14-06/30/15.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/15.

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

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

Mirzeta Kararic

Mirzeta Kararic
Project Manager

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

CHAIN OF CUSTODY

Work Order: 1504N02

Date: _____ Page _____ of _____

COMPANY:	ADDRESS:
ERM	3200 Windy Hill Rd SE Ste 150W Atlanta, GA 30339
PHONE: 678-230-7604	FAX:
SAMPLED BY: Don Downing Will Virgo	SIGNATURE: Donald Downing

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	8260 BTEX	8270C	Total Metals	Total Cyanide	No # of Containers
1	TB-01-20150427-01	4-27-15	—	X		W	X				2
2	MW-205-20150427-01	4-27-15	1711	X		GW	X	X	X	X	6
3	AMW-2-20150427-01	4-27-15	1720	X		GW	X	X	X	X	6
4	MW-08D-20150427-01	4-27-15	1910	X		GW	X	X	X	X	6
5	MW-08-20150427-01	4-27-15	1922	X		GW	X	X	X	X	6
6											
7											
8											
9											
10											
11											
12											
13											
14											

PRESERVATION (See codes)

REMARKS

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

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: Donald Downing	4/27/15 2200	1: AES - drop box	
2:		2:	4/28/15 7:45
3:		3:	

SPECIAL INSTRUCTIONS/COMMENTS:

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

PROJECT INFORMATION
PROJECT NAME: AGC Macon
PROJECT #:
SITE ADDRESS: Macon, GA
SEND REPORT TO: Adria Reimer Nic Vroy
INVOICE TO:
(IF DIFFERENT FROM ABOVE)
QUOTE #: _____ PO#: _____

RECEIPT
Total # of Containers: 26

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

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

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

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

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

White Copy - Original; Yellow Copy - Client

Client: ERM-Southeast
Project: AGLC Macon
Lab ID: 1504N02

Case Narrative

PAH Analysis by Method 8270D SIM:

Matrix spike and matrix spike duplicate analyses were not performed with Batch 206672 due to insufficient sample volume.

Analytical Environmental Services, Inc **Date:** 7-May-15

Client:	ERM-Southeast	**Client Sample ID:**	TB-01-20150427-01
Project Name:	AGLC Macon	**Collection Date:**	4/27/2015
Lab ID:	1504N02-001	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	206673	1	04/30/2015 13:07	NP
Carbon disulfide	BRL	5.0		ug/L	206673	1	04/30/2015 13:07	NP
Ethylbenzene	BRL	5.0		ug/L	206673	1	04/30/2015 13:07	NP
Toluene	BRL	5.0		ug/L	206673	1	04/30/2015 13:07	NP
Xylenes, Total	BRL	5.0		ug/L	206673	1	04/30/2015 13:07	NP
Surr: 4-Bromofluorobenzene	94	70.6-123		%REC	206673	1	04/30/2015 13:07	NP
Surr: Dibromofluoromethane	104	78.7-124		%REC	206673	1	04/30/2015 13:07	NP
Surr: Toluene-d8	105	81.3-120		%REC	206673	1	04/30/2015 13:07	NP

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 7-May-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-205-20150427-01
Project Name:	AGLC Macon	**Collection Date:**	4/27/2015 5:11:00 PM
Lab ID:	1504N02-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	66	5.0		ug/L	206673	1	04/30/2015 15:00	NP
Carbon disulfide	BRL	5.0		ug/L	206673	1	04/30/2015 15:00	NP
Ethylbenzene	150	5.0		ug/L	206673	1	04/30/2015 15:00	NP
Toluene	13	5.0		ug/L	206673	1	04/30/2015 15:00	NP
Xylenes, Total	100	5.0		ug/L	206673	1	04/30/2015 15:00	NP
Surr: 4-Bromofluorobenzene	106	70.6-123		%REC	206673	1	04/30/2015 15:00	NP
Surr: Dibromofluoromethane	101	78.7-124		%REC	206673	1	04/30/2015 15:00	NP
Surr: Toluene-d8	103	81.3-120		%REC	206673	1	04/30/2015 15:00	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	0.20	0.050		ug/L	206672	1	05/04/2015 12:07	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	206672	1	05/04/2015 12:07	YH
Benzo(a)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 12:07	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 12:07	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	206672	1	05/04/2015 12:07	YH
Surr: 4-Terphenyl-d14	109	55.4-136		%REC	206672	1	05/04/2015 12:07	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	206583	1	04/30/2015 19:42	YH
2-Methylphenol	BRL	10		ug/L	206583	1	04/30/2015 19:42	YH
3,4-Methylphenol	BRL	10		ug/L	206583	1	04/30/2015 19:42	YH
Acenaphthene	72	10		ug/L	206583	1	04/30/2015 19:42	YH
Acenaphthylene	BRL	10		ug/L	206583	1	04/30/2015 19:42	YH
Anthracene	BRL	10		ug/L	206583	1	04/30/2015 19:42	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	206583	1	04/30/2015 19:42	YH
Benzo(k)fluoranthene	BRL	10		ug/L	206583	1	04/30/2015 19:42	YH
Chrysene	BRL	10		ug/L	206583	1	04/30/2015 19:42	YH
Fluoranthene	BRL	10		ug/L	206583	1	04/30/2015 19:42	YH
Fluorene	32	10		ug/L	206583	1	04/30/2015 19:42	YH
Naphthalene	280	100		ug/L	206583	10	05/04/2015 11:12	YH
Phenanthrene	29	10		ug/L	206583	1	04/30/2015 19:42	YH
Phenol	BRL	10		ug/L	206583	1	04/30/2015 19:42	YH
Pyrene	BRL	10		ug/L	206583	1	04/30/2015 19:42	YH
Surr: 2,4,6-Tribromophenol	103	52-133		%REC	206583	1	04/30/2015 19:42	YH
Surr: 2-Fluorobiphenyl	92	50-121		%REC	206583	1	04/30/2015 19:42	YH
Surr: 2-Fluorophenol	50.6	27.5-120		%REC	206583	1	04/30/2015 19:42	YH
Surr: 4-Terphenyl-d14	77.1	46.3-137		%REC	206583	1	04/30/2015 19:42	YH
Surr: Nitrobenzene-d5	94.1	41.2-121		%REC	206583	1	04/30/2015 19:42	YH
Surr: Phenol-d5	33.5	14.3-120		%REC	206583	1	04/30/2015 19:42	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 7-May-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-205-20150427-01
Project Name:	AGLC Macon	**Collection Date:**	4/27/2015 5:11:00 PM
Lab ID:	1504N02-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	206636	1	04/30/2015 17:14	LB
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	206875	1	05/05/2015 15:30	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	206544	1	05/01/2015 23:48	IO
Arsenic	BRL	0.0500		mg/L	206544	1	05/01/2015 23:48	IO
Barium	0.0908	0.0200		mg/L	206544	1	05/01/2015 23:48	IO
Beryllium	BRL	0.0100		mg/L	206544	1	05/01/2015 23:48	IO
Cadmium	BRL	0.0050		mg/L	206544	1	05/01/2015 23:48	IO
Chromium	BRL	0.0100		mg/L	206544	1	05/01/2015 23:48	IO
Copper	BRL	0.0100		mg/L	206544	1	05/01/2015 23:48	IO
Lead	BRL	0.0100		mg/L	206544	1	05/01/2015 23:48	IO
Nickel	BRL	0.0200		mg/L	206544	1	05/01/2015 23:48	IO
Zinc	BRL	0.0200		mg/L	206544	1	05/01/2015 23:48	IO

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 7-May-15

Client:	ERM-Southeast	**Client Sample ID:**	AMW-2-20150427-01
Project Name:	AGLC Macon	**Collection Date:**	4/27/2015 5:20:00 PM
Lab ID:	1504N02-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	206673	1	04/30/2015 13:52	NP
Carbon disulfide	BRL	5.0		ug/L	206673	1	04/30/2015 13:52	NP
Ethylbenzene	BRL	5.0		ug/L	206673	1	04/30/2015 13:52	NP
Toluene	BRL	5.0		ug/L	206673	1	04/30/2015 13:52	NP
Xylenes, Total	BRL	5.0		ug/L	206673	1	04/30/2015 13:52	NP
Surr: 4-Bromofluorobenzene	96.3	70.6-123		%REC	206673	1	04/30/2015 13:52	NP
Surr: Dibromofluoromethane	105	78.7-124		%REC	206673	1	04/30/2015 13:52	NP
Surr: Toluene-d8	105	81.3-120		%REC	206673	1	04/30/2015 13:52	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	206672	1	05/04/2015 12:34	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	206672	1	05/04/2015 12:34	YH
Benzo(a)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 12:34	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 12:34	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	206672	1	05/04/2015 12:34	YH
Surr: 4-Terphenyl-d14	111	55.4-136		%REC	206672	1	05/04/2015 12:34	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	206583	1	04/30/2015 20:08	YH
2-Methylphenol	BRL	10		ug/L	206583	1	04/30/2015 20:08	YH
3,4-Methylphenol	BRL	10		ug/L	206583	1	04/30/2015 20:08	YH
Acenaphthene	BRL	10		ug/L	206583	1	04/30/2015 20:08	YH
Acenaphthylene	BRL	10		ug/L	206583	1	04/30/2015 20:08	YH
Anthracene	BRL	10		ug/L	206583	1	04/30/2015 20:08	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	206583	1	04/30/2015 20:08	YH
Benzo(k)fluoranthene	BRL	10		ug/L	206583	1	04/30/2015 20:08	YH
Chrysene	BRL	10		ug/L	206583	1	04/30/2015 20:08	YH
Fluoranthene	BRL	10		ug/L	206583	1	04/30/2015 20:08	YH
Fluorene	BRL	10		ug/L	206583	1	04/30/2015 20:08	YH
Naphthalene	BRL	10		ug/L	206583	1	04/30/2015 20:08	YH
Phenanthrene	BRL	10		ug/L	206583	1	04/30/2015 20:08	YH
Phenol	BRL	10		ug/L	206583	1	04/30/2015 20:08	YH
Pyrene	BRL	10		ug/L	206583	1	04/30/2015 20:08	YH
Surr: 2,4,6-Tribromophenol	104	52-133		%REC	206583	1	04/30/2015 20:08	YH
Surr: 2-Fluorobiphenyl	90.5	50-121		%REC	206583	1	04/30/2015 20:08	YH
Surr: 2-Fluorophenol	50.6	27.5-120		%REC	206583	1	04/30/2015 20:08	YH
Surr: 4-Terphenyl-d14	79.6	46.3-137		%REC	206583	1	04/30/2015 20:08	YH
Surr: Nitrobenzene-d5	95.7	41.2-121		%REC	206583	1	04/30/2015 20:08	YH
Surr: Phenol-d5	34.8	14.3-120		%REC	206583	1	04/30/2015 20:08	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 7-May-15

Client:	ERM-Southeast	**Client Sample ID:**	AMW-2-20150427-01
Project Name:	AGLC Macon	**Collection Date:**	4/27/2015 5:20:00 PM
Lab ID:	1504N02-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	206636	1	04/30/2015 17:16	LB
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	206875	1	05/05/2015 15:30	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	206544	1	05/01/2015 23:52	IO
Arsenic	BRL	0.0500		mg/L	206544	1	05/01/2015 23:52	IO
Barium	0.111	0.0200		mg/L	206544	1	05/01/2015 23:52	IO
Beryllium	BRL	0.0100		mg/L	206544	1	05/01/2015 23:52	IO
Cadmium	0.0070	0.0050		mg/L	206544	1	05/01/2015 23:52	IO
Chromium	BRL	0.0100		mg/L	206544	1	05/01/2015 23:52	IO
Copper	BRL	0.0100		mg/L	206544	1	05/01/2015 23:52	IO
Lead	BRL	0.0100		mg/L	206544	1	05/01/2015 23:52	IO
Nickel	BRL	0.0200		mg/L	206544	1	05/01/2015 23:52	IO
Zinc	0.0914	0.0200		mg/L	206544	1	05/01/2015 23:52	IO

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 7-May-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-08D-20150427-01
Project Name:	AGLC Macon	**Collection Date:**	4/27/2015 7:10:00 PM
Lab ID:	1504N02-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	206673	1	04/30/2015 14:15	NP
Carbon disulfide	BRL	5.0		ug/L	206673	1	04/30/2015 14:15	NP
Ethylbenzene	BRL	5.0		ug/L	206673	1	04/30/2015 14:15	NP
Toluene	BRL	5.0		ug/L	206673	1	04/30/2015 14:15	NP
Xylenes, Total	BRL	5.0		ug/L	206673	1	04/30/2015 14:15	NP
Surr: 4-Bromofluorobenzene	92	70.6-123		%REC	206673	1	04/30/2015 14:15	NP
Surr: Dibromofluoromethane	106	78.7-124		%REC	206673	1	04/30/2015 14:15	NP
Surr: Toluene-d8	105	81.3-120		%REC	206673	1	04/30/2015 14:15	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	206672	1	05/04/2015 13:29	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	206672	1	05/04/2015 13:29	YH
Benzo(a)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 13:29	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 13:29	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	206672	1	05/04/2015 13:29	YH
Surr: 4-Terphenyl-d14	96.8	55.4-136		%REC	206672	1	05/04/2015 13:29	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	206583	1	04/30/2015 20:34	YH
2-Methylphenol	BRL	10		ug/L	206583	1	04/30/2015 20:34	YH
3,4-Methylphenol	BRL	10		ug/L	206583	1	04/30/2015 20:34	YH
Acenaphthene	BRL	10		ug/L	206583	1	04/30/2015 20:34	YH
Acenaphthylene	BRL	10		ug/L	206583	1	04/30/2015 20:34	YH
Anthracene	BRL	10		ug/L	206583	1	04/30/2015 20:34	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	206583	1	04/30/2015 20:34	YH
Benzo(k)fluoranthene	BRL	10		ug/L	206583	1	04/30/2015 20:34	YH
Chrysene	BRL	10		ug/L	206583	1	04/30/2015 20:34	YH
Fluoranthene	BRL	10		ug/L	206583	1	04/30/2015 20:34	YH
Fluorene	BRL	10		ug/L	206583	1	04/30/2015 20:34	YH
Naphthalene	BRL	10		ug/L	206583	1	04/30/2015 20:34	YH
Phenanthrene	BRL	10		ug/L	206583	1	04/30/2015 20:34	YH
Phenol	BRL	10		ug/L	206583	1	04/30/2015 20:34	YH
Pyrene	BRL	10		ug/L	206583	1	04/30/2015 20:34	YH
Surr: 2,4,6-Tribromophenol	99.7	52-133		%REC	206583	1	04/30/2015 20:34	YH
Surr: 2-Fluorobiphenyl	87.3	50-121		%REC	206583	1	04/30/2015 20:34	YH
Surr: 2-Fluorophenol	48.4	27.5-120		%REC	206583	1	04/30/2015 20:34	YH
Surr: 4-Terphenyl-d14	73.4	46.3-137		%REC	206583	1	04/30/2015 20:34	YH
Surr: Nitrobenzene-d5	87.8	41.2-121		%REC	206583	1	04/30/2015 20:34	YH
Surr: Phenol-d5	34.3	14.3-120		%REC	206583	1	04/30/2015 20:34	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 7-May-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-08D-20150427-01
Project Name:	AGLC Macon	**Collection Date:**	4/27/2015 7:10:00 PM
Lab ID:	1504N02-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	206636	1	04/30/2015 17:18	LB
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	206875	1	05/05/2015 15:30	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	206544	1	05/01/2015 23:55	IO
Arsenic	BRL	0.0500		mg/L	206544	1	05/01/2015 23:55	IO
Barium	0.902	0.0200		mg/L	206544	1	05/01/2015 23:55	IO
Beryllium	BRL	0.0100		mg/L	206544	1	05/01/2015 23:55	IO
Cadmium	BRL	0.0050		mg/L	206544	1	05/01/2015 23:55	IO
Chromium	BRL	0.0100		mg/L	206544	1	05/01/2015 23:55	IO
Copper	BRL	0.0100		mg/L	206544	1	05/01/2015 23:55	IO
Lead	BRL	0.0100		mg/L	206544	1	05/01/2015 23:55	IO
Nickel	BRL	0.0200		mg/L	206544	1	05/01/2015 23:55	IO
Zinc	BRL	0.0200		mg/L	206544	1	05/01/2015 23:55	IO

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 7-May-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-08-20150427-01
Project Name:	AGLC Macon	**Collection Date:**	4/27/2015 7:22:00 PM
Lab ID:	1504N02-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	206673	1	04/30/2015 14:38	NP
Carbon disulfide	BRL	5.0		ug/L	206673	1	04/30/2015 14:38	NP
Ethylbenzene	BRL	5.0		ug/L	206673	1	04/30/2015 14:38	NP
Toluene	BRL	5.0		ug/L	206673	1	04/30/2015 14:38	NP
Xylenes, Total	BRL	5.0		ug/L	206673	1	04/30/2015 14:38	NP
Surr: 4-Bromofluorobenzene	93.3	70.6-123		%REC	206673	1	04/30/2015 14:38	NP
Surr: Dibromofluoromethane	103	78.7-124		%REC	206673	1	04/30/2015 14:38	NP
Surr: Toluene-d8	105	81.3-120		%REC	206673	1	04/30/2015 14:38	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	206672	1	05/04/2015 13:56	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	206672	1	05/04/2015 13:56	YH
Benzo(a)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 13:56	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 13:56	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	206672	1	05/04/2015 13:56	YH
Surr: 4-Terphenyl-d14	100	55.4-136		%REC	206672	1	05/04/2015 13:56	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	206583	1	04/30/2015 21:00	YH
2-Methylphenol	BRL	10		ug/L	206583	1	04/30/2015 21:00	YH
3,4-Methylphenol	BRL	10		ug/L	206583	1	04/30/2015 21:00	YH
Acenaphthene	BRL	10		ug/L	206583	1	04/30/2015 21:00	YH
Acenaphthylene	BRL	10		ug/L	206583	1	04/30/2015 21:00	YH
Anthracene	BRL	10		ug/L	206583	1	04/30/2015 21:00	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	206583	1	04/30/2015 21:00	YH
Benzo(k)fluoranthene	BRL	10		ug/L	206583	1	04/30/2015 21:00	YH
Chrysene	BRL	10		ug/L	206583	1	04/30/2015 21:00	YH
Fluoranthene	BRL	10		ug/L	206583	1	04/30/2015 21:00	YH
Fluorene	BRL	10		ug/L	206583	1	04/30/2015 21:00	YH
Naphthalene	BRL	10		ug/L	206583	1	04/30/2015 21:00	YH
Phenanthrene	BRL	10		ug/L	206583	1	04/30/2015 21:00	YH
Phenol	BRL	10		ug/L	206583	1	04/30/2015 21:00	YH
Pyrene	BRL	10		ug/L	206583	1	04/30/2015 21:00	YH
Surr: 2,4,6-Tribromophenol	98	52-133		%REC	206583	1	04/30/2015 21:00	YH
Surr: 2-Fluorobiphenyl	84.9	50-121		%REC	206583	1	04/30/2015 21:00	YH
Surr: 2-Fluorophenol	47.6	27.5-120		%REC	206583	1	04/30/2015 21:00	YH
Surr: 4-Terphenyl-d14	71.4	46.3-137		%REC	206583	1	04/30/2015 21:00	YH
Surr: Nitrobenzene-d5	89.2	41.2-121		%REC	206583	1	04/30/2015 21:00	YH
Surr: Phenol-d5	32.9	14.3-120		%REC	206583	1	04/30/2015 21:00	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 7-May-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-08-20150427-01
Project Name:	AGLC Macon	**Collection Date:**	4/27/2015 7:22:00 PM
Lab ID:	1504N02-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	206636	1	04/30/2015 17:20	LB
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	206875	1	05/05/2015 15:30	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	206544	1	05/01/2015 23:59	IO
Arsenic	BRL	0.0500		mg/L	206544	1	05/01/2015 23:59	IO
Barium	0.0725	0.0200		mg/L	206544	1	05/01/2015 23:59	IO
Beryllium	BRL	0.0100		mg/L	206544	1	05/01/2015 23:59	IO
Cadmium	BRL	0.0050		mg/L	206544	1	05/01/2015 23:59	IO
Chromium	BRL	0.0100		mg/L	206544	1	05/01/2015 23:59	IO
Copper	BRL	0.0100		mg/L	206544	1	05/01/2015 23:59	IO
Lead	BRL	0.0100		mg/L	206544	1	05/01/2015 23:59	IO
Nickel	BRL	0.0200		mg/L	206544	1	05/01/2015 23:59	IO
Zinc	BRL	0.0200		mg/L	206544	1	05/01/2015 23:59	IO

Qualifiers:

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

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM SE Work Order Number 1504N02

Checklist completed by Ioana Pacurar 4/08/15
Signature Date

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

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

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

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

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

Cooler #1 3.5°C Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

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

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

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

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

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

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

Adjusted? _____ Checked by IP

Sample Condition: Good ✓ Other(Explain) _____

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

See Case Narrative for resolution of the Non-Conformance.

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

Client: ERM-Southeast
Project Name: AGLC Macon
Workorder: 1504N02

ANALYTICAL QC SUMMARY REPORT

BatchID: 206544

Sample ID: **MB-206544** Client ID: Units: **mg/L** Prep Date: **04/28/2015** Run No: **290861**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **206544** Analysis Date: **04/30/2015** Seq No: **6187540**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	0.0200									
Arsenic	BRL	0.0500									
Barium	BRL	0.0200									
Beryllium	BRL	0.0100									
Cadmium	BRL	0.0050									
Chromium	BRL	0.0100									
Copper	BRL	0.0100									
Lead	BRL	0.0100									
Nickel	BRL	0.0200									
Zinc	BRL	0.0200									

Sample ID: **LCS-206544** Client ID: Units: **mg/L** Prep Date: **04/28/2015** Run No: **290861**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **206544** Analysis Date: **04/30/2015** Seq No: **6187541**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.089	0.0200	1.000		109	80	120				
Arsenic	1.062	0.0500	1.000		106	80	120				
Barium	1.086	0.0200	1.000		109	80	120				
Beryllium	1.067	0.0100	1.000		107	80	120				
Cadmium	1.073	0.0050	1.000		107	80	120				
Chromium	1.086	0.0100	1.000	0.0004624	109	80	120				
Copper	1.088	0.0100	1.000		109	80	120				
Lead	1.042	0.0100	1.000		104	80	120				
Nickel	1.068	0.0200	1.000		107	80	120				
Zinc	1.055	0.0200	1.000		106	80	120				

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon
Workorder: 1504N02

ANALYTICAL QC SUMMARY REPORT

BatchID: 206544

Sample ID: **1504O11-003BMS** Client ID: Units: **mg/L** Prep Date: **04/28/2015** Run No: **290861**
SampleType: **MS** TestCode: **METALS, TOTAL SW6010C** BatchID: **206544** Analysis Date: **04/30/2015** Seq No: **6187545**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.042	0.0200	1.000		104	75	125				
Arsenic	1.022	0.0500	1.000	0.008908	101	75	125				
Barium	1.103	0.0200	1.000	0.06012	104	75	125				
Beryllium	1.030	0.0100	1.000		103	75	125				
Cadmium	1.034	0.0050	1.000		103	75	125				
Chromium	1.048	0.0100	1.000	0.003668	104	75	125				
Copper	1.057	0.0100	1.000	0.004269	105	75	125				
Lead	1.001	0.0100	1.000		100	75	125				
Nickel	1.036	0.0200	1.000	0.01124	102	75	125				
Zinc	1.048	0.0200	1.000	0.03600	101	75	125				

Sample ID: **1504O11-003BMSD** Client ID: Units: **mg/L** Prep Date: **04/28/2015** Run No: **290861**
SampleType: **MSD** TestCode: **METALS, TOTAL SW6010C** BatchID: **206544** Analysis Date: **04/30/2015** Seq No: **6187546**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.048	0.0200	1.000		105	75	125	1.042	0.564	20	
Arsenic	1.030	0.0500	1.000	0.008908	102	75	125	1.022	0.724	20	
Barium	1.104	0.0200	1.000	0.06012	104	75	125	1.103	0.053	20	
Beryllium	1.033	0.0100	1.000		103	75	125	1.030	0.278	20	
Cadmium	1.033	0.0050	1.000		103	75	125	1.034	0.120	20	
Chromium	1.050	0.0100	1.000	0.003668	105	75	125	1.048	0.182	20	
Copper	1.060	0.0100	1.000	0.004269	106	75	125	1.057	0.274	20	
Lead	1.001	0.0100	1.000		100	75	125	1.001	0.059	20	
Nickel	1.038	0.0200	1.000	0.01124	103	75	125	1.036	0.189	20	
Zinc	1.051	0.0200	1.000	0.03600	101	75	125	1.048	0.254	20	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon
Workorder: 1504N02

ANALYTICAL QC SUMMARY REPORT

BatchID: 206583

Sample ID: **MB-206583** Client ID: Units: **ug/L** Prep Date: **04/29/2015** Run No: **290796**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **206583** Analysis Date: **04/29/2015** Seq No: **6187315**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	10									
2-Methylphenol	BRL	10									
3,4-Methylphenol	BRL	10									
Acenaphthene	BRL	10									
Acenaphthylene	BRL	10									
Anthracene	BRL	10									
Benzo(g,h,i)perylene	BRL	10									
Benzo(k)fluoranthene	BRL	10									
Chrysene	BRL	10									
Fluoranthene	BRL	10									
Fluorene	BRL	10									
Naphthalene	BRL	10									
Phenanthrene	BRL	10									
Phenol	BRL	10									
Pyrene	BRL	10									
Surr: 2,4,6-Tribromophenol	66.51	0	100.0		66.5	52	133				
Surr: 2-Fluorobiphenyl	34.24	0	50.00		68.5	50	121				
Surr: 2-Fluorophenol	46.46	0	100.0		46.5	27.5	120				
Surr: 4-Terphenyl-d14	35.46	0	50.00		70.9	46.3	137				
Surr: Nitrobenzene-d5	30.13	0	50.00		60.3	41.2	121				
Surr: Phenol-d5	34.70	0	100.0		34.7	14.3	120				

Sample ID: **LCS-206583** Client ID: Units: **ug/L** Prep Date: **04/29/2015** Run No: **290796**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **206583** Analysis Date: **04/29/2015** Seq No: **6187316**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	98.85	10	100.0		98.8	68.2	124				
Phenol	44.24	10	100.0		44.2	25.6	120				

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon
Workorder: 1504N02

ANALYTICAL QC SUMMARY REPORT

BatchID: 206583

Sample ID: **LCS-206583** Client ID: Units: **ug/L** Prep Date: **04/29/2015** Run No: **290796**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **206583** Analysis Date: **04/29/2015** Seq No: **6187316**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Pyrene	101.8	10	100.0		102	70.1	124				
Surr: 2,4,6-Tribromophenol	100.6	0	100.0		101	52	133				
Surr: 2-Fluorobiphenyl	52.19	0	50.00		104	50	121				
Surr: 2-Fluorophenol	65.56	0	100.0		65.6	27.5	120				
Surr: 4-Terphenyl-d14	53.02	0	50.00		106	46.3	137				
Surr: Nitrobenzene-d5	44.07	0	50.00		88.1	41.2	121				
Surr: Phenol-d5	58.97	0	100.0		59.0	14.3	120				

Sample ID: **1504M56-002BMS** Client ID: Units: **ug/L** Prep Date: **04/29/2015** Run No: **290796**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **206583** Analysis Date: **04/29/2015** Seq No: **6187318**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	77.39	10	100.0		77.4	53.9	120				
Phenol	45.25	10	100.0		45.2	31	120				
Pyrene	78.97	10	100.0		79.0	53	112				
Surr: 2,4,6-Tribromophenol	85.90	0	100.0		85.9	52	133				
Surr: 2-Fluorobiphenyl	41.13	0	50.00		82.3	50	121				
Surr: 2-Fluorophenol	61.50	0	100.0		61.5	27.5	120				
Surr: 4-Terphenyl-d14	41.49	0	50.00		83.0	46.3	137				
Surr: Nitrobenzene-d5	34.10	0	50.00		68.2	41.2	121				
Surr: Phenol-d5	59.80	0	100.0		59.8	14.3	120				

Sample ID: **1504M56-002BMSD** Client ID: Units: **ug/L** Prep Date: **04/29/2015** Run No: **290796**
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **206583** Analysis Date: **04/29/2015** Seq No: **6187319**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	80.86	10	100.0		80.9	53.9	120	77.39	4.39	22.5	
Phenol	50.25	10	100.0		50.2	31	120	45.25	10.5	31.9	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon
Workorder: 1504N02

ANALYTICAL QC SUMMARY REPORT

BatchID: 206583

Sample ID: **1504M56-002BMSD** Client ID:
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/L** Prep Date: **04/29/2015** Run No: **290796**
BatchID: **206583** Analysis Date: **04/29/2015** Seq No: **6187319**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Pyrene	81.72	10	100.0		81.7	53	112	78.97	3.42	22.3	
Surr: 2,4,6-Tribromophenol	82.60	0	100.0		82.6	52	133	85.90	0	0	
Surr: 2-Fluorobiphenyl	39.87	0	50.00		79.7	50	121	41.13	0	0	
Surr: 2-Fluorophenol	59.25	0	100.0		59.2	27.5	120	61.50	0	0	
Surr: 4-Terphenyl-d14	40.14	0	50.00		80.3	46.3	137	41.49	0	0	
Surr: Nitrobenzene-d5	34.00	0	50.00		68.0	41.2	121	34.10	0	0	
Surr: Phenol-d5	62.86	0	100.0		62.9	14.3	120	59.80	0	0	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon
Workorder: 1504N02

ANALYTICAL QC SUMMARY REPORT

BatchID: 206636

Sample ID: **MB-206636**	Client ID:					Units: **mg/L**		Prep Date: **04/30/2015**		Run No: **290937**
SampleType: **MBLK**	TestCode: **Mercury, Total SW7470A**					BatchID: **206636**		Analysis Date: **04/30/2015**		Seq No: **6189355**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit Qual
Mercury	BRL	0.00020								

Sample ID: **LCS-206636**	Client ID:					Units: **mg/L**		Prep Date: **04/30/2015**		Run No: **290937**
SampleType: **LCS**	TestCode: **Mercury, Total SW7470A**					BatchID: **206636**		Analysis Date: **04/30/2015**		Seq No: **6189356**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit Qual
Mercury	0.005085	0.00020	0.0050	0.00004844	101	80	120			

Sample ID: **1504O11-005BMS**	Client ID:					Units: **mg/L**		Prep Date: **04/30/2015**		Run No: **290937**
SampleType: **MS**	TestCode: **Mercury, Total SW7470A**					BatchID: **206636**		Analysis Date: **04/30/2015**		Seq No: **6189358**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit Qual
Mercury	0.004865	0.00020	0.0050	0.00004738	96.4	70	130			

Sample ID: **1504O11-005BMSD**	Client ID:					Units: **mg/L**		Prep Date: **04/30/2015**		Run No: **290937**
SampleType: **MSD**	TestCode: **Mercury, Total SW7470A**					BatchID: **206636**		Analysis Date: **04/30/2015**		Seq No: **6189359**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit Qual
Mercury	0.004896	0.00020	0.0050	0.00004738	97.0	70	130	0.004865	0.644	20

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon
Workorder: 1504N02

ANALYTICAL QC SUMMARY REPORT

BatchID: 206672

Sample ID: **MB-206672** Client ID: Units: **ug/L** Prep Date: **05/01/2015** Run No: **291059**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D** BatchID: **206672** Analysis Date: **05/04/2015** Seq No: **6191738**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	BRL	0.050									
Benzo(a)pyrene	BRL	0.050									
Benzo(b)fluoranthene	BRL	0.10									
Dibenz(a,h)anthracene	BRL	0.10									
Indeno(1,2,3-cd)pyrene	BRL	0.050									
Surr: 4-Terphenyl-d14	2.224	0	2.000		111	55.4	136				

Sample ID: **LCS-206672** Client ID: Units: **ug/L** Prep Date: **05/01/2015** Run No: **291059**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D** BatchID: **206672** Analysis Date: **05/04/2015** Seq No: **6191739**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	1.445	0.050	2.000		72.2	60.6	137				
Benzo(a)pyrene	1.471	0.050	2.000		73.6	64	124				
Benzo(b)fluoranthene	1.445	0.10	2.000		72.2	56.4	133				
Dibenz(a,h)anthracene	1.372	0.10	2.000		68.6	52.4	130				
Indeno(1,2,3-cd)pyrene	1.433	0.050	2.000		71.6	50.4	139				
Surr: 4-Terphenyl-d14	1.636	0	2.000		81.8	55.4	136				

Sample ID: **LCSD-206672** Client ID: Units: **ug/L** Prep Date: **05/01/2015** Run No: **291059**
SampleType: **LCSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D** BatchID: **206672** Analysis Date: **05/04/2015** Seq No: **6191740**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	1.690	0.050	2.000		84.5	60.6	137	1.445	15.6	22.9	
Benzo(a)pyrene	1.741	0.050	2.000		87.1	64	124	1.471	16.8	22.7	
Benzo(b)fluoranthene	1.742	0.10	2.000		87.1	56.4	133	1.445	18.7	20.3	
Dibenz(a,h)anthracene	1.664	0.10	2.000		83.2	52.4	130	1.372	19.2	21.7	
Indeno(1,2,3-cd)pyrene	1.720	0.050	2.000		86.0	50.4	139	1.433	18.3	19.2	
Surr: 4-Terphenyl-d14	1.886	0	2.000		94.3	55.4	136	1.636	0	0	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon
Workorder: 1504N02

ANALYTICAL QC SUMMARY REPORT

BatchID: 206673

Sample ID: **MB-206673** Client ID: Units: **ug/L** Prep Date: **04/30/2015** Run No: **290857**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **206673** Analysis Date: **04/30/2015** Seq No: **6188242**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	5.0									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	47.07	0	50.00		94.1	70.6	123				
Surr: Dibromofluoromethane	51.06	0	50.00		102	78.7	124				
Surr: Toluene-d8	51.11	0	50.00		102	81.3	120				

Sample ID: **LCS-206673** Client ID: Units: **ug/L** Prep Date: **04/30/2015** Run No: **290857**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **206673** Analysis Date: **04/30/2015** Seq No: **6188241**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	52.80	5.0	50.00		106	72.8	128				
Toluene	48.61	5.0	50.00		97.2	74.9	127				
Surr: 4-Bromofluorobenzene	47.37	0	50.00		94.7	70.6	123				
Surr: Dibromofluoromethane	51.18	0	50.00		102	78.7	124				
Surr: Toluene-d8	50.17	0	50.00		100	81.3	120				

Sample ID: **1504O36-002AMS** Client ID: Units: **ug/L** Prep Date: **04/30/2015** Run No: **290857**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **206673** Analysis Date: **04/30/2015** Seq No: **6188981**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	52.30	5.0	50.00	3.380	97.8	70	135				
Toluene	43.67	5.0	50.00		87.3	70.5	137				
Surr: 4-Bromofluorobenzene	50.66	0	50.00		101	70.6	123				
Surr: Dibromofluoromethane	51.66	0	50.00		103	78.7	124				
Surr: Toluene-d8	51.92	0	50.00		104	81.3	120				

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon
Workorder: 1504N02

ANALYTICAL QC SUMMARY REPORT

BatchID: 206673

Sample ID: **1504O36-002AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/L** Prep Date: **04/30/2015** Run No: **290857**
BatchID: **206673** Analysis Date: **04/30/2015** Seq No: **6188982**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	51.13	5.0	50.00	3.380	95.5	70	135	52.30	2.26	20	
Toluene	42.02	5.0	50.00		84.0	70.5	137	43.67	3.85	20	
Surr: 4-Bromofluorobenzene	50.37	0	50.00		101	70.6	123	50.66	0	0	
Surr: Dibromofluoromethane	49.43	0	50.00		98.9	78.7	124	51.66	0	0	
Surr: Toluene-d8	50.79	0	50.00		102	81.3	120	51.92	0	0	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon
Workorder: 1504N02

ANALYTICAL QC SUMMARY REPORT

BatchID: 206875

Sample ID: **MB-206875**	Client ID:					Units: **mg/L**		Prep Date: **05/05/2015**		Run No: **291144**	
SampleType: **MBLK**	TestCode: **Cyanide SW9014**					BatchID: **206875**		Analysis Date: **05/05/2015**		Seq No: **6194162**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	0.010									

Sample ID: **LCS-206875**	Client ID:					Units: **mg/L**		Prep Date: **05/05/2015**		Run No: **291144**	
SampleType: **LCS**	TestCode: **Cyanide SW9014**					BatchID: **206875**		Analysis Date: **05/05/2015**		Seq No: **6194163**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2740	0.010	0.2500		110	85	115				

Sample ID: **1504N02-002DMS**	Client ID: **MW-205-20150427-01**					Units: **mg/L**		Prep Date: **05/05/2015**		Run No: **291144**	
SampleType: **MS**	TestCode: **Cyanide SW9014**					BatchID: **206875**		Analysis Date: **05/05/2015**		Seq No: **6194176**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2296	0.010	0.2500		91.8	70	130				

Sample ID: **1504N02-002DMSD**	Client ID: **MW-205-20150427-01**					Units: **mg/L**		Prep Date: **05/05/2015**		Run No: **291144**	
SampleType: **MSD**	TestCode: **Cyanide SW9014**					BatchID: **206875**		Analysis Date: **05/05/2015**		Seq No: **6194191**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2329	0.010	0.2500		93.2	70	130	0.2296	1.43	20	

Qualifiers:

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

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

May 07, 2015

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

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

RE: AGLC Macon

Dear Nic Vrey: Order No: 1504O39

Analytical Environmental Services, Inc. received 7 samples on 4/29/2015 7:50:00 AM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/14-06/30/15.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/15.

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

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

Mirzeta Kararic

Mirzeta Kararic
Project Manager

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

CHAIN OF CUSTODY

Work Order: 1504039

Date: 4-28-15 Page 1 of 1

COMPANY:	ADDRESS:
ERM	3200 Windy Hill Rd SE Ste 1500W Atlanta, GA 30339
PHONE: 678-230-7604	FAX:
SAMPLED BY: DON DOWLING / WILL VIRGO	SIGNATURE: Donald Dowling

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	8260B-BTEX	8270C-SVOCs	Total Metals	Total cyanide															REMARKS	No # of Containers
	PRESERVATION (See codes)																									
1	TB-02-20150428-01	4-28-15		X			X																			2
2	AMW-11-20150428-01		1005	X			X	X	X	X																7
3	AMW-12-20150428-01		1120	X			X	X	X	X																7
4	AMW-13-20150428-01		1417	X			X	X	X	X																7
5	MW-25-20150428-01		1653	X			X	X	X	X																7
6	AMW-9-20150428-01		1700	X			X	X	X	X																7
7	AMW-1-20150428-01		0745	X			X	X	X	X																
8																										
9																										
10																										
11																										
12																										
13																										
14																										

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

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: Donald Dowling	4-28-15 1940	1: AES Dropbox	4-28-15 1940
2:		2:	4/29/15 7:50
3:			

PROJECT INFORMATION
PROJECT NAME: AGL Macon Remediation
PROJECT #:
SITE ADDRESS: Macon, GA
SEND REPORT TO: Adria Reimes, Nic Vreg
INVOICE TO: (IF DIFFERENT FROM ABOVE)
QUOTE #: PO#:

RECEIPT
Total # of Containers: 37 44

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

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

SPECIAL INSTRUCTIONS/COMMENTS:

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

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

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

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc

Date: 7-May-15

Client: ERM-Southeast
Project: AGLC Macon
Lab ID: 1504O39

Case Narrative

PAH Analysis by Method 8270D SIM:

Matrix spike and matrix spike duplicate analyses were not performed with Batches 206672 and 209771 due to insufficient sample volume.

Analytical Environmental Services, Inc **Date:** 7-May-15

Client:	ERM-Southeast	**Client Sample ID:**	TB-02-20150428-01
Project Name:	AGLC Macon	**Collection Date:**	4/28/2015
Lab ID:	1504O39-001	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	206673	1	04/30/2015 18:24	NP
Carbon disulfide	BRL	5.0		ug/L	206673	1	04/30/2015 18:24	NP
Ethylbenzene	BRL	5.0		ug/L	206673	1	04/30/2015 18:24	NP
Toluene	BRL	5.0		ug/L	206673	1	04/30/2015 18:24	NP
Xylenes, Total	BRL	5.0		ug/L	206673	1	04/30/2015 18:24	NP
Surr: 4-Bromofluorobenzene	92.7	70.6-123		%REC	206673	1	04/30/2015 18:24	NP
Surr: Dibromofluoromethane	100	78.7-124		%REC	206673	1	04/30/2015 18:24	NP
Surr: Toluene-d8	100	81.3-120		%REC	206673	1	04/30/2015 18:24	NP

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 7-May-15

Client:	ERM-Southeast	**Client Sample ID:**	AMW-11-20150428-01
Project Name:	AGLC Macon	**Collection Date:**	4/28/2015 10:05:00 AM
Lab ID:	1504O39-002	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	206673	1	04/30/2015 18:47	NP
Carbon disulfide	BRL	5.0		ug/L	206673	1	04/30/2015 18:47	NP
Ethylbenzene	BRL	5.0		ug/L	206673	1	04/30/2015 18:47	NP
Toluene	BRL	5.0		ug/L	206673	1	04/30/2015 18:47	NP
Xylenes, Total	BRL	5.0		ug/L	206673	1	04/30/2015 18:47	NP
Surr: 4-Bromofluorobenzene	96.2	70.6-123		%REC	206673	1	04/30/2015 18:47	NP
Surr: Dibromofluoromethane	101	78.7-124		%REC	206673	1	04/30/2015 18:47	NP
Surr: Toluene-d8	99.7	81.3-120		%REC	206673	1	04/30/2015 18:47	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	206771	1	05/05/2015 11:42	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	206771	1	05/05/2015 11:42	YH
Benzo(a)pyrene	BRL	0.050		ug/L	206771	1	05/05/2015 11:42	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	206771	1	05/05/2015 11:42	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	206771	1	05/05/2015 11:42	YH
Surr: 4-Terphenyl-d14	102	55.4-136		%REC	206771	1	05/05/2015 11:42	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	206668	1	05/01/2015 18:11	YH
2-Methylphenol	BRL	10		ug/L	206668	1	05/01/2015 18:11	YH
3,4-Methylphenol	BRL	10		ug/L	206668	1	05/01/2015 18:11	YH
Acenaphthene	BRL	10		ug/L	206668	1	05/01/2015 18:11	YH
Acenaphthylene	BRL	10		ug/L	206668	1	05/01/2015 18:11	YH
Anthracene	BRL	10		ug/L	206668	1	05/01/2015 18:11	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	206668	1	05/01/2015 18:11	YH
Benzo(k)fluoranthene	BRL	10		ug/L	206668	1	05/01/2015 18:11	YH
Chrysene	BRL	10		ug/L	206668	1	05/01/2015 18:11	YH
Fluoranthene	BRL	10		ug/L	206668	1	05/01/2015 18:11	YH
Fluorene	BRL	10		ug/L	206668	1	05/01/2015 18:11	YH
Naphthalene	BRL	10		ug/L	206668	1	05/01/2015 18:11	YH
Phenanthrene	BRL	10		ug/L	206668	1	05/01/2015 18:11	YH
Phenol	BRL	10		ug/L	206668	1	05/01/2015 18:11	YH
Pyrene	BRL	10		ug/L	206668	1	05/01/2015 18:11	YH
Surr: 2,4,6-Tribromophenol	96.8	52-133		%REC	206668	1	05/01/2015 18:11	YH
Surr: 2-Fluorobiphenyl	82.1	50-121		%REC	206668	1	05/01/2015 18:11	YH
Surr: 2-Fluorophenol	66.6	27.5-120		%REC	206668	1	05/01/2015 18:11	YH
Surr: 4-Terphenyl-d14	86	46.3-137		%REC	206668	1	05/01/2015 18:11	YH
Surr: Nitrobenzene-d5	87.1	41.2-121		%REC	206668	1	05/01/2015 18:11	YH
Surr: Phenol-d5	55.4	14.3-120		%REC	206668	1	05/01/2015 18:11	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 7-May-15

Client:	ERM-Southeast	**Client Sample ID:**	AMW-11-20150428-01
Project Name:	AGLC Macon	**Collection Date:**	4/28/2015 10:05:00 AM
Lab ID:	1504O39-002	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	206782	1	05/04/2015 17:51	LB
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.015	0.010		mg/L	207018	1	05/06/2015 14:50	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	206767	1	05/05/2015 02:17	IO
Arsenic	BRL	0.0500		mg/L	206767	1	05/05/2015 02:17	IO
Barium	0.0423	0.0200		mg/L	206767	1	05/05/2015 02:17	IO
Beryllium	BRL	0.0100		mg/L	206767	1	05/05/2015 02:17	IO
Cadmium	BRL	0.0050		mg/L	206767	1	05/05/2015 02:17	IO
Chromium	0.177	0.0100		mg/L	206767	1	05/05/2015 02:17	IO
Copper	BRL	0.0100		mg/L	206767	1	05/05/2015 02:17	IO
Lead	BRL	0.0100		mg/L	206767	1	05/05/2015 02:17	IO
Nickel	BRL	0.0200		mg/L	206767	1	05/05/2015 02:17	IO
Zinc	BRL	0.0200		mg/L	206767	1	05/05/2015 02:17	IO

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 7-May-15

Client:	ERM-Southeast	**Client Sample ID:**	AMW-12-20150428-01
Project Name:	AGLC Macon	**Collection Date:**	4/28/2015 11:20:00 AM
Lab ID:	1504O39-003	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	206673	1	04/30/2015 19:09	NP
Carbon disulfide	BRL	5.0		ug/L	206673	1	04/30/2015 19:09	NP
Ethylbenzene	BRL	5.0		ug/L	206673	1	04/30/2015 19:09	NP
Toluene	BRL	5.0		ug/L	206673	1	04/30/2015 19:09	NP
Xylenes, Total	BRL	5.0		ug/L	206673	1	04/30/2015 19:09	NP
Surr: 4-Bromofluorobenzene	94.6	70.6-123		%REC	206673	1	04/30/2015 19:09	NP
Surr: Dibromofluoromethane	102	78.7-124		%REC	206673	1	04/30/2015 19:09	NP
Surr: Toluene-d8	101	81.3-120		%REC	206673	1	04/30/2015 19:09	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	206672	1	05/04/2015 14:23	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	206672	1	05/04/2015 14:23	YH
Benzo(a)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 14:23	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 14:23	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	206672	1	05/04/2015 14:23	YH
Surr: 4-Terphenyl-d14	103	55.4-136		%REC	206672	1	05/04/2015 14:23	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	206668	1	05/01/2015 18:37	YH
2-Methylphenol	BRL	10		ug/L	206668	1	05/01/2015 18:37	YH
3,4-Methylphenol	BRL	10		ug/L	206668	1	05/01/2015 18:37	YH
Acenaphthene	BRL	10		ug/L	206668	1	05/01/2015 18:37	YH
Acenaphthylene	BRL	10		ug/L	206668	1	05/01/2015 18:37	YH
Anthracene	BRL	10		ug/L	206668	1	05/01/2015 18:37	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	206668	1	05/01/2015 18:37	YH
Benzo(k)fluoranthene	BRL	10		ug/L	206668	1	05/01/2015 18:37	YH
Chrysene	BRL	10		ug/L	206668	1	05/01/2015 18:37	YH
Fluoranthene	BRL	10		ug/L	206668	1	05/01/2015 18:37	YH
Fluorene	BRL	10		ug/L	206668	1	05/01/2015 18:37	YH
Naphthalene	BRL	10		ug/L	206668	1	05/01/2015 18:37	YH
Phenanthrene	BRL	10		ug/L	206668	1	05/01/2015 18:37	YH
Phenol	BRL	10		ug/L	206668	1	05/01/2015 18:37	YH
Pyrene	BRL	10		ug/L	206668	1	05/01/2015 18:37	YH
Surr: 2,4,6-Tribromophenol	96.9	52-133		%REC	206668	1	05/01/2015 18:37	YH
Surr: 2-Fluorobiphenyl	84.4	50-121		%REC	206668	1	05/01/2015 18:37	YH
Surr: 2-Fluorophenol	63.2	27.5-120		%REC	206668	1	05/01/2015 18:37	YH
Surr: 4-Terphenyl-d14	87.8	46.3-137		%REC	206668	1	05/01/2015 18:37	YH
Surr: Nitrobenzene-d5	87.7	41.2-121		%REC	206668	1	05/01/2015 18:37	YH
Surr: Phenol-d5	56.8	14.3-120		%REC	206668	1	05/01/2015 18:37	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 7-May-15

Client:	ERM-Southeast	**Client Sample ID:**	AMW-12-20150428-01
Project Name:	AGLC Macon	**Collection Date:**	4/28/2015 11:20:00 AM
Lab ID:	1504O39-003	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	206782	1	05/04/2015 17:53	LB
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	207018	1	05/06/2015 14:50	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	206767	1	05/05/2015 02:20	IO
Arsenic	BRL	0.0500		mg/L	206767	1	05/05/2015 02:20	IO
Barium	0.0428	0.0200		mg/L	206767	1	05/05/2015 02:20	IO
Beryllium	BRL	0.0100		mg/L	206767	1	05/05/2015 02:20	IO
Cadmium	BRL	0.0050		mg/L	206767	1	05/05/2015 02:20	IO
Chromium	0.0157	0.0100		mg/L	206767	1	05/05/2015 02:20	IO
Copper	BRL	0.0100		mg/L	206767	1	05/05/2015 02:20	IO
Lead	BRL	0.0100		mg/L	206767	1	05/05/2015 02:20	IO
Nickel	BRL	0.0200		mg/L	206767	1	05/05/2015 02:20	IO
Zinc	BRL	0.0200		mg/L	206767	1	05/05/2015 02:20	IO

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 7-May-15

Client:	ERM-Southeast	**Client Sample ID:**	AMW-13-20150428-01
Project Name:	AGLC Macon	**Collection Date:**	4/28/2015 2:17:00 PM
Lab ID:	1504O39-004	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	206673	1	04/30/2015 19:32	NP
Carbon disulfide	BRL	5.0		ug/L	206673	1	04/30/2015 19:32	NP
Ethylbenzene	BRL	5.0		ug/L	206673	1	04/30/2015 19:32	NP
Toluene	BRL	5.0		ug/L	206673	1	04/30/2015 19:32	NP
Xylenes, Total	BRL	5.0		ug/L	206673	1	04/30/2015 19:32	NP
Surr: 4-Bromofluorobenzene	95.9	70.6-123		%REC	206673	1	04/30/2015 19:32	NP
Surr: Dibromofluoromethane	104	78.7-124		%REC	206673	1	04/30/2015 19:32	NP
Surr: Toluene-d8	103	81.3-120		%REC	206673	1	04/30/2015 19:32	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	206672	1	05/04/2015 15:16	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	206672	1	05/04/2015 15:16	YH
Benzo(a)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 15:16	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 15:16	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	206672	1	05/04/2015 15:16	YH
Surr: 4-Terphenyl-d14	125	55.4-136		%REC	206672	1	05/04/2015 15:16	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	206668	1	05/01/2015 19:03	YH
2-Methylphenol	BRL	10		ug/L	206668	1	05/01/2015 19:03	YH
3,4-Methylphenol	BRL	10		ug/L	206668	1	05/01/2015 19:03	YH
Acenaphthene	BRL	10		ug/L	206668	1	05/01/2015 19:03	YH
Acenaphthylene	BRL	10		ug/L	206668	1	05/01/2015 19:03	YH
Anthracene	BRL	10		ug/L	206668	1	05/01/2015 19:03	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	206668	1	05/01/2015 19:03	YH
Benzo(k)fluoranthene	BRL	10		ug/L	206668	1	05/01/2015 19:03	YH
Chrysene	BRL	10		ug/L	206668	1	05/01/2015 19:03	YH
Fluoranthene	BRL	10		ug/L	206668	1	05/01/2015 19:03	YH
Fluorene	BRL	10		ug/L	206668	1	05/01/2015 19:03	YH
Naphthalene	BRL	10		ug/L	206668	1	05/01/2015 19:03	YH
Phenanthrene	BRL	10		ug/L	206668	1	05/01/2015 19:03	YH
Phenol	BRL	10		ug/L	206668	1	05/01/2015 19:03	YH
Pyrene	BRL	10		ug/L	206668	1	05/01/2015 19:03	YH
Surr: 2,4,6-Tribromophenol	95.5	52-133		%REC	206668	1	05/01/2015 19:03	YH
Surr: 2-Fluorobiphenyl	82.2	50-121		%REC	206668	1	05/01/2015 19:03	YH
Surr: 2-Fluorophenol	63.3	27.5-120		%REC	206668	1	05/01/2015 19:03	YH
Surr: 4-Terphenyl-d14	86.4	46.3-137		%REC	206668	1	05/01/2015 19:03	YH
Surr: Nitrobenzene-d5	84.4	41.2-121		%REC	206668	1	05/01/2015 19:03	YH
Surr: Phenol-d5	54.5	14.3-120		%REC	206668	1	05/01/2015 19:03	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 7-May-15

Client:	ERM-Southeast	**Client Sample ID:**	AMW-13-20150428-01
Project Name:	AGLC Macon	**Collection Date:**	4/28/2015 2:17:00 PM
Lab ID:	1504O39-004	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	206782	1	05/04/2015 17:55	LB
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	207018	1	05/06/2015 14:50	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	206767	1	05/05/2015 02:24	IO
Arsenic	BRL	0.0500		mg/L	206767	1	05/05/2015 02:24	IO
Barium	0.0488	0.0200		mg/L	206767	1	05/05/2015 02:24	IO
Beryllium	BRL	0.0100		mg/L	206767	1	05/05/2015 02:24	IO
Cadmium	BRL	0.0050		mg/L	206767	1	05/05/2015 02:24	IO
Chromium	BRL	0.0100		mg/L	206767	1	05/05/2015 02:24	IO
Copper	BRL	0.0100		mg/L	206767	1	05/05/2015 02:24	IO
Lead	BRL	0.0100		mg/L	206767	1	05/05/2015 02:24	IO
Nickel	BRL	0.0200		mg/L	206767	1	05/05/2015 02:24	IO
Zinc	BRL	0.0200		mg/L	206767	1	05/05/2015 02:24	IO

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 7-May-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-25-20150428-01
Project Name:	AGLC Macon	**Collection Date:**	4/28/2015 4:33:00 PM
Lab ID:	1504O39-005	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	206673	1	04/30/2015 19:54	NP
Carbon disulfide	BRL	5.0		ug/L	206673	1	04/30/2015 19:54	NP
Ethylbenzene	BRL	5.0		ug/L	206673	1	04/30/2015 19:54	NP
Toluene	BRL	5.0		ug/L	206673	1	04/30/2015 19:54	NP
Xylenes, Total	BRL	5.0		ug/L	206673	1	04/30/2015 19:54	NP
Surr: 4-Bromofluorobenzene	94.2	70.6-123		%REC	206673	1	04/30/2015 19:54	NP
Surr: Dibromofluoromethane	104	78.7-124		%REC	206673	1	04/30/2015 19:54	NP
Surr: Toluene-d8	104	81.3-120		%REC	206673	1	04/30/2015 19:54	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	206672	1	05/04/2015 15:42	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	206672	1	05/04/2015 15:42	YH
Benzo(a)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 15:42	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 15:42	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	206672	1	05/04/2015 15:42	YH
Surr: 4-Terphenyl-d14	100	55.4-136		%REC	206672	1	05/04/2015 15:42	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	206668	1	05/04/2015 12:06	YH
2-Methylphenol	BRL	10		ug/L	206668	1	05/04/2015 12:06	YH
3,4-Methylphenol	BRL	10		ug/L	206668	1	05/04/2015 12:06	YH
Acenaphthene	BRL	10		ug/L	206668	1	05/04/2015 12:06	YH
Acenaphthylene	BRL	10		ug/L	206668	1	05/04/2015 12:06	YH
Anthracene	BRL	10		ug/L	206668	1	05/04/2015 12:06	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	206668	1	05/04/2015 12:06	YH
Benzo(k)fluoranthene	BRL	10		ug/L	206668	1	05/04/2015 12:06	YH
Chrysene	BRL	10		ug/L	206668	1	05/04/2015 12:06	YH
Fluoranthene	BRL	10		ug/L	206668	1	05/04/2015 12:06	YH
Fluorene	BRL	10		ug/L	206668	1	05/04/2015 12:06	YH
Naphthalene	BRL	10		ug/L	206668	1	05/04/2015 12:06	YH
Phenanthrene	BRL	10		ug/L	206668	1	05/04/2015 12:06	YH
Phenol	BRL	10		ug/L	206668	1	05/04/2015 12:06	YH
Pyrene	BRL	10		ug/L	206668	1	05/04/2015 12:06	YH
Surr: 2,4,6-Tribromophenol	91	52-133		%REC	206668	1	05/04/2015 12:06	YH
Surr: 2-Fluorobiphenyl	90.4	50-121		%REC	206668	1	05/04/2015 12:06	YH
Surr: 2-Fluorophenol	69.5	27.5-120		%REC	206668	1	05/04/2015 12:06	YH
Surr: 4-Terphenyl-d14	94.2	46.3-137		%REC	206668	1	05/04/2015 12:06	YH
Surr: Nitrobenzene-d5	75.2	41.2-121		%REC	206668	1	05/04/2015 12:06	YH
Surr: Phenol-d5	64	14.3-120		%REC	206668	1	05/04/2015 12:06	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 7-May-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-25-20150428-01
Project Name:	AGLC Macon	**Collection Date:**	4/28/2015 4:33:00 PM
Lab ID:	1504O39-005	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	206782	1	05/04/2015 17:57	LB
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	207018	1	05/06/2015 14:50	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	206767	1	05/05/2015 02:35	IO
Arsenic	BRL	0.0500		mg/L	206767	1	05/05/2015 02:35	IO
Barium	0.0336	0.0200		mg/L	206767	1	05/05/2015 02:35	IO
Beryllium	BRL	0.0100		mg/L	206767	1	05/05/2015 02:35	IO
Cadmium	BRL	0.0050		mg/L	206767	1	05/05/2015 02:35	IO
Chromium	BRL	0.0100		mg/L	206767	1	05/05/2015 02:35	IO
Copper	BRL	0.0100		mg/L	206767	1	05/05/2015 02:35	IO
Lead	BRL	0.0100		mg/L	206767	1	05/05/2015 02:35	IO
Nickel	BRL	0.0200		mg/L	206767	1	05/05/2015 02:35	IO
Zinc	0.0470	0.0200		mg/L	206767	1	05/05/2015 02:35	IO

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 7-May-15

Client:	ERM-Southeast	**Client Sample ID:**	AMW-9-20150428-01
Project Name:	AGLC Macon	**Collection Date:**	4/28/2015 5:00:00 PM
Lab ID:	1504O39-006	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	206673	1	04/30/2015 20:17	NP
Carbon disulfide	BRL	5.0		ug/L	206673	1	04/30/2015 20:17	NP
Ethylbenzene	BRL	5.0		ug/L	206673	1	04/30/2015 20:17	NP
Toluene	BRL	5.0		ug/L	206673	1	04/30/2015 20:17	NP
Xylenes, Total	BRL	5.0		ug/L	206673	1	04/30/2015 20:17	NP
Surr: 4-Bromofluorobenzene	95.6	70.6-123		%REC	206673	1	04/30/2015 20:17	NP
Surr: Dibromofluoromethane	102	78.7-124		%REC	206673	1	04/30/2015 20:17	NP
Surr: Toluene-d8	102	81.3-120		%REC	206673	1	04/30/2015 20:17	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	206672	1	05/04/2015 16:09	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	206672	1	05/04/2015 16:09	YH
Benzo(a)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 16:09	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 16:09	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	206672	1	05/04/2015 16:09	YH
Surr: 4-Terphenyl-d14	94.2	55.4-136		%REC	206672	1	05/04/2015 16:09	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	206668	1	05/04/2015 16:27	YH
2-Methylphenol	BRL	10		ug/L	206668	1	05/04/2015 16:27	YH
3,4-Methylphenol	BRL	10		ug/L	206668	1	05/04/2015 16:27	YH
Acenaphthene	BRL	10		ug/L	206668	1	05/04/2015 16:27	YH
Acenaphthylene	BRL	10		ug/L	206668	1	05/04/2015 16:27	YH
Anthracene	BRL	10		ug/L	206668	1	05/04/2015 16:27	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	206668	1	05/04/2015 16:27	YH
Benzo(k)fluoranthene	BRL	10		ug/L	206668	1	05/04/2015 16:27	YH
Chrysene	BRL	10		ug/L	206668	1	05/04/2015 16:27	YH
Fluoranthene	BRL	10		ug/L	206668	1	05/04/2015 16:27	YH
Fluorene	BRL	10		ug/L	206668	1	05/04/2015 16:27	YH
Naphthalene	BRL	10		ug/L	206668	1	05/04/2015 16:27	YH
Phenanthrene	BRL	10		ug/L	206668	1	05/04/2015 16:27	YH
Phenol	BRL	10		ug/L	206668	1	05/04/2015 16:27	YH
Pyrene	BRL	10		ug/L	206668	1	05/04/2015 16:27	YH
Surr: 2,4,6-Tribromophenol	90.3	52-133		%REC	206668	1	05/04/2015 16:27	YH
Surr: 2-Fluorobiphenyl	81.1	50-121		%REC	206668	1	05/04/2015 16:27	YH
Surr: 2-Fluorophenol	57	27.5-120		%REC	206668	1	05/04/2015 16:27	YH
Surr: 4-Terphenyl-d14	88.8	46.3-137		%REC	206668	1	05/04/2015 16:27	YH
Surr: Nitrobenzene-d5	64.7	41.2-121		%REC	206668	1	05/04/2015 16:27	YH
Surr: Phenol-d5	50.6	14.3-120		%REC	206668	1	05/04/2015 16:27	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 7-May-15

Client:	ERM-Southeast	**Client Sample ID:**	AMW-9-20150428-01
Project Name:	AGLC Macon	**Collection Date:**	4/28/2015 5:00:00 PM
Lab ID:	1504O39-006	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	206782	1	05/04/2015 17:59	LB
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	207018	1	05/06/2015 14:50	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	206767	1	05/05/2015 02:38	IO
Arsenic	BRL	0.0500		mg/L	206767	1	05/05/2015 02:38	IO
Barium	0.0345	0.0200		mg/L	206767	1	05/05/2015 02:38	IO
Beryllium	BRL	0.0100		mg/L	206767	1	05/05/2015 02:38	IO
Cadmium	BRL	0.0050		mg/L	206767	1	05/05/2015 02:38	IO
Chromium	BRL	0.0100		mg/L	206767	1	05/05/2015 02:38	IO
Copper	BRL	0.0100		mg/L	206767	1	05/05/2015 02:38	IO
Lead	BRL	0.0100		mg/L	206767	1	05/05/2015 02:38	IO
Nickel	BRL	0.0200		mg/L	206767	1	05/05/2015 02:38	IO
Zinc	0.120	0.0200		mg/L	206767	1	05/05/2015 02:38	IO

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 7-May-15

Client:	ERM-Southeast	**Client Sample ID:**	AMW-1-20150428-01
Project Name:	AGLC Macon	**Collection Date:**	4/28/2015 7:15:00 AM
Lab ID:	1504O39-007	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	206673	1	04/30/2015 23:19	NP
Carbon disulfide	BRL	5.0		ug/L	206673	1	04/30/2015 23:19	NP
Ethylbenzene	BRL	5.0		ug/L	206673	1	04/30/2015 23:19	NP
Toluene	BRL	5.0		ug/L	206673	1	04/30/2015 23:19	NP
Xylenes, Total	BRL	5.0		ug/L	206673	1	04/30/2015 23:19	NP
Surr: 4-Bromofluorobenzene	92	70.6-123		%REC	206673	1	04/30/2015 23:19	NP
Surr: Dibromofluoromethane	105	78.7-124		%REC	206673	1	04/30/2015 23:19	NP
Surr: Toluene-d8	104	81.3-120		%REC	206673	1	04/30/2015 23:19	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	206672	1	05/04/2015 16:35	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	206672	1	05/04/2015 16:35	YH
Benzo(a)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 16:35	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 16:35	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	206672	1	05/04/2015 16:35	YH
Surr: 4-Terphenyl-d14	85.3	55.4-136		%REC	206672	1	05/04/2015 16:35	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	206668	1	05/04/2015 16:53	YH
2-Methylphenol	BRL	10		ug/L	206668	1	05/04/2015 16:53	YH
3,4-Methylphenol	BRL	10		ug/L	206668	1	05/04/2015 16:53	YH
Acenaphthene	BRL	10		ug/L	206668	1	05/04/2015 16:53	YH
Acenaphthylene	BRL	10		ug/L	206668	1	05/04/2015 16:53	YH
Anthracene	BRL	10		ug/L	206668	1	05/04/2015 16:53	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	206668	1	05/04/2015 16:53	YH
Benzo(k)fluoranthene	BRL	10		ug/L	206668	1	05/04/2015 16:53	YH
Chrysene	BRL	10		ug/L	206668	1	05/04/2015 16:53	YH
Fluoranthene	BRL	10		ug/L	206668	1	05/04/2015 16:53	YH
Fluorene	BRL	10		ug/L	206668	1	05/04/2015 16:53	YH
Naphthalene	BRL	10		ug/L	206668	1	05/04/2015 16:53	YH
Phenanthrene	BRL	10		ug/L	206668	1	05/04/2015 16:53	YH
Phenol	BRL	10		ug/L	206668	1	05/04/2015 16:53	YH
Pyrene	BRL	10		ug/L	206668	1	05/04/2015 16:53	YH
Surr: 2,4,6-Tribromophenol	89.3	52-133		%REC	206668	1	05/04/2015 16:53	YH
Surr: 2-Fluorobiphenyl	82.6	50-121		%REC	206668	1	05/04/2015 16:53	YH
Surr: 2-Fluorophenol	65.2	27.5-120		%REC	206668	1	05/04/2015 16:53	YH
Surr: 4-Terphenyl-d14	88.3	46.3-137		%REC	206668	1	05/04/2015 16:53	YH
Surr: Nitrobenzene-d5	69.9	41.2-121		%REC	206668	1	05/04/2015 16:53	YH
Surr: Phenol-d5	54.5	14.3-120		%REC	206668	1	05/04/2015 16:53	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 7-May-15

Client:	ERM-Southeast	**Client Sample ID:**	AMW-1-20150428-01
Project Name:	AGLC Macon	**Collection Date:**	4/28/2015 7:15:00 AM
Lab ID:	1504O39-007	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	206782	1	05/04/2015 18:00	LB
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.018	0.010		mg/L	207018	1	05/06/2015 14:50	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	206767	1	05/05/2015 02:42	IO
Arsenic	BRL	0.0500		mg/L	206767	1	05/05/2015 02:42	IO
Barium	0.0596	0.0200		mg/L	206767	1	05/05/2015 02:42	IO
Beryllium	BRL	0.0100		mg/L	206767	1	05/05/2015 02:42	IO
Cadmium	BRL	0.0050		mg/L	206767	1	05/05/2015 02:42	IO
Chromium	BRL	0.0100		mg/L	206767	1	05/05/2015 02:42	IO
Copper	BRL	0.0100		mg/L	206767	1	05/05/2015 02:42	IO
Lead	BRL	0.0100		mg/L	206767	1	05/05/2015 02:42	IO
Nickel	BRL	0.0200		mg/L	206767	1	05/05/2015 02:42	IO
Zinc	BRL	0.0200		mg/L	206767	1	05/05/2015 02:42	IO

Qualifiers:

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

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM-SE Work Order Number 1504039

Checklist completed by Katie Forann 4/29/15
Signature Date

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

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

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

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

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

Cooler #1 3.4°C Cooler #2 3.4°C Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

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

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

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

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

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

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

Adjusted? _____ Checked by KF

Sample Condition: Good ✓ Other(Explain) _____

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

See Case Narrative for resolution of the Non-Conformance.

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

Client: ERM-Southeast
Project Name: AGLC Macon
Workorder: 1504O39

ANALYTICAL QC SUMMARY REPORT

BatchID: 206668

Sample ID: **MB-206668** Client ID: Units: **ug/L** Prep Date: **05/01/2015** Run No: **291030**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **206668** Analysis Date: **05/01/2015** Seq No: **6191197**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	10									
2-Methylphenol	BRL	10									
3,4-Methylphenol	BRL	10									
Acenaphthene	BRL	10									
Acenaphthylene	BRL	10									
Anthracene	BRL	10									
Benzo(g,h,i)perylene	BRL	10									
Benzo(k)fluoranthene	BRL	10									
Chrysene	BRL	10									
Fluoranthene	BRL	10									
Fluorene	BRL	10									
Naphthalene	BRL	10									
Phenanthrene	BRL	10									
Phenol	BRL	10									
Pyrene	BRL	10									
Surr: 2,4,6-Tribromophenol	94.55	0	100.0		94.6	52	133				
Surr: 2-Fluorobiphenyl	40.77	0	50.00		81.5	50	121				
Surr: 2-Fluorophenol	56.05	0	100.0		56.0	27.5	120				
Surr: 4-Terphenyl-d14	41.98	0	50.00		84.0	46.3	137				
Surr: Nitrobenzene-d5	43.37	0	50.00		86.7	41.2	121				
Surr: Phenol-d5	11.72	0	100.0		11.7	14.3	120				S

Sample ID: **LCS-206668** Client ID: Units: **ug/L** Prep Date: **05/01/2015** Run No: **291030**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **206668** Analysis Date: **05/01/2015** Seq No: **6191198**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	97.74	10	100.0		97.7	68.2	124				

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon
Workorder: 1504O39

ANALYTICAL QC SUMMARY REPORT

BatchID: 206668

Sample ID: **LCS-206668** Client ID: Units: **ug/L** Prep Date: **05/01/2015** Run No: **291030**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **206668** Analysis Date: **05/01/2015** Seq No: **6191198**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	41.60	10	100.0		41.6	25.6	120				
Pyrene	94.47	10	100.0		94.5	70.1	124				
Surr: 2,4,6-Tribromophenol	115.2	0	100.0		115	52	133				
Surr: 2-Fluorobiphenyl	50.09	0	50.00		100	50	121				
Surr: 2-Fluorophenol	65.47	0	100.0		65.5	27.5	120				
Surr: 4-Terphenyl-d14	48.35	0	50.00		96.7	46.3	137				
Surr: Nitrobenzene-d5	53.61	0	50.00		107	41.2	121				
Surr: Phenol-d5	42.57	0	100.0		42.6	14.3	120				

Sample ID: **1504P44-001HMS** Client ID: Units: **ug/L** Prep Date: **05/01/2015** Run No: **291030**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **206668** Analysis Date: **05/01/2015** Seq No: **6191200**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	89.74	10	100.0		89.7	53.9	120				
Phenol	61.82	10	100.0		61.8	31	120				
Pyrene	90.94	10	100.0		90.9	53	112				
Surr: 2,4,6-Tribromophenol	105.0	0	100.0		105	52	133				
Surr: 2-Fluorobiphenyl	42.75	0	50.00		85.5	50	121				
Surr: 2-Fluorophenol	78.40	0	100.0		78.4	27.5	120				
Surr: 4-Terphenyl-d14	42.01	0	50.00		84.0	46.3	137				
Surr: Nitrobenzene-d5	49.08	0	50.00		98.2	41.2	121				
Surr: Phenol-d5	72.18	0	100.0		72.2	14.3	120				

Sample ID: **1504P44-001HMSD** Client ID: Units: **ug/L** Prep Date: **05/01/2015** Run No: **291030**
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **206668** Analysis Date: **05/01/2015** Seq No: **6191201**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	95.98	10	100.0		96.0	53.9	120	89.74	6.72	22.5	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon
Workorder: 1504O39

ANALYTICAL QC SUMMARY REPORT

BatchID: 206668

Sample ID: **1504P44-001HMSD** Client ID:
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/L** Prep Date: **05/01/2015** Run No: **291030**
BatchID: **206668** Analysis Date: **05/01/2015** Seq No: **6191201**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	66.86	10	100.0		66.9	31	120	61.82	7.83	31.9	
Pyrene	93.45	10	100.0		93.4	53	112	90.94	2.72	22.3	
Surr: 2,4,6-Tribromophenol	114.3	0	100.0		114	52	133	105.0	0	0	
Surr: 2-Fluorobiphenyl	46.34	0	50.00		92.7	50	121	42.75	0	0	
Surr: 2-Fluorophenol	82.52	0	100.0		82.5	27.5	120	78.40	0	0	
Surr: 4-Terphenyl-d14	42.74	0	50.00		85.5	46.3	137	42.01	0	0	
Surr: Nitrobenzene-d5	52.34	0	50.00		105	41.2	121	49.08	0	0	
Surr: Phenol-d5	78.00	0	100.0		78.0	14.3	120	72.18	0	0	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon
Workorder: 1504O39

ANALYTICAL QC SUMMARY REPORT

BatchID: 206672

Sample ID: **MB-206672** Client ID: Units: **ug/L** Prep Date: **05/01/2015** Run No: **291059**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D** BatchID: **206672** Analysis Date: **05/04/2015** Seq No: **6191738**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	BRL	0.050									
Benzo(a)pyrene	BRL	0.050									
Benzo(b)fluoranthene	BRL	0.10									
Dibenz(a,h)anthracene	BRL	0.10									
Indeno(1,2,3-cd)pyrene	BRL	0.050									
Surr: 4-Terphenyl-d14	2.224	0	2.000		111	55.4	136				

Sample ID: **LCS-206672** Client ID: Units: **ug/L** Prep Date: **05/01/2015** Run No: **291059**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D** BatchID: **206672** Analysis Date: **05/04/2015** Seq No: **6191739**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	1.445	0.050	2.000		72.2	60.6	137				
Benzo(a)pyrene	1.471	0.050	2.000		73.6	64	124				
Benzo(b)fluoranthene	1.445	0.10	2.000		72.2	56.4	133				
Dibenz(a,h)anthracene	1.372	0.10	2.000		68.6	52.4	130				
Indeno(1,2,3-cd)pyrene	1.433	0.050	2.000		71.6	50.4	139				
Surr: 4-Terphenyl-d14	1.636	0	2.000		81.8	55.4	136				

Sample ID: **LCSD-206672** Client ID: Units: **ug/L** Prep Date: **05/01/2015** Run No: **291059**
SampleType: **LCSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D** BatchID: **206672** Analysis Date: **05/04/2015** Seq No: **6191740**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	1.690	0.050	2.000		84.5	60.6	137	1.445	15.6	22.9	
Benzo(a)pyrene	1.741	0.050	2.000		87.1	64	124	1.471	16.8	22.7	
Benzo(b)fluoranthene	1.742	0.10	2.000		87.1	56.4	133	1.445	18.7	20.3	
Dibenz(a,h)anthracene	1.664	0.10	2.000		83.2	52.4	130	1.372	19.2	21.7	
Indeno(1,2,3-cd)pyrene	1.720	0.050	2.000		86.0	50.4	139	1.433	18.3	19.2	
Surr: 4-Terphenyl-d14	1.886	0	2.000		94.3	55.4	136	1.636	0	0	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon
Workorder: 1504O39

ANALYTICAL QC SUMMARY REPORT

BatchID: 206673

Sample ID: **MB-206673** Client ID: Units: **ug/L** Prep Date: **04/30/2015** Run No: **290857**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **206673** Analysis Date: **04/30/2015** Seq No: **6188242**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	5.0									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	47.07	0	50.00		94.1	70.6	123				
Surr: Dibromofluoromethane	51.06	0	50.00		102	78.7	124				
Surr: Toluene-d8	51.11	0	50.00		102	81.3	120				

Sample ID: **LCS-206673** Client ID: Units: **ug/L** Prep Date: **04/30/2015** Run No: **290857**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **206673** Analysis Date: **04/30/2015** Seq No: **6188241**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	52.80	5.0	50.00		106	72.8	128				
Toluene	48.61	5.0	50.00		97.2	74.9	127				
Surr: 4-Bromofluorobenzene	47.37	0	50.00		94.7	70.6	123				
Surr: Dibromofluoromethane	51.18	0	50.00		102	78.7	124				
Surr: Toluene-d8	50.17	0	50.00		100	81.3	120				

Sample ID: **1504O36-002AMS** Client ID: Units: **ug/L** Prep Date: **04/30/2015** Run No: **290857**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **206673** Analysis Date: **04/30/2015** Seq No: **6188981**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	52.30	5.0	50.00	3.380	97.8	70	135				
Toluene	43.67	5.0	50.00		87.3	70.5	137				
Surr: 4-Bromofluorobenzene	50.66	0	50.00		101	70.6	123				
Surr: Dibromofluoromethane	51.66	0	50.00		103	78.7	124				
Surr: Toluene-d8	51.92	0	50.00		104	81.3	120				

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon
Workorder: 1504O39

ANALYTICAL QC SUMMARY REPORT

BatchID: 206673

Sample ID: **1504O36-002AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/L** Prep Date: **04/30/2015** Run No: **290857**
BatchID: **206673** Analysis Date: **04/30/2015** Seq No: **6188982**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	51.13	5.0	50.00	3.380	95.5	70	135	52.30	2.26	20	
Toluene	42.02	5.0	50.00		84.0	70.5	137	43.67	3.85	20	
Surr: 4-Bromofluorobenzene	50.37	0	50.00		101	70.6	123	50.66	0	0	
Surr: Dibromofluoromethane	49.43	0	50.00		98.9	78.7	124	51.66	0	0	
Surr: Toluene-d8	50.79	0	50.00		102	81.3	120	51.92	0	0	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon
Workorder: 1504O39

ANALYTICAL QC SUMMARY REPORT

BatchID: 206767

Sample ID: **MB-206767** Client ID: Units: **mg/L** Prep Date: **05/02/2015** Run No: **291133**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **206767** Analysis Date: **05/05/2015** Seq No: **6193900**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	0.0200									
Arsenic	BRL	0.0500									
Barium	BRL	0.0200									
Beryllium	BRL	0.0100									
Cadmium	BRL	0.0050									
Chromium	BRL	0.0100									
Copper	BRL	0.0100									
Lead	BRL	0.0100									
Nickel	BRL	0.0200									
Zinc	BRL	0.0200									

Sample ID: **LCS-206767** Client ID: Units: **mg/L** Prep Date: **05/02/2015** Run No: **291133**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **206767** Analysis Date: **05/05/2015** Seq No: **6193901**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.046	0.0200	1.000		105	80	120				
Arsenic	1.034	0.0500	1.000		103	80	120				
Barium	1.031	0.0200	1.000		103	80	120				
Beryllium	1.030	0.0100	1.000		103	80	120				
Cadmium	1.031	0.0050	1.000		103	80	120				
Chromium	1.022	0.0100	1.000		102	80	120				
Copper	1.034	0.0100	1.000		103	80	120				
Lead	1.015	0.0100	1.000		102	80	120				
Nickel	1.025	0.0200	1.000		102	80	120				
Zinc	1.017	0.0200	1.000		102	80	120				

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon
Workorder: 1504O39

ANALYTICAL QC SUMMARY REPORT

BatchID: 206767

Sample ID: **1504O29-001CMS** Client ID:
SampleType: **MS** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/L** Prep Date: **05/02/2015** Run No: **291133**
BatchID: **206767** Analysis Date: **05/05/2015** Seq No: **6193905**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.036	0.0200	1.000		104	75	125				
Arsenic	1.058	0.0500	1.000		106	75	125				
Barium	1.071	0.0200	1.000	0.03829	103	75	125				
Beryllium	1.031	0.0100	1.000	0.0004140	103	75	125				
Cadmium	1.039	0.0050	1.000		104	75	125				
Chromium	1.035	0.0100	1.000	0.008193	103	75	125				
Copper	1.049	0.0100	1.000	0.005076	104	75	125				
Lead	1.022	0.0100	1.000	0.01209	101	75	125				
Nickel	1.008	0.0200	1.000	0.003078	101	75	125				
Zinc	1.032	0.0200	1.000	0.01208	102	75	125				

Sample ID: **1504O29-001CMSD** Client ID:
SampleType: **MSD** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/L** Prep Date: **05/02/2015** Run No: **291133**
BatchID: **206767** Analysis Date: **05/05/2015** Seq No: **6193908**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.001	0.0200	1.000		100	75	125	1.036	3.40	20	
Arsenic	1.031	0.0500	1.000		103	75	125	1.058	2.51	20	
Barium	1.039	0.0200	1.000	0.03829	100	75	125	1.071	3.10	20	
Beryllium	0.9997	0.0100	1.000	0.0004140	99.9	75	125	1.031	3.07	20	
Cadmium	1.008	0.0050	1.000		101	75	125	1.039	3.01	20	
Chromium	1.002	0.0100	1.000	0.008193	99.4	75	125	1.035	3.22	20	
Copper	1.014	0.0100	1.000	0.005076	101	75	125	1.049	3.37	20	
Lead	0.9880	0.0100	1.000	0.01209	97.6	75	125	1.022	3.42	20	
Nickel	0.9765	0.0200	1.000	0.003078	97.3	75	125	1.008	3.19	20	
Zinc	0.9980	0.0200	1.000	0.01208	98.6	75	125	1.032	3.39	20	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon
Workorder: 1504O39

ANALYTICAL QC SUMMARY REPORT

BatchID: 206771

Sample ID: **MB-206771**	Client ID:		Units: **ug/L**	Prep Date: **05/04/2015**	Run No: **291158**
SampleType: **MBLK**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **206771**	Analysis Date: **05/05/2015**	Seq No: **6194391**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	BRL	0.050									
Benzo(a)pyrene	BRL	0.050									
Benzo(b)fluoranthene	BRL	0.10									
Dibenz(a,h)anthracene	BRL	0.10									
Indeno(1,2,3-cd)pyrene	BRL	0.050									
Surr: 4-Terphenyl-d14	2.045	0	2.000		102	55.4	136				

Sample ID: **LCS-206771**	Client ID:		Units: **ug/L**	Prep Date: **05/04/2015**	Run No: **291158**
SampleType: **LCS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **206771**	Analysis Date: **05/05/2015**	Seq No: **6194392**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	1.671	0.050	2.000		83.6	60.6	137				
Benzo(a)pyrene	1.806	0.050	2.000		90.3	64	124				
Benzo(b)fluoranthene	1.604	0.10	2.000		80.2	56.4	133				
Dibenz(a,h)anthracene	1.580	0.10	2.000		79.0	52.4	130				
Indeno(1,2,3-cd)pyrene	1.682	0.050	2.000		84.1	50.4	139				
Surr: 4-Terphenyl-d14	1.980	0	2.000		99.0	55.4	136				

Sample ID: **LCSD-206771**	Client ID:		Units: **ug/L**	Prep Date: **05/04/2015**	Run No: **291158**
SampleType: **LCSD**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **206771**	Analysis Date: **05/05/2015**	Seq No: **6194393**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	1.691	0.050	2.000		84.5	60.6	137	1.671	1.18	22.9	
Benzo(a)pyrene	1.784	0.050	2.000		89.2	64	124	1.806	1.25	22.7	
Benzo(b)fluoranthene	1.635	0.10	2.000		81.8	56.4	133	1.604	1.91	20.3	
Dibenz(a,h)anthracene	1.589	0.10	2.000		79.4	52.4	130	1.580	0.588	21.7	
Indeno(1,2,3-cd)pyrene	1.649	0.050	2.000		82.5	50.4	139	1.682	1.98	19.2	
Surr: 4-Terphenyl-d14	2.010	0	2.000		101	55.4	136	1.980	0	0	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon
Workorder: 1504O39

ANALYTICAL QC SUMMARY REPORT

BatchID: 206782

Sample ID: **MB-206782**	Client ID:			Units: **mg/L**	Prep Date: **05/04/2015**	Run No: **291110**
SampleType: **MBLK**	TestCode: **Mercury, Total SW7470A**			BatchID: **206782**	Analysis Date: **05/04/2015**	Seq No: **6193266**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.00020									

Sample ID: **LCS-206782**	Client ID:			Units: **mg/L**	Prep Date: **05/04/2015**	Run No: **291110**
SampleType: **LCS**	TestCode: **Mercury, Total SW7470A**			BatchID: **206782**	Analysis Date: **05/04/2015**	Seq No: **6193267**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005238	0.00020	0.0050		105	80	120				

Sample ID: **1504O29-002CMS**	Client ID:			Units: **mg/L**	Prep Date: **05/04/2015**	Run No: **291110**
SampleType: **MS**	TestCode: **Mercury, Total SW7470A**			BatchID: **206782**	Analysis Date: **05/04/2015**	Seq No: **6193271**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005147	0.00020	0.0050		103	70	130				

Sample ID: **1504O29-002CMSD**	Client ID:			Units: **mg/L**	Prep Date: **05/04/2015**	Run No: **291110**
SampleType: **MSD**	TestCode: **Mercury, Total SW7470A**			BatchID: **206782**	Analysis Date: **05/04/2015**	Seq No: **6193272**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005013	0.00020	0.0050		100	70	130	0.005147	2.64	20	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon
Workorder: 1504O39

ANALYTICAL QC SUMMARY REPORT

BatchID: 207018

Sample ID: **MB-207018**	Client ID:					Units: **mg/L**		Prep Date: **05/06/2015**		Run No: **291257**	
SampleType: **MBLK**	TestCode: **Cyanide SW9014**					BatchID: **207018**		Analysis Date: **05/06/2015**		Seq No: **6196714**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	0.010									

Sample ID: **LCS-207018**	Client ID:					Units: **mg/L**		Prep Date: **05/06/2015**		Run No: **291257**	
SampleType: **LCS**	TestCode: **Cyanide SW9014**					BatchID: **207018**		Analysis Date: **05/06/2015**		Seq No: **6196715**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2740	0.010	0.2500		110	85	115				

Sample ID: **1504O39-002DMS**	Client ID: **AMW-11-20150428-01**					Units: **mg/L**		Prep Date: **05/06/2015**		Run No: **291257**	
SampleType: **MS**	TestCode: **Cyanide SW9014**					BatchID: **207018**		Analysis Date: **05/06/2015**		Seq No: **6196727**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2740	0.010	0.2500	0.01500	104	70	130				

Sample ID: **1504O39-002DMSD**	Client ID: **AMW-11-20150428-01**					Units: **mg/L**		Prep Date: **05/06/2015**		Run No: **291257**	
SampleType: **MSD**	TestCode: **Cyanide SW9014**					BatchID: **207018**		Analysis Date: **05/06/2015**		Seq No: **6196757**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2722	0.010	0.2500	0.01500	103	70	130	0.2740	0.659	20	

Qualifiers:

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

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

May 08, 2015

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

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

RE: AGLC Macon

Dear Nic Vrey: Order No: 1504P64

Analytical Environmental Services, Inc. received 9 samples on 4/30/2015 8:00:00 AM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/14-06/30/15.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/15.

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

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

Mirzeta Kararic

Mirzeta Kararic
Project Manager

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

CHAIN OF CUSTODY

Work Order: 1504P64

Date: 4-29-15 Page 1 of 1

COMPANY: ERM
ADDRESS: 3200 Windy Hill Rd SE Ste 1500W, Atlanta, GA 30339
PHONE:
FAX:
SAMPLED BY: Don Downing / Will Virgo
SIGNATURE: Donald Dowling

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	8260B-BTEX	8270C-SVOC	Total Metals	Total Cyanide	REMARKS	No # of Containers
1	TB-03-20150429-01	4-29-15	—	X		W	X					2
2	MW-109-20150429-01		1032			GW		X	X	X		6
3	MW-400-20150429-01		1100									6
4	MW-108-20150429-01		1213									6
5	MW-106-20150429-01		1215									6
6	AMW-14-20150429-01		1427									6
7	AMW-15-20150429-01		1530									5
8	MW-22D-20150429-01		1608									6
9												
10												
11												
12												
13												
14												

ANALYSIS REQUESTED
PRESERVATION (See codes)

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

REMARKS

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: Donald Dowling	4-29-15 1946	1: AES Dropbox	4-29-15 1946
2:		2:	4/30/15 8:00AM
3:		3:	

SPECIAL INSTRUCTIONS/COMMENTS:

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

PROJECT INFORMATION
PROJECT NAME: AGC Macon
PROJECT #:
SITE ADDRESS: Macon, GA
SEND REPORT TO: Adria Rabner / Nic Viney
INVOICE TO:
(IF DIFFERENT FROM ABOVE)
QUOTE #: PO#:

RECEIPT
Total # of Containers: 43

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

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

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

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

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc

Date: 8-May-15

Client: ERM-Southeast
Project: AGLC Macon
Lab ID: 1504P64

Case Narrative

Sample Receiving Nonconformance:

A second set of Trip Blanks was provided but was not listed on the Chain of Custody. The second Trip Blank was placed on hold.

PAH Analysis by Method 8270D SIM:

Matrix spike and matrix spike duplicate analyses were not performed with Batches 206672 and 206771 due to insufficient sample volume.

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

Client:	ERM-Southeast	**Client Sample ID:**	TB-03-20150429-01
Project Name:	AGLC Macon	**Collection Date:**	4/29/2015
Lab ID:	1504P64-001	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	206780	1	05/02/2015 15:33	TH
Carbon disulfide	BRL	5.0		ug/L	206780	1	05/02/2015 15:33	TH
Ethylbenzene	BRL	5.0		ug/L	206780	1	05/02/2015 15:33	TH
Toluene	BRL	5.0		ug/L	206780	1	05/02/2015 15:33	TH
Xylenes, Total	BRL	5.0		ug/L	206780	1	05/02/2015 15:33	TH
Surr: 4-Bromofluorobenzene	84.2	70.6-123		%REC	206780	1	05/02/2015 15:33	TH
Surr: Dibromofluoromethane	105	78.7-124		%REC	206780	1	05/02/2015 15:33	TH
Surr: Toluene-d8	97.4	81.3-120		%REC	206780	1	05/02/2015 15:33	TH

Qualifiers:

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

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

Client:	ERM-Southeast	**Client Sample ID:**	MW-109-20150429-01
Project Name:	AGLC Macon	**Collection Date:**	4/29/2015 10:32:00 AM
Lab ID:	1504P64-002	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	206780	1	05/04/2015 18:53	TH
Carbon disulfide	BRL	5.0		ug/L	206780	1	05/04/2015 18:53	TH
Ethylbenzene	BRL	5.0		ug/L	206780	1	05/04/2015 18:53	TH
Toluene	BRL	5.0		ug/L	206780	1	05/04/2015 18:53	TH
Xylenes, Total	BRL	5.0		ug/L	206780	1	05/04/2015 18:53	TH
Surr: 4-Bromofluorobenzene	86.7	70.6-123		%REC	206780	1	05/04/2015 18:53	TH
Surr: Dibromofluoromethane	105	78.7-124		%REC	206780	1	05/04/2015 18:53	TH
Surr: Toluene-d8	94.7	81.3-120		%REC	206780	1	05/04/2015 18:53	TH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	206672	1	05/04/2015 17:01	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	206672	1	05/04/2015 17:01	YH
Benzo(a)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 17:01	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 17:01	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	206672	1	05/04/2015 17:01	YH
Surr: 4-Terphenyl-d14	92.5	55.4-136		%REC	206672	1	05/04/2015 17:01	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	206812	1	05/06/2015 10:47	YH
2-Methylphenol	BRL	10		ug/L	206812	1	05/06/2015 10:47	YH
3,4-Methylphenol	BRL	10		ug/L	206812	1	05/06/2015 10:47	YH
Acenaphthene	BRL	10		ug/L	206812	1	05/06/2015 10:47	YH
Acenaphthylene	BRL	10		ug/L	206812	1	05/06/2015 10:47	YH
Anthracene	BRL	10		ug/L	206812	1	05/06/2015 10:47	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	206812	1	05/06/2015 10:47	YH
Benzo(k)fluoranthene	BRL	10		ug/L	206812	1	05/06/2015 10:47	YH
Chrysene	BRL	10		ug/L	206812	1	05/06/2015 10:47	YH
Fluoranthene	BRL	10		ug/L	206812	1	05/06/2015 10:47	YH
Fluorene	BRL	10		ug/L	206812	1	05/06/2015 10:47	YH
Naphthalene	BRL	10		ug/L	206812	1	05/06/2015 10:47	YH
Phenanthrene	BRL	10		ug/L	206812	1	05/06/2015 10:47	YH
Phenol	BRL	10		ug/L	206812	1	05/06/2015 10:47	YH
Pyrene	BRL	10		ug/L	206812	1	05/06/2015 10:47	YH
Surr: 2,4,6-Tribromophenol	106	52-133		%REC	206812	1	05/06/2015 10:47	YH
Surr: 2-Fluorobiphenyl	109	50-121		%REC	206812	1	05/06/2015 10:47	YH
Surr: 2-Fluorophenol	79.7	27.5-120		%REC	206812	1	05/06/2015 10:47	YH
Surr: 4-Terphenyl-d14	111	46.3-137		%REC	206812	1	05/06/2015 10:47	YH
Surr: Nitrobenzene-d5	95.5	41.2-121		%REC	206812	1	05/06/2015 10:47	YH
Surr: Phenol-d5	71	14.3-120		%REC	206812	1	05/06/2015 10:47	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

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

Client:	ERM-Southeast	**Client Sample ID:**	MW-109-20150429-01
Project Name:	AGLC Macon	**Collection Date:**	4/29/2015 10:32:00 AM
Lab ID:	1504P64-002	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	206901	1	05/06/2015 19:35	TA
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	207018	1	05/06/2015 14:50	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	206592	1	05/06/2015 22:19	JL
Arsenic	BRL	0.0500		mg/L	206592	1	05/06/2015 22:19	JL
Barium	0.0786	0.0200		mg/L	206592	1	05/06/2015 22:19	JL
Beryllium	BRL	0.0100		mg/L	206592	1	05/06/2015 22:19	JL
Cadmium	BRL	0.0050		mg/L	206592	1	05/06/2015 22:19	JL
Chromium	BRL	0.0100		mg/L	206592	1	05/06/2015 22:19	JL
Copper	BRL	0.0100		mg/L	206592	1	05/06/2015 22:19	JL
Lead	BRL	0.0100		mg/L	206592	1	05/06/2015 22:19	JL
Nickel	BRL	0.0200		mg/L	206592	1	05/06/2015 22:19	JL
Zinc	BRL	0.0200		mg/L	206592	1	05/06/2015 22:19	JL

Qualifiers:

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

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

Client:	ERM-Southeast	**Client Sample ID:**	MW-400-20150429-01
Project Name:	AGLC Macon	**Collection Date:**	4/29/2015 11:00:00 AM
Lab ID:	1504P64-003	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	206780	1	05/04/2015 19:17	TH
Carbon disulfide	BRL	5.0		ug/L	206780	1	05/04/2015 19:17	TH
Ethylbenzene	BRL	5.0		ug/L	206780	1	05/04/2015 19:17	TH
Toluene	BRL	5.0		ug/L	206780	1	05/04/2015 19:17	TH
Xylenes, Total	BRL	5.0		ug/L	206780	1	05/04/2015 19:17	TH
Surr: 4-Bromofluorobenzene	87.1	70.6-123		%REC	206780	1	05/04/2015 19:17	TH
Surr: Dibromofluoromethane	108	78.7-124		%REC	206780	1	05/04/2015 19:17	TH
Surr: Toluene-d8	97.4	81.3-120		%REC	206780	1	05/04/2015 19:17	TH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	206771	1	05/05/2015 12:09	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	206771	1	05/05/2015 12:09	YH
Benzo(a)pyrene	BRL	0.050		ug/L	206771	1	05/05/2015 12:09	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	206771	1	05/05/2015 12:09	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	206771	1	05/05/2015 12:09	YH
Surr: 4-Terphenyl-d14	101	55.4-136		%REC	206771	1	05/05/2015 12:09	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	206812	1	05/06/2015 11:12	YH
2-Methylphenol	BRL	10		ug/L	206812	1	05/06/2015 11:12	YH
3,4-Methylphenol	BRL	10		ug/L	206812	1	05/06/2015 11:12	YH
Acenaphthene	BRL	10		ug/L	206812	1	05/06/2015 11:12	YH
Acenaphthylene	BRL	10		ug/L	206812	1	05/06/2015 11:12	YH
Anthracene	BRL	10		ug/L	206812	1	05/06/2015 11:12	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	206812	1	05/06/2015 11:12	YH
Benzo(k)fluoranthene	BRL	10		ug/L	206812	1	05/06/2015 11:12	YH
Chrysene	BRL	10		ug/L	206812	1	05/06/2015 11:12	YH
Fluoranthene	BRL	10		ug/L	206812	1	05/06/2015 11:12	YH
Fluorene	BRL	10		ug/L	206812	1	05/06/2015 11:12	YH
Naphthalene	BRL	10		ug/L	206812	1	05/06/2015 11:12	YH
Phenanthrene	BRL	10		ug/L	206812	1	05/06/2015 11:12	YH
Phenol	BRL	10		ug/L	206812	1	05/06/2015 11:12	YH
Pyrene	BRL	10		ug/L	206812	1	05/06/2015 11:12	YH
Surr: 2,4,6-Tribromophenol	115	52-133		%REC	206812	1	05/06/2015 11:12	YH
Surr: 2-Fluorobiphenyl	111	50-121		%REC	206812	1	05/06/2015 11:12	YH
Surr: 2-Fluorophenol	88	27.5-120		%REC	206812	1	05/06/2015 11:12	YH
Surr: 4-Terphenyl-d14	118	46.3-137		%REC	206812	1	05/06/2015 11:12	YH
Surr: Nitrobenzene-d5	88.5	41.2-121		%REC	206812	1	05/06/2015 11:12	YH
Surr: Phenol-d5	78.7	14.3-120		%REC	206812	1	05/06/2015 11:12	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

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

Client:	ERM-Southeast	**Client Sample ID:**	MW-400-20150429-01
Project Name:	AGLC Macon	**Collection Date:**	4/29/2015 11:00:00 AM
Lab ID:	1504P64-003	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	206901	1	05/06/2015 19:37	TA
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.099	0.010		mg/L	207018	1	05/07/2015 14:50	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	206592	1	05/06/2015 22:38	JL
Arsenic	BRL	0.0500		mg/L	206592	1	05/06/2015 22:38	JL
Barium	0.0381	0.0200		mg/L	206592	1	05/06/2015 22:38	JL
Beryllium	BRL	0.0100		mg/L	206592	1	05/06/2015 22:38	JL
Cadmium	BRL	0.0050		mg/L	206592	1	05/06/2015 22:38	JL
Chromium	BRL	0.0100		mg/L	206592	1	05/06/2015 22:38	JL
Copper	BRL	0.0100		mg/L	206592	1	05/06/2015 22:38	JL
Lead	BRL	0.0100		mg/L	206592	1	05/06/2015 22:38	JL
Nickel	BRL	0.0200		mg/L	206592	1	05/06/2015 22:38	JL
Zinc	0.0313	0.0200		mg/L	206592	1	05/06/2015 22:38	JL

Qualifiers:

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

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

Client:	ERM-Southeast	**Client Sample ID:**	MW-108-20150429-01
Project Name:	AGLC Macon	**Collection Date:**	4/29/2015 12:13:00 PM
Lab ID:	1504P64-004	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	206780	1	05/04/2015 19:42	TH
Carbon disulfide	BRL	5.0		ug/L	206780	1	05/04/2015 19:42	TH
Ethylbenzene	BRL	5.0		ug/L	206780	1	05/04/2015 19:42	TH
Toluene	BRL	5.0		ug/L	206780	1	05/04/2015 19:42	TH
Xylenes, Total	BRL	5.0		ug/L	206780	1	05/04/2015 19:42	TH
Surr: 4-Bromofluorobenzene	86.1	70.6-123		%REC	206780	1	05/04/2015 19:42	TH
Surr: Dibromofluoromethane	111	78.7-124		%REC	206780	1	05/04/2015 19:42	TH
Surr: Toluene-d8	99.3	81.3-120		%REC	206780	1	05/04/2015 19:42	TH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	206672	1	05/04/2015 17:28	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	206672	1	05/04/2015 17:28	YH
Benzo(a)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 17:28	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 17:28	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	206672	1	05/04/2015 17:28	YH
Surr: 4-Terphenyl-d14	99.1	55.4-136		%REC	206672	1	05/04/2015 17:28	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	206812	1	05/06/2015 11:38	YH
2-Methylphenol	BRL	10		ug/L	206812	1	05/06/2015 11:38	YH
3,4-Methylphenol	BRL	10		ug/L	206812	1	05/06/2015 11:38	YH
Acenaphthene	BRL	10		ug/L	206812	1	05/06/2015 11:38	YH
Acenaphthylene	BRL	10		ug/L	206812	1	05/06/2015 11:38	YH
Anthracene	BRL	10		ug/L	206812	1	05/06/2015 11:38	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	206812	1	05/06/2015 11:38	YH
Benzo(k)fluoranthene	BRL	10		ug/L	206812	1	05/06/2015 11:38	YH
Chrysene	BRL	10		ug/L	206812	1	05/06/2015 11:38	YH
Fluoranthene	BRL	10		ug/L	206812	1	05/06/2015 11:38	YH
Fluorene	BRL	10		ug/L	206812	1	05/06/2015 11:38	YH
Naphthalene	BRL	10		ug/L	206812	1	05/06/2015 11:38	YH
Phenanthrene	BRL	10		ug/L	206812	1	05/06/2015 11:38	YH
Phenol	BRL	10		ug/L	206812	1	05/06/2015 11:38	YH
Pyrene	BRL	10		ug/L	206812	1	05/06/2015 11:38	YH
Surr: 2,4,6-Tribromophenol	113	52-133		%REC	206812	1	05/06/2015 11:38	YH
Surr: 2-Fluorobiphenyl	114	50-121		%REC	206812	1	05/06/2015 11:38	YH
Surr: 2-Fluorophenol	71.3	27.5-120		%REC	206812	1	05/06/2015 11:38	YH
Surr: 4-Terphenyl-d14	117	46.3-137		%REC	206812	1	05/06/2015 11:38	YH
Surr: Nitrobenzene-d5	91	41.2-121		%REC	206812	1	05/06/2015 11:38	YH
Surr: Phenol-d5	72.4	14.3-120		%REC	206812	1	05/06/2015 11:38	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

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

Client:	ERM-Southeast	**Client Sample ID:**	MW-108-20150429-01
Project Name:	AGLC Macon	**Collection Date:**	4/29/2015 12:13:00 PM
Lab ID:	1504P64-004	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	206901	1	05/06/2015 19:39	TA
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	207018	1	05/07/2015 14:50	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	206592	1	05/06/2015 22:56	JL
Arsenic	BRL	0.0500		mg/L	206592	1	05/06/2015 22:56	JL
Barium	0.0611	0.0200		mg/L	206592	1	05/06/2015 22:56	JL
Beryllium	BRL	0.0100		mg/L	206592	1	05/06/2015 22:56	JL
Cadmium	BRL	0.0050		mg/L	206592	1	05/06/2015 22:56	JL
Chromium	BRL	0.0100		mg/L	206592	1	05/06/2015 22:56	JL
Copper	BRL	0.0100		mg/L	206592	1	05/06/2015 22:56	JL
Lead	BRL	0.0100		mg/L	206592	1	05/06/2015 22:56	JL
Nickel	BRL	0.0200		mg/L	206592	1	05/06/2015 22:56	JL
Zinc	BRL	0.0200		mg/L	206592	1	05/06/2015 22:56	JL

Qualifiers:

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

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

Client:	ERM-Southeast	**Client Sample ID:**	MW-106-20150429-01
Project Name:	AGLC Macon	**Collection Date:**	4/29/2015 12:15:00 PM
Lab ID:	1504P64-005	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	206780	1	05/04/2015 20:06	TH
Carbon disulfide	BRL	5.0		ug/L	206780	1	05/04/2015 20:06	TH
Ethylbenzene	BRL	5.0		ug/L	206780	1	05/04/2015 20:06	TH
Toluene	BRL	5.0		ug/L	206780	1	05/04/2015 20:06	TH
Xylenes, Total	BRL	5.0		ug/L	206780	1	05/04/2015 20:06	TH
Surr: 4-Bromofluorobenzene	84.1	70.6-123		%REC	206780	1	05/04/2015 20:06	TH
Surr: Dibromofluoromethane	107	78.7-124		%REC	206780	1	05/04/2015 20:06	TH
Surr: Toluene-d8	96.6	81.3-120		%REC	206780	1	05/04/2015 20:06	TH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	206672	1	05/04/2015 17:53	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	206672	1	05/04/2015 17:53	YH
Benzo(a)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 17:53	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 17:53	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	206672	1	05/04/2015 17:53	YH
Surr: 4-Terphenyl-d14	96.8	55.4-136		%REC	206672	1	05/04/2015 17:53	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	206812	1	05/06/2015 12:03	YH
2-Methylphenol	BRL	10		ug/L	206812	1	05/06/2015 12:03	YH
3,4-Methylphenol	BRL	10		ug/L	206812	1	05/06/2015 12:03	YH
Acenaphthene	BRL	10		ug/L	206812	1	05/06/2015 12:03	YH
Acenaphthylene	BRL	10		ug/L	206812	1	05/06/2015 12:03	YH
Anthracene	BRL	10		ug/L	206812	1	05/06/2015 12:03	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	206812	1	05/06/2015 12:03	YH
Benzo(k)fluoranthene	BRL	10		ug/L	206812	1	05/06/2015 12:03	YH
Chrysene	BRL	10		ug/L	206812	1	05/06/2015 12:03	YH
Fluoranthene	BRL	10		ug/L	206812	1	05/06/2015 12:03	YH
Fluorene	BRL	10		ug/L	206812	1	05/06/2015 12:03	YH
Naphthalene	BRL	10		ug/L	206812	1	05/06/2015 12:03	YH
Phenanthrene	BRL	10		ug/L	206812	1	05/06/2015 12:03	YH
Phenol	BRL	10		ug/L	206812	1	05/06/2015 12:03	YH
Pyrene	BRL	10		ug/L	206812	1	05/06/2015 12:03	YH
Surr: 2,4,6-Tribromophenol	75.6	52-133		%REC	206812	1	05/06/2015 12:03	YH
Surr: 2-Fluorobiphenyl	73.6	50-121		%REC	206812	1	05/06/2015 12:03	YH
Surr: 2-Fluorophenol	49	27.5-120		%REC	206812	1	05/06/2015 12:03	YH
Surr: 4-Terphenyl-d14	80.7	46.3-137		%REC	206812	1	05/06/2015 12:03	YH
Surr: Nitrobenzene-d5	61	41.2-121		%REC	206812	1	05/06/2015 12:03	YH
Surr: Phenol-d5	54	14.3-120		%REC	206812	1	05/06/2015 12:03	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

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

Client:	ERM-Southeast	**Client Sample ID:**	MW-106-20150429-01
Project Name:	AGLC Macon	**Collection Date:**	4/29/2015 12:15:00 PM
Lab ID:	1504P64-005	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	206901	1	05/06/2015 19:41	TA
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.094	0.010		mg/L	207018	1	05/07/2015 14:50	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	206592	1	05/06/2015 23:00	JL
Arsenic	BRL	0.0500		mg/L	206592	1	05/06/2015 23:00	JL
Barium	0.0328	0.0200		mg/L	206592	1	05/06/2015 23:00	JL
Beryllium	BRL	0.0100		mg/L	206592	1	05/06/2015 23:00	JL
Cadmium	BRL	0.0050		mg/L	206592	1	05/06/2015 23:00	JL
Chromium	BRL	0.0100		mg/L	206592	1	05/06/2015 23:00	JL
Copper	BRL	0.0100		mg/L	206592	1	05/06/2015 23:00	JL
Lead	0.0119	0.0100		mg/L	206592	1	05/06/2015 23:00	JL
Nickel	BRL	0.0200		mg/L	206592	1	05/06/2015 23:00	JL
Zinc	BRL	0.0200		mg/L	206592	1	05/06/2015 23:00	JL

Qualifiers:

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

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

Client:	ERM-Southeast	**Client Sample ID:**	AMW-14-20150429-01
Project Name:	AGLC Macon	**Collection Date:**	4/29/2015 2:27:00 PM
Lab ID:	1504P64-006	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	15	5.0		ug/L	206780	1	05/04/2015 20:31	TH
Carbon disulfide	BRL	5.0		ug/L	206780	1	05/04/2015 20:31	TH
Ethylbenzene	29	5.0		ug/L	206780	1	05/04/2015 20:31	TH
Toluene	BRL	5.0		ug/L	206780	1	05/04/2015 20:31	TH
Xylenes, Total	35	5.0		ug/L	206780	1	05/04/2015 20:31	TH
Surr: 4-Bromofluorobenzene	103	70.6-123		%REC	206780	1	05/04/2015 20:31	TH
Surr: Dibromofluoromethane	103	78.7-124		%REC	206780	1	05/04/2015 20:31	TH
Surr: Toluene-d8	94.2	81.3-120		%REC	206780	1	05/04/2015 20:31	TH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	206672	1	05/04/2015 18:19	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	206672	1	05/04/2015 18:19	YH
Benzo(a)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 18:19	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 18:19	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	206672	1	05/04/2015 18:19	YH
Surr: 4-Terphenyl-d14	112	55.4-136		%REC	206672	1	05/04/2015 18:19	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	206812	1	05/06/2015 12:29	YH
2-Methylphenol	BRL	10		ug/L	206812	1	05/06/2015 12:29	YH
3,4-Methylphenol	BRL	10		ug/L	206812	1	05/06/2015 12:29	YH
Acenaphthene	11	10		ug/L	206812	1	05/06/2015 12:29	YH
Acenaphthylene	13	10		ug/L	206812	1	05/06/2015 12:29	YH
Anthracene	BRL	10		ug/L	206812	1	05/06/2015 12:29	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	206812	1	05/06/2015 12:29	YH
Benzo(k)fluoranthene	BRL	10		ug/L	206812	1	05/06/2015 12:29	YH
Chrysene	BRL	10		ug/L	206812	1	05/06/2015 12:29	YH
Fluoranthene	BRL	10		ug/L	206812	1	05/06/2015 12:29	YH
Fluorene	BRL	10		ug/L	206812	1	05/06/2015 12:29	YH
Naphthalene	230	100		ug/L	206812	10	05/06/2015 15:35	YH
Phenanthrene	BRL	10		ug/L	206812	1	05/06/2015 12:29	YH
Phenol	BRL	10		ug/L	206812	1	05/06/2015 12:29	YH
Pyrene	BRL	10		ug/L	206812	1	05/06/2015 12:29	YH
Surr: 2,4,6-Tribromophenol	88.6	52-133		%REC	206812	1	05/06/2015 12:29	YH
Surr: 2-Fluorobiphenyl	83.3	50-121		%REC	206812	1	05/06/2015 12:29	YH
Surr: 2-Fluorophenol	59.7	27.5-120		%REC	206812	1	05/06/2015 12:29	YH
Surr: 4-Terphenyl-d14	87.3	46.3-137		%REC	206812	1	05/06/2015 12:29	YH
Surr: Nitrobenzene-d5	69.3	41.2-121		%REC	206812	1	05/06/2015 12:29	YH
Surr: Phenol-d5	55.1	14.3-120		%REC	206812	1	05/06/2015 12:29	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

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

Client:	ERM-Southeast	**Client Sample ID:**	AMW-14-20150429-01
Project Name:	AGLC Macon	**Collection Date:**	4/29/2015 2:27:00 PM
Lab ID:	1504P64-006	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	206901	1	05/06/2015 19:43	TA
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	207018	1	05/07/2015 14:50	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	206592	1	05/06/2015 23:03	JL
Arsenic	BRL	0.0500		mg/L	206592	1	05/06/2015 23:03	JL
Barium	0.0925	0.0200		mg/L	206592	1	05/06/2015 23:03	JL
Beryllium	BRL	0.0100		mg/L	206592	1	05/06/2015 23:03	JL
Cadmium	BRL	0.0050		mg/L	206592	1	05/06/2015 23:03	JL
Chromium	BRL	0.0100		mg/L	206592	1	05/06/2015 23:03	JL
Copper	BRL	0.0100		mg/L	206592	1	05/06/2015 23:03	JL
Lead	BRL	0.0100		mg/L	206592	1	05/06/2015 23:03	JL
Nickel	BRL	0.0200		mg/L	206592	1	05/06/2015 23:03	JL
Zinc	BRL	0.0200		mg/L	206592	1	05/06/2015 23:03	JL

Qualifiers:

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

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

Client:	ERM-Southeast	**Client Sample ID:**	AMW-15-20150429-01
Project Name:	AGLC Macon	**Collection Date:**	4/29/2015 3:30:00 PM
Lab ID:	1504P64-007	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	57	5.0		ug/L	206780	1	05/05/2015 18:13	CH
Carbon disulfide	BRL	5.0		ug/L	206780	1	05/05/2015 18:13	CH
Ethylbenzene	9.3	5.0		ug/L	206780	1	05/05/2015 18:13	CH
Toluene	BRL	5.0		ug/L	206780	1	05/05/2015 18:13	CH
Xylenes, Total	15	5.0		ug/L	206780	1	05/05/2015 18:13	CH
Surr: 4-Bromofluorobenzene	93.8	70.6-123		%REC	206780	1	05/05/2015 18:13	CH
Surr: Dibromofluoromethane	96.2	78.7-124		%REC	206780	1	05/05/2015 18:13	CH
Surr: Toluene-d8	97.4	81.3-120		%REC	206780	1	05/05/2015 18:13	CH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	206672	1	05/04/2015 18:45	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	206672	1	05/04/2015 18:45	YH
Benzo(a)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 18:45	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 18:45	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	206672	1	05/04/2015 18:45	YH
Surr: 4-Terphenyl-d14	97.2	55.4-136		%REC	206672	1	05/04/2015 18:45	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	206812	1	05/06/2015 12:54	YH
2-Methylphenol	BRL	10		ug/L	206812	1	05/06/2015 12:54	YH
3,4-Methylphenol	BRL	10		ug/L	206812	1	05/06/2015 12:54	YH
Acenaphthene	BRL	10		ug/L	206812	1	05/06/2015 12:54	YH
Acenaphthylene	BRL	10		ug/L	206812	1	05/06/2015 12:54	YH
Anthracene	BRL	10		ug/L	206812	1	05/06/2015 12:54	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	206812	1	05/06/2015 12:54	YH
Benzo(k)fluoranthene	BRL	10		ug/L	206812	1	05/06/2015 12:54	YH
Chrysene	BRL	10		ug/L	206812	1	05/06/2015 12:54	YH
Fluoranthene	BRL	10		ug/L	206812	1	05/06/2015 12:54	YH
Fluorene	BRL	10		ug/L	206812	1	05/06/2015 12:54	YH
Naphthalene	20	10		ug/L	206812	1	05/06/2015 12:54	YH
Phenanthrene	BRL	10		ug/L	206812	1	05/06/2015 12:54	YH
Phenol	BRL	10		ug/L	206812	1	05/06/2015 12:54	YH
Pyrene	BRL	10		ug/L	206812	1	05/06/2015 12:54	YH
Surr: 2,4,6-Tribromophenol	83.7	52-133		%REC	206812	1	05/06/2015 12:54	YH
Surr: 2-Fluorobiphenyl	77.9	50-121		%REC	206812	1	05/06/2015 12:54	YH
Surr: 2-Fluorophenol	56.8	27.5-120		%REC	206812	1	05/06/2015 12:54	YH
Surr: 4-Terphenyl-d14	83.3	46.3-137		%REC	206812	1	05/06/2015 12:54	YH
Surr: Nitrobenzene-d5	62.4	41.2-121		%REC	206812	1	05/06/2015 12:54	YH
Surr: Phenol-d5	59.6	14.3-120		%REC	206812	1	05/06/2015 12:54	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

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

Client:	ERM-Southeast	**Client Sample ID:**	AMW-15-20150429-01
Project Name:	AGLC Macon	**Collection Date:**	4/29/2015 3:30:00 PM
Lab ID:	1504P64-007	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	206901	1	05/06/2015 19:45	TA
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	207018	1	05/07/2015 14:50	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	206592	1	05/06/2015 23:07	JL
Arsenic	BRL	0.0500		mg/L	206592	1	05/06/2015 23:07	JL
Barium	0.158	0.0200		mg/L	206592	1	05/06/2015 23:07	JL
Beryllium	BRL	0.0100		mg/L	206592	1	05/06/2015 23:07	JL
Cadmium	BRL	0.0050		mg/L	206592	1	05/06/2015 23:07	JL
Chromium	BRL	0.0100		mg/L	206592	1	05/06/2015 23:07	JL
Copper	BRL	0.0100		mg/L	206592	1	05/06/2015 23:07	JL
Lead	BRL	0.0100		mg/L	206592	1	05/06/2015 23:07	JL
Nickel	BRL	0.0200		mg/L	206592	1	05/06/2015 23:07	JL
Zinc	BRL	0.0200		mg/L	206592	1	05/06/2015 23:07	JL

Qualifiers:

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

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

Client:	ERM-Southeast	**Client Sample ID:**	MW-22D-20150429-01
Project Name:	AGLC Macon	**Collection Date:**	4/29/2015 4:08:00 PM
Lab ID:	1504P64-008	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	206780	1	05/05/2015 17:46	CH
Carbon disulfide	BRL	5.0		ug/L	206780	1	05/05/2015 17:46	CH
Ethylbenzene	BRL	5.0		ug/L	206780	1	05/05/2015 17:46	CH
Toluene	BRL	5.0		ug/L	206780	1	05/05/2015 17:46	CH
Xylenes, Total	BRL	5.0		ug/L	206780	1	05/05/2015 17:46	CH
Surr: 4-Bromofluorobenzene	84.3	70.6-123		%REC	206780	1	05/05/2015 17:46	CH
Surr: Dibromofluoromethane	100	78.7-124		%REC	206780	1	05/05/2015 17:46	CH
Surr: Toluene-d8	97.2	81.3-120		%REC	206780	1	05/05/2015 17:46	CH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	206672	1	05/04/2015 19:11	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	206672	1	05/04/2015 19:11	YH
Benzo(a)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 19:11	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 19:11	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	206672	1	05/04/2015 19:11	YH
Surr: 4-Terphenyl-d14	105	55.4-136		%REC	206672	1	05/04/2015 19:11	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	206812	1	05/06/2015 13:20	YH
2-Methylphenol	BRL	10		ug/L	206812	1	05/06/2015 13:20	YH
3,4-Methylphenol	BRL	10		ug/L	206812	1	05/06/2015 13:20	YH
Acenaphthene	BRL	10		ug/L	206812	1	05/06/2015 13:20	YH
Acenaphthylene	BRL	10		ug/L	206812	1	05/06/2015 13:20	YH
Anthracene	BRL	10		ug/L	206812	1	05/06/2015 13:20	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	206812	1	05/06/2015 13:20	YH
Benzo(k)fluoranthene	BRL	10		ug/L	206812	1	05/06/2015 13:20	YH
Chrysene	BRL	10		ug/L	206812	1	05/06/2015 13:20	YH
Fluoranthene	BRL	10		ug/L	206812	1	05/06/2015 13:20	YH
Fluorene	BRL	10		ug/L	206812	1	05/06/2015 13:20	YH
Naphthalene	BRL	10		ug/L	206812	1	05/06/2015 13:20	YH
Phenanthrene	BRL	10		ug/L	206812	1	05/06/2015 13:20	YH
Phenol	BRL	10		ug/L	206812	1	05/06/2015 13:20	YH
Pyrene	BRL	10		ug/L	206812	1	05/06/2015 13:20	YH
Surr: 2,4,6-Tribromophenol	72.4	52-133		%REC	206812	1	05/06/2015 13:20	YH
Surr: 2-Fluorobiphenyl	70	50-121		%REC	206812	1	05/06/2015 13:20	YH
Surr: 2-Fluorophenol	51.4	27.5-120		%REC	206812	1	05/06/2015 13:20	YH
Surr: 4-Terphenyl-d14	78	46.3-137		%REC	206812	1	05/06/2015 13:20	YH
Surr: Nitrobenzene-d5	57.3	41.2-121		%REC	206812	1	05/06/2015 13:20	YH
Surr: Phenol-d5	47.5	14.3-120		%REC	206812	1	05/06/2015 13:20	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

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

Client:	ERM-Southeast	**Client Sample ID:**	MW-22D-20150429-01
Project Name:	AGLC Macon	**Collection Date:**	4/29/2015 4:08:00 PM
Lab ID:	1504P64-008	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	206901	1	05/06/2015 19:47	TA
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	207018	1	05/07/2015 14:50	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	206592	1	05/06/2015 23:11	JL
Arsenic	BRL	0.0500		mg/L	206592	1	05/06/2015 23:11	JL
Barium	1.44	0.0200		mg/L	206592	1	05/06/2015 23:11	JL
Beryllium	BRL	0.0100		mg/L	206592	1	05/06/2015 23:11	JL
Cadmium	BRL	0.0050		mg/L	206592	1	05/06/2015 23:11	JL
Chromium	BRL	0.0100		mg/L	206592	1	05/06/2015 23:11	JL
Copper	BRL	0.0100		mg/L	206592	1	05/06/2015 23:11	JL
Lead	BRL	0.0100		mg/L	206592	1	05/06/2015 23:11	JL
Nickel	BRL	0.0200		mg/L	206592	1	05/06/2015 23:11	JL
Zinc	BRL	0.0200		mg/L	206592	1	05/06/2015 23:11	JL

Qualifiers:

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

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM-SE Work Order Number 1504P64

Checklist completed by Katie Forum 4/30/15
Signature Date

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

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

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

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

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

Cooler #1 3.4°C Cooler #2 3.4°C Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

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

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

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

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

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

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

Adjusted? _____ Checked by KF

Sample Condition: Good ✓ Other(Explain) _____

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

See Case Narrative for resolution of the Non-Conformance.

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

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

Client: ERM-Southeast
Project Name: AGLC Macon
Workorder: 1504P64

ANALYTICAL QC SUMMARY REPORT

BatchID: 206592

Sample ID: **MB-206592** Client ID: Units: **mg/L** Prep Date: **05/04/2015** Run No: **291297**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **206592** Analysis Date: **05/06/2015** Seq No: **6197933**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	0.0200									
Arsenic	BRL	0.0500									
Barium	BRL	0.0200									
Beryllium	BRL	0.0100									
Cadmium	BRL	0.0050									
Chromium	BRL	0.0100									
Copper	BRL	0.0100									
Lead	BRL	0.0100									
Nickel	BRL	0.0200									
Zinc	BRL	0.0200									

Sample ID: **LCS-206592** Client ID: Units: **mg/L** Prep Date: **05/04/2015** Run No: **291297**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **206592** Analysis Date: **05/06/2015** Seq No: **6197934**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	0.9862	0.0200	1.000		98.6	80	120				
Arsenic	0.9940	0.0500	1.000		99.4	80	120				
Barium	0.9645	0.0200	1.000		96.5	80	120				
Beryllium	0.9916	0.0100	1.000		99.2	80	120				
Cadmium	0.9843	0.0050	1.000		98.4	80	120				
Chromium	0.9696	0.0100	1.000	0.0004914	96.9	80	120				
Copper	0.9723	0.0100	1.000		97.2	80	120				
Lead	0.9762	0.0100	1.000		97.6	80	120				
Nickel	0.9822	0.0200	1.000		98.2	80	120				
Zinc	0.9842	0.0200	1.000		98.4	80	120				

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon
Workorder: 1504P64

ANALYTICAL QC SUMMARY REPORT

BatchID: 206592

Sample ID: **1504P64-002CMS** Client ID: **MW-109-20150429-01** Units: **mg/L** Prep Date: **05/04/2015** Run No: **291297**
SampleType: **MS** TestCode: **METALS, TOTAL SW6010C** BatchID: **206592** Analysis Date: **05/06/2015** Seq No: **6197936**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	0.9829	0.0200	1.000		98.3	75	125				
Arsenic	0.9949	0.0500	1.000	0.008077	98.7	75	125				
Barium	1.039	0.0200	1.000	0.07857	96.1	75	125				
Beryllium	0.9801	0.0100	1.000		98.0	75	125				
Cadmium	0.9784	0.0050	1.000		97.8	75	125				
Chromium	0.9622	0.0100	1.000	0.0008241	96.1	75	125				
Copper	0.9638	0.0100	1.000		96.4	75	125				
Lead	0.9675	0.0100	1.000		96.7	75	125				
Nickel	0.9710	0.0200	1.000		97.1	75	125				
Zinc	0.9809	0.0200	1.000	0.004353	97.7	75	125				

Sample ID: **1504P64-002CMSD** Client ID: **MW-109-20150429-01** Units: **mg/L** Prep Date: **05/04/2015** Run No: **291297**
SampleType: **MSD** TestCode: **METALS, TOTAL SW6010C** BatchID: **206592** Analysis Date: **05/06/2015** Seq No: **6197937**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.005	0.0200	1.000		100	75	125	0.9829	2.21	20	
Arsenic	1.021	0.0500	1.000	0.008077	101	75	125	0.9949	2.55	20	
Barium	1.059	0.0200	1.000	0.07857	98.0	75	125	1.039	1.87	20	
Beryllium	0.9986	0.0100	1.000		99.9	75	125	0.9801	1.87	20	
Cadmium	0.9969	0.0050	1.000		99.7	75	125	0.9784	1.87	20	
Chromium	0.9746	0.0100	1.000	0.0008241	97.4	75	125	0.9622	1.27	20	
Copper	0.9830	0.0100	1.000		98.3	75	125	0.9638	1.97	20	
Lead	0.9878	0.0100	1.000		98.8	75	125	0.9675	2.08	20	
Nickel	0.9899	0.0200	1.000		99.0	75	125	0.9710	1.93	20	
Zinc	0.9986	0.0200	1.000	0.004353	99.4	75	125	0.9809	1.79	20	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon
Workorder: 1504P64

ANALYTICAL QC SUMMARY REPORT

BatchID: 206672

Sample ID: **MB-206672** Client ID: Units: **ug/L** Prep Date: **05/01/2015** Run No: **291059**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D** BatchID: **206672** Analysis Date: **05/04/2015** Seq No: **6191738**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	BRL	0.050									
Benzo(a)pyrene	BRL	0.050									
Benzo(b)fluoranthene	BRL	0.10									
Dibenz(a,h)anthracene	BRL	0.10									
Indeno(1,2,3-cd)pyrene	BRL	0.050									
Surr: 4-Terphenyl-d14	2.224	0	2.000		111	55.4	136				

Sample ID: **LCS-206672** Client ID: Units: **ug/L** Prep Date: **05/01/2015** Run No: **291059**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D** BatchID: **206672** Analysis Date: **05/04/2015** Seq No: **6191739**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	1.445	0.050	2.000		72.2	60.6	137				
Benzo(a)pyrene	1.471	0.050	2.000		73.6	64	124				
Benzo(b)fluoranthene	1.445	0.10	2.000		72.2	56.4	133				
Dibenz(a,h)anthracene	1.372	0.10	2.000		68.6	52.4	130				
Indeno(1,2,3-cd)pyrene	1.433	0.050	2.000		71.6	50.4	139				
Surr: 4-Terphenyl-d14	1.636	0	2.000		81.8	55.4	136				

Sample ID: **LCSD-206672** Client ID: Units: **ug/L** Prep Date: **05/01/2015** Run No: **291059**
SampleType: **LCSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D** BatchID: **206672** Analysis Date: **05/04/2015** Seq No: **6191740**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	1.690	0.050	2.000		84.5	60.6	137	1.445	15.6	22.9	
Benzo(a)pyrene	1.741	0.050	2.000		87.1	64	124	1.471	16.8	22.7	
Benzo(b)fluoranthene	1.742	0.10	2.000		87.1	56.4	133	1.445	18.7	20.3	
Dibenz(a,h)anthracene	1.664	0.10	2.000		83.2	52.4	130	1.372	19.2	21.7	
Indeno(1,2,3-cd)pyrene	1.720	0.050	2.000		86.0	50.4	139	1.433	18.3	19.2	
Surr: 4-Terphenyl-d14	1.886	0	2.000		94.3	55.4	136	1.636	0	0	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon
Workorder: 1504P64

ANALYTICAL QC SUMMARY REPORT

BatchID: 206771

Sample ID: **MB-206771**	Client ID:		Units: **ug/L**	Prep Date: **05/04/2015**	Run No: **291158**
SampleType: **MBLK**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **206771**	Analysis Date: **05/05/2015**	Seq No: **6194391**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	BRL	0.050									
Benzo(a)pyrene	BRL	0.050									
Benzo(b)fluoranthene	BRL	0.10									
Dibenz(a,h)anthracene	BRL	0.10									
Indeno(1,2,3-cd)pyrene	BRL	0.050									
Surr: 4-Terphenyl-d14	2.045	0	2.000		102	55.4	136				

Sample ID: **LCS-206771**	Client ID:		Units: **ug/L**	Prep Date: **05/04/2015**	Run No: **291158**
SampleType: **LCS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **206771**	Analysis Date: **05/05/2015**	Seq No: **6194392**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	1.671	0.050	2.000		83.6	60.6	137				
Benzo(a)pyrene	1.806	0.050	2.000		90.3	64	124				
Benzo(b)fluoranthene	1.604	0.10	2.000		80.2	56.4	133				
Dibenz(a,h)anthracene	1.580	0.10	2.000		79.0	52.4	130				
Indeno(1,2,3-cd)pyrene	1.682	0.050	2.000		84.1	50.4	139				
Surr: 4-Terphenyl-d14	1.980	0	2.000		99.0	55.4	136				

Sample ID: **LCSD-206771**	Client ID:		Units: **ug/L**	Prep Date: **05/04/2015**	Run No: **291158**
SampleType: **LCSD**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **206771**	Analysis Date: **05/05/2015**	Seq No: **6194393**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	1.691	0.050	2.000		84.5	60.6	137	1.671	1.18	22.9	
Benzo(a)pyrene	1.784	0.050	2.000		89.2	64	124	1.806	1.25	22.7	
Benzo(b)fluoranthene	1.635	0.10	2.000		81.8	56.4	133	1.604	1.91	20.3	
Dibenz(a,h)anthracene	1.589	0.10	2.000		79.4	52.4	130	1.580	0.588	21.7	
Indeno(1,2,3-cd)pyrene	1.649	0.050	2.000		82.5	50.4	139	1.682	1.98	19.2	
Surr: 4-Terphenyl-d14	2.010	0	2.000		101	55.4	136	1.980	0	0	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon
Workorder: 1504P64

ANALYTICAL QC SUMMARY REPORT

BatchID: 206780

Sample ID: **MB-206780**	Client ID:		Units: **ug/L**	Prep Date: **05/02/2015**	Run No: **291027**
SampleType: **MBLK**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **206780**	Analysis Date: **05/02/2015**	Seq No: **6191138**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	5.0									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	42.26	0	50.00		84.5	70.6	123				
Surr: Dibromofluoromethane	52.71	0	50.00		105	78.7	124				
Surr: Toluene-d8	47.54	0	50.00		95.1	81.3	120				

Sample ID: **LCS-206780**	Client ID:		Units: **ug/L**	Prep Date: **05/02/2015**	Run No: **291027**
SampleType: **LCS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **206780**	Analysis Date: **05/02/2015**	Seq No: **6191137**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	46.53	5.0	50.00		93.1	72.8	128				
Toluene	48.85	5.0	50.00		97.7	74.9	127				
Surr: 4-Bromofluorobenzene	43.09	0	50.00		86.2	70.6	123				
Surr: Dibromofluoromethane	52.85	0	50.00		106	78.7	124				
Surr: Toluene-d8	48.07	0	50.00		96.1	81.3	120				

Sample ID: **1504P53-007AMS**	Client ID:		Units: **ug/L**	Prep Date: **05/02/2015**	Run No: **291054**
SampleType: **MS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **206780**	Analysis Date: **05/04/2015**	Seq No: **6193099**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	22200	2500	25000		88.8	70	135				
Toluene	22260	2500	25000		89.0	70.5	137				
Surr: 4-Bromofluorobenzene	21770	0	25000		87.1	70.6	123				
Surr: Dibromofluoromethane	25680	0	25000		103	78.7	124				
Surr: Toluene-d8	24410	0	25000		97.6	81.3	120				

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon
Workorder: 1504P64

ANALYTICAL QC SUMMARY REPORT

BatchID: 206780

Sample ID: **1504P53-007AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/L** Prep Date: **05/02/2015** Run No: **291054**
BatchID: **206780** Analysis Date: **05/04/2015** Seq No: **6193101**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	20990	2500	25000		83.9	70	135	22200	5.63	20	
Toluene	21440	2500	25000		85.7	70.5	137	22260	3.75	20	
Surr: 4-Bromofluorobenzene	21410	0	25000		85.6	70.6	123	21770	0	0	
Surr: Dibromofluoromethane	24800	0	25000		99.2	78.7	124	25680	0	0	
Surr: Toluene-d8	23500	0	25000		94.0	81.3	120	24410	0	0	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon
Workorder: 1504P64

ANALYTICAL QC SUMMARY REPORT

BatchID: 206812

Sample ID: **MB-206812** Client ID: Units: **ug/L** Prep Date: **05/05/2015** Run No: **291208**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **206812** Analysis Date: **05/06/2015** Seq No: **6195678**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	10									
2-Methylphenol	BRL	10									
3,4-Methylphenol	BRL	10									
Acenaphthene	BRL	10									
Acenaphthylene	BRL	10									
Anthracene	BRL	10									
Benzo(g,h,i)perylene	BRL	10									
Benzo(k)fluoranthene	BRL	10									
Chrysene	BRL	10									
Fluoranthene	BRL	10									
Fluorene	BRL	10									
Naphthalene	BRL	10									
Phenanthrene	BRL	10									
Phenol	BRL	10									
Pyrene	BRL	10									
Surr: 2,4,6-Tribromophenol	92.28	0	100.0		92.3	52	133				
Surr: 2-Fluorobiphenyl	49.78	0	50.00		99.6	50	121				
Surr: 2-Fluorophenol	63.90	0	100.0		63.9	27.5	120				
Surr: 4-Terphenyl-d14	49.14	0	50.00		98.3	46.3	137				
Surr: Nitrobenzene-d5	43.18	0	50.00		86.4	41.2	121				
Surr: Phenol-d5	47.46	0	100.0		47.5	14.3	120				

Sample ID: **LCS-206812** Client ID: Units: **ug/L** Prep Date: **05/05/2015** Run No: **291208**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **206812** Analysis Date: **05/06/2015** Seq No: **6195679**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	109.3	10	100.0		109	68.2	124				
Phenol	45.08	10	100.0		45.1	25.6	120				

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon
Workorder: 1504P64

ANALYTICAL QC SUMMARY REPORT

BatchID: 206812

Sample ID: **LCS-206812**	Client ID:		Units: **ug/L**	Prep Date: **05/05/2015**	Run No: **291208**
SampleType: **LCS**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **206812**	Analysis Date: **05/06/2015**	Seq No: **6195679**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Pyrene	113.2	10	100.0		113	70.1	124				
Surr: 2,4,6-Tribromophenol	106.0	0	100.0		106	52	133				
Surr: 2-Fluorobiphenyl	53.60	0	50.00		107	50	121				
Surr: 2-Fluorophenol	66.00	0	100.0		66.0	27.5	120				
Surr: 4-Terphenyl-d14	56.28	0	50.00		113	46.3	137				
Surr: Nitrobenzene-d5	45.29	0	50.00		90.6	41.2	121				
Surr: Phenol-d5	44.10	0	100.0		44.1	14.3	120				

Sample ID: **1505288-001BMS**	Client ID:		Units: **ug/L**	Prep Date: **05/05/2015**	Run No: **291208**
SampleType: **MS**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **206812**	Analysis Date: **05/06/2015**	Seq No: **6197672**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	127.2	10	100.0		127	53.9	120				S
Phenol	74.21	10	100.0		74.2	31	120				
Pyrene	125.4	10	100.0		125	53	112				S
Surr: 2,4,6-Tribromophenol	116.8	0	100.0		117	52	133				
Surr: 2-Fluorobiphenyl	61.94	0	50.00		124	50	121				S
Surr: 2-Fluorophenol	88.77	0	100.0		88.8	27.5	120				
Surr: 4-Terphenyl-d14	62.00	0	50.00		124	46.3	137				
Surr: Nitrobenzene-d5	52.07	0	50.00		104	41.2	121				
Surr: Phenol-d5	73.91	0	100.0		73.9	14.3	120				

Sample ID: **1505288-001BMSD**	Client ID:		Units: **ug/L**	Prep Date: **05/05/2015**	Run No: **291208**
SampleType: **MSD**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **206812**	Analysis Date: **05/06/2015**	Seq No: **6197673**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	116.7	10	100.0		117	53.9	120	127.2	8.63	22.5	
Phenol	67.65	10	100.0		67.6	31	120	74.21	9.25	31.9	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon
Workorder: 1504P64

ANALYTICAL QC SUMMARY REPORT

BatchID: 206812

Sample ID: **1505288-001BMSD** Client ID:
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/L** Prep Date: **05/05/2015** Run No: **291208**
BatchID: **206812** Analysis Date: **05/06/2015** Seq No: **6197673**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Pyrene	119.6	10	100.0		120	53	112	125.4	4.80	22.3	S
Surr: 2,4,6-Tribromophenol	109.8	0	100.0		110	52	133	116.8	0	0	
Surr: 2-Fluorobiphenyl	56.36	0	50.00		113	50	121	61.94	0	0	
Surr: 2-Fluorophenol	85.22	0	100.0		85.2	27.5	120	88.77	0	0	
Surr: 4-Terphenyl-d14	58.06	0	50.00		116	46.3	137	62.00	0	0	
Surr: Nitrobenzene-d5	46.58	0	50.00		93.2	41.2	121	52.07	0	0	
Surr: Phenol-d5	70.15	0	100.0		70.2	14.3	120	73.91	0	0	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon
Workorder: 1504P64

ANALYTICAL QC SUMMARY REPORT

BatchID: 206901

Sample ID: **MB-206901**	Client ID:			Units: **mg/L**	Prep Date: **05/06/2015**	Run No: **291299**
SampleType: **MBLK**	TestCode: **Mercury, Total SW7470A**			BatchID: **206901**	Analysis Date: **05/06/2015**	Seq No: **6197984**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.00020									

Sample ID: **LCS-206901**	Client ID:			Units: **mg/L**	Prep Date: **05/06/2015**	Run No: **291299**
SampleType: **LCS**	TestCode: **Mercury, Total SW7470A**			BatchID: **206901**	Analysis Date: **05/06/2015**	Seq No: **6197985**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005053	0.00020	0.0050		101	80	120				

Sample ID: **1504P73-009AMS**	Client ID:			Units: **mg/L**	Prep Date: **05/06/2015**	Run No: **291299**
SampleType: **MS**	TestCode: **Mercury, Total SW7470A**			BatchID: **206901**	Analysis Date: **05/06/2015**	Seq No: **6197987**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.004151	0.00020	0.0050		83.0	70	130				

Sample ID: **1504P73-009AMSD**	Client ID:			Units: **mg/L**	Prep Date: **05/06/2015**	Run No: **291299**
SampleType: **MSD**	TestCode: **Mercury, Total SW7470A**			BatchID: **206901**	Analysis Date: **05/06/2015**	Seq No: **6197990**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.004201	0.00020	0.0050		84.0	70	130	0.004151	1.20	20	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon
Workorder: 1504P64

ANALYTICAL QC SUMMARY REPORT

BatchID: 207018

Sample ID: **MB-207018**	Client ID:					Units: **mg/L**		Prep Date: **05/06/2015**		Run No: **291257**	
SampleType: **MBLK**	TestCode: **Cyanide SW9014**					BatchID: **207018**		Analysis Date: **05/06/2015**		Seq No: **6196714**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	0.010									

Sample ID: **LCS-207018**	Client ID:					Units: **mg/L**		Prep Date: **05/06/2015**		Run No: **291257**	
SampleType: **LCS**	TestCode: **Cyanide SW9014**					BatchID: **207018**		Analysis Date: **05/06/2015**		Seq No: **6196715**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2740	0.010	0.2500		110	85	115				

Sample ID: **1504O39-002DMS**	Client ID:					Units: **mg/L**		Prep Date: **05/06/2015**		Run No: **291257**	
SampleType: **MS**	TestCode: **Cyanide SW9014**					BatchID: **207018**		Analysis Date: **05/06/2015**		Seq No: **6196727**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2740	0.010	0.2500	0.01500	104	70	130				

Sample ID: **1504O39-002DMSD**	Client ID:					Units: **mg/L**		Prep Date: **05/06/2015**		Run No: **291257**	
SampleType: **MSD**	TestCode: **Cyanide SW9014**					BatchID: **207018**		Analysis Date: **05/06/2015**		Seq No: **6196757**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2722	0.010	0.2500	0.01500	103	70	130	0.2740	0.659	20	

Qualifiers:

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

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

May 08, 2015

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

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

RE: AGLC Macon Remediation

Dear Nic Vrey: Order No: 1504Q19

Analytical Environmental Services, Inc. received 5 samples on 4/30/2015 1:54:00 PM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES' certifications are as follows:
-NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/14-06/30/15.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/15.

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

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

Mirzeta Kararic

Mirzeta Kararic
Project Manager

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

CHAIN OF CUSTODY

Work Order: 1504Q19

Date: 4/30/15 Page 1 of 1

COMPANY: ERM	ADDRESS: 3200 Windy Hill Rd SE Ste 1500W Atlanta GA 30339
PHONE: 770 722 9323	FAX:
SAMPLED BY: Will Virgo	SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	8260B	8270C	total metals	total cyanide	No # of Containers	REMARKS
1	MW-114D-20150429-01	4/29/15	1721		X	GW	X	X	X	X	6	
2	MW-21-20150430-01	4/30/15	0918		↓	↓	X	X	X	X	6	
3	MW-27DD-20150430-01	↓	1056				X	X	X	X	6	
4	MW-27D-20150430-01	↓	1140				X	X	X	X	6	
5	TB-04-2015 0430-01	4/30/15	—	X		W	X				2	
6												
7												
8												
9												
10												
11												
12												
13												
14												

ANALYSIS REQUESTED

PRESERVATION (See codes)

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

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: Will Virgo	1354	1: Cataya Reeves	4/30/15 1:54p
2:		2:	
3:		3:	

PROJECT INFORMATION

PROJECT NAME: AGLC Macon Remediation

PROJECT #:

SITE ADDRESS: Macon, GA

SEND REPORT TO: Adrian Reiner, Vic Vrey

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: PO#:

RECEIPT

Total # of Containers: 26

Turnaround Time Request
- [X] Standard 5 Business Days
- [ ] 2 Business Day Rush
- [ ] Next Business Day Rush
- [ ] Same Day Rush (auth req.)
- [ ] Other

STATE PROGRAM (if any):

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

DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD

OUT / / VIA:

IN / VIA:

CLIENT FedEx UPS MAIL COURIER GREYHOUND OTHER

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

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

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

White Copy - Original; Yellow Copy - Client

Client: ERM-Southeast
Project: AGLC Macon Remediation
Lab ID: 1504Q19

Case Narrative

Sample Receiving Nonconformance:

One of the two vials for sample 1504Q19-001A was received with headspace present as signified by >1/4 inch bubble present. The laboratory proceeded with analysis using the remaining vial.

PAH Analysis by Method 8270D SIM:

Matrix spike and matrix spike duplicate analyses were not performed with Batch 206672 due to insufficient sample volume.

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

Client:	ERM-Southeast	**Client Sample ID:**	MW-114D-20150429-01
Project Name:	AGLC Macon Remediation	**Collection Date:**	4/29/2015 5:21:00 PM
Lab ID:	1504Q19-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	206698	1	05/01/2015 23:16	CG
Carbon disulfide	BRL	5.0		ug/L	206698	1	05/01/2015 23:16	CG
Ethylbenzene	BRL	5.0		ug/L	206698	1	05/01/2015 23:16	CG
Toluene	BRL	5.0		ug/L	206698	1	05/01/2015 23:16	CG
Xylenes, Total	BRL	5.0		ug/L	206698	1	05/01/2015 23:16	CG
Surr: 4-Bromofluorobenzene	76.8	70.6-123		%REC	206698	1	05/01/2015 23:16	CG
Surr: Dibromofluoromethane	116	78.7-124		%REC	206698	1	05/01/2015 23:16	CG
Surr: Toluene-d8	104	81.3-120		%REC	206698	1	05/01/2015 23:16	CG
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	206672	1	05/04/2015 19:38	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	206672	1	05/04/2015 19:38	YH
Benzo(a)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 19:38	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 19:38	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	206672	1	05/04/2015 19:38	YH
Surr: 4-Terphenyl-d14	104	55.4-136		%REC	206672	1	05/04/2015 19:38	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	206812	1	05/06/2015 12:41	YH
2-Methylphenol	BRL	10		ug/L	206812	1	05/06/2015 12:41	YH
3,4-Methylphenol	BRL	10		ug/L	206812	1	05/06/2015 12:41	YH
Acenaphthene	BRL	10		ug/L	206812	1	05/06/2015 12:41	YH
Acenaphthylene	BRL	10		ug/L	206812	1	05/06/2015 12:41	YH
Anthracene	BRL	10		ug/L	206812	1	05/06/2015 12:41	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	206812	1	05/06/2015 12:41	YH
Benzo(k)fluoranthene	BRL	10		ug/L	206812	1	05/06/2015 12:41	YH
Chrysene	BRL	10		ug/L	206812	1	05/06/2015 12:41	YH
Fluoranthene	BRL	10		ug/L	206812	1	05/06/2015 12:41	YH
Fluorene	BRL	10		ug/L	206812	1	05/06/2015 12:41	YH
Naphthalene	BRL	10		ug/L	206812	1	05/06/2015 12:41	YH
Phenanthrene	BRL	10		ug/L	206812	1	05/06/2015 12:41	YH
Phenol	BRL	10		ug/L	206812	1	05/06/2015 12:41	YH
Pyrene	BRL	10		ug/L	206812	1	05/06/2015 12:41	YH
Surr: 2,4,6-Tribromophenol	97.6	52-133		%REC	206812	1	05/06/2015 12:41	YH
Surr: 2-Fluorobiphenyl	88.1	50-121		%REC	206812	1	05/06/2015 12:41	YH
Surr: 2-Fluorophenol	71.4	27.5-120		%REC	206812	1	05/06/2015 12:41	YH
Surr: 4-Terphenyl-d14	95.8	46.3-137		%REC	206812	1	05/06/2015 12:41	YH
Surr: Nitrobenzene-d5	87.3	41.2-121		%REC	206812	1	05/06/2015 12:41	YH
Surr: Phenol-d5	58.2	14.3-120		%REC	206812	1	05/06/2015 12:41	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

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

Client:	ERM-Southeast	**Client Sample ID:**	MW-114D-20150429-01
Project Name:	AGLC Macon Remediation	**Collection Date:**	4/29/2015 5:21:00 PM
Lab ID:	1504Q19-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	206901	1	05/06/2015 20:05	TA
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	207018	1	05/07/2015 14:50	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	206837	1	05/06/2015 20:28	JL
Arsenic	BRL	0.0500		mg/L	206837	1	05/06/2015 20:28	JL
Barium	0.493	0.0200		mg/L	206837	1	05/06/2015 20:28	JL
Beryllium	BRL	0.0100		mg/L	206837	1	05/06/2015 20:28	JL
Cadmium	BRL	0.0050		mg/L	206837	1	05/06/2015 20:28	JL
Chromium	BRL	0.0100		mg/L	206837	1	05/06/2015 20:28	JL
Copper	BRL	0.0100		mg/L	206837	1	05/06/2015 20:28	JL
Lead	BRL	0.0100		mg/L	206837	1	05/06/2015 20:28	JL
Nickel	BRL	0.0200		mg/L	206837	1	05/06/2015 20:28	JL
Zinc	BRL	0.0200		mg/L	206837	1	05/06/2015 20:28	JL

Qualifiers:

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

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

Client:	ERM-Southeast	**Client Sample ID:**	MW-21-20150430-01
Project Name:	AGLC Macon Remediation	**Collection Date:**	4/30/2015 9:18:00 AM
Lab ID:	1504Q19-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	206698	1	05/01/2015 23:40	CG
Carbon disulfide	BRL	5.0		ug/L	206698	1	05/01/2015 23:40	CG
Ethylbenzene	BRL	5.0		ug/L	206698	1	05/01/2015 23:40	CG
Toluene	BRL	5.0		ug/L	206698	1	05/01/2015 23:40	CG
Xylenes, Total	BRL	5.0		ug/L	206698	1	05/01/2015 23:40	CG
Surr: 4-Bromofluorobenzene	79.3	70.6-123		%REC	206698	1	05/01/2015 23:40	CG
Surr: Dibromofluoromethane	108	78.7-124		%REC	206698	1	05/01/2015 23:40	CG
Surr: Toluene-d8	97	81.3-120		%REC	206698	1	05/01/2015 23:40	CG
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	206672	1	05/04/2015 20:04	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	206672	1	05/04/2015 20:04	YH
Benzo(a)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 20:04	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 20:04	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	206672	1	05/04/2015 20:04	YH
Surr: 4-Terphenyl-d14	113	55.4-136		%REC	206672	1	05/04/2015 20:04	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	206812	1	05/06/2015 13:08	YH
2-Methylphenol	BRL	10		ug/L	206812	1	05/06/2015 13:08	YH
3,4-Methylphenol	BRL	10		ug/L	206812	1	05/06/2015 13:08	YH
Acenaphthene	BRL	10		ug/L	206812	1	05/06/2015 13:08	YH
Acenaphthylene	BRL	10		ug/L	206812	1	05/06/2015 13:08	YH
Anthracene	BRL	10		ug/L	206812	1	05/06/2015 13:08	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	206812	1	05/06/2015 13:08	YH
Benzo(k)fluoranthene	BRL	10		ug/L	206812	1	05/06/2015 13:08	YH
Chrysene	BRL	10		ug/L	206812	1	05/06/2015 13:08	YH
Fluoranthene	BRL	10		ug/L	206812	1	05/06/2015 13:08	YH
Fluorene	BRL	10		ug/L	206812	1	05/06/2015 13:08	YH
Naphthalene	BRL	10		ug/L	206812	1	05/06/2015 13:08	YH
Phenanthrene	BRL	10		ug/L	206812	1	05/06/2015 13:08	YH
Phenol	BRL	10		ug/L	206812	1	05/06/2015 13:08	YH
Pyrene	BRL	10		ug/L	206812	1	05/06/2015 13:08	YH
Surr: 2,4,6-Tribromophenol	91.4	52-133		%REC	206812	1	05/06/2015 13:08	YH
Surr: 2-Fluorobiphenyl	80.9	50-121		%REC	206812	1	05/06/2015 13:08	YH
Surr: 2-Fluorophenol	64.5	27.5-120		%REC	206812	1	05/06/2015 13:08	YH
Surr: 4-Terphenyl-d14	91.5	46.3-137		%REC	206812	1	05/06/2015 13:08	YH
Surr: Nitrobenzene-d5	77.7	41.2-121		%REC	206812	1	05/06/2015 13:08	YH
Surr: Phenol-d5	54.1	14.3-120		%REC	206812	1	05/06/2015 13:08	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

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

Client:	ERM-Southeast	**Client Sample ID:**	MW-21-20150430-01
Project Name:	AGLC Macon Remediation	**Collection Date:**	4/30/2015 9:18:00 AM
Lab ID:	1504Q19-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	206901	1	05/06/2015 20:06	TA
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	BRL	0.010		mg/L	207018	1	05/07/2015 14:50	PF
METALS, TOTAL SW6010C				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	206837	1	05/06/2015 20:32	JL
Arsenic	BRL	0.0500		mg/L	206837	1	05/06/2015 20:32	JL
Barium	0.0756	0.0200		mg/L	206837	1	05/06/2015 20:32	JL
Beryllium	BRL	0.0100		mg/L	206837	1	05/06/2015 20:32	JL
Cadmium	BRL	0.0050		mg/L	206837	1	05/06/2015 20:32	JL
Chromium	BRL	0.0100		mg/L	206837	1	05/06/2015 20:32	JL
Copper	BRL	0.0100		mg/L	206837	1	05/06/2015 20:32	JL
Lead	BRL	0.0100		mg/L	206837	1	05/06/2015 20:32	JL
Nickel	BRL	0.0200		mg/L	206837	1	05/06/2015 20:32	JL
Zinc	0.135	0.0200		mg/L	206837	1	05/06/2015 20:32	JL

Qualifiers:

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

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

Client:	ERM-Southeast	**Client Sample ID:**	MW-27DD-20150430-01
Project Name:	AGLC Macon Remediation	**Collection Date:**	4/30/2015 10:56:00 AM
Lab ID:	1504Q19-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	206698	1	05/02/2015 00:04	CG
Carbon disulfide	BRL	5.0		ug/L	206698	1	05/02/2015 00:04	CG
Ethylbenzene	BRL	5.0		ug/L	206698	1	05/02/2015 00:04	CG
Toluene	BRL	5.0		ug/L	206698	1	05/02/2015 00:04	CG
Xylenes, Total	BRL	5.0		ug/L	206698	1	05/02/2015 00:04	CG
Surr: 4-Bromofluorobenzene	77.4	70.6-123		%REC	206698	1	05/02/2015 00:04	CG
Surr: Dibromofluoromethane	115	78.7-124		%REC	206698	1	05/02/2015 00:04	CG
Surr: Toluene-d8	99.4	81.3-120		%REC	206698	1	05/02/2015 00:04	CG
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	206672	1	05/04/2015 20:30	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	206672	1	05/04/2015 20:30	YH
Benzo(a)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 20:30	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 20:30	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	206672	1	05/04/2015 20:30	YH
Surr: 4-Terphenyl-d14	78.5	55.4-136		%REC	206672	1	05/04/2015 20:30	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	206812	1	05/06/2015 13:35	YH
2-Methylphenol	BRL	10		ug/L	206812	1	05/06/2015 13:35	YH
3,4-Methylphenol	BRL	10		ug/L	206812	1	05/06/2015 13:35	YH
Acenaphthene	BRL	10		ug/L	206812	1	05/06/2015 13:35	YH
Acenaphthylene	BRL	10		ug/L	206812	1	05/06/2015 13:35	YH
Anthracene	BRL	10		ug/L	206812	1	05/06/2015 13:35	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	206812	1	05/06/2015 13:35	YH
Benzo(k)fluoranthene	BRL	10		ug/L	206812	1	05/06/2015 13:35	YH
Chrysene	BRL	10		ug/L	206812	1	05/06/2015 13:35	YH
Fluoranthene	BRL	10		ug/L	206812	1	05/06/2015 13:35	YH
Fluorene	BRL	10		ug/L	206812	1	05/06/2015 13:35	YH
Naphthalene	BRL	10		ug/L	206812	1	05/06/2015 13:35	YH
Phenanthrene	BRL	10		ug/L	206812	1	05/06/2015 13:35	YH
Phenol	BRL	10		ug/L	206812	1	05/06/2015 13:35	YH
Pyrene	BRL	10		ug/L	206812	1	05/06/2015 13:35	YH
Surr: 2,4,6-Tribromophenol	91.5	52-133		%REC	206812	1	05/06/2015 13:35	YH
Surr: 2-Fluorobiphenyl	86.5	50-121		%REC	206812	1	05/06/2015 13:35	YH
Surr: 2-Fluorophenol	65.3	27.5-120		%REC	206812	1	05/06/2015 13:35	YH
Surr: 4-Terphenyl-d14	93	46.3-137		%REC	206812	1	05/06/2015 13:35	YH
Surr: Nitrobenzene-d5	79.3	41.2-121		%REC	206812	1	05/06/2015 13:35	YH
Surr: Phenol-d5	55.6	14.3-120		%REC	206812	1	05/06/2015 13:35	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

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

Client:	ERM-Southeast	**Client Sample ID:**	MW-27DD-20150430-01
Project Name:	AGLC Macon Remediation	**Collection Date:**	4/30/2015 10:56:00 AM
Lab ID:	1504Q19-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	206901	1	05/06/2015 20:08	TA
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.064	0.010		mg/L	207018	1	05/07/2015 14:50	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	206837	1	05/06/2015 20:35	JL
Arsenic	BRL	0.0500		mg/L	206837	1	05/06/2015 20:35	JL
Barium	0.544	0.0200		mg/L	206837	1	05/06/2015 20:35	JL
Beryllium	BRL	0.0100		mg/L	206837	1	05/06/2015 20:35	JL
Cadmium	BRL	0.0050		mg/L	206837	1	05/06/2015 20:35	JL
Chromium	BRL	0.0100		mg/L	206837	1	05/06/2015 20:35	JL
Copper	BRL	0.0100		mg/L	206837	1	05/06/2015 20:35	JL
Lead	BRL	0.0100		mg/L	206837	1	05/06/2015 20:35	JL
Nickel	BRL	0.0200		mg/L	206837	1	05/06/2015 20:35	JL
Zinc	BRL	0.0200		mg/L	206837	1	05/06/2015 20:35	JL

Qualifiers:

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

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

Client:	ERM-Southeast	**Client Sample ID:**	MW-27D-20150430-01
Project Name:	AGLC Macon Remediation	**Collection Date:**	4/30/2015 11:40:00 AM
Lab ID:	1504Q19-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	206698	1	05/02/2015 00:28	CG
Carbon disulfide	BRL	5.0		ug/L	206698	1	05/02/2015 00:28	CG
Ethylbenzene	BRL	5.0		ug/L	206698	1	05/02/2015 00:28	CG
Toluene	BRL	5.0		ug/L	206698	1	05/02/2015 00:28	CG
Xylenes, Total	BRL	5.0		ug/L	206698	1	05/02/2015 00:28	CG
Surr: 4-Bromofluorobenzene	77.1	70.6-123		%REC	206698	1	05/02/2015 00:28	CG
Surr: Dibromofluoromethane	117	78.7-124		%REC	206698	1	05/02/2015 00:28	CG
Surr: Toluene-d8	101	81.3-120		%REC	206698	1	05/02/2015 00:28	CG
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	0.050		ug/L	206672	1	05/04/2015 20:57	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	206672	1	05/04/2015 20:57	YH
Benzo(a)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 20:57	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	206672	1	05/04/2015 20:57	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	206672	1	05/04/2015 20:57	YH
Surr: 4-Terphenyl-d14	97.7	55.4-136		%REC	206672	1	05/04/2015 20:57	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	206812	1	05/06/2015 14:01	YH
2-Methylphenol	BRL	10		ug/L	206812	1	05/06/2015 14:01	YH
3,4-Methylphenol	BRL	10		ug/L	206812	1	05/06/2015 14:01	YH
Acenaphthene	BRL	10		ug/L	206812	1	05/06/2015 14:01	YH
Acenaphthylene	BRL	10		ug/L	206812	1	05/06/2015 14:01	YH
Anthracene	BRL	10		ug/L	206812	1	05/06/2015 14:01	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	206812	1	05/06/2015 14:01	YH
Benzo(k)fluoranthene	BRL	10		ug/L	206812	1	05/06/2015 14:01	YH
Chrysene	BRL	10		ug/L	206812	1	05/06/2015 14:01	YH
Fluoranthene	BRL	10		ug/L	206812	1	05/06/2015 14:01	YH
Fluorene	BRL	10		ug/L	206812	1	05/06/2015 14:01	YH
Naphthalene	BRL	10		ug/L	206812	1	05/06/2015 14:01	YH
Phenanthrene	BRL	10		ug/L	206812	1	05/06/2015 14:01	YH
Phenol	BRL	10		ug/L	206812	1	05/06/2015 14:01	YH
Pyrene	BRL	10		ug/L	206812	1	05/06/2015 14:01	YH
Surr: 2,4,6-Tribromophenol	82	52-133		%REC	206812	1	05/06/2015 14:01	YH
Surr: 2-Fluorobiphenyl	84	50-121		%REC	206812	1	05/06/2015 14:01	YH
Surr: 2-Fluorophenol	66.5	27.5-120		%REC	206812	1	05/06/2015 14:01	YH
Surr: 4-Terphenyl-d14	90.8	46.3-137		%REC	206812	1	05/06/2015 14:01	YH
Surr: Nitrobenzene-d5	83.8	41.2-121		%REC	206812	1	05/06/2015 14:01	YH
Surr: Phenol-d5	57.6	14.3-120		%REC	206812	1	05/06/2015 14:01	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

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

Client:	ERM-Southeast	**Client Sample ID:**	MW-27D-20150430-01
Project Name:	AGLC Macon Remediation	**Collection Date:**	4/30/2015 11:40:00 AM
Lab ID:	1504Q19-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	206901	1	05/06/2015 20:10	TA
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	BRL	0.010		mg/L	207102	1	05/07/2015 15:00	PF
METALS, TOTAL SW6010C				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	206837	1	05/06/2015 20:46	JL
Arsenic	BRL	0.0500		mg/L	206837	1	05/06/2015 20:46	JL
Barium	0.846	0.0200		mg/L	206837	1	05/06/2015 20:46	JL
Beryllium	BRL	0.0100		mg/L	206837	1	05/06/2015 20:46	JL
Cadmium	BRL	0.0050		mg/L	206837	1	05/06/2015 20:46	JL
Chromium	BRL	0.0100		mg/L	206837	1	05/06/2015 20:46	JL
Copper	BRL	0.0100		mg/L	206837	1	05/06/2015 20:46	JL
Lead	BRL	0.0100		mg/L	206837	1	05/06/2015 20:46	JL
Nickel	BRL	0.0200		mg/L	206837	1	05/06/2015 20:46	JL
Zinc	BRL	0.0200		mg/L	206837	1	05/06/2015 20:46	JL

Qualifiers:

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

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

Client:	ERM-Southeast	**Client Sample ID:**	TB-04-20150430-01
Project Name:	AGLC Macon Remediation	**Collection Date:**	4/30/2015
Lab ID:	1504Q19-005	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	206698	1	05/04/2015 14:26	CH
Carbon disulfide	BRL	5.0		ug/L	206698	1	05/04/2015 14:26	CH
Ethylbenzene	BRL	5.0		ug/L	206698	1	05/04/2015 14:26	CH
Toluene	BRL	5.0		ug/L	206698	1	05/04/2015 14:26	CH
Xylenes, Total	BRL	5.0		ug/L	206698	1	05/04/2015 14:26	CH
Surr: 4-Bromofluorobenzene	72.9	70.6-123		%REC	206698	1	05/04/2015 14:26	CH
Surr: Dibromofluoromethane	109	78.7-124		%REC	206698	1	05/04/2015 14:26	CH
Surr: Toluene-d8	96.9	81.3-120		%REC	206698	1	05/04/2015 14:26	CH

Qualifiers:

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

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM Work Order Number 1504Q19

Checklist completed by JB 4/30/15
Signature Date

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

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

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

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

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

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

Chain of custody present? Yes ✓ No __

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

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

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

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

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

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

Adjusted? _____ Checked by JB

Sample Condition: Good ✓ Other(Explain) _____

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

See Case Narrative for resolution of the Non-Conformance.

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

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

Client: ERM-Southeast
Project Name: AGLC Macon Remediation
Workorder: 1504Q19

ANALYTICAL QC SUMMARY REPORT

BatchID: 206672

Sample ID: **MB-206672**	Client ID:		Units: **ug/L**	Prep Date: **05/01/2015**	Run No: **291059**
SampleType: **MBLK**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **206672**	Analysis Date: **05/04/2015**	Seq No: **6191738**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	BRL	0.050									
Benzo(a)pyrene	BRL	0.050									
Benzo(b)fluoranthene	BRL	0.10									
Dibenz(a,h)anthracene	BRL	0.10									
Indeno(1,2,3-cd)pyrene	BRL	0.050									
Surr: 4-Terphenyl-d14	2.224	0	2.000		111	55.4	136				

Sample ID: **LCS-206672**	Client ID:		Units: **ug/L**	Prep Date: **05/01/2015**	Run No: **291059**
SampleType: **LCS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **206672**	Analysis Date: **05/04/2015**	Seq No: **6191739**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	1.445	0.050	2.000		72.2	60.6	137				
Benzo(a)pyrene	1.471	0.050	2.000		73.6	64	124				
Benzo(b)fluoranthene	1.445	0.10	2.000		72.2	56.4	133				
Dibenz(a,h)anthracene	1.372	0.10	2.000		68.6	52.4	130				
Indeno(1,2,3-cd)pyrene	1.433	0.050	2.000		71.6	50.4	139				
Surr: 4-Terphenyl-d14	1.636	0	2.000		81.8	55.4	136				

Sample ID: **LCSD-206672**	Client ID:		Units: **ug/L**	Prep Date: **05/01/2015**	Run No: **291059**
SampleType: **LCSD**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **206672**	Analysis Date: **05/04/2015**	Seq No: **6191740**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benz(a)anthracene	1.690	0.050	2.000		84.5	60.6	137	1.445	15.6	22.9	
Benzo(a)pyrene	1.741	0.050	2.000		87.1	64	124	1.471	16.8	22.7	
Benzo(b)fluoranthene	1.742	0.10	2.000		87.1	56.4	133	1.445	18.7	20.3	
Dibenz(a,h)anthracene	1.664	0.10	2.000		83.2	52.4	130	1.372	19.2	21.7	
Indeno(1,2,3-cd)pyrene	1.720	0.050	2.000		86.0	50.4	139	1.433	18.3	19.2	
Surr: 4-Terphenyl-d14	1.886	0	2.000		94.3	55.4	136	1.636	0	0	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon Remediation
Workorder: 1504Q19

ANALYTICAL QC SUMMARY REPORT

BatchID: 206698

Sample ID: **MB-206698**	Client ID:		Units: **ug/L**	Prep Date: **04/30/2015**	Run No: **290929**
SampleType: **MBLK**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **206698**	Analysis Date: **04/30/2015**	Seq No: **6190023**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	5.0									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	47.89	0	50.00		95.8	70.6	123				
Surr: Dibromofluoromethane	50.92	0	50.00		102	78.7	124				
Surr: Toluene-d8	51.36	0	50.00		103	81.3	120				

Sample ID: **LCS-206698**	Client ID:		Units: **ug/L**	Prep Date: **04/30/2015**	Run No: **290929**
SampleType: **LCS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **206698**	Analysis Date: **04/30/2015**	Seq No: **6190022**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	50.19	5.0	50.00		100	72.8	128				
Toluene	46.47	5.0	50.00		92.9	74.9	127				
Surr: 4-Bromofluorobenzene	47.73	0	50.00		95.5	70.6	123				
Surr: Dibromofluoromethane	50.14	0	50.00		100	78.7	124				
Surr: Toluene-d8	49.81	0	50.00		99.6	81.3	120				

Sample ID: **1504O77-001AMS**	Client ID:		Units: **ug/L**	Prep Date: **04/30/2015**	Run No: **290929**
SampleType: **MS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **206698**	Analysis Date: **05/01/2015**	Seq No: **6190025**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	49.57	5.0	50.00		99.1	70	135				
Toluene	44.21	5.0	50.00		88.4	70.5	137				
Surr: 4-Bromofluorobenzene	46.38	0	50.00		92.8	70.6	123				
Surr: Dibromofluoromethane	50.19	0	50.00		100	78.7	124				
Surr: Toluene-d8	51.18	0	50.00		102	81.3	120				

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon Remediation
Workorder: 1504Q19

ANALYTICAL QC SUMMARY REPORT

BatchID: 206698

Sample ID: **1504O77-001AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/L** Prep Date: **04/30/2015** Run No: **290929**
BatchID: **206698** Analysis Date: **05/01/2015** Seq No: **6190026**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	48.41	5.0	50.00		96.8	70	135	49.57	2.37	20	
Toluene	42.07	5.0	50.00		84.1	70.5	137	44.21	4.96	20	
Surr: 4-Bromofluorobenzene	46.73	0	50.00		93.5	70.6	123	46.38	0	0	
Surr: Dibromofluoromethane	50.45	0	50.00		101	78.7	124	50.19	0	0	
Surr: Toluene-d8	50.64	0	50.00		101	81.3	120	51.18	0	0	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon Remediation
Workorder: 1504Q19

ANALYTICAL QC SUMMARY REPORT

BatchID: 206812

Sample ID: **MB-206812** Client ID: Units: **ug/L** Prep Date: **05/05/2015** Run No: **291208**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **206812** Analysis Date: **05/06/2015** Seq No: **6195678**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	10									
2-Methylphenol	BRL	10									
3,4-Methylphenol	BRL	10									
Acenaphthene	BRL	10									
Acenaphthylene	BRL	10									
Anthracene	BRL	10									
Benzo(g,h,i)perylene	BRL	10									
Benzo(k)fluoranthene	BRL	10									
Chrysene	BRL	10									
Fluoranthene	BRL	10									
Fluorene	BRL	10									
Naphthalene	BRL	10									
Phenanthrene	BRL	10									
Phenol	BRL	10									
Pyrene	BRL	10									
Surr: 2,4,6-Tribromophenol	92.28	0	100.0		92.3	52	133				
Surr: 2-Fluorobiphenyl	49.78	0	50.00		99.6	50	121				
Surr: 2-Fluorophenol	63.90	0	100.0		63.9	27.5	120				
Surr: 4-Terphenyl-d14	49.14	0	50.00		98.3	46.3	137				
Surr: Nitrobenzene-d5	43.18	0	50.00		86.4	41.2	121				
Surr: Phenol-d5	47.46	0	100.0		47.5	14.3	120				

Sample ID: **LCS-206812** Client ID: Units: **ug/L** Prep Date: **05/05/2015** Run No: **291208**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **206812** Analysis Date: **05/06/2015** Seq No: **6195679**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	109.3	10	100.0		109	68.2	124				
Phenol	45.08	10	100.0		45.1	25.6	120				

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon Remediation
Workorder: 1504Q19

ANALYTICAL QC SUMMARY REPORT

BatchID: 206812

Sample ID: **LCS-206812** Client ID: Units: **ug/L** Prep Date: **05/05/2015** Run No: **291208**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **206812** Analysis Date: **05/06/2015** Seq No: **6195679**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Pyrene	113.2	10	100.0		113	70.1	124				
Surr: 2,4,6-Tribromophenol	106.0	0	100.0		106	52	133				
Surr: 2-Fluorobiphenyl	53.60	0	50.00		107	50	121				
Surr: 2-Fluorophenol	66.00	0	100.0		66.0	27.5	120				
Surr: 4-Terphenyl-d14	56.28	0	50.00		113	46.3	137				
Surr: Nitrobenzene-d5	45.29	0	50.00		90.6	41.2	121				
Surr: Phenol-d5	44.10	0	100.0		44.1	14.3	120				

Sample ID: **1505288-001BMS** Client ID: Units: **ug/L** Prep Date: **05/05/2015** Run No: **291208**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **206812** Analysis Date: **05/06/2015** Seq No: **6197672**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	127.2	10	100.0		127	53.9	120				S
Phenol	74.21	10	100.0		74.2	31	120				
Pyrene	125.4	10	100.0		125	53	112				S
Surr: 2,4,6-Tribromophenol	116.8	0	100.0		117	52	133				
Surr: 2-Fluorobiphenyl	61.94	0	50.00		124	50	121				S
Surr: 2-Fluorophenol	88.77	0	100.0		88.8	27.5	120				
Surr: 4-Terphenyl-d14	62.00	0	50.00		124	46.3	137				
Surr: Nitrobenzene-d5	52.07	0	50.00		104	41.2	121				
Surr: Phenol-d5	73.91	0	100.0		73.9	14.3	120				

Sample ID: **1505288-001BMSD** Client ID: Units: **ug/L** Prep Date: **05/05/2015** Run No: **291208**
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **206812** Analysis Date: **05/06/2015** Seq No: **6197673**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	116.7	10	100.0		117	53.9	120	127.2	8.63	22.5	
Phenol	67.65	10	100.0		67.6	31	120	74.21	9.25	31.9	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon Remediation
Workorder: 1504Q19

ANALYTICAL QC SUMMARY REPORT

BatchID: 206812

Sample ID: **1505288-001BMSD** Client ID:
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/L** Prep Date: **05/05/2015** Run No: **291208**
BatchID: **206812** Analysis Date: **05/06/2015** Seq No: **6197673**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Pyrene	119.6	10	100.0		120	53	112	125.4	4.80	22.3	S
Surr: 2,4,6-Tribromophenol	109.8	0	100.0		110	52	133	116.8	0	0	
Surr: 2-Fluorobiphenyl	56.36	0	50.00		113	50	121	61.94	0	0	
Surr: 2-Fluorophenol	85.22	0	100.0		85.2	27.5	120	88.77	0	0	
Surr: 4-Terphenyl-d14	58.06	0	50.00		116	46.3	137	62.00	0	0	
Surr: Nitrobenzene-d5	46.58	0	50.00		93.2	41.2	121	52.07	0	0	
Surr: Phenol-d5	70.15	0	100.0		70.2	14.3	120	73.91	0	0	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon Remediation
Workorder: 1504Q19

ANALYTICAL QC SUMMARY REPORT

BatchID: 206837

Sample ID: **MB-206837** Client ID: Units: **mg/L** Prep Date: **05/05/2015** Run No: **291295**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **206837** Analysis Date: **05/06/2015** Seq No: **6197867**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	0.0200									
Arsenic	BRL	0.0500									
Barium	BRL	0.0200									
Beryllium	BRL	0.0100									
Cadmium	BRL	0.0050									
Chromium	BRL	0.0100									
Copper	BRL	0.0100									
Lead	BRL	0.0100									
Nickel	BRL	0.0200									
Zinc	BRL	0.0200									

Sample ID: **LCS-206837** Client ID: Units: **mg/L** Prep Date: **05/05/2015** Run No: **291295**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **206837** Analysis Date: **05/06/2015** Seq No: **6197868**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	0.9582	0.0200	1.000		95.8	80	120				
Arsenic	0.9593	0.0500	1.000		95.9	80	120				
Barium	0.9329	0.0200	1.000		93.3	80	120				
Beryllium	0.9609	0.0100	1.000		96.1	80	120				
Cadmium	0.9578	0.0050	1.000		95.8	80	120				
Chromium	0.9300	0.0100	1.000	0.0007842	92.9	80	120				
Copper	0.9391	0.0100	1.000		93.9	80	120				
Lead	0.9465	0.0100	1.000	0.006174	94.0	80	120				
Nickel	0.9514	0.0200	1.000		95.1	80	120				
Zinc	0.9556	0.0200	1.000		95.6	80	120				

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon Remediation
Workorder: 1504Q19

ANALYTICAL QC SUMMARY REPORT

BatchID: 206837

Sample ID: **1505002-001DMS** Client ID:
SampleType: **MS** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/L** Prep Date: **05/05/2015** Run No: **291295**
BatchID: **206837** Analysis Date: **05/06/2015** Seq No: **6197870**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	0.9896	0.0200	1.000		99.0	75	125				
Arsenic	0.9977	0.0500	1.000	0.004116	99.4	75	125				
Barium	0.9940	0.0200	1.000	0.04380	95.0	75	125				
Beryllium	0.9684	0.0100	1.000		96.8	75	125				
Cadmium	0.9751	0.0050	1.000		97.5	75	125				
Chromium	0.9447	0.0100	1.000	0.0009728	94.4	75	125				
Copper	0.9563	0.0100	1.000		95.6	75	125				
Lead	0.9487	0.0100	1.000		94.9	75	125				
Nickel	0.9411	0.0200	1.000		94.1	75	125				
Zinc	0.9557	0.0200	1.000		95.6	75	125				

Sample ID: **1505002-001DMSD** Client ID:
SampleType: **MSD** TestCode: **METALS, TOTAL** **SW6010C**
Units: **mg/L** Prep Date: **05/05/2015** Run No: **291295**
BatchID: **206837** Analysis Date: **05/06/2015** Seq No: **6197871**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.005	0.0200	1.000		100	75	125	0.9896	1.51	20	
Arsenic	1.015	0.0500	1.000	0.004116	101	75	125	0.9977	1.73	20	
Barium	1.006	0.0200	1.000	0.04380	96.2	75	125	0.9940	1.20	20	
Beryllium	0.9766	0.0100	1.000		97.7	75	125	0.9684	0.837	20	
Cadmium	0.9853	0.0050	1.000		98.5	75	125	0.9751	1.04	20	
Chromium	0.9594	0.0100	1.000	0.0009728	95.8	75	125	0.9447	1.54	20	
Copper	0.9681	0.0100	1.000		96.8	75	125	0.9563	1.23	20	
Lead	0.9599	0.0100	1.000		96.0	75	125	0.9487	1.17	20	
Nickel	0.9514	0.0200	1.000		95.1	75	125	0.9411	1.09	20	
Zinc	0.9670	0.0200	1.000		96.7	75	125	0.9557	1.17	20	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon Remediation
Workorder: 1504Q19

ANALYTICAL QC SUMMARY REPORT

BatchID: 206901

Sample ID: **MB-206901**	Client ID:			Units: **mg/L**	Prep Date: **05/06/2015**	Run No: **291299**
SampleType: **MBLK**	TestCode: **Mercury, Total SW7470A**			BatchID: **206901**	Analysis Date: **05/06/2015**	Seq No: **6197984**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.00020									

Sample ID: **LCS-206901**	Client ID:			Units: **mg/L**	Prep Date: **05/06/2015**	Run No: **291299**
SampleType: **LCS**	TestCode: **Mercury, Total SW7470A**			BatchID: **206901**	Analysis Date: **05/06/2015**	Seq No: **6197985**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005053	0.00020	0.0050		101	80	120				

Sample ID: **1504P73-009AMS**	Client ID:			Units: **mg/L**	Prep Date: **05/06/2015**	Run No: **291299**
SampleType: **MS**	TestCode: **Mercury, Total SW7470A**			BatchID: **206901**	Analysis Date: **05/06/2015**	Seq No: **6197987**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.004151	0.00020	0.0050		83.0	70	130				

Sample ID: **1504P73-009AMSD**	Client ID:			Units: **mg/L**	Prep Date: **05/06/2015**	Run No: **291299**
SampleType: **MSD**	TestCode: **Mercury, Total SW7470A**			BatchID: **206901**	Analysis Date: **05/06/2015**	Seq No: **6197990**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.004201	0.00020	0.0050		84.0	70	130	0.004151	1.20	20	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon Remediation
Workorder: 1504Q19

ANALYTICAL QC SUMMARY REPORT

BatchID: 207018

Sample ID: **MB-207018**	Client ID:					Units: **mg/L**		Prep Date: **05/06/2015**		Run No: **291257**	
SampleType: **MBLK**	TestCode: **Cyanide SW9014**					BatchID: **207018**		Analysis Date: **05/06/2015**		Seq No: **6196714**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	0.010									

Sample ID: **LCS-207018**	Client ID:					Units: **mg/L**		Prep Date: **05/06/2015**		Run No: **291257**	
SampleType: **LCS**	TestCode: **Cyanide SW9014**					BatchID: **207018**		Analysis Date: **05/06/2015**		Seq No: **6196715**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2740	0.010	0.2500		110	85	115				

Sample ID: **1504O39-002DMS**	Client ID:					Units: **mg/L**		Prep Date: **05/06/2015**		Run No: **291257**	
SampleType: **MS**	TestCode: **Cyanide SW9014**					BatchID: **207018**		Analysis Date: **05/06/2015**		Seq No: **6196727**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2740	0.010	0.2500	0.01500	104	70	130				

Sample ID: **1504O39-002DMSD**	Client ID:					Units: **mg/L**		Prep Date: **05/06/2015**		Run No: **291257**	
SampleType: **MSD**	TestCode: **Cyanide SW9014**					BatchID: **207018**		Analysis Date: **05/06/2015**		Seq No: **6196757**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2722	0.010	0.2500	0.01500	103	70	130	0.2740	0.659	20	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC Macon Remediation
Workorder: 1504Q19

ANALYTICAL QC SUMMARY REPORT

BatchID: 207102

Sample ID: **MB-207102**	Client ID:			Units: **mg/L**	Prep Date: **05/07/2015**	Run No: **291366**
SampleType: **MBLK**	TestCode: **Cyanide SW9014**			BatchID: **207102**	Analysis Date: **05/07/2015**	Seq No: **6199755**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	0.010									

Sample ID: **LCS-207102**	Client ID:			Units: **mg/L**	Prep Date: **05/07/2015**	Run No: **291366**
SampleType: **LCS**	TestCode: **Cyanide SW9014**			BatchID: **207102**	Analysis Date: **05/07/2015**	Seq No: **6199756**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2668	0.010	0.2500		107	85	115				

Sample ID: **1504Q19-004CMS**	Client ID: **MW-27D-20150430-01**			Units: **mg/L**	Prep Date: **05/07/2015**	Run No: **291366**
SampleType: **MS**	TestCode: **Cyanide SW9014**			BatchID: **207102**	Analysis Date: **05/07/2015**	Seq No: **6199758**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2629	0.010	0.2500		105	70	130				

Sample ID: **1504Q19-004CMSD**	Client ID: **MW-27D-20150430-01**			Units: **mg/L**	Prep Date: **05/07/2015**	Run No: **291366**
SampleType: **MSD**	TestCode: **Cyanide SW9014**			BatchID: **207102**	Analysis Date: **05/07/2015**	Seq No: **6199760**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2593	0.010	0.2500		104	70	130	0.2629	1.38	20	

Qualifiers:

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

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

AES

September 01, 2015

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

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

RE: AGLC-Macon

Dear Nic Vrey: Order No: 1508C64

Analytical Environmental Services, Inc. received 27samples on 8/14/2015 12:30:00 PM for the analyses presented in following report.

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

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

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

Mirzeta Kararic

Mirzeta Kararic
Project Manager

Revision 9/1/2015

ANALYTICAL ENVIRONMENTAL SERVICES, INC

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

CHAIN OF CUSTODY

Work Order: 1508C64

Date: 8/14/15 Page 1 of 2

COMPANY: ERM

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

PHONE: (678) 486-2700

FAX:

SAMPLED BY: J. Mullooly / B. Fischer

SIGNATURE:

ANALYSIS REQUESTED: 8260B (VOCs); 8270C (SVOCs); 6010B Total Metals + Mercury; Cyanide

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

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	8260B (VOCs)	8270C (SVOCs)	6010B Total Metals + Mercury	Cyanide	REMARKS	No # of Containers
1	MW-102-20150811-01	8/11/15	12:35	X		GW	2	2	1	1		6
2	MW-205DD-20150811-01		15:05									6
3	MW-23D-20150811-01		12:00									6
4	MW-23D-MS-20150811-01		12:00									6
5	MW-23D MSD-20150811-01		12:00									6
6	MW-27D-20150811-01		15:55									6
7	MW-22D-20150811-01		15:50									6
8	MW-308D-20150812-01	8/12/15	09:15									6
9	MW-25D-20150812-01		10:30									6
10	MW-200DR-20150812-01		13:05									6
11	MW-205D-20150812-01		14:55									6
12	MW-302D-20150812-01		16:40									6
13	MW-302DD-20150812-01		12:40									6
14	MW-15-20150812-01		11:15									6

PRESERVATION (See codes)

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: [signature]	8/14/15 /1230	1: [signature]	8/14/15 12:30
2:		2:	
3:		3:	

SPECIAL INSTRUCTIONS/COMMENTS:

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

PROJECT INFORMATION
PROJECT NAME: AGL Macon
PROJECT #: 0280913
SITE ADDRESS: Macon, GA
SEND REPORT TO: Nic.Vrey@erm.com
INVOICE TO: (IF DIFFERENT FROM ABOVE)
QUOTE #: ________ PO#: ________

RECEIPT
Total # of Containers: 84

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

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

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

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

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

White Copy - Original; Yellow Copy - Client

ANALYTICAL ENVIRONMENTAL SERVICES, INC

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

AES

CHAIN OF CUSTODY

Work Order: 1508C64

Date: 8/14/15 Page 2 of 2

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

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	8260B (VOCs)	8270C (SVOCs)	Total Mn & Mn (6010B)	Cyanide	REMARKS	No # of Containers
							PRESERVATION (See codes)					
1	MW-2040-20150812-01	8/12/15	09:20	X		GW	2	2	1	1		6
2	MW-1100-20150813-01	8/13/15	09:20									6
3	MW-240-20150813-01		09:15									6
4	MW-1110-20150813-01		10:45									6
5	MW-3010-20150813-01		11:50									6
6	Dup-01-20150812-01	8/12/15										6
7	Dup-02-20150813-01	8/13/15										6
8	MW-3050-20150813-01		13:55									6
9	MW-101-20150813-01		14:30									6
10	MW-120RR-20150813-01		15:45									6
11	Dup-03-20150813-01											6
12	MW-3060-20150814-01	8/14/15	08:40									6
13	MW-3070-20150814-01	8/14/15	09:40				1	1	1	1		6
14	TB-01-20150814-01	8/14/15				W	2					2

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

Page 3 of 82

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: Brent A Fisher	8/14/15 1230	1:	8/14/15 12:30
2:		2:	
3:		3:	

PROJECT INFORMATION	
PROJECT NAME:	ACL Macon
PROJECT #:	0280913
SITE ADDRESS:	Macon, GA
SEND REPORT TO:	Nic.Vrey@erm.com
INVOICE TO: (IF DIFFERENT FROM ABOVE)	
QUOTE #:	PO#:

RECEIPT	
Total # of Containers	80

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

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

SPECIAL INSTRUCTIONS/COMMENTS:

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

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

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

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

White Copy - Original; Yellow Copy - Client

Client: ERM-Southeast
Project: AGLC-Macon
Lab ID: 1508C64

Case Narrative

Sample Receiving Nonconformance:

One of the two vials submitted for sample Ids: MW-205D-20150812-01, MW-110D-20150813-01, and MW-25D-20150812-01 were received with headspace present as signified by >1/4 inch bubble present. We proceeded with analysis using the remaining vial.

One of the two vials submitted for sample Ids: MW-23D-20150811-01, MW-15-20150812-01, MW-102-20150811-01, MW-302D-20150812-01 and MW-205DD-20150811-01 were received broken. We proceeded with analysis using the remaining vial. For the MS/MSD sample Ids: MW-23DMS-20150811-01 and MW-23DMSD-20150811-01 where both of the vials were received broken we used one of the amber containers for analysis, per Nic Very via phone on 8/17/15.

Sample container of "MW-22D-20150811-01" had a collection time of 12:00 PM, while 3:50 PM was provided on the COC. Sample was logged in according to the COC.

Volatiles Organic Compounds Analysis by Method 8260B:

Due to sample matrix, sample 1508C64-009 required dilution during preparation and/or analysis resulting in elevated reporting limits.

Semi-Volatile Organics Analysis by Method 8270D:

Due to sample matrix, sample 1508C64-009 and 020 required dilution during preparation and/or analysis resulting in elevated reporting limits.

Semi-Volatile Organics Analysis by Method 8270D/SIM:

Matrix spike and/or matrix spike duplicate analyses were not performed with Batch 211646 due to insufficient sample volume.

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-102-20150811-01
Project Name:	AGLC-Macon	**Collection Date:**	8/11/2015 12:35:00 PM
Lab ID:	1508C64-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	211628	1	08/19/2015 00:39	NP
Carbon disulfide	BRL	5.0		ug/L	211628	1	08/19/2015 00:39	NP
Ethylbenzene	BRL	5.0		ug/L	211628	1	08/19/2015 00:39	NP
Toluene	BRL	5.0		ug/L	211628	1	08/19/2015 00:39	NP
Xylenes, Total	BRL	5.0		ug/L	211628	1	08/19/2015 00:39	NP
Surr: 4-Bromofluorobenzene	76.5	70.6-123		%REC	211628	1	08/19/2015 00:39	NP
Surr: Dibromofluoromethane	106	78.7-124		%REC	211628	1	08/19/2015 00:39	NP
Surr: Toluene-d8	98.3	81.3-120		%REC	211628	1	08/19/2015 00:39	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	211566	1	08/18/2015 12:30	YH
Acenaphthylene	BRL	1.0		ug/L	211566	1	08/18/2015 12:30	YH
Acenaphthene	BRL	0.50		ug/L	211566	1	08/18/2015 12:30	YH
Fluorene	BRL	0.10		ug/L	211566	1	08/18/2015 12:30	YH
Phenanthrene	BRL	0.050		ug/L	211566	1	08/18/2015 12:30	YH
Anthracene	BRL	0.050		ug/L	211566	1	08/18/2015 12:30	YH
Fluoranthene	BRL	0.10		ug/L	211566	1	08/18/2015 12:30	YH
Pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 12:30	YH
Benz(a)anthracene	BRL	0.050		ug/L	211566	1	08/18/2015 12:30	YH
Chrysene	BRL	0.050		ug/L	211566	1	08/18/2015 12:30	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	211566	1	08/18/2015 12:30	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	211566	1	08/18/2015 12:30	YH
Benzo(a)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 12:30	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 12:30	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	211566	1	08/18/2015 12:30	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	211566	1	08/18/2015 12:30	YH
Surr: 4-Terphenyl-d14	93.7	55.4-136		%REC	211566	1	08/18/2015 12:30	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	211537	1	08/17/2015 18:34	YH
2-Methylphenol	BRL	10		ug/L	211537	1	08/17/2015 18:34	YH
3,4-Methylphenol	BRL	10		ug/L	211537	1	08/17/2015 18:34	YH
Phenol	BRL	10		ug/L	211537	1	08/17/2015 18:34	YH
Surr: 2,4,6-Tribromophenol	88.3	52-133		%REC	211537	1	08/17/2015 18:34	YH
Surr: 2-Fluorobiphenyl	85.4	50-121		%REC	211537	1	08/17/2015 18:34	YH
Surr: 2-Fluorophenol	39.6	27.5-120		%REC	211537	1	08/17/2015 18:34	YH
Surr: 4-Terphenyl-d14	83.5	46.3-137		%REC	211537	1	08/17/2015 18:34	YH
Surr: Nitrobenzene-d5	76.8	41.2-121		%REC	211537	1	08/17/2015 18:34	YH
Surr: Phenol-d5	26.1	14.3-120		%REC	211537	1	08/17/2015 18:34	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-102-20150811-01
Project Name:	AGLC-Macon	**Collection Date:**	8/11/2015 12:35:00 PM
Lab ID:	1508C64-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	211658	1	08/19/2015 13:51	TA
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	211590	1	08/17/2015 16:00	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	211548	1	08/18/2015 11:26	TA
Arsenic	BRL	0.0500		mg/L	211548	1	08/18/2015 11:26	TA
Barium	0.210	0.0200		mg/L	211548	1	08/18/2015 11:26	TA
Beryllium	BRL	0.0100		mg/L	211548	1	08/18/2015 11:26	TA
Cadmium	BRL	0.0050		mg/L	211548	1	08/18/2015 11:26	TA
Chromium	BRL	0.0100		mg/L	211548	1	08/18/2015 11:26	TA
Copper	BRL	0.0100		mg/L	211548	1	08/18/2015 11:26	TA
Lead	BRL	0.0100		mg/L	211548	1	08/18/2015 11:26	TA
Nickel	BRL	0.0200		mg/L	211548	1	08/20/2015 16:13	TA
Zinc	0.242	0.0200		mg/L	211548	1	08/18/2015 11:26	TA

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-205DD-20150811-01
Project Name:	AGLC-Macon	**Collection Date:**	8/11/2015 3:05:00 PM
Lab ID:	1508C64-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	211628	1	08/19/2015 01:02	NP
Carbon disulfide	BRL	5.0		ug/L	211628	1	08/19/2015 01:02	NP
Ethylbenzene	BRL	5.0		ug/L	211628	1	08/19/2015 01:02	NP
Toluene	BRL	5.0		ug/L	211628	1	08/19/2015 01:02	NP
Xylenes, Total	BRL	5.0		ug/L	211628	1	08/19/2015 01:02	NP
Surr: 4-Bromofluorobenzene	75.3	70.6-123		%REC	211628	1	08/19/2015 01:02	NP
Surr: Dibromofluoromethane	105	78.7-124		%REC	211628	1	08/19/2015 01:02	NP
Surr: Toluene-d8	98.4	81.3-120		%REC	211628	1	08/19/2015 01:02	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	211566	1	08/18/2015 12:58	YH
Acenaphthylene	BRL	1.0		ug/L	211566	1	08/18/2015 12:58	YH
Acenaphthene	BRL	0.50		ug/L	211566	1	08/18/2015 12:58	YH
Fluorene	BRL	0.10		ug/L	211566	1	08/18/2015 12:58	YH
Phenanthrene	BRL	0.050		ug/L	211566	1	08/18/2015 12:58	YH
Anthracene	BRL	0.050		ug/L	211566	1	08/18/2015 12:58	YH
Fluoranthene	BRL	0.10		ug/L	211566	1	08/18/2015 12:58	YH
Pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 12:58	YH
Benz(a)anthracene	BRL	0.050		ug/L	211566	1	08/18/2015 12:58	YH
Chrysene	BRL	0.050		ug/L	211566	1	08/18/2015 12:58	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	211566	1	08/18/2015 12:58	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	211566	1	08/18/2015 12:58	YH
Benzo(a)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 12:58	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 12:58	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	211566	1	08/18/2015 12:58	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	211566	1	08/18/2015 12:58	YH
Surr: 4-Terphenyl-d14	155	55.4-136	S	%REC	211566	1	08/18/2015 12:58	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	211537	1	08/17/2015 19:00	YH
2-Methylphenol	BRL	10		ug/L	211537	1	08/17/2015 19:00	YH
3,4-Methylphenol	BRL	10		ug/L	211537	1	08/17/2015 19:00	YH
Phenol	BRL	10		ug/L	211537	1	08/17/2015 19:00	YH
Surr: 2,4,6-Tribromophenol	82.2	52-133		%REC	211537	1	08/17/2015 19:00	YH
Surr: 2-Fluorobiphenyl	76.3	50-121		%REC	211537	1	08/17/2015 19:00	YH
Surr: 2-Fluorophenol	39	27.5-120		%REC	211537	1	08/17/2015 19:00	YH
Surr: 4-Terphenyl-d14	78.7	46.3-137		%REC	211537	1	08/17/2015 19:00	YH
Surr: Nitrobenzene-d5	69.6	41.2-121		%REC	211537	1	08/17/2015 19:00	YH
Surr: Phenol-d5	24.9	14.3-120		%REC	211537	1	08/17/2015 19:00	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-205DD-20150811-01
Project Name:	AGLC-Macon	**Collection Date:**	8/11/2015 3:05:00 PM
Lab ID:	1508C64-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	211658	1	08/19/2015 13:53	TA
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	211590	1	08/17/2015 16:00	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	211548	1	08/18/2015 11:29	TA
Arsenic	BRL	0.0500		mg/L	211548	1	08/18/2015 11:29	TA
Barium	0.0247	0.0200		mg/L	211548	1	08/18/2015 11:29	TA
Beryllium	BRL	0.0100		mg/L	211548	1	08/18/2015 11:29	TA
Cadmium	BRL	0.0050		mg/L	211548	1	08/18/2015 11:29	TA
Chromium	BRL	0.0100		mg/L	211548	1	08/18/2015 11:29	TA
Copper	0.0120	0.0100		mg/L	211548	1	08/18/2015 11:29	TA
Lead	BRL	0.0100		mg/L	211548	1	08/18/2015 11:29	TA
Nickel	BRL	0.0200		mg/L	211548	1	08/18/2015 11:29	TA
Zinc	BRL	0.0200		mg/L	211548	1	08/18/2015 11:29	TA

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-23D-20150811-01
Project Name:	AGLC-Macon	**Collection Date:**	8/11/2015 12:00:00 PM
Lab ID:	1508C64-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	211628	1	08/18/2015 18:53	NP
Carbon disulfide	BRL	5.0		ug/L	211628	1	08/18/2015 18:53	NP
Ethylbenzene	BRL	5.0		ug/L	211628	1	08/18/2015 18:53	NP
Toluene	BRL	5.0		ug/L	211628	1	08/18/2015 18:53	NP
Xylenes, Total	BRL	5.0		ug/L	211628	1	08/18/2015 18:53	NP
Surr: 4-Bromofluorobenzene	74.3	70.6-123		%REC	211628	1	08/18/2015 18:53	NP
Surr: Dibromofluoromethane	104	78.7-124		%REC	211628	1	08/18/2015 18:53	NP
Surr: Toluene-d8	97.1	81.3-120		%REC	211628	1	08/18/2015 18:53	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	211566	1	08/18/2015 13:25	YH
Acenaphthylene	BRL	1.0		ug/L	211566	1	08/18/2015 13:25	YH
Acenaphthene	BRL	0.50		ug/L	211566	1	08/18/2015 13:25	YH
Fluorene	BRL	0.10		ug/L	211566	1	08/18/2015 13:25	YH
Phenanthrene	BRL	0.050		ug/L	211566	1	08/18/2015 13:25	YH
Anthracene	BRL	0.050		ug/L	211566	1	08/18/2015 13:25	YH
Fluoranthene	BRL	0.10		ug/L	211566	1	08/18/2015 13:25	YH
Pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 13:25	YH
Benz(a)anthracene	BRL	0.050		ug/L	211566	1	08/18/2015 13:25	YH
Chrysene	BRL	0.050		ug/L	211566	1	08/18/2015 13:25	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	211566	1	08/18/2015 13:25	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	211566	1	08/18/2015 13:25	YH
Benzo(a)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 13:25	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 13:25	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	211566	1	08/18/2015 13:25	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	211566	1	08/18/2015 13:25	YH
Surr: 4-Terphenyl-d14	254	55.4-136	S	%REC	211566	1	08/18/2015 13:25	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	211537	1	08/17/2015 17:16	YH
2-Methylphenol	BRL	10		ug/L	211537	1	08/17/2015 17:16	YH
3,4-Methylphenol	BRL	10		ug/L	211537	1	08/17/2015 17:16	YH
Phenol	BRL	10		ug/L	211537	1	08/17/2015 17:16	YH
Surr: 2,4,6-Tribromophenol	86.4	52-133		%REC	211537	1	08/17/2015 17:16	YH
Surr: 2-Fluorobiphenyl	80.3	50-121		%REC	211537	1	08/17/2015 17:16	YH
Surr: 2-Fluorophenol	36.6	27.5-120		%REC	211537	1	08/17/2015 17:16	YH
Surr: 4-Terphenyl-d14	90.7	46.3-137		%REC	211537	1	08/17/2015 17:16	YH
Surr: Nitrobenzene-d5	70.3	41.2-121		%REC	211537	1	08/17/2015 17:16	YH
Surr: Phenol-d5	24.9	14.3-120		%REC	211537	1	08/17/2015 17:16	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-23D-20150811-01
Project Name:	AGLC-Macon	**Collection Date:**	8/11/2015 12:00:00 PM
Lab ID:	1508C64-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	211658	1	08/19/2015 13:28	TA
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	211590	1	08/17/2015 16:00	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	211548	1	08/18/2015 11:11	TA
Arsenic	BRL	0.0500		mg/L	211548	1	08/18/2015 11:11	TA
Barium	0.0644	0.0200		mg/L	211548	1	08/18/2015 11:11	TA
Beryllium	BRL	0.0100		mg/L	211548	1	08/18/2015 11:11	TA
Cadmium	BRL	0.0050		mg/L	211548	1	08/18/2015 11:11	TA
Chromium	BRL	0.0100		mg/L	211548	1	08/18/2015 11:11	TA
Copper	BRL	0.0100		mg/L	211548	1	08/18/2015 11:11	TA
Lead	BRL	0.0100		mg/L	211548	1	08/18/2015 11:11	TA
Nickel	BRL	0.0200		mg/L	211548	1	08/18/2015 11:11	TA
Zinc	BRL	0.0200		mg/L	211548	1	08/18/2015 11:11	TA

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-27D-20150811-01
Project Name:	AGLC-Macon	**Collection Date:**	8/11/2015 3:55:00 PM
Lab ID:	1508C64-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	211628	1	08/19/2015 01:25	NP
Carbon disulfide	BRL	5.0		ug/L	211628	1	08/19/2015 01:25	NP
Ethylbenzene	BRL	5.0		ug/L	211628	1	08/19/2015 01:25	NP
Toluene	BRL	5.0		ug/L	211628	1	08/19/2015 01:25	NP
Xylenes, Total	BRL	5.0		ug/L	211628	1	08/19/2015 01:25	NP
Surr: 4-Bromofluorobenzene	75	70.6-123		%REC	211628	1	08/19/2015 01:25	NP
Surr: Dibromofluoromethane	105	78.7-124		%REC	211628	1	08/19/2015 01:25	NP
Surr: Toluene-d8	98.6	81.3-120		%REC	211628	1	08/19/2015 01:25	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	211566	1	08/18/2015 13:53	YH
Acenaphthylene	BRL	1.0		ug/L	211566	1	08/18/2015 13:53	YH
Acenaphthene	BRL	0.50		ug/L	211566	1	08/18/2015 13:53	YH
Fluorene	BRL	0.10		ug/L	211566	1	08/18/2015 13:53	YH
Phenanthrene	BRL	0.050		ug/L	211566	1	08/18/2015 13:53	YH
Anthracene	BRL	0.050		ug/L	211566	1	08/18/2015 13:53	YH
Fluoranthene	BRL	0.10		ug/L	211566	1	08/18/2015 13:53	YH
Pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 13:53	YH
Benz(a)anthracene	BRL	0.050		ug/L	211566	1	08/18/2015 13:53	YH
Chrysene	BRL	0.050		ug/L	211566	1	08/18/2015 13:53	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	211566	1	08/18/2015 13:53	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	211566	1	08/18/2015 13:53	YH
Benzo(a)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 13:53	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 13:53	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	211566	1	08/18/2015 13:53	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	211566	1	08/18/2015 13:53	YH
Surr: 4-Terphenyl-d14	119	55.4-136		%REC	211566	1	08/18/2015 13:53	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	211537	1	08/17/2015 19:27	YH
2-Methylphenol	BRL	10		ug/L	211537	1	08/17/2015 19:27	YH
3,4-Methylphenol	BRL	10		ug/L	211537	1	08/17/2015 19:27	YH
Phenol	BRL	10		ug/L	211537	1	08/17/2015 19:27	YH
Surr: 2,4,6-Tribromophenol	84.4	52-133		%REC	211537	1	08/17/2015 19:27	YH
Surr: 2-Fluorobiphenyl	81.8	50-121		%REC	211537	1	08/17/2015 19:27	YH
Surr: 2-Fluorophenol	41.1	27.5-120		%REC	211537	1	08/17/2015 19:27	YH
Surr: 4-Terphenyl-d14	83	46.3-137		%REC	211537	1	08/17/2015 19:27	YH
Surr: Nitrobenzene-d5	75.7	41.2-121		%REC	211537	1	08/17/2015 19:27	YH
Surr: Phenol-d5	25	14.3-120		%REC	211537	1	08/17/2015 19:27	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-27D-20150811-01
Project Name:	AGLC-Macon	**Collection Date:**	8/11/2015 3:55:00 PM
Lab ID:	1508C64-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	211658	1	08/19/2015 13:55	TA
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	211590	1	08/17/2015 16:00	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	211548	1	08/18/2015 11:32	TA
Arsenic	BRL	0.0500		mg/L	211548	1	08/18/2015 11:32	TA
Barium	0.813	0.0200		mg/L	211548	1	08/18/2015 11:32	TA
Beryllium	BRL	0.0100		mg/L	211548	1	08/18/2015 11:32	TA
Cadmium	BRL	0.0050		mg/L	211548	1	08/18/2015 11:32	TA
Chromium	BRL	0.0100		mg/L	211548	1	08/18/2015 11:32	TA
Copper	BRL	0.0100		mg/L	211548	1	08/18/2015 11:32	TA
Lead	BRL	0.0100		mg/L	211548	1	08/18/2015 11:32	TA
Nickel	BRL	0.0200		mg/L	211548	1	08/20/2015 16:16	TA
Zinc	BRL	0.0200		mg/L	211548	1	08/18/2015 11:32	TA

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-22D-20150811-01
Project Name:	AGLC-Macon	**Collection Date:**	8/11/2015 3:50:00 PM
Lab ID:	1508C64-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	211628	1	08/19/2015 01:47	NP
Carbon disulfide	BRL	5.0		ug/L	211628	1	08/19/2015 01:47	NP
Ethylbenzene	BRL	5.0		ug/L	211628	1	08/19/2015 01:47	NP
Toluene	BRL	5.0		ug/L	211628	1	08/19/2015 01:47	NP
Xylenes, Total	BRL	5.0		ug/L	211628	1	08/19/2015 01:47	NP
Surr: 4-Bromofluorobenzene	73.2	70.6-123		%REC	211628	1	08/19/2015 01:47	NP
Surr: Dibromofluoromethane	104	78.7-124		%REC	211628	1	08/19/2015 01:47	NP
Surr: Toluene-d8	97.9	81.3-120		%REC	211628	1	08/19/2015 01:47	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	211566	1	08/18/2015 14:21	YH
Acenaphthylene	BRL	1.0		ug/L	211566	1	08/18/2015 14:21	YH
Acenaphthene	BRL	0.50		ug/L	211566	1	08/18/2015 14:21	YH
Fluorene	BRL	0.10		ug/L	211566	1	08/18/2015 14:21	YH
Phenanthrene	BRL	0.050		ug/L	211566	1	08/18/2015 14:21	YH
Anthracene	BRL	0.050		ug/L	211566	1	08/18/2015 14:21	YH
Fluoranthene	BRL	0.10		ug/L	211566	1	08/18/2015 14:21	YH
Pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 14:21	YH
Benz(a)anthracene	BRL	0.050		ug/L	211566	1	08/18/2015 14:21	YH
Chrysene	BRL	0.050		ug/L	211566	1	08/18/2015 14:21	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	211566	1	08/18/2015 14:21	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	211566	1	08/18/2015 14:21	YH
Benzo(a)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 14:21	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 14:21	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	211566	1	08/18/2015 14:21	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	211566	1	08/18/2015 14:21	YH
Surr: 4-Terphenyl-d14	139	55.4-136	S	%REC	211566	1	08/18/2015 14:21	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	211537	1	08/17/2015 19:54	YH
2-Methylphenol	BRL	10		ug/L	211537	1	08/17/2015 19:54	YH
3,4-Methylphenol	BRL	10		ug/L	211537	1	08/17/2015 19:54	YH
Phenol	BRL	10		ug/L	211537	1	08/17/2015 19:54	YH
Surr: 2,4,6-Tribromophenol	81.2	52-133		%REC	211537	1	08/17/2015 19:54	YH
Surr: 2-Fluorobiphenyl	80.7	50-121		%REC	211537	1	08/17/2015 19:54	YH
Surr: 2-Fluorophenol	42.6	27.5-120		%REC	211537	1	08/17/2015 19:54	YH
Surr: 4-Terphenyl-d14	80.1	46.3-137		%REC	211537	1	08/17/2015 19:54	YH
Surr: Nitrobenzene-d5	74.1	41.2-121		%REC	211537	1	08/17/2015 19:54	YH
Surr: Phenol-d5	25.2	14.3-120		%REC	211537	1	08/17/2015 19:54	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-22D-20150811-01
Project Name:	AGLC-Macon	**Collection Date:**	8/11/2015 3:50:00 PM
Lab ID:	1508C64-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	211658	1	08/19/2015 13:57	TA
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	211590	1	08/17/2015 16:00	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	211548	1	08/18/2015 11:40	TA
Arsenic	BRL	0.0500		mg/L	211548	1	08/18/2015 11:40	TA
Barium	0.907	0.0200		mg/L	211548	1	08/18/2015 11:40	TA
Beryllium	BRL	0.0100		mg/L	211548	1	08/18/2015 11:40	TA
Cadmium	BRL	0.0050		mg/L	211548	1	08/18/2015 11:40	TA
Chromium	BRL	0.0100		mg/L	211548	1	08/18/2015 11:40	TA
Copper	BRL	0.0100		mg/L	211548	1	08/18/2015 11:40	TA
Lead	BRL	0.0100		mg/L	211548	1	08/18/2015 11:40	TA
Nickel	BRL	0.0200		mg/L	211548	1	08/20/2015 16:25	TA
Zinc	BRL	0.0200		mg/L	211548	1	08/18/2015 11:40	TA

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-308D-20150812-01
Project Name:	AGLC-Macon	**Collection Date:**	8/12/2015 9:15:00 AM
Lab ID:	1508C64-006	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	23	5.0		ug/L	211628	1	08/19/2015 02:10	NP
Carbon disulfide	BRL	5.0		ug/L	211628	1	08/19/2015 02:10	NP
Ethylbenzene	BRL	5.0		ug/L	211628	1	08/19/2015 02:10	NP
Toluene	BRL	5.0		ug/L	211628	1	08/19/2015 02:10	NP
Xylenes, Total	BRL	5.0		ug/L	211628	1	08/19/2015 02:10	NP
Surr: 4-Bromofluorobenzene	78.4	70.6-123		%REC	211628	1	08/19/2015 02:10	NP
Surr: Dibromofluoromethane	101	78.7-124		%REC	211628	1	08/19/2015 02:10	NP
Surr: Toluene-d8	96.3	81.3-120		%REC	211628	1	08/19/2015 02:10	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	211566	1	08/18/2015 14:49	YH
Acenaphthylene	BRL	1.0		ug/L	211566	1	08/18/2015 14:49	YH
Acenaphthene	BRL	0.50		ug/L	211566	1	08/18/2015 14:49	YH
Fluorene	BRL	0.10		ug/L	211566	1	08/18/2015 14:49	YH
Phenanthrene	0.086	0.050		ug/L	211566	1	08/18/2015 14:49	YH
Anthracene	BRL	0.050		ug/L	211566	1	08/18/2015 14:49	YH
Fluoranthene	BRL	0.10		ug/L	211566	1	08/18/2015 14:49	YH
Pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 14:49	YH
Benz(a)anthracene	BRL	0.050		ug/L	211566	1	08/18/2015 14:49	YH
Chrysene	BRL	0.050		ug/L	211566	1	08/18/2015 14:49	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	211566	1	08/18/2015 14:49	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	211566	1	08/18/2015 14:49	YH
Benzo(a)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 14:49	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 14:49	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	211566	1	08/18/2015 14:49	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	211566	1	08/18/2015 14:49	YH
Surr: 4-Terphenyl-d14	137	55.4-136	S	%REC	211566	1	08/18/2015 14:49	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	211537	1	08/17/2015 20:20	YH
2-Methylphenol	BRL	10		ug/L	211537	1	08/17/2015 20:20	YH
3,4-Methylphenol	BRL	10		ug/L	211537	1	08/17/2015 20:20	YH
Phenol	BRL	10		ug/L	211537	1	08/17/2015 20:20	YH
Surr: 2,4,6-Tribromophenol	89.4	52-133		%REC	211537	1	08/17/2015 20:20	YH
Surr: 2-Fluorobiphenyl	83.4	50-121		%REC	211537	1	08/17/2015 20:20	YH
Surr: 2-Fluorophenol	40.3	27.5-120		%REC	211537	1	08/17/2015 20:20	YH
Surr: 4-Terphenyl-d14	85.4	46.3-137		%REC	211537	1	08/17/2015 20:20	YH
Surr: Nitrobenzene-d5	74.3	41.2-121		%REC	211537	1	08/17/2015 20:20	YH
Surr: Phenol-d5	27	14.3-120		%REC	211537	1	08/17/2015 20:20	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-308D-20150812-01
Project Name:	AGLC-Macon	**Collection Date:**	8/12/2015 9:15:00 AM
Lab ID:	1508C64-006	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	211658	1	08/19/2015 13:59	TA
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	211590	1	08/17/2015 16:00	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	211616	1	08/20/2015 16:34	TA
Arsenic	BRL	0.0500		mg/L	211616	1	08/20/2015 16:34	TA
Barium	0.115	0.0200		mg/L	211616	1	08/20/2015 16:34	TA
Beryllium	BRL	0.0100		mg/L	211616	1	08/20/2015 16:34	TA
Cadmium	BRL	0.0050		mg/L	211616	1	08/20/2015 16:34	TA
Chromium	0.0307	0.0100		mg/L	211616	1	08/20/2015 16:34	TA
Copper	BRL	0.0100		mg/L	211616	1	08/20/2015 16:34	TA
Iron	BRL	0.100		mg/L	211616	1	08/20/2015 16:34	TA
Lead	BRL	0.0100		mg/L	211616	1	08/20/2015 16:34	TA
Nickel	BRL	0.0200		mg/L	211616	1	08/20/2015 16:34	TA
Zinc	BRL	0.0200		mg/L	211616	1	08/20/2015 16:34	TA

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-25D-20150812-01
Project Name:	AGLC-Macon	**Collection Date:**	8/12/2015 10:30:00 AM
Lab ID:	1508C64-007	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	211628	1	08/19/2015 02:33	NP
Carbon disulfide	BRL	5.0		ug/L	211628	1	08/19/2015 02:33	NP
Ethylbenzene	BRL	5.0		ug/L	211628	1	08/19/2015 02:33	NP
Toluene	BRL	5.0		ug/L	211628	1	08/19/2015 02:33	NP
Xylenes, Total	BRL	5.0		ug/L	211628	1	08/19/2015 02:33	NP
Surr: 4-Bromofluorobenzene	76.3	70.6-123		%REC	211628	1	08/19/2015 02:33	NP
Surr: Dibromofluoromethane	105	78.7-124		%REC	211628	1	08/19/2015 02:33	NP
Surr: Toluene-d8	98.5	81.3-120		%REC	211628	1	08/19/2015 02:33	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	211566	1	08/18/2015 15:17	YH
Acenaphthylene	BRL	1.0		ug/L	211566	1	08/18/2015 15:17	YH
Acenaphthene	BRL	0.50		ug/L	211566	1	08/18/2015 15:17	YH
Fluorene	BRL	0.10		ug/L	211566	1	08/18/2015 15:17	YH
Phenanthrene	BRL	0.050		ug/L	211566	1	08/18/2015 15:17	YH
Anthracene	BRL	0.050		ug/L	211566	1	08/18/2015 15:17	YH
Fluoranthene	BRL	0.10		ug/L	211566	1	08/18/2015 15:17	YH
Pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 15:17	YH
Benz(a)anthracene	BRL	0.050		ug/L	211566	1	08/18/2015 15:17	YH
Chrysene	BRL	0.050		ug/L	211566	1	08/18/2015 15:17	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	211566	1	08/18/2015 15:17	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	211566	1	08/18/2015 15:17	YH
Benzo(a)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 15:17	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 15:17	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	211566	1	08/18/2015 15:17	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	211566	1	08/18/2015 15:17	YH
Surr: 4-Terphenyl-d14	124	55.4-136		%REC	211566	1	08/18/2015 15:17	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	211537	1	08/17/2015 20:47	YH
2-Methylphenol	BRL	10		ug/L	211537	1	08/17/2015 20:47	YH
3,4-Methylphenol	BRL	10		ug/L	211537	1	08/17/2015 20:47	YH
Phenol	BRL	10		ug/L	211537	1	08/17/2015 20:47	YH
Surr: 2,4,6-Tribromophenol	90	52-133		%REC	211537	1	08/17/2015 20:47	YH
Surr: 2-Fluorobiphenyl	89.4	50-121		%REC	211537	1	08/17/2015 20:47	YH
Surr: 2-Fluorophenol	40	27.5-120		%REC	211537	1	08/17/2015 20:47	YH
Surr: 4-Terphenyl-d14	88.2	46.3-137		%REC	211537	1	08/17/2015 20:47	YH
Surr: Nitrobenzene-d5	82.5	41.2-121		%REC	211537	1	08/17/2015 20:47	YH
Surr: Phenol-d5	25.2	14.3-120		%REC	211537	1	08/17/2015 20:47	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-25D-20150812-01
Project Name:	AGLC-Macon	**Collection Date:**	8/12/2015 10:30:00 AM
Lab ID:	1508C64-007	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	211658	1	08/19/2015 14:01	TA
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	211590	1	08/17/2015 16:00	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	211616	1	08/20/2015 18:25	TA
Arsenic	BRL	0.0500		mg/L	211616	1	08/20/2015 18:25	TA
Barium	3.79	0.0200		mg/L	211616	1	08/20/2015 18:25	TA
Beryllium	BRL	0.0100		mg/L	211616	1	08/20/2015 18:25	TA
Cadmium	BRL	0.0050		mg/L	211616	1	08/20/2015 18:25	TA
Chromium	BRL	0.0100		mg/L	211616	1	08/20/2015 18:25	TA
Copper	BRL	0.0100		mg/L	211616	1	08/20/2015 18:25	TA
Lead	BRL	0.0100		mg/L	211616	1	08/20/2015 18:25	TA
Nickel	BRL	0.0200		mg/L	211616	1	08/24/2015 11:39	TA
Zinc	BRL	0.0200		mg/L	211616	1	08/20/2015 18:25	TA

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-200DR-20150812-01
Project Name:	AGLC-Macon	**Collection Date:**	8/12/2015 1:05:00 PM
Lab ID:	1508C64-008	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	36	5.0		ug/L	211628	1	08/19/2015 02:56	NP
Carbon disulfide	BRL	5.0		ug/L	211628	1	08/19/2015 02:56	NP
Ethylbenzene	26	5.0		ug/L	211628	1	08/19/2015 02:56	NP
Toluene	BRL	5.0		ug/L	211628	1	08/19/2015 02:56	NP
Xylenes, Total	BRL	5.0		ug/L	211628	1	08/19/2015 02:56	NP
Surr: 4-Bromofluorobenzene	78.7	70.6-123		%REC	211628	1	08/19/2015 02:56	NP
Surr: Dibromofluoromethane	100	78.7-124		%REC	211628	1	08/19/2015 02:56	NP
Surr: Toluene-d8	95.4	81.3-120		%REC	211628	1	08/19/2015 02:56	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	211566	1	08/18/2015 15:45	YH
Acenaphthylene	BRL	1.0		ug/L	211566	1	08/18/2015 15:45	YH
Acenaphthene	5.0	0.50		ug/L	211566	1	08/18/2015 15:45	YH
Fluorene	0.79	0.10		ug/L	211566	1	08/18/2015 15:45	YH
Phenanthrene	0.077	0.050		ug/L	211566	1	08/18/2015 15:45	YH
Anthracene	0.058	0.050		ug/L	211566	1	08/18/2015 15:45	YH
Fluoranthene	2.0	0.10		ug/L	211566	1	08/18/2015 15:45	YH
Pyrene	2.3	0.050		ug/L	211566	1	08/18/2015 15:45	YH
Benz(a)anthracene	BRL	0.050		ug/L	211566	1	08/18/2015 15:45	YH
Chrysene	BRL	0.050		ug/L	211566	1	08/18/2015 15:45	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	211566	1	08/18/2015 15:45	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	211566	1	08/18/2015 15:45	YH
Benzo(a)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 15:45	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 15:45	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	211566	1	08/18/2015 15:45	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	211566	1	08/18/2015 15:45	YH
Surr: 4-Terphenyl-d14	109	55.4-136		%REC	211566	1	08/18/2015 15:45	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	211537	1	08/17/2015 21:13	YH
2-Methylphenol	BRL	10		ug/L	211537	1	08/17/2015 21:13	YH
3,4-Methylphenol	BRL	10		ug/L	211537	1	08/17/2015 21:13	YH
Phenol	BRL	10		ug/L	211537	1	08/17/2015 21:13	YH
Surr: 2,4,6-Tribromophenol	88.4	52-133		%REC	211537	1	08/17/2015 21:13	YH
Surr: 2-Fluorobiphenyl	84.4	50-121		%REC	211537	1	08/17/2015 21:13	YH
Surr: 2-Fluorophenol	42.2	27.5-120		%REC	211537	1	08/17/2015 21:13	YH
Surr: 4-Terphenyl-d14	86.8	46.3-137		%REC	211537	1	08/17/2015 21:13	YH
Surr: Nitrobenzene-d5	78	41.2-121		%REC	211537	1	08/17/2015 21:13	YH
Surr: Phenol-d5	27.5	14.3-120		%REC	211537	1	08/17/2015 21:13	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-200DR-20150812-01
Project Name:	AGLC-Macon	**Collection Date:**	8/12/2015 1:05:00 PM
Lab ID:	1508C64-008	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	211658	1	08/19/2015 14:07	TA
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	211590	1	08/17/2015 16:00	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	211616	1	08/20/2015 18:28	TA
Arsenic	BRL	0.0500		mg/L	211616	1	08/20/2015 18:28	TA
Barium	1.73	0.0200		mg/L	211616	1	08/20/2015 18:28	TA
Beryllium	BRL	0.0100		mg/L	211616	1	08/20/2015 18:28	TA
Cadmium	BRL	0.0050		mg/L	211616	1	08/20/2015 18:28	TA
Chromium	BRL	0.0100		mg/L	211616	1	08/20/2015 18:28	TA
Copper	BRL	0.0100		mg/L	211616	1	08/20/2015 18:28	TA
Lead	BRL	0.0100		mg/L	211616	1	08/20/2015 18:28	TA
Nickel	BRL	0.0200		mg/L	211616	1	08/24/2015 11:42	TA
Zinc	BRL	0.0200		mg/L	211616	1	08/20/2015 18:28	TA

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-205D-20150812-01
Project Name:	AGLC-Macon	**Collection Date:**	8/12/2015 2:55:00 PM
Lab ID:	1508C64-009	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	5200	250		ug/L	211628	50	08/18/2015 21:11	NP
Carbon disulfide	BRL	250		ug/L	211628	50	08/18/2015 21:11	NP
Ethylbenzene	1100	250		ug/L	211628	50	08/18/2015 21:11	NP
Toluene	BRL	250		ug/L	211628	50	08/18/2015 21:11	NP
Xylenes, Total	580	250		ug/L	211628	50	08/18/2015 21:11	NP
Surr: 4-Bromofluorobenzene	78.7	70.6-123		%REC	211628	50	08/18/2015 21:11	NP
Surr: Dibromofluoromethane	101	78.7-124		%REC	211628	50	08/18/2015 21:11	NP
Surr: Toluene-d8	95.2	81.3-120		%REC	211628	50	08/18/2015 21:11	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	4600	500		ug/L	211566	1000	08/19/2015 11:56	YH
Acenaphthylene	1.8	1.0		ug/L	211566	1	08/18/2015 16:13	YH
Acenaphthene	160	50		ug/L	211566	100	08/18/2015 22:39	YH
Fluorene	34	10		ug/L	211566	100	08/18/2015 22:39	YH
Phenanthrene	35	5.0		ug/L	211566	100	08/18/2015 22:39	YH
Anthracene	5.6	0.050		ug/L	211566	1	08/18/2015 16:13	YH
Fluoranthene	1.3	0.10		ug/L	211566	1	08/18/2015 16:13	YH
Pyrene	1.4	0.050		ug/L	211566	1	08/18/2015 16:13	YH
Benz(a)anthracene	BRL	0.050		ug/L	211566	1	08/18/2015 16:13	YH
Chrysene	BRL	0.050		ug/L	211566	1	08/18/2015 16:13	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	211566	1	08/18/2015 16:13	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	211566	1	08/18/2015 16:13	YH
Benzo(a)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 16:13	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 16:13	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	211566	1	08/18/2015 16:13	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	211566	1	08/18/2015 16:13	YH
Surr: 4-Terphenyl-d14	104	55.4-136		%REC	211566	1	08/18/2015 16:13	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	50		ug/L	211537	5	08/17/2015 21:39	YH
2-Methylphenol	BRL	50		ug/L	211537	5	08/17/2015 21:39	YH
3,4-Methylphenol	BRL	50		ug/L	211537	5	08/17/2015 21:39	YH
Phenol	BRL	50		ug/L	211537	5	08/17/2015 21:39	YH
Surr: 2,4,6-Tribromophenol	72.1	52-133		%REC	211537	5	08/17/2015 21:39	YH
Surr: 2-Fluorobiphenyl	74.4	50-121		%REC	211537	5	08/17/2015 21:39	YH
Surr: 2-Fluorophenol	41.4	27.5-120		%REC	211537	5	08/17/2015 21:39	YH
Surr: 4-Terphenyl-d14	66.7	46.3-137		%REC	211537	5	08/17/2015 21:39	YH
Surr: Nitrobenzene-d5	70.4	41.2-121		%REC	211537	5	08/17/2015 21:39	YH
Surr: Phenol-d5	25.8	14.3-120		%REC	211537	5	08/17/2015 21:39	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-205D-20150812-01
Project Name:	AGLC-Macon	**Collection Date:**	8/12/2015 2:55:00 PM
Lab ID:	1508C64-009	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	211658	1	08/19/2015 14:09	TA
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	211590	1	08/17/2015 16:00	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	211616	1	08/20/2015 18:31	TA
Arsenic	BRL	0.0500		mg/L	211616	1	08/20/2015 18:31	TA
Barium	3.13	0.0200		mg/L	211616	1	08/20/2015 18:31	TA
Beryllium	BRL	0.0100		mg/L	211616	1	08/20/2015 18:31	TA
Cadmium	BRL	0.0050		mg/L	211616	1	08/20/2015 18:31	TA
Chromium	BRL	0.0100		mg/L	211616	1	08/20/2015 18:31	TA
Copper	BRL	0.0100		mg/L	211616	1	08/20/2015 18:31	TA
Lead	BRL	0.0100		mg/L	211616	1	08/20/2015 18:31	TA
Nickel	BRL	0.0200		mg/L	211616	1	08/20/2015 18:31	TA
Zinc	BRL	0.0200		mg/L	211616	1	08/20/2015 18:31	TA

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-302D-20150812-01
Project Name:	AGLC-Macon	**Collection Date:**	8/12/2015 4:40:00 PM
Lab ID:	1508C64-010	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	15	5.0		ug/L	211628	1	08/19/2015 03:18	NP
Carbon disulfide	BRL	5.0		ug/L	211628	1	08/19/2015 03:18	NP
Ethylbenzene	5.8	5.0		ug/L	211628	1	08/19/2015 03:18	NP
Toluene	19	5.0		ug/L	211628	1	08/19/2015 03:18	NP
Xylenes, Total	16	5.0		ug/L	211628	1	08/19/2015 03:18	NP
Surr: 4-Bromofluorobenzene	79.1	70.6-123		%REC	211628	1	08/19/2015 03:18	NP
Surr: Dibromofluoromethane	104	78.7-124		%REC	211628	1	08/19/2015 03:18	NP
Surr: Toluene-d8	97.4	81.3-120		%REC	211628	1	08/19/2015 03:18	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	170	50		ug/L	211566	100	08/19/2015 10:59	YH
Acenaphthylene	21	5.0		ug/L	211566	100	08/19/2015 10:59	YH
Acenaphthene	4.6	0.50		ug/L	211566	1	08/18/2015 16:40	YH
Fluorene	9.0	5.0		ug/L	211566	100	08/19/2015 10:59	YH
Phenanthrene	21	5.0		ug/L	211566	100	08/19/2015 10:59	YH
Anthracene	4.1	0.050		ug/L	211566	1	08/18/2015 16:40	YH
Fluoranthene	2.2	0.10		ug/L	211566	1	08/18/2015 16:40	YH
Pyrene	2.7	0.050		ug/L	211566	1	08/18/2015 16:40	YH
Benz(a)anthracene	0.053	0.050		ug/L	211566	1	08/18/2015 16:40	YH
Chrysene	BRL	0.050		ug/L	211566	1	08/18/2015 16:40	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	211566	1	08/18/2015 16:40	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	211566	1	08/18/2015 16:40	YH
Benzo(a)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 16:40	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 16:40	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	211566	1	08/18/2015 16:40	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	211566	1	08/18/2015 16:40	YH
Surr: 4-Terphenyl-d14	97.8	55.4-136		%REC	211566	1	08/18/2015 16:40	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	211537	1	08/17/2015 22:06	YH
2-Methylphenol	BRL	10		ug/L	211537	1	08/17/2015 22:06	YH
3,4-Methylphenol	BRL	10		ug/L	211537	1	08/17/2015 22:06	YH
Phenol	BRL	10		ug/L	211537	1	08/17/2015 22:06	YH
Surr: 2,4,6-Tribromophenol	85.2	52-133		%REC	211537	1	08/17/2015 22:06	YH
Surr: 2-Fluorobiphenyl	82.4	50-121		%REC	211537	1	08/17/2015 22:06	YH
Surr: 2-Fluorophenol	43.3	27.5-120		%REC	211537	1	08/17/2015 22:06	YH
Surr: 4-Terphenyl-d14	81.8	46.3-137		%REC	211537	1	08/17/2015 22:06	YH
Surr: Nitrobenzene-d5	74.9	41.2-121		%REC	211537	1	08/17/2015 22:06	YH
Surr: Phenol-d5	28.9	14.3-120		%REC	211537	1	08/17/2015 22:06	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-302D-20150812-01
Project Name:	AGLC-Macon	**Collection Date:**	8/12/2015 4:40:00 PM
Lab ID:	1508C64-010	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	211658	1	08/19/2015 14:11	TA
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	BRL	0.010		mg/L	211590	1	08/17/2015 16:00	PF
METALS, TOTAL SW6010C				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	211616	1	08/20/2015 18:34	TA
Arsenic	BRL	0.0500		mg/L	211616	1	08/20/2015 18:34	TA
Barium	0.0606	0.0200		mg/L	211616	1	08/20/2015 18:34	TA
Beryllium	BRL	0.0100		mg/L	211616	1	08/20/2015 18:34	TA
Cadmium	BRL	0.0050		mg/L	211616	1	08/20/2015 18:34	TA
Chromium	BRL	0.0100		mg/L	211616	1	08/20/2015 18:34	TA
Copper	BRL	0.0100		mg/L	211616	1	08/20/2015 18:34	TA
Lead	BRL	0.0100		mg/L	211616	1	08/20/2015 18:34	TA
Nickel	BRL	0.0200		mg/L	211616	1	08/20/2015 18:34	TA
Zinc	0.0350	0.0200		mg/L	211616	1	08/20/2015 18:34	TA

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-302DD-20150812-01
Project Name:	AGLC-Macon	**Collection Date:**	8/12/2015 12:40:00 PM
Lab ID:	1508C64-011	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	11	5.0		ug/L	211628	1	08/19/2015 03:41	NP
Carbon disulfide	BRL	5.0		ug/L	211628	1	08/19/2015 03:41	NP
Ethylbenzene	30	5.0		ug/L	211628	1	08/19/2015 03:41	NP
Toluene	BRL	5.0		ug/L	211628	1	08/19/2015 03:41	NP
Xylenes, Total	BRL	5.0		ug/L	211628	1	08/19/2015 03:41	NP
Surr: 4-Bromofluorobenzene	78	70.6-123		%REC	211628	1	08/19/2015 03:41	NP
Surr: Dibromofluoromethane	100	78.7-124		%REC	211628	1	08/19/2015 03:41	NP
Surr: Toluene-d8	95.3	81.3-120		%REC	211628	1	08/19/2015 03:41	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	211566	1	08/18/2015 17:08	YH
Acenaphthylene	1.0	1.0		ug/L	211566	1	08/18/2015 17:08	YH
Acenaphthene	1.8	0.50		ug/L	211566	1	08/18/2015 17:08	YH
Fluorene	0.68	0.10		ug/L	211566	1	08/18/2015 17:08	YH
Phenanthrene	0.17	0.050		ug/L	211566	1	08/18/2015 17:08	YH
Anthracene	0.083	0.050		ug/L	211566	1	08/18/2015 17:08	YH
Fluoranthene	BRL	0.10		ug/L	211566	1	08/18/2015 17:08	YH
Pyrene	0.058	0.050		ug/L	211566	1	08/18/2015 17:08	YH
Benz(a)anthracene	BRL	0.050		ug/L	211566	1	08/18/2015 17:08	YH
Chrysene	BRL	0.050		ug/L	211566	1	08/18/2015 17:08	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	211566	1	08/18/2015 17:08	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	211566	1	08/18/2015 17:08	YH
Benzo(a)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 17:08	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 17:08	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	211566	1	08/18/2015 17:08	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	211566	1	08/18/2015 17:08	YH
Surr: 4-Terphenyl-d14	98.9	55.4-136		%REC	211566	1	08/18/2015 17:08	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	211537	1	08/18/2015 16:09	YH
2-Methylphenol	BRL	10		ug/L	211537	1	08/18/2015 16:09	YH
3,4-Methylphenol	BRL	10		ug/L	211537	1	08/18/2015 16:09	YH
Phenol	BRL	10		ug/L	211537	1	08/18/2015 16:09	YH
Surr: 2,4,6-Tribromophenol	81.2	52-133		%REC	211537	1	08/18/2015 16:09	YH
Surr: 2-Fluorobiphenyl	75.5	50-121		%REC	211537	1	08/18/2015 16:09	YH
Surr: 2-Fluorophenol	41	27.5-120		%REC	211537	1	08/18/2015 16:09	YH
Surr: 4-Terphenyl-d14	71.8	46.3-137		%REC	211537	1	08/18/2015 16:09	YH
Surr: Nitrobenzene-d5	70.1	41.2-121		%REC	211537	1	08/18/2015 16:09	YH
Surr: Phenol-d5	25.4	14.3-120		%REC	211537	1	08/18/2015 16:09	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-302DD-20150812-01
Project Name:	AGLC-Macon	**Collection Date:**	8/12/2015 12:40:00 PM
Lab ID:	1508C64-011	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	211658	1	08/19/2015 14:13	TA
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.042	0.010		mg/L	211590	1	08/18/2015 16:00	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	211616	1	08/20/2015 18:37	TA
Arsenic	BRL	0.0500		mg/L	211616	1	08/20/2015 18:37	TA
Barium	0.819	0.0200		mg/L	211616	1	08/20/2015 18:37	TA
Beryllium	BRL	0.0100		mg/L	211616	1	08/20/2015 18:37	TA
Cadmium	BRL	0.0050		mg/L	211616	1	08/20/2015 18:37	TA
Chromium	BRL	0.0100		mg/L	211616	1	08/20/2015 18:37	TA
Copper	BRL	0.0100		mg/L	211616	1	08/20/2015 18:37	TA
Lead	BRL	0.0100		mg/L	211616	1	08/20/2015 18:37	TA
Nickel	BRL	0.0200		mg/L	211616	1	08/24/2015 11:45	TA
Zinc	0.0686	0.0200		mg/L	211616	1	08/20/2015 18:37	TA

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-15-20150812-01
Project Name:	AGLC-Macon	**Collection Date:**	8/12/2015 11:15:00 AM
Lab ID:	1508C64-012	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	211628	1	08/19/2015 04:04	NP
Carbon disulfide	BRL	5.0		ug/L	211628	1	08/19/2015 04:04	NP
Ethylbenzene	BRL	5.0		ug/L	211628	1	08/19/2015 04:04	NP
Toluene	BRL	5.0		ug/L	211628	1	08/19/2015 04:04	NP
Xylenes, Total	BRL	5.0		ug/L	211628	1	08/19/2015 04:04	NP
Surr: 4-Bromofluorobenzene	74.8	70.6-123		%REC	211628	1	08/19/2015 04:04	NP
Surr: Dibromofluoromethane	106	78.7-124		%REC	211628	1	08/19/2015 04:04	NP
Surr: Toluene-d8	95.6	81.3-120		%REC	211628	1	08/19/2015 04:04	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	211566	1	08/18/2015 17:36	YH
Acenaphthylene	BRL	1.0		ug/L	211566	1	08/18/2015 17:36	YH
Acenaphthene	BRL	0.50		ug/L	211566	1	08/18/2015 17:36	YH
Fluorene	BRL	0.10		ug/L	211566	1	08/18/2015 17:36	YH
Phenanthrene	BRL	0.050		ug/L	211566	1	08/18/2015 17:36	YH
Anthracene	0.11	0.050		ug/L	211566	1	08/18/2015 17:36	YH
Fluoranthene	BRL	0.10		ug/L	211566	1	08/18/2015 17:36	YH
Pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 17:36	YH
Benz(a)anthracene	BRL	0.050		ug/L	211566	1	08/18/2015 17:36	YH
Chrysene	BRL	0.050		ug/L	211566	1	08/18/2015 17:36	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	211566	1	08/18/2015 17:36	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	211566	1	08/18/2015 17:36	YH
Benzo(a)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 17:36	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 17:36	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	211566	1	08/18/2015 17:36	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	211566	1	08/18/2015 17:36	YH
Surr: 4-Terphenyl-d14	112	55.4-136		%REC	211566	1	08/18/2015 17:36	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	211537	1	08/18/2015 16:35	YH
2-Methylphenol	BRL	10		ug/L	211537	1	08/18/2015 16:35	YH
3,4-Methylphenol	BRL	10		ug/L	211537	1	08/18/2015 16:35	YH
Phenol	BRL	10		ug/L	211537	1	08/18/2015 16:35	YH
Surr: 2,4,6-Tribromophenol	80.9	52-133		%REC	211537	1	08/18/2015 16:35	YH
Surr: 2-Fluorobiphenyl	74	50-121		%REC	211537	1	08/18/2015 16:35	YH
Surr: 2-Fluorophenol	33.4	27.5-120		%REC	211537	1	08/18/2015 16:35	YH
Surr: 4-Terphenyl-d14	70.2	46.3-137		%REC	211537	1	08/18/2015 16:35	YH
Surr: Nitrobenzene-d5	65.6	41.2-121		%REC	211537	1	08/18/2015 16:35	YH
Surr: Phenol-d5	26.6	14.3-120		%REC	211537	1	08/18/2015 16:35	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-15-20150812-01
Project Name:	AGLC-Macon	**Collection Date:**	8/12/2015 11:15:00 AM
Lab ID:	1508C64-012	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	211658	1	08/19/2015 14:15	TA
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.113	0.010		mg/L	211590	1	08/18/2015 16:00	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	211616	1	08/20/2015 18:40	TA
Arsenic	BRL	0.0500		mg/L	211616	1	08/20/2015 18:40	TA
Barium	0.0336	0.0200		mg/L	211616	1	08/20/2015 18:40	TA
Beryllium	BRL	0.0100		mg/L	211616	1	08/20/2015 18:40	TA
Cadmium	BRL	0.0050		mg/L	211616	1	08/20/2015 18:40	TA
Chromium	BRL	0.0100		mg/L	211616	1	08/20/2015 18:40	TA
Copper	BRL	0.0100		mg/L	211616	1	08/20/2015 18:40	TA
Lead	BRL	0.0100		mg/L	211616	1	08/20/2015 18:40	TA
Nickel	BRL	0.0200		mg/L	211616	1	08/20/2015 18:40	TA
Zinc	BRL	0.0200		mg/L	211616	1	08/20/2015 18:40	TA

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-204D-20150812-01
Project Name:	AGLC-Macon	**Collection Date:**	8/12/2015 9:20:00 AM
Lab ID:	1508C64-013	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	300	50		ug/L	211628	10	08/18/2015 22:20	NP
Carbon disulfide	BRL	5.0		ug/L	211628	1	08/19/2015 13:11	NP
Ethylbenzene	230	50		ug/L	211628	10	08/18/2015 22:20	NP
Toluene	BRL	5.0		ug/L	211628	1	08/19/2015 13:11	NP
Xylenes, Total	19	5.0		ug/L	211628	1	08/19/2015 13:11	NP
Surr: 4-Bromofluorobenzene	76	70.6-123		%REC	211628	10	08/18/2015 22:20	NP
Surr: 4-Bromofluorobenzene	81.7	70.6-123		%REC	211628	1	08/19/2015 13:11	NP
Surr: Dibromofluoromethane	99	78.7-124		%REC	211628	1	08/19/2015 13:11	NP
Surr: Dibromofluoromethane	103	78.7-124		%REC	211628	10	08/18/2015 22:20	NP
Surr: Toluene-d8	94.6	81.3-120		%REC	211628	1	08/19/2015 13:11	NP
Surr: Toluene-d8	95.5	81.3-120		%REC	211628	10	08/18/2015 22:20	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	1100	500		ug/L	211566	1000	08/19/2015 12:23	YH
Acenaphthylene	3.0	1.0		ug/L	211566	1	08/18/2015 18:04	YH
Acenaphthene	58	50		ug/L	211566	100	08/19/2015 11:27	YH
Fluorene	17	10		ug/L	211566	100	08/19/2015 11:27	YH
Phenanthrene	20	5.0		ug/L	211566	100	08/19/2015 11:27	YH
Anthracene	4.1	0.050		ug/L	211566	1	08/18/2015 18:04	YH
Fluoranthene	4.4	0.10		ug/L	211566	1	08/18/2015 18:04	YH
Pyrene	5.1	0.050		ug/L	211566	1	08/18/2015 18:04	YH
Benz(a)anthracene	0.11	0.050		ug/L	211566	1	08/18/2015 18:04	YH
Chrysene	0.070	0.050		ug/L	211566	1	08/18/2015 18:04	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	211566	1	08/18/2015 18:04	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	211566	1	08/18/2015 18:04	YH
Benzo(a)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 18:04	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 18:04	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	211566	1	08/18/2015 18:04	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	211566	1	08/18/2015 18:04	YH
Surr: 4-Terphenyl-d14	107	55.4-136		%REC	211566	1	08/18/2015 18:04	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	211537	1	08/18/2015 17:01	YH
2-Methylphenol	BRL	10		ug/L	211537	1	08/18/2015 17:01	YH
3,4-Methylphenol	BRL	10		ug/L	211537	1	08/18/2015 17:01	YH
Phenol	BRL	10		ug/L	211537	1	08/18/2015 17:01	YH
Surr: 2,4,6-Tribromophenol	84.5	52-133		%REC	211537	1	08/18/2015 17:01	YH
Surr: 2-Fluorobiphenyl	77.6	50-121		%REC	211537	1	08/18/2015 17:01	YH
Surr: 2-Fluorophenol	37.4	27.5-120		%REC	211537	1	08/18/2015 17:01	YH
Surr: 4-Terphenyl-d14	75	46.3-137		%REC	211537	1	08/18/2015 17:01	YH
Surr: Nitrobenzene-d5	77.2	41.2-121		%REC	211537	1	08/18/2015 17:01	YH

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-204D-20150812-01
Project Name:	AGLC-Macon	**Collection Date:**	8/12/2015 9:20:00 AM
Lab ID:	1508C64-013	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
Surr: Phenol-d5	26.3	14.3-120		%REC	211537	1	08/18/2015 17:01	YH
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	211658	1	08/19/2015 14:17	TA
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	0.022	0.010		mg/L	211590	1	08/18/2015 16:00	PF
METALS, TOTAL SW6010C				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	211616	1	08/20/2015 18:43	TA
Arsenic	BRL	0.0500		mg/L	211616	1	08/20/2015 18:43	TA
Barium	4.95	0.0200		mg/L	211616	1	08/20/2015 18:43	TA
Beryllium	BRL	0.0100		mg/L	211616	1	08/20/2015 18:43	TA
Cadmium	BRL	0.0050		mg/L	211616	1	08/20/2015 18:43	TA
Chromium	BRL	0.0100		mg/L	211616	1	08/20/2015 18:43	TA
Copper	BRL	0.0100		mg/L	211616	1	08/20/2015 18:43	TA
Lead	BRL	0.0100		mg/L	211616	1	08/20/2015 18:43	TA
Nickel	0.0325	0.0200		mg/L	211616	1	08/20/2015 18:43	TA
Zinc	BRL	0.0200		mg/L	211616	1	08/20/2015 18:43	TA

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-110D-20150813-01
Project Name:	AGLC-Macon	**Collection Date:**	8/13/2015 9:20:00 AM
Lab ID:	1508C64-014	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	120	5.0		ug/L	211628	1	08/19/2015 12:25	NP
Carbon disulfide	BRL	5.0		ug/L	211628	1	08/19/2015 12:25	NP
Ethylbenzene	420	50		ug/L	211628	10	08/18/2015 21:57	NP
Toluene	BRL	5.0		ug/L	211628	1	08/19/2015 12:25	NP
Xylenes, Total	11	5.0		ug/L	211628	1	08/19/2015 12:25	NP
Surr: 4-Bromofluorobenzene	78	70.6-123		%REC	211628	10	08/18/2015 21:57	NP
Surr: 4-Bromofluorobenzene	83.3	70.6-123		%REC	211628	1	08/19/2015 12:25	NP
Surr: Dibromofluoromethane	100	78.7-124		%REC	211628	1	08/19/2015 12:25	NP
Surr: Dibromofluoromethane	100	78.7-124		%REC	211628	10	08/18/2015 21:57	NP
Surr: Toluene-d8	93.5	81.3-120		%REC	211628	10	08/18/2015 21:57	NP
Surr: Toluene-d8	96.5	81.3-120		%REC	211628	1	08/19/2015 12:25	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	2200	500		ug/L	211566	1000	08/19/2015 14:43	YH
Acenaphthylene	3.0	1.0		ug/L	211566	1	08/18/2015 18:32	YH
Acenaphthene	77	50		ug/L	211566	100	08/19/2015 12:51	YH
Fluorene	19	10		ug/L	211566	100	08/19/2015 12:51	YH
Phenanthrene	43	5.0		ug/L	211566	100	08/19/2015 12:51	YH
Anthracene	8.1	0.050		ug/L	211566	1	08/18/2015 18:32	YH
Fluoranthene	6.5	0.10		ug/L	211566	1	08/18/2015 18:32	YH
Pyrene	8.3	0.050		ug/L	211566	1	08/18/2015 18:32	YH
Benz(a)anthracene	0.32	0.050		ug/L	211566	1	08/18/2015 18:32	YH
Chrysene	0.23	0.050		ug/L	211566	1	08/18/2015 18:32	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	211566	1	08/18/2015 18:32	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	211566	1	08/18/2015 18:32	YH
Benzo(a)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 18:32	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 18:32	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	211566	1	08/18/2015 18:32	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	211566	1	08/18/2015 18:32	YH
Surr: 4-Terphenyl-d14	103	55.4-136		%REC	211566	1	08/18/2015 18:32	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	211584	1	08/19/2015 16:53	YH
2-Methylphenol	BRL	10		ug/L	211584	1	08/19/2015 16:53	YH
3,4-Methylphenol	BRL	10		ug/L	211584	1	08/19/2015 16:53	YH
Phenol	BRL	10		ug/L	211584	1	08/19/2015 16:53	YH
Surr: 2,4,6-Tribromophenol	84.3	52-133		%REC	211584	1	08/19/2015 16:53	YH
Surr: 2-Fluorobiphenyl	78.1	50-121		%REC	211584	1	08/19/2015 16:53	YH
Surr: 2-Fluorophenol	57.1	27.5-120		%REC	211584	1	08/19/2015 16:53	YH
Surr: 4-Terphenyl-d14	79.8	46.3-137		%REC	211584	1	08/19/2015 16:53	YH
Surr: Nitrobenzene-d5	76	41.2-121		%REC	211584	1	08/19/2015 16:53	YH

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-110D-20150813-01
Project Name:	AGLC-Macon	**Collection Date:**	8/13/2015 9:20:00 AM
Lab ID:	1508C64-014	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D					**(SW3510C)**			
Surr: Phenol-d5	53.8	14.3-120		%REC	211584	1	08/19/2015 16:53	YH
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	211658	1	08/19/2015 14:19	TA
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.015	0.010		mg/L	211590	1	08/18/2015 16:00	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	211616	1	08/20/2015 18:46	TA
Arsenic	BRL	0.0500		mg/L	211616	1	08/20/2015 18:46	TA
Barium	3.80	0.0200		mg/L	211616	1	08/20/2015 18:46	TA
Beryllium	BRL	0.0100		mg/L	211616	1	08/20/2015 18:46	TA
Cadmium	BRL	0.0050		mg/L	211616	1	08/20/2015 18:46	TA
Chromium	BRL	0.0100		mg/L	211616	1	08/20/2015 18:46	TA
Copper	BRL	0.0100		mg/L	211616	1	08/20/2015 18:46	TA
Lead	BRL	0.0100		mg/L	211616	1	08/20/2015 18:46	TA
Nickel	0.104	0.0200		mg/L	211616	1	08/20/2015 18:46	TA
Zinc	BRL	0.0200		mg/L	211616	1	08/20/2015 18:46	TA

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-24D-20150813-01
Project Name:	AGLC-Macon	**Collection Date:**	8/13/2015 9:15:00 AM
Lab ID:	1508C64-015	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	39	5.0		ug/L	211628	1	08/19/2015 04:26	NP
Carbon disulfide	BRL	5.0		ug/L	211628	1	08/19/2015 04:26	NP
Ethylbenzene	31	5.0		ug/L	211628	1	08/19/2015 04:26	NP
Toluene	BRL	5.0		ug/L	211628	1	08/19/2015 04:26	NP
Xylenes, Total	BRL	5.0		ug/L	211628	1	08/19/2015 04:26	NP
Surr: 4-Bromofluorobenzene	79.9	70.6-123		%REC	211628	1	08/19/2015 04:26	NP
Surr: Dibromofluoromethane	104	78.7-124		%REC	211628	1	08/19/2015 04:26	NP
Surr: Toluene-d8	96	81.3-120		%REC	211628	1	08/19/2015 04:26	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	220	50		ug/L	211566	100	08/19/2015 13:19	YH
Acenaphthylene	BRL	1.0		ug/L	211566	1	08/18/2015 18:59	YH
Acenaphthene	15	5.0		ug/L	211566	100	08/19/2015 13:19	YH
Fluorene	1.5	0.10		ug/L	211566	1	08/18/2015 18:59	YH
Phenanthrene	2.4	0.050		ug/L	211566	1	08/18/2015 18:59	YH
Anthracene	0.41	0.050		ug/L	211566	1	08/18/2015 18:59	YH
Fluoranthene	BRL	0.10		ug/L	211566	1	08/18/2015 18:59	YH
Pyrene	0.11	0.050		ug/L	211566	1	08/18/2015 18:59	YH
Benz(a)anthracene	BRL	0.050		ug/L	211566	1	08/18/2015 18:59	YH
Chrysene	BRL	0.050		ug/L	211566	1	08/18/2015 18:59	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	211566	1	08/18/2015 18:59	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	211566	1	08/18/2015 18:59	YH
Benzo(a)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 18:59	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 18:59	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	211566	1	08/18/2015 18:59	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	211566	1	08/18/2015 18:59	YH
Surr: 4-Terphenyl-d14	94.2	55.4-136		%REC	211566	1	08/18/2015 18:59	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	211584	1	08/19/2015 17:19	YH
2-Methylphenol	BRL	10		ug/L	211584	1	08/19/2015 17:19	YH
3,4-Methylphenol	BRL	10		ug/L	211584	1	08/19/2015 17:19	YH
Phenol	BRL	10		ug/L	211584	1	08/19/2015 17:19	YH
Surr: 2,4,6-Tribromophenol	78.6	52-133		%REC	211584	1	08/19/2015 17:19	YH
Surr: 2-Fluorobiphenyl	70.4	50-121		%REC	211584	1	08/19/2015 17:19	YH
Surr: 2-Fluorophenol	51.5	27.5-120		%REC	211584	1	08/19/2015 17:19	YH
Surr: 4-Terphenyl-d14	80.5	46.3-137		%REC	211584	1	08/19/2015 17:19	YH
Surr: Nitrobenzene-d5	65.1	41.2-121		%REC	211584	1	08/19/2015 17:19	YH
Surr: Phenol-d5	45.6	14.3-120		%REC	211584	1	08/19/2015 17:19	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-24D-20150813-01
Project Name:	AGLC-Macon	**Collection Date:**	8/13/2015 9:15:00 AM
Lab ID:	1508C64-015	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	211659	1	08/19/2015 14:24	TA
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	211590	1	08/18/2015 16:00	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	211616	1	08/20/2015 18:49	TA
Arsenic	BRL	0.0500		mg/L	211616	1	08/20/2015 18:49	TA
Barium	4.37	0.0200		mg/L	211616	1	08/20/2015 18:49	TA
Beryllium	BRL	0.0100		mg/L	211616	1	08/20/2015 18:49	TA
Cadmium	BRL	0.0050		mg/L	211616	1	08/20/2015 18:49	TA
Chromium	BRL	0.0100		mg/L	211616	1	08/20/2015 18:49	TA
Copper	BRL	0.0100		mg/L	211616	1	08/20/2015 18:49	TA
Lead	0.0103	0.0100		mg/L	211616	1	08/24/2015 11:48	TA
Nickel	BRL	0.0200		mg/L	211616	1	08/20/2015 18:49	TA
Zinc	0.197	0.0200		mg/L	211616	1	08/20/2015 18:49	TA

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-111D-20150813-01
Project Name:	AGLC-Macon	**Collection Date:**	8/13/2015 10:45:00 AM
Lab ID:	1508C64-016	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	1700	100		ug/L	211628	20	08/18/2015 21:34	NP
Carbon disulfide	BRL	5.0		ug/L	211628	1	08/19/2015 13:57	NP
Ethylbenzene	820	100		ug/L	211628	20	08/18/2015 21:34	NP
Toluene	380	100		ug/L	211628	20	08/18/2015 21:34	NP
Xylenes, Total	330	100		ug/L	211628	20	08/18/2015 21:34	NP
Surr: 4-Bromofluorobenzene	86.3	70.6-123		%REC	211628	1	08/19/2015 13:57	NP
Surr: 4-Bromofluorobenzene	79.7	70.6-123		%REC	211628	20	08/18/2015 21:34	NP
Surr: Dibromofluoromethane	101	78.7-124		%REC	211628	20	08/18/2015 21:34	NP
Surr: Dibromofluoromethane	94.2	78.7-124		%REC	211628	1	08/19/2015 13:57	NP
Surr: Toluene-d8	93.1	81.3-120		%REC	211628	1	08/19/2015 13:57	NP
Surr: Toluene-d8	95.4	81.3-120		%REC	211628	20	08/18/2015 21:34	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	3800	500		ug/L	211566	1000	08/19/2015 17:40	YH
Acenaphthylene	44	5.0		ug/L	211566	100	08/19/2015 13:47	YH
Acenaphthene	53	50		ug/L	211566	100	08/19/2015 13:47	YH
Fluorene	35	10		ug/L	211566	100	08/19/2015 13:47	YH
Phenanthrene	58	5.0		ug/L	211566	100	08/19/2015 13:47	YH
Anthracene	9.6	0.050		ug/L	211566	1	08/18/2015 19:27	YH
Fluoranthene	8.2	5.0		ug/L	211566	100	08/19/2015 13:47	YH
Pyrene	12	5.0		ug/L	211566	100	08/19/2015 13:47	YH
Benz(a)anthracene	0.73	0.050		ug/L	211566	1	08/18/2015 19:27	YH
Chrysene	0.53	0.050		ug/L	211566	1	08/18/2015 19:27	YH
Benzo(b)fluoranthene	0.20	0.10		ug/L	211566	1	08/18/2015 19:27	YH
Benzo(k)fluoranthene	0.057	0.050		ug/L	211566	1	08/18/2015 19:27	YH
Benzo(a)pyrene	0.15	0.050		ug/L	211566	1	08/18/2015 19:27	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 19:27	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	211566	1	08/18/2015 19:27	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	211566	1	08/18/2015 19:27	YH
Surr: 4-Terphenyl-d14	96.1	55.4-136		%REC	211566	1	08/18/2015 19:27	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	211584	1	08/19/2015 17:45	YH
2-Methylphenol	BRL	10		ug/L	211584	1	08/19/2015 17:45	YH
3,4-Methylphenol	BRL	10		ug/L	211584	1	08/19/2015 17:45	YH
Phenol	15	10		ug/L	211584	1	08/19/2015 17:45	YH
Surr: 2,4,6-Tribromophenol	80.8	52-133		%REC	211584	1	08/19/2015 17:45	YH
Surr: 2-Fluorobiphenyl	68.6	50-121		%REC	211584	1	08/19/2015 17:45	YH
Surr: 2-Fluorophenol	43.9	27.5-120		%REC	211584	1	08/19/2015 17:45	YH
Surr: 4-Terphenyl-d14	75.5	46.3-137		%REC	211584	1	08/19/2015 17:45	YH
Surr: Nitrobenzene-d5	60.9	41.2-121		%REC	211584	1	08/19/2015 17:45	YH

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-111D-20150813-01
Project Name:	AGLC-Macon	**Collection Date:**	8/13/2015 10:45:00 AM
Lab ID:	1508C64-016	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D					**(SW3510C)**			
Surr: Phenol-d5	40.5	14.3-120		%REC	211584	1	08/19/2015 17:45	YH
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	211659	1	08/19/2015 14:36	TA
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.013	0.010		mg/L	211590	1	08/18/2015 16:00	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	211616	1	08/20/2015 18:52	TA
Arsenic	BRL	0.0500		mg/L	211616	1	08/20/2015 18:52	TA
Barium	1.09	0.0200		mg/L	211616	1	08/20/2015 18:52	TA
Beryllium	BRL	0.0100		mg/L	211616	1	08/20/2015 18:52	TA
Cadmium	BRL	0.0050		mg/L	211616	1	08/20/2015 18:52	TA
Chromium	BRL	0.0100		mg/L	211616	1	08/20/2015 18:52	TA
Copper	BRL	0.0100		mg/L	211616	1	08/20/2015 18:52	TA
Lead	BRL	0.0100		mg/L	211616	1	08/20/2015 18:52	TA
Nickel	BRL	0.0200		mg/L	211616	1	08/20/2015 18:52	TA
Zinc	BRL	0.0200		mg/L	211616	1	08/20/2015 18:52	TA

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-301D-20150813-01
Project Name:	AGLC-Macon	**Collection Date:**	8/13/2015 11:50:00 AM
Lab ID:	1508C64-017	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	211628	1	08/19/2015 04:49	NP
Carbon disulfide	BRL	5.0		ug/L	211628	1	08/19/2015 04:49	NP
Ethylbenzene	BRL	5.0		ug/L	211628	1	08/19/2015 04:49	NP
Toluene	BRL	5.0		ug/L	211628	1	08/19/2015 04:49	NP
Xylenes, Total	BRL	5.0		ug/L	211628	1	08/19/2015 04:49	NP
Surr: 4-Bromofluorobenzene	75.7	70.6-123		%REC	211628	1	08/19/2015 04:49	NP
Surr: Dibromofluoromethane	104	78.7-124		%REC	211628	1	08/19/2015 04:49	NP
Surr: Toluene-d8	96.4	81.3-120		%REC	211628	1	08/19/2015 04:49	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	211566	1	08/18/2015 19:55	YH
Acenaphthylene	BRL	1.0		ug/L	211566	1	08/18/2015 19:55	YH
Acenaphthene	0.51	0.50		ug/L	211566	1	08/18/2015 19:55	YH
Fluorene	2.3	0.10		ug/L	211566	1	08/18/2015 19:55	YH
Phenanthrene	0.23	0.050		ug/L	211566	1	08/18/2015 19:55	YH
Anthracene	0.13	0.050		ug/L	211566	1	08/18/2015 19:55	YH
Fluoranthene	BRL	0.10		ug/L	211566	1	08/18/2015 19:55	YH
Pyrene	0.080	0.050		ug/L	211566	1	08/18/2015 19:55	YH
Benz(a)anthracene	BRL	0.050		ug/L	211566	1	08/18/2015 19:55	YH
Chrysene	BRL	0.050		ug/L	211566	1	08/18/2015 19:55	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	211566	1	08/18/2015 19:55	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	211566	1	08/18/2015 19:55	YH
Benzo(a)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 19:55	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 19:55	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	211566	1	08/18/2015 19:55	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	211566	1	08/18/2015 19:55	YH
Surr: 4-Terphenyl-d14	95.1	55.4-136		%REC	211566	1	08/18/2015 19:55	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	211584	1	08/19/2015 18:12	YH
2-Methylphenol	BRL	10		ug/L	211584	1	08/19/2015 18:12	YH
3,4-Methylphenol	BRL	10		ug/L	211584	1	08/19/2015 18:12	YH
Phenol	BRL	10		ug/L	211584	1	08/19/2015 18:12	YH
Surr: 2,4,6-Tribromophenol	81.5	52-133		%REC	211584	1	08/19/2015 18:12	YH
Surr: 2-Fluorobiphenyl	75.3	50-121		%REC	211584	1	08/19/2015 18:12	YH
Surr: 2-Fluorophenol	61.3	27.5-120		%REC	211584	1	08/19/2015 18:12	YH
Surr: 4-Terphenyl-d14	80.9	46.3-137		%REC	211584	1	08/19/2015 18:12	YH
Surr: Nitrobenzene-d5	72.5	41.2-121		%REC	211584	1	08/19/2015 18:12	YH
Surr: Phenol-d5	52.9	14.3-120		%REC	211584	1	08/19/2015 18:12	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-301D-20150813-01
Project Name:	AGLC-Macon	**Collection Date:**	8/13/2015 11:50:00 AM
Lab ID:	1508C64-017	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	211659	1	08/19/2015 14:38	TA
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.043	0.010		mg/L	211590	1	08/18/2015 16:00	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	211616	1	08/20/2015 19:00	TA
Arsenic	BRL	0.0500		mg/L	211616	1	08/20/2015 19:00	TA
Barium	0.771	0.0200		mg/L	211616	1	08/20/2015 19:00	TA
Beryllium	BRL	0.0100		mg/L	211616	1	08/20/2015 19:00	TA
Cadmium	BRL	0.0050		mg/L	211616	1	08/20/2015 19:00	TA
Chromium	BRL	0.0100		mg/L	211616	1	08/20/2015 19:00	TA
Copper	BRL	0.0100		mg/L	211616	1	08/20/2015 19:00	TA
Lead	BRL	0.0100		mg/L	211616	1	08/20/2015 19:00	TA
Nickel	BRL	0.0200		mg/L	211616	1	08/24/2015 11:50	TA
Zinc	BRL	0.0200		mg/L	211616	1	08/20/2015 19:00	TA

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	DUP-01-20150812-01
Project Name:	AGLC-Macon	**Collection Date:**	8/12/2015
Lab ID:	1508C64-018	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	34	5.0		ug/L	211628	1	08/20/2015 11:22	NP
Carbon disulfide	BRL	5.0		ug/L	211628	1	08/20/2015 11:22	NP
Ethylbenzene	24	5.0		ug/L	211628	1	08/20/2015 11:22	NP
Toluene	BRL	5.0		ug/L	211628	1	08/20/2015 11:22	NP
Xylenes, Total	BRL	5.0		ug/L	211628	1	08/20/2015 11:22	NP
Surr: 4-Bromofluorobenzene	80.3	70.6-123		%REC	211628	1	08/20/2015 11:22	NP
Surr: Dibromofluoromethane	98.4	78.7-124		%REC	211628	1	08/20/2015 11:22	NP
Surr: Toluene-d8	96.5	81.3-120		%REC	211628	1	08/20/2015 11:22	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	211566	1	08/18/2015 20:22	YH
Acenaphthylene	BRL	1.0		ug/L	211566	1	08/18/2015 20:22	YH
Acenaphthene	BRL	0.50		ug/L	211566	1	08/18/2015 20:22	YH
Fluorene	BRL	0.10		ug/L	211566	1	08/18/2015 20:22	YH
Phenanthrene	BRL	0.050		ug/L	211566	1	08/18/2015 20:22	YH
Anthracene	BRL	0.050		ug/L	211566	1	08/18/2015 20:22	YH
Fluoranthene	BRL	0.10		ug/L	211566	1	08/18/2015 20:22	YH
Pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 20:22	YH
Benz(a)anthracene	BRL	0.050		ug/L	211566	1	08/18/2015 20:22	YH
Chrysene	BRL	0.050		ug/L	211566	1	08/18/2015 20:22	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	211566	1	08/18/2015 20:22	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	211566	1	08/18/2015 20:22	YH
Benzo(a)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 20:22	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 20:22	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	211566	1	08/18/2015 20:22	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	211566	1	08/18/2015 20:22	YH
Surr: 4-Terphenyl-d14	96.8	55.4-136		%REC	211566	1	08/18/2015 20:22	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	211584	1	08/19/2015 18:38	YH
2-Methylphenol	BRL	10		ug/L	211584	1	08/19/2015 18:38	YH
3,4-Methylphenol	BRL	10		ug/L	211584	1	08/19/2015 18:38	YH
Phenol	BRL	10		ug/L	211584	1	08/19/2015 18:38	YH
Surr: 2,4,6-Tribromophenol	86.6	52-133		%REC	211584	1	08/19/2015 18:38	YH
Surr: 2-Fluorobiphenyl	82	50-121		%REC	211584	1	08/19/2015 18:38	YH
Surr: 2-Fluorophenol	56.4	27.5-120		%REC	211584	1	08/19/2015 18:38	YH
Surr: 4-Terphenyl-d14	85.1	46.3-137		%REC	211584	1	08/19/2015 18:38	YH
Surr: Nitrobenzene-d5	77.8	41.2-121		%REC	211584	1	08/19/2015 18:38	YH
Surr: Phenol-d5	50.7	14.3-120		%REC	211584	1	08/19/2015 18:38	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	DUP-01-20150812-01
Project Name:	AGLC-Macon	**Collection Date:**	8/12/2015
Lab ID:	1508C64-018	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	211659	1	08/19/2015 14:40	TA
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.043	0.010		mg/L	211590	1	08/18/2015 16:00	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	211616	1	08/20/2015 19:03	TA
Arsenic	BRL	0.0500		mg/L	211616	1	08/20/2015 19:03	TA
Barium	1.71	0.0200		mg/L	211616	1	08/20/2015 19:03	TA
Beryllium	BRL	0.0100		mg/L	211616	1	08/20/2015 19:03	TA
Cadmium	BRL	0.0050		mg/L	211616	1	08/20/2015 19:03	TA
Chromium	BRL	0.0100		mg/L	211616	1	08/20/2015 19:03	TA
Copper	BRL	0.0100		mg/L	211616	1	08/20/2015 19:03	TA
Lead	BRL	0.0100		mg/L	211616	1	08/20/2015 19:03	TA
Nickel	BRL	0.0200		mg/L	211616	1	08/24/2015 11:53	TA
Zinc	BRL	0.0200		mg/L	211616	1	08/20/2015 19:03	TA

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	DUP-02-20150813-01
Project Name:	AGLC-Macon	**Collection Date:**	8/13/2015
Lab ID:	1508C64-019	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	120	5.0		ug/L	211628	1	08/19/2015 12:48	NP
Carbon disulfide	BRL	5.0		ug/L	211628	1	08/19/2015 12:48	NP
Ethylbenzene	450	50		ug/L	211628	10	08/19/2015 14:19	NP
Toluene	BRL	5.0		ug/L	211628	1	08/19/2015 12:48	NP
Xylenes, Total	11	5.0		ug/L	211628	1	08/19/2015 12:48	NP
Surr: 4-Bromofluorobenzene	80.5	70.6-123		%REC	211628	10	08/19/2015 14:19	NP
Surr: 4-Bromofluorobenzene	82.5	70.6-123		%REC	211628	1	08/19/2015 12:48	NP
Surr: Dibromofluoromethane	100	78.7-124		%REC	211628	1	08/19/2015 12:48	NP
Surr: Dibromofluoromethane	101	78.7-124		%REC	211628	10	08/19/2015 14:19	NP
Surr: Toluene-d8	95.9	81.3-120		%REC	211628	10	08/19/2015 14:19	NP
Surr: Toluene-d8	97.4	81.3-120		%REC	211628	1	08/19/2015 12:48	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	1500	500		ug/L	211566	1000	08/19/2015 18:08	YH
Acenaphthylene	2.4	1.0		ug/L	211566	1	08/18/2015 20:49	YH
Acenaphthene	70	50		ug/L	211566	100	08/19/2015 14:16	YH
Fluorene	16	10		ug/L	211566	100	08/19/2015 14:16	YH
Phenanthrene	37	5.0		ug/L	211566	100	08/19/2015 14:16	YH
Anthracene	5.9	0.050		ug/L	211566	1	08/18/2015 20:49	YH
Fluoranthene	4.8	0.10		ug/L	211566	1	08/18/2015 20:49	YH
Pyrene	6.1	0.050		ug/L	211566	1	08/18/2015 20:49	YH
Benz(a)anthracene	0.23	0.050		ug/L	211566	1	08/18/2015 20:49	YH
Chrysene	0.17	0.050		ug/L	211566	1	08/18/2015 20:49	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	211566	1	08/18/2015 20:49	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	211566	1	08/18/2015 20:49	YH
Benzo(a)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 20:49	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	211566	1	08/18/2015 20:49	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	211566	1	08/18/2015 20:49	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	211566	1	08/18/2015 20:49	YH
Surr: 4-Terphenyl-d14	85.3	55.4-136		%REC	211566	1	08/18/2015 20:49	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	211584	1	08/19/2015 19:04	YH
2-Methylphenol	BRL	10		ug/L	211584	1	08/19/2015 19:04	YH
3,4-Methylphenol	BRL	10		ug/L	211584	1	08/19/2015 19:04	YH
Phenol	BRL	10		ug/L	211584	1	08/19/2015 19:04	YH
Surr: 2,4,6-Tribromophenol	92.6	52-133		%REC	211584	1	08/19/2015 19:04	YH
Surr: 2-Fluorobiphenyl	89.2	50-121		%REC	211584	1	08/19/2015 19:04	YH
Surr: 2-Fluorophenol	68.2	27.5-120		%REC	211584	1	08/19/2015 19:04	YH
Surr: 4-Terphenyl-d14	86.3	46.3-137		%REC	211584	1	08/19/2015 19:04	YH
Surr: Nitrobenzene-d5	87.1	41.2-121		%REC	211584	1	08/19/2015 19:04	YH

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	DUP-02-20150813-01
Project Name:	AGLC-Macon	**Collection Date:**	8/13/2015
Lab ID:	1508C64-019	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D					**(SW3510C)**			
Surr: Phenol-d5	61.4	14.3-120		%REC	211584	1	08/19/2015 19:04	YH
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	211659	1	08/19/2015 14:42	TA
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.012	0.010		mg/L	211590	1	08/18/2015 16:00	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	211616	1	08/20/2015 19:06	TA
Arsenic	BRL	0.0500		mg/L	211616	1	08/20/2015 19:06	TA
Barium	3.78	0.0200		mg/L	211616	1	08/20/2015 19:06	TA
Beryllium	BRL	0.0100		mg/L	211616	1	08/20/2015 19:06	TA
Cadmium	BRL	0.0050		mg/L	211616	1	08/20/2015 19:06	TA
Chromium	BRL	0.0100		mg/L	211616	1	08/20/2015 19:06	TA
Copper	BRL	0.0100		mg/L	211616	1	08/20/2015 19:06	TA
Lead	BRL	0.0100		mg/L	211616	1	08/20/2015 19:06	TA
Nickel	0.103	0.0200		mg/L	211616	1	08/20/2015 19:06	TA
Zinc	BRL	0.0200		mg/L	211616	1	08/20/2015 19:06	TA

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-305D-20150813-01
Project Name:	AGLC-Macon	**Collection Date:**	8/13/2015 1:55:00 PM
Lab ID:	1508C64-020	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	3700	500		ug/L	211628	100	08/18/2015 20:47	NP
Carbon disulfide	BRL	5.0		ug/L	211628	1	08/19/2015 13:34	NP
Ethylbenzene	49	5.0		ug/L	211628	1	08/19/2015 13:34	NP
Toluene	1600	500		ug/L	211628	100	08/18/2015 20:47	NP
Xylenes, Total	270	5.0		ug/L	211628	1	08/19/2015 13:34	NP
Surr: 4-Bromofluorobenzene	75.5	70.6-123		%REC	211628	100	08/18/2015 20:47	NP
Surr: 4-Bromofluorobenzene	80.4	70.6-123		%REC	211628	1	08/19/2015 13:34	NP
Surr: Dibromofluoromethane	89.9	78.7-124		%REC	211628	1	08/19/2015 13:34	NP
Surr: Dibromofluoromethane	102	78.7-124		%REC	211628	100	08/18/2015 20:47	NP
Surr: Toluene-d8	92.1	81.3-120		%REC	211628	1	08/19/2015 13:34	NP
Surr: Toluene-d8	97.1	81.3-120		%REC	211628	100	08/18/2015 20:47	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	220	50		ug/L	211646	100	08/20/2015 10:40	YH
Acenaphthylene	12	5.0		ug/L	211646	100	08/20/2015 10:40	YH
Acenaphthene	2.7	0.50		ug/L	211646	1	08/19/2015 20:00	YH
Fluorene	7.8	5.0		ug/L	211646	100	08/20/2015 10:40	YH
Phenanthrene	16	5.0		ug/L	211646	100	08/20/2015 10:40	YH
Anthracene	3.4	0.050		ug/L	211646	1	08/19/2015 20:00	YH
Fluoranthene	4.3	0.10		ug/L	211646	1	08/19/2015 20:00	YH
Pyrene	5.7	0.050		ug/L	211646	1	08/19/2015 20:00	YH
Benz(a)anthracene	1.3	0.050		ug/L	211646	1	08/19/2015 20:00	YH
Chrysene	0.97	0.050		ug/L	211646	1	08/19/2015 20:00	YH
Benzo(b)fluoranthene	1.1	0.10		ug/L	211646	1	08/19/2015 20:00	YH
Benzo(k)fluoranthene	0.24	0.050		ug/L	211646	1	08/19/2015 20:00	YH
Benzo(a)pyrene	0.91	0.050		ug/L	211646	1	08/19/2015 20:00	YH
Indeno(1,2,3-cd)pyrene	0.25	0.050		ug/L	211646	1	08/19/2015 20:00	YH
Dibenz(a,h)anthracene	0.32	0.10		ug/L	211646	1	08/19/2015 20:00	YH
Benzo(g,h,i)perylene	0.36	0.10		ug/L	211646	1	08/19/2015 20:00	YH
Surr: 4-Terphenyl-d14	105	55.4-136		%REC	211646	1	08/19/2015 20:00	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	50		ug/L	211584	5	08/19/2015 19:30	YH
2-Methylphenol	BRL	50		ug/L	211584	5	08/19/2015 19:30	YH
3,4-Methylphenol	BRL	50		ug/L	211584	5	08/19/2015 19:30	YH
Phenol	BRL	50		ug/L	211584	5	08/19/2015 19:30	YH
Surr: 2,4,6-Tribromophenol	97.4	52-133		%REC	211584	5	08/19/2015 19:30	YH
Surr: 2-Fluorobiphenyl	75.5	50-121		%REC	211584	5	08/19/2015 19:30	YH
Surr: 2-Fluorophenol	48.4	27.5-120		%REC	211584	5	08/19/2015 19:30	YH
Surr: 4-Terphenyl-d14	71.5	46.3-137		%REC	211584	5	08/19/2015 19:30	YH
Surr: Nitrobenzene-d5	75.3	41.2-121		%REC	211584	5	08/19/2015 19:30	YH

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-305D-20150813-01
Project Name:	AGLC-Macon	**Collection Date:**	8/13/2015 1:55:00 PM
Lab ID:	1508C64-020	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
Surr: Phenol-d5	49	14.3-120		%REC	211584	5	08/19/2015 19:30	YH
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	211659	1	08/19/2015 14:44	TA
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	0.050	0.010		mg/L	211590	1	08/18/2015 16:00	PF
METALS, TOTAL SW6010C				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	211616	1	08/20/2015 19:09	TA
Arsenic	BRL	0.0500		mg/L	211616	1	08/20/2015 19:09	TA
Barium	0.140	0.0200		mg/L	211616	1	08/20/2015 19:09	TA
Beryllium	BRL	0.0100		mg/L	211616	1	08/20/2015 19:09	TA
Cadmium	BRL	0.0050		mg/L	211616	1	08/20/2015 19:09	TA
Chromium	0.0169	0.0100		mg/L	211616	1	08/20/2015 19:09	TA
Copper	0.0139	0.0100		mg/L	211616	1	08/20/2015 19:09	TA
Lead	BRL	0.0100		mg/L	211616	1	08/20/2015 19:09	TA
Nickel	BRL	0.0200		mg/L	211616	1	08/20/2015 19:09	TA
Zinc	BRL	0.0200		mg/L	211616	1	08/20/2015 19:09	TA

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-101-20150813-01
Project Name:	AGLC-Macon	**Collection Date:**	8/13/2015 2:30:00 PM
Lab ID:	1508C64-021	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	211544	1	08/17/2015 23:00	NP
Carbon disulfide	BRL	5.0		ug/L	211544	1	08/17/2015 23:00	NP
Ethylbenzene	BRL	5.0		ug/L	211544	1	08/17/2015 23:00	NP
Toluene	BRL	5.0		ug/L	211544	1	08/17/2015 23:00	NP
Xylenes, Total	BRL	5.0		ug/L	211544	1	08/17/2015 23:00	NP
Surr: 4-Bromofluorobenzene	74.3	70.6-123		%REC	211544	1	08/17/2015 23:00	NP
Surr: Dibromofluoromethane	107	78.7-124		%REC	211544	1	08/17/2015 23:00	NP
Surr: Toluene-d8	95.6	81.3-120		%REC	211544	1	08/17/2015 23:00	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	211646	1	08/19/2015 20:29	YH
Acenaphthylene	5.2	1.0		ug/L	211646	1	08/19/2015 20:29	YH
Acenaphthene	11	5.0		ug/L	211646	100	08/20/2015 11:08	YH
Fluorene	9.5	0.10		ug/L	211646	1	08/19/2015 20:29	YH
Phenanthrene	0.28	0.050		ug/L	211646	1	08/19/2015 20:29	YH
Anthracene	0.78	0.050		ug/L	211646	1	08/19/2015 20:29	YH
Fluoranthene	1.2	0.10		ug/L	211646	1	08/19/2015 20:29	YH
Pyrene	0.92	0.050		ug/L	211646	1	08/19/2015 20:29	YH
Benz(a)anthracene	BRL	0.050		ug/L	211646	1	08/19/2015 20:29	YH
Chrysene	BRL	0.050		ug/L	211646	1	08/19/2015 20:29	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	211646	1	08/19/2015 20:29	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	211646	1	08/19/2015 20:29	YH
Benzo(a)pyrene	BRL	0.050		ug/L	211646	1	08/19/2015 20:29	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	211646	1	08/19/2015 20:29	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	211646	1	08/19/2015 20:29	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	211646	1	08/19/2015 20:29	YH
Surr: 4-Terphenyl-d14	110	55.4-136		%REC	211646	1	08/19/2015 20:29	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	211584	1	08/19/2015 19:57	YH
2-Methylphenol	BRL	10		ug/L	211584	1	08/19/2015 19:57	YH
3,4-Methylphenol	BRL	10		ug/L	211584	1	08/19/2015 19:57	YH
Phenol	BRL	10		ug/L	211584	1	08/19/2015 19:57	YH
Surr: 2,4,6-Tribromophenol	80.2	52-133		%REC	211584	1	08/19/2015 19:57	YH
Surr: 2-Fluorobiphenyl	71.7	50-121		%REC	211584	1	08/19/2015 19:57	YH
Surr: 2-Fluorophenol	52.4	27.5-120		%REC	211584	1	08/19/2015 19:57	YH
Surr: 4-Terphenyl-d14	81.4	46.3-137		%REC	211584	1	08/19/2015 19:57	YH
Surr: Nitrobenzene-d5	66.6	41.2-121		%REC	211584	1	08/19/2015 19:57	YH
Surr: Phenol-d5	46.9	14.3-120		%REC	211584	1	08/19/2015 19:57	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-101-20150813-01
Project Name:	AGLC-Macon	**Collection Date:**	8/13/2015 2:30:00 PM
Lab ID:	1508C64-021	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	211659	1	08/19/2015 14:46	TA
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.039	0.010		mg/L	211726	1	08/21/2015 13:00	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	211616	1	08/20/2015 19:12	TA
Arsenic	BRL	0.0500		mg/L	211616	1	08/20/2015 19:12	TA
Barium	0.0453	0.0200		mg/L	211616	1	08/20/2015 19:12	TA
Beryllium	BRL	0.0100		mg/L	211616	1	08/20/2015 19:12	TA
Cadmium	BRL	0.0050		mg/L	211616	1	08/20/2015 19:12	TA
Chromium	BRL	0.0100		mg/L	211616	1	08/20/2015 19:12	TA
Copper	BRL	0.0100		mg/L	211616	1	08/20/2015 19:12	TA
Lead	BRL	0.0100		mg/L	211616	1	08/20/2015 19:12	TA
Nickel	BRL	0.0200		mg/L	211616	1	08/20/2015 19:12	TA
Zinc	BRL	0.0200		mg/L	211616	1	08/20/2015 19:12	TA

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-12DRR-20150813-01
Project Name:	AGLC-Macon	**Collection Date:**	8/13/2015 3:45:00 PM
Lab ID:	1508C64-022	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	250	50		ug/L	211544	10	08/17/2015 21:52	NP
Carbon disulfide	BRL	5.0		ug/L	211544	1	08/18/2015 02:02	NP
Ethylbenzene	110	5.0		ug/L	211544	1	08/18/2015 02:02	NP
Toluene	BRL	5.0		ug/L	211544	1	08/18/2015 02:02	NP
Xylenes, Total	60	5.0		ug/L	211544	1	08/18/2015 02:02	NP
Surr: 4-Bromofluorobenzene	78.1	70.6-123		%REC	211544	10	08/17/2015 21:52	NP
Surr: 4-Bromofluorobenzene	82.1	70.6-123		%REC	211544	1	08/18/2015 02:02	NP
Surr: Dibromofluoromethane	99.6	78.7-124		%REC	211544	1	08/18/2015 02:02	NP
Surr: Dibromofluoromethane	103	78.7-124		%REC	211544	10	08/17/2015 21:52	NP
Surr: Toluene-d8	94.6	81.3-120		%REC	211544	10	08/17/2015 21:52	NP
Surr: Toluene-d8	96.6	81.3-120		%REC	211544	1	08/18/2015 02:02	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	550	50		ug/L	211646	100	08/20/2015 11:36	YH
Acenaphthylene	9.6	5.0		ug/L	211646	100	08/20/2015 11:36	YH
Acenaphthene	39	5.0		ug/L	211646	100	08/20/2015 11:36	YH
Fluorene	36	10		ug/L	211646	100	08/20/2015 11:36	YH
Phenanthrene	18	5.0		ug/L	211646	100	08/20/2015 11:36	YH
Anthracene	3.7	0.050		ug/L	211646	1	08/19/2015 20:57	YH
Fluoranthene	6.3	0.10		ug/L	211646	1	08/19/2015 20:57	YH
Pyrene	7.1	0.050		ug/L	211646	1	08/19/2015 20:57	YH
Benz(a)anthracene	0.23	0.050		ug/L	211646	1	08/19/2015 20:57	YH
Chrysene	0.14	0.050		ug/L	211646	1	08/19/2015 20:57	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	211646	1	08/19/2015 20:57	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	211646	1	08/19/2015 20:57	YH
Benzo(a)pyrene	BRL	0.050		ug/L	211646	1	08/19/2015 20:57	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	211646	1	08/19/2015 20:57	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	211646	1	08/19/2015 20:57	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	211646	1	08/19/2015 20:57	YH
Surr: 4-Terphenyl-d14	118	55.4-136		%REC	211646	1	08/19/2015 20:57	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	211584	1	08/19/2015 20:23	YH
2-Methylphenol	BRL	10		ug/L	211584	1	08/19/2015 20:23	YH
3,4-Methylphenol	BRL	10		ug/L	211584	1	08/19/2015 20:23	YH
Phenol	BRL	10		ug/L	211584	1	08/19/2015 20:23	YH
Surr: 2,4,6-Tribromophenol	76.6	52-133		%REC	211584	1	08/19/2015 20:23	YH
Surr: 2-Fluorobiphenyl	67.7	50-121		%REC	211584	1	08/19/2015 20:23	YH
Surr: 2-Fluorophenol	48.6	27.5-120		%REC	211584	1	08/19/2015 20:23	YH
Surr: 4-Terphenyl-d14	76.2	46.3-137		%REC	211584	1	08/19/2015 20:23	YH
Surr: Nitrobenzene-d5	64.5	41.2-121		%REC	211584	1	08/19/2015 20:23	YH

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-12DRR-20150813-01
Project Name:	AGLC-Macon	**Collection Date:**	8/13/2015 3:45:00 PM
Lab ID:	1508C64-022	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D					**(SW3510C)**			
Surr: Phenol-d5	43.6	14.3-120		%REC	211584	1	08/19/2015 20:23	YH
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	211659	1	08/19/2015 14:48	TA
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.026	0.010		mg/L	211726	1	08/21/2015 13:00	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	211616	1	08/20/2015 19:15	TA
Arsenic	BRL	0.0500		mg/L	211616	1	08/20/2015 19:15	TA
Barium	1.68	0.0200		mg/L	211616	1	08/20/2015 19:15	TA
Beryllium	BRL	0.0100		mg/L	211616	1	08/20/2015 19:15	TA
Cadmium	BRL	0.0050		mg/L	211616	1	08/20/2015 19:15	TA
Chromium	BRL	0.0100		mg/L	211616	1	08/20/2015 19:15	TA
Copper	BRL	0.0100		mg/L	211616	1	08/20/2015 19:15	TA
Lead	BRL	0.0100		mg/L	211616	1	08/20/2015 19:15	TA
Nickel	BRL	0.0200		mg/L	211616	1	08/24/2015 11:56	TA
Zinc	BRL	0.0200		mg/L	211616	1	08/20/2015 19:15	TA

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	DUP-03-20150813-01
Project Name:	AGLC-Macon	**Collection Date:**	8/13/2015
Lab ID:	1508C64-023	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	180	5.0		ug/L	211544	1	08/18/2015 02:25	NP
Carbon disulfide	BRL	5.0		ug/L	211544	1	08/18/2015 02:25	NP
Ethylbenzene	77	5.0		ug/L	211544	1	08/18/2015 02:25	NP
Toluene	BRL	5.0		ug/L	211544	1	08/18/2015 02:25	NP
Xylenes, Total	43	5.0		ug/L	211544	1	08/18/2015 02:25	NP
Surr: 4-Bromofluorobenzene	82.5	70.6-123		%REC	211544	1	08/18/2015 02:25	NP
Surr: Dibromofluoromethane	98.1	78.7-124		%REC	211544	1	08/18/2015 02:25	NP
Surr: Toluene-d8	93.9	81.3-120		%REC	211544	1	08/18/2015 02:25	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	180	50		ug/L	211646	100	08/20/2015 12:04	YH
Acenaphthylene	7.5	5.0		ug/L	211646	100	08/20/2015 12:04	YH
Acenaphthene	31	5.0		ug/L	211646	100	08/20/2015 12:04	YH
Fluorene	28	10		ug/L	211646	100	08/20/2015 12:04	YH
Phenanthrene	13	5.0		ug/L	211646	100	08/20/2015 12:04	YH
Anthracene	3.0	0.050		ug/L	211646	1	08/19/2015 21:25	YH
Fluoranthene	5.8	0.10		ug/L	211646	1	08/19/2015 21:25	YH
Pyrene	6.2	0.050		ug/L	211646	1	08/19/2015 21:25	YH
Benz(a)anthracene	0.30	0.050		ug/L	211646	1	08/19/2015 21:25	YH
Chrysene	0.22	0.050		ug/L	211646	1	08/19/2015 21:25	YH
Benzo(b)fluoranthene	0.11	0.10		ug/L	211646	1	08/19/2015 21:25	YH
Benzo(k)fluoranthene	0.10	0.050		ug/L	211646	1	08/19/2015 21:25	YH
Benzo(a)pyrene	0.083	0.050		ug/L	211646	1	08/19/2015 21:25	YH
Indeno(1,2,3-cd)pyrene	0.11	0.050		ug/L	211646	1	08/19/2015 21:25	YH
Dibenz(a,h)anthracene	0.11	0.10		ug/L	211646	1	08/19/2015 21:25	YH
Benzo(g,h,i)perylene	0.12	0.10		ug/L	211646	1	08/19/2015 21:25	YH
Surr: 4-Terphenyl-d14	107	55.4-136		%REC	211646	1	08/19/2015 21:25	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	211584	1	08/19/2015 20:49	YH
2-Methylphenol	BRL	10		ug/L	211584	1	08/19/2015 20:49	YH
3,4-Methylphenol	BRL	10		ug/L	211584	1	08/19/2015 20:49	YH
Phenol	BRL	10		ug/L	211584	1	08/19/2015 20:49	YH
Surr: 2,4,6-Tribromophenol	78.3	52-133		%REC	211584	1	08/19/2015 20:49	YH
Surr: 2-Fluorobiphenyl	74.9	50-121		%REC	211584	1	08/19/2015 20:49	YH
Surr: 2-Fluorophenol	56.9	27.5-120		%REC	211584	1	08/19/2015 20:49	YH
Surr: 4-Terphenyl-d14	79.5	46.3-137		%REC	211584	1	08/19/2015 20:49	YH
Surr: Nitrobenzene-d5	75.4	41.2-121		%REC	211584	1	08/19/2015 20:49	YH
Surr: Phenol-d5	51.7	14.3-120		%REC	211584	1	08/19/2015 20:49	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	DUP-03-20150813-01
Project Name:	AGLC-Macon	**Collection Date:**	8/13/2015
Lab ID:	1508C64-023	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	211659	1	08/19/2015 14:54	TA
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.037	0.010		mg/L	211726	1	08/21/2015 13:00	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	211616	1	08/20/2015 19:18	TA
Arsenic	BRL	0.0500		mg/L	211616	1	08/20/2015 19:18	TA
Barium	1.62	0.0200		mg/L	211616	1	08/20/2015 19:18	TA
Beryllium	BRL	0.0100		mg/L	211616	1	08/20/2015 19:18	TA
Cadmium	BRL	0.0050		mg/L	211616	1	08/20/2015 19:18	TA
Chromium	BRL	0.0100		mg/L	211616	1	08/20/2015 19:18	TA
Copper	BRL	0.0100		mg/L	211616	1	08/20/2015 19:18	TA
Lead	BRL	0.0100		mg/L	211616	1	08/20/2015 19:18	TA
Nickel	BRL	0.0200		mg/L	211616	1	08/24/2015 11:59	TA
Zinc	BRL	0.0200		mg/L	211616	1	08/20/2015 19:18	TA

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-306D-20150814-01
Project Name:	AGLC-Macon	**Collection Date:**	8/14/2015 8:40:00 AM
Lab ID:	1508C64-024	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	570	50		ug/L	211544	10	08/17/2015 22:37	NP
Carbon disulfide	BRL	5.0		ug/L	211544	1	08/18/2015 17:44	NP
Ethylbenzene	110	5.0		ug/L	211544	1	08/18/2015 17:44	NP
Toluene	32	5.0		ug/L	211544	1	08/18/2015 17:44	NP
Xylenes, Total	79	5.0		ug/L	211544	1	08/18/2015 17:44	NP
Surr: 4-Bromofluorobenzene	77	70.6-123		%REC	211544	10	08/17/2015 22:37	NP
Surr: 4-Bromofluorobenzene	79.8	70.6-123		%REC	211544	1	08/18/2015 17:44	NP
Surr: Dibromofluoromethane	97	78.7-124		%REC	211544	1	08/18/2015 17:44	NP
Surr: Dibromofluoromethane	103	78.7-124		%REC	211544	10	08/17/2015 22:37	NP
Surr: Toluene-d8	95.5	81.3-120		%REC	211544	10	08/17/2015 22:37	NP
Surr: Toluene-d8	96.1	81.3-120		%REC	211544	1	08/18/2015 17:44	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	6.5	0.50		ug/L	211646	1	08/19/2015 21:53	YH
Acenaphthylene	BRL	1.0		ug/L	211646	1	08/19/2015 21:53	YH
Acenaphthene	23	5.0		ug/L	211646	100	08/20/2015 12:31	YH
Fluorene	5.5	0.10		ug/L	211646	1	08/19/2015 21:53	YH
Phenanthrene	5.0	0.050		ug/L	211646	1	08/19/2015 21:53	YH
Anthracene	0.51	0.050		ug/L	211646	1	08/19/2015 21:53	YH
Fluoranthene	0.32	0.10		ug/L	211646	1	08/19/2015 21:53	YH
Pyrene	0.39	0.050		ug/L	211646	1	08/19/2015 21:53	YH
Benz(a)anthracene	BRL	0.050		ug/L	211646	1	08/19/2015 21:53	YH
Chrysene	BRL	0.050		ug/L	211646	1	08/19/2015 21:53	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	211646	1	08/19/2015 21:53	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	211646	1	08/19/2015 21:53	YH
Benzo(a)pyrene	BRL	0.050		ug/L	211646	1	08/19/2015 21:53	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	211646	1	08/19/2015 21:53	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	211646	1	08/19/2015 21:53	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	211646	1	08/19/2015 21:53	YH
Surr: 4-Terphenyl-d14	135	55.4-136		%REC	211646	1	08/19/2015 21:53	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	211584	1	08/19/2015 21:15	YH
2-Methylphenol	BRL	10		ug/L	211584	1	08/19/2015 21:15	YH
3,4-Methylphenol	BRL	10		ug/L	211584	1	08/19/2015 21:15	YH
Phenol	BRL	10		ug/L	211584	1	08/19/2015 21:15	YH
Surr: 2,4,6-Tribromophenol	85.4	52-133		%REC	211584	1	08/19/2015 21:15	YH
Surr: 2-Fluorobiphenyl	73.6	50-121		%REC	211584	1	08/19/2015 21:15	YH
Surr: 2-Fluorophenol	53.3	27.5-120		%REC	211584	1	08/19/2015 21:15	YH
Surr: 4-Terphenyl-d14	82	46.3-137		%REC	211584	1	08/19/2015 21:15	YH
Surr: Nitrobenzene-d5	71.9	41.2-121		%REC	211584	1	08/19/2015 21:15	YH

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-306D-20150814-01
Project Name:	AGLC-Macon	**Collection Date:**	8/14/2015 8:40:00 AM
Lab ID:	1508C64-024	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
Surr: Phenol-d5	49	14.3-120		%REC	211584	1	08/19/2015 21:15	YH
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	211659	1	08/19/2015 14:56	TA
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	BRL	0.010		mg/L	211726	1	08/21/2015 13:00	PF
METALS, TOTAL SW6010C				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	211616	1	08/20/2015 19:21	TA
Arsenic	BRL	0.0500		mg/L	211616	1	08/20/2015 19:21	TA
Barium	0.349	0.0200		mg/L	211616	1	08/20/2015 19:21	TA
Beryllium	BRL	0.0100		mg/L	211616	1	08/20/2015 19:21	TA
Cadmium	BRL	0.0050		mg/L	211616	1	08/20/2015 19:21	TA
Chromium	0.0296	0.0100		mg/L	211616	1	08/20/2015 19:21	TA
Copper	0.0263	0.0100		mg/L	211616	1	08/20/2015 19:21	TA
Lead	BRL	0.0100		mg/L	211616	1	08/20/2015 19:21	TA
Nickel	BRL	0.0200		mg/L	211616	1	08/20/2015 19:21	TA
Zinc	BRL	0.0200		mg/L	211616	1	08/20/2015 19:21	TA

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-307D-20150814-01
Project Name:	AGLC-Macon	**Collection Date:**	8/14/2015 9:40:00 AM
Lab ID:	1508C64-025	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	BRL	5.0		ug/L	211544	1	08/17/2015 23:23	NP
Carbon disulfide	BRL	5.0		ug/L	211544	1	08/17/2015 23:23	NP
Ethylbenzene	BRL	5.0		ug/L	211544	1	08/17/2015 23:23	NP
Toluene	BRL	5.0		ug/L	211544	1	08/17/2015 23:23	NP
Xylenes, Total	BRL	5.0		ug/L	211544	1	08/17/2015 23:23	NP
Surr: 4-Bromofluorobenzene	77.2	70.6-123		%REC	211544	1	08/17/2015 23:23	NP
Surr: Dibromofluoromethane	106	78.7-124		%REC	211544	1	08/17/2015 23:23	NP
Surr: Toluene-d8	99.2	81.3-120		%REC	211544	1	08/17/2015 23:23	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	5.7	0.50		ug/L	211646	1	08/19/2015 22:21	YH
Acenaphthylene	BRL	1.0		ug/L	211646	1	08/19/2015 22:21	YH
Acenaphthene	2.2	0.50		ug/L	211646	1	08/19/2015 22:21	YH
Fluorene	0.78	0.10		ug/L	211646	1	08/19/2015 22:21	YH
Phenanthrene	3.0	0.050		ug/L	211646	1	08/19/2015 22:21	YH
Anthracene	0.25	0.050		ug/L	211646	1	08/19/2015 22:21	YH
Fluoranthene	0.24	0.10		ug/L	211646	1	08/19/2015 22:21	YH
Pyrene	0.29	0.050		ug/L	211646	1	08/19/2015 22:21	YH
Benz(a)anthracene	BRL	0.050		ug/L	211646	1	08/19/2015 22:21	YH
Chrysene	BRL	0.050		ug/L	211646	1	08/19/2015 22:21	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	211646	1	08/19/2015 22:21	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	211646	1	08/19/2015 22:21	YH
Benzo(a)pyrene	BRL	0.050		ug/L	211646	1	08/19/2015 22:21	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	211646	1	08/19/2015 22:21	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	211646	1	08/19/2015 22:21	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	211646	1	08/19/2015 22:21	YH
Surr: 4-Terphenyl-d14	110	55.4-136		%REC	211646	1	08/19/2015 22:21	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	211645	1	08/20/2015 11:26	YH
2-Methylphenol	BRL	10		ug/L	211645	1	08/20/2015 11:26	YH
3,4-Methylphenol	BRL	10		ug/L	211645	1	08/20/2015 11:26	YH
Phenol	BRL	10		ug/L	211645	1	08/20/2015 11:26	YH
Surr: 2,4,6-Tribromophenol	76.1	52-133		%REC	211645	1	08/20/2015 11:26	YH
Surr: 2-Fluorobiphenyl	68.5	50-121		%REC	211645	1	08/20/2015 11:26	YH
Surr: 2-Fluorophenol	54.5	27.5-120		%REC	211645	1	08/20/2015 11:26	YH
Surr: 4-Terphenyl-d14	70.3	46.3-137		%REC	211645	1	08/20/2015 11:26	YH
Surr: Nitrobenzene-d5	64	41.2-121		%REC	211645	1	08/20/2015 11:26	YH
Surr: Phenol-d5	46.7	14.3-120		%REC	211645	1	08/20/2015 11:26	YH
Mercury, Total SW7470A				**(SW7470A)**				

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	MW-307D-20150814-01
Project Name:	AGLC-Macon	**Collection Date:**	8/14/2015 9:40:00 AM
Lab ID:	1508C64-025	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	211659	1	08/19/2015 14:58	TA
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	211726	1	08/21/2015 13:00	PF
METALS, TOTAL SW6010C					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	211616	1	08/20/2015 19:24	TA
Arsenic	BRL	0.0500		mg/L	211616	1	08/20/2015 19:24	TA
Barium	1.36	0.0200		mg/L	211616	1	08/20/2015 19:24	TA
Beryllium	BRL	0.0100		mg/L	211616	1	08/20/2015 19:24	TA
Cadmium	BRL	0.0050		mg/L	211616	1	08/20/2015 19:24	TA
Chromium	0.0654	0.0100		mg/L	211616	1	08/20/2015 19:24	TA
Copper	0.0147	0.0100		mg/L	211616	1	08/20/2015 19:24	TA
Lead	BRL	0.0100		mg/L	211616	1	08/20/2015 19:24	TA
Nickel	BRL	0.0200		mg/L	211616	1	08/20/2015 19:24	TA
Zinc	BRL	0.0200		mg/L	211616	1	08/20/2015 19:24	TA

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	TB-01-20150814-01
Project Name:	AGLC-Macon	**Collection Date:**	8/14/2015
Lab ID:	1508C64-026	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	211544	1	08/17/2015 19:35	NP
Carbon disulfide	BRL	5.0		ug/L	211544	1	08/17/2015 19:35	NP
Ethylbenzene	BRL	5.0		ug/L	211544	1	08/17/2015 19:35	NP
Toluene	BRL	5.0		ug/L	211544	1	08/17/2015 19:35	NP
Xylenes, Total	BRL	5.0		ug/L	211544	1	08/17/2015 19:35	NP
Surr: 4-Bromofluorobenzene	75.6	70.6-123		%REC	211544	1	08/17/2015 19:35	NP
Surr: Dibromofluoromethane	103	78.7-124		%REC	211544	1	08/17/2015 19:35	NP
Surr: Toluene-d8	98.5	81.3-120		%REC	211544	1	08/17/2015 19:35	NP

Qualifiers:

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

Analytical Environmental Services, Inc **Date:** 1-Sep-15

Client:	ERM-Southeast	**Client Sample ID:**	TRIP BLANK #2
Project Name:	AGLC-Macon	**Collection Date:**	8/15/2015
Lab ID:	1508C64-027	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	211544	1	08/17/2015 19:58	NP
Carbon disulfide	BRL	5.0		ug/L	211544	1	08/17/2015 19:58	NP
Ethylbenzene	BRL	5.0		ug/L	211544	1	08/17/2015 19:58	NP
Toluene	BRL	5.0		ug/L	211544	1	08/17/2015 19:58	NP
Xylenes, Total	BRL	5.0		ug/L	211544	1	08/17/2015 19:58	NP
Surr: 4-Bromofluorobenzene	75.4	70.6-123		%REC	211544	1	08/17/2015 19:58	NP
Surr: Dibromofluoromethane	107	78.7-124		%REC	211544	1	08/17/2015 19:58	NP
Surr: Toluene-d8	97.3	81.3-120		%REC	211544	1	08/17/2015 19:58	NP

Qualifiers:

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

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client EPM Work Order Number 1508C64

Checklist completed by Miriam Rivera 8/15/2015
Signature Date

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

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

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

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

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

Cooler #1 3.4°C Cooler #2 3.7°C Cooler #3 2.6°C Cooler #4 3.1°C Cooler#5 3.2°C Cooler #6 3.4°C

Chain of custody present? Yes ✓ No __

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

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

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes __ No ✓

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

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

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

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

Adjusted? MP Checked by MP

Sample Condition: Good __ Other(Explain) Samples 23D, 23DMS, 23DMSD, 15, 102, 302D, and 305DD were received broken

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

See Case Narrative for resolution of the Non-Conformance.

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

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

AES, Inc.
3080 Presidential Drive
Atlanta GA 30340

pH Adjustment Sheet

AES Sample ID number	Test Requested	pH as Received	Required pH	Preservative Required	Lot # of Preservative	Amount Added mL or Pellets*	Final pH	Tech's Initials	Date	Time
1508C64-006C	6010-7470	5	1	HNO3	600.91	05 mL Pellets	1	MP	8/15	10:55AM
↓ -020C	↓	3	1	↓	↓	↓ mL Pellets	1	MP	↓	↓
↓ -024C	↓	5	1	↓	↓	↓ mL Pellets	1	MP	↓	↓
1508C64-025C	6010-7470	10	1	HNO3	600.91	0.5 mL Pellets	12	MP	8/17	10:39AM
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				

* Number of Pellets when adding NAOH

Client: ERM-Southeast
Project Name: AGLC-Macon
Workorder: 1508C64

ANALYTICAL QC SUMMARY REPORT

BatchID: 211537

Sample ID: **MB-211537** Client ID: Units: **ug/L** Prep Date: **08/17/2015** Run No: **298055**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **211537** Analysis Date: **08/17/2015** Seq No: **6362212**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	10									
2-Methylphenol	BRL	10									
3,4-Methylphenol	BRL	10									
Phenol	BRL	10									
Surr: 2,4,6-Tribromophenol	82.00	0	100.0		82.0	52	133				
Surr: 2-Fluorobiphenyl	39.76	0	50.00		79.5	50	121				
Surr: 2-Fluorophenol	42.82	0	100.0		42.8	27.5	120				
Surr: 4-Terphenyl-d14	45.89	0	50.00		91.8	46.3	137				
Surr: Nitrobenzene-d5	36.00	0	50.00		72.0	41.2	121				
Surr: Phenol-d5	28.54	0	100.0		28.5	14.3	120				

Sample ID: **LCS-211537** Client ID: Units: **ug/L** Prep Date: **08/17/2015** Run No: **298055**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **211537** Analysis Date: **08/17/2015** Seq No: **6362213**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	46.91	10	100.0		46.9	25.6	120				
Surr: 2,4,6-Tribromophenol	103.7	0	100.0		104	52	133				
Surr: 2-Fluorobiphenyl	50.01	0	50.00		100	50	121				
Surr: 2-Fluorophenol	66.10	0	100.0		66.1	27.5	120				
Surr: 4-Terphenyl-d14	55.18	0	50.00		110	46.3	137				
Surr: Nitrobenzene-d5	46.21	0	50.00		92.4	41.2	121				
Surr: Phenol-d5	51.43	0	100.0		51.4	14.3	120				

Sample ID: **1508C64-003BMS** Client ID: **MW-23D-20150811-01** Units: **ug/L** Prep Date: **08/17/2015** Run No: **298055**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **211537** Analysis Date: **08/17/2015** Seq No: **6363177**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	23.48	10	100.0		23.5	31	120				S

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC-Macon
Workorder: 1508C64

ANALYTICAL QC SUMMARY REPORT

BatchID: 211537

Sample ID: **1508C64-003BMS** Client ID: **MW-23D-20150811-01** Units: **ug/L** Prep Date: **08/17/2015** Run No: **298055**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **211537** Analysis Date: **08/17/2015** Seq No: **6363177**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 2,4,6-Tribromophenol	86.21	0	100.0		86.2	52	133				
Surr: 2-Fluorobiphenyl	40.86	0	50.00		81.7	50	121				
Surr: 2-Fluorophenol	38.41	0	100.0		38.4	27.5	120				
Surr: 4-Terphenyl-d14	43.92	0	50.00		87.8	46.3	137				
Surr: Nitrobenzene-d5	35.69	0	50.00		71.4	41.2	121				
Surr: Phenol-d5	24.77	0	100.0		24.8	14.3	120				

Sample ID: **1508C64-003BMSD** Client ID: **MW-23D-20150811-01** Units: **ug/L** Prep Date: **08/17/2015** Run No: **298055**
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **211537** Analysis Date: **08/17/2015** Seq No: **6363178**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	25.23	10	100.0		25.2	31	120	23.48	7.19	31.9	S
Surr: 2,4,6-Tribromophenol	83.02	0	100.0		83.0	52	133	86.21	0	0	
Surr: 2-Fluorobiphenyl	41.41	0	50.00		82.8	50	121	40.86	0	0	
Surr: 2-Fluorophenol	40.81	0	100.0		40.8	27.5	120	38.41	0	0	
Surr: 4-Terphenyl-d14	42.10	0	50.00		84.2	46.3	137	43.92	0	0	
Surr: Nitrobenzene-d5	37.07	0	50.00		74.1	41.2	121	35.69	0	0	
Surr: Phenol-d5	27.01	0	100.0		27.0	14.3	120	24.77	0	0	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC-Macon
Workorder: 1508C64

ANALYTICAL QC SUMMARY REPORT

BatchID: 211544

Sample ID: **MB-211544** Client ID: Units: **ug/L** Prep Date: **08/17/2015** Run No: **298003**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **211544** Analysis Date: **08/17/2015** Seq No: **6361492**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	5.0									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	39.37	0	50.00		78.7	70.6	123				
Surr: Dibromofluoromethane	51.64	0	50.00		103	78.7	124				
Surr: Toluene-d8	48.58	0	50.00		97.2	81.3	120				

Sample ID: **LCS-211544** Client ID: Units: **ug/L** Prep Date: **08/17/2015** Run No: **298003**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **211544** Analysis Date: **08/17/2015** Seq No: **6361491**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	45.70	5.0	50.00		91.4	72.8	128				
Toluene	50.07	5.0	50.00		100	74.9	127				
Surr: 4-Bromofluorobenzene	37.86	0	50.00		75.7	70.6	123				
Surr: Dibromofluoromethane	49.82	0	50.00		99.6	78.7	124				
Surr: Toluene-d8	48.02	0	50.00		96.0	81.3	120				

Sample ID: **1508C52-001AMS** Client ID: Units: **ug/L** Prep Date: **08/17/2015** Run No: **298088**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **211544** Analysis Date: **08/17/2015** Seq No: **6362947**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	462200	50000	500000		92.4	70	135				
Toluene	513400	50000	500000	7000	101	70.5	137				
Surr: 4-Bromofluorobenzene	363000	0	500000		72.6	70.6	123				
Surr: Dibromofluoromethane	519900	0	500000		104	78.7	124				
Surr: Toluene-d8	479900	0	500000		96.0	81.3	120				

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC-Macon
Workorder: 1508C64

ANALYTICAL QC SUMMARY REPORT

BatchID: 211544

Sample ID: **1508C52-001AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/L** Prep Date: **08/17/2015** Run No: **298088**
BatchID: **211544** Analysis Date: **08/17/2015** Seq No: **6362948**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	450100	50000	500000		90.0	70	135	462200	2.65	20	
Toluene	505900	50000	500000	7000	99.8	70.5	137	513400	1.47	20	
Surr: 4-Bromofluorobenzene	376600	0	500000		75.3	70.6	123	363000	0	0	
Surr: Dibromofluoromethane	518900	0	500000		104	78.7	124	519900	0	0	
Surr: Toluene-d8	481400	0	500000		96.3	81.3	120	479900	0	0	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC-Macon
Workorder: 1508C64

ANALYTICAL QC SUMMARY REPORT

BatchID: 211548

Sample ID: **MB-211548** Client ID: Units: **mg/L** Prep Date: **08/17/2015** Run No: **298191**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **211548** Analysis Date: **08/18/2015** Seq No: **6365154**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	0.0200									
Arsenic	BRL	0.0500									
Barium	BRL	0.0200									
Beryllium	BRL	0.0100									
Cadmium	BRL	0.0050									
Chromium	BRL	0.0100									
Copper	BRL	0.0100									
Lead	BRL	0.0100									
Nickel	BRL	0.0200									
Zinc	BRL	0.0200									

Sample ID: **LCS-211548** Client ID: Units: **mg/L** Prep Date: **08/17/2015** Run No: **298191**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **211548** Analysis Date: **08/18/2015** Seq No: **6365155**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	0.9981	0.0200	1.000		99.8	80	120				
Arsenic	0.9974	0.0500	1.000		99.7	80	120				
Barium	1.0000	0.0200	1.000		100.0	80	120				
Beryllium	1.008	0.0100	1.000		101	80	120				
Cadmium	0.9905	0.0050	1.000		99.0	80	120				
Chromium	0.9994	0.0100	1.000		99.9	80	120				
Copper	1.008	0.0100	1.000		101	80	120				
Lead	0.9980	0.0100	1.000		99.8	80	120				
Nickel	1.001	0.0200	1.000		100	80	120				
Zinc	0.9973	0.0200	1.000		99.7	80	120				

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC-Macon
Workorder: 1508C64

ANALYTICAL QC SUMMARY REPORT

BatchID: 211548

Sample ID: **1508C64-003CMS** Client ID: **MW-23D-20150811-01** Units: **mg/L** Prep Date: **08/17/2015** Run No: **298191**
SampleType: **MS** TestCode: **METALS, TOTAL SW6010C** BatchID: **211548** Analysis Date: **08/18/2015** Seq No: **6365157**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.001	0.0200	1.000		100	75	125				
Arsenic	1.006	0.0500	1.000		101	75	125				
Barium	1.044	0.0200	1.000	0.06441	98.0	75	125				
Beryllium	0.9946	0.0100	1.000		99.5	75	125				
Cadmium	0.9848	0.0050	1.000	0.0005700	98.4	75	125				
Chromium	0.9841	0.0100	1.000	0.001170	98.3	75	125				
Copper	0.9972	0.0100	1.000	0.003950	99.3	75	125				
Lead	0.9721	0.0100	1.000		97.2	75	125				
Nickel	0.9344	0.0200	1.000		93.4	75	125				
Zinc	0.9700	0.0200	1.000	0.009430	96.1	75	125				

Sample ID: **1508C64-003CMSD** Client ID: **MW-23D-20150811-01** Units: **mg/L** Prep Date: **08/17/2015** Run No: **298191**
SampleType: **MSD** TestCode: **METALS, TOTAL SW6010C** BatchID: **211548** Analysis Date: **08/18/2015** Seq No: **6365158**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.011	0.0200	1.000		101	75	125	1.001	0.920	20	
Arsenic	1.009	0.0500	1.000		101	75	125	1.006	0.268	20	
Barium	1.055	0.0200	1.000	0.06441	99.0	75	125	1.044	1.00	20	
Beryllium	1.013	0.0100	1.000		101	75	125	0.9946	1.82	20	
Cadmium	0.9961	0.0050	1.000	0.0005700	99.6	75	125	0.9848	1.14	20	
Chromium	0.9944	0.0100	1.000	0.001170	99.3	75	125	0.9841	1.04	20	
Copper	1.010	0.0100	1.000	0.003950	101	75	125	0.9972	1.31	20	
Lead	0.9873	0.0100	1.000		98.7	75	125	0.9721	1.55	20	
Nickel	0.9224	0.0200	1.000		92.2	75	125	0.9344	1.29	20	
Zinc	0.9857	0.0200	1.000	0.009430	97.6	75	125	0.9700	1.61	20	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC-Macon
Workorder: 1508C64

ANALYTICAL QC SUMMARY REPORT

BatchID: 211566

Sample ID: **MB-211566** Client ID: Units: **ug/L** Prep Date: **08/17/2015** Run No: **298143**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **211566** Analysis Date: **08/18/2015** Seq No: **6363936**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	0.50									
Acenaphthylene	BRL	1.0									
Anthracene	BRL	0.050									
Benz(a)anthracene	BRL	0.050									
Benzo(a)pyrene	BRL	0.050									
Benzo(b)fluoranthene	BRL	0.10									
Benzo(g,h,i)perylene	BRL	0.10									
Benzo(k)fluoranthene	BRL	0.050									
Chrysene	BRL	0.050									
Dibenz(a,h)anthracene	BRL	0.10									
Fluoranthene	BRL	0.10									
Fluorene	BRL	0.10									
Indeno(1,2,3-cd)pyrene	BRL	0.050									
Naphthalene	BRL	0.50									
Phenanthrene	BRL	0.050									
Pyrene	BRL	0.050									
Surr: 4-Terphenyl-d14	2.124	0	2.000		106	55.4	136				

Sample ID: **LCS-211566** Client ID: Units: **ug/L** Prep Date: **08/17/2015** Run No: **298143**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **211566** Analysis Date: **08/18/2015** Seq No: **6363937**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.845	0.50	2.000		92.3	66.3	118				
Acenaphthylene	1.779	1.0	2.000		88.9	64	120				
Anthracene	1.942	0.050	2.000		97.1	64.6	127				
Benz(a)anthracene	1.979	0.050	2.000		98.9	60.6	137				
Benzo(a)pyrene	1.968	0.050	2.000		98.4	64	124				
Benzo(b)fluoranthene	1.949	0.10	2.000		97.4	56.4	133				

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

Client: ERM-Southeast
Project Name: AGLC-Macon
Workorder: 1508C64

ANALYTICAL QC SUMMARY REPORT

BatchID: 211566

Sample ID: **LCS-211566** Client ID: Units: **ug/L** Prep Date: **08/17/2015** Run No: **298143**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **211566** Analysis Date: **08/18/2015** Seq No: **6363937**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(g,h,i)perylene	1.791	0.10	2.000		89.5	49.9	137				
Benzo(k)fluoranthene	2.128	0.050	2.000		106	61.7	137				
Chrysene	2.073	0.050	2.000		104	65.5	127				
Dibenz(a,h)anthracene	1.677	0.10	2.000		83.9	52.4	130				
Fluoranthene	2.179	0.10	2.000		109	67	131				
Fluorene	1.828	0.10	2.000		91.4	68.3	120				
Indeno(1,2,3-cd)pyrene	1.812	0.050	2.000		90.6	50.4	139				
Naphthalene	1.685	0.50	2.000		84.2	61.1	120				
Phenanthrene	2.066	0.050	2.000		103	68	119				
Pyrene	1.972	0.050	2.000		98.6	62	127				
Surr: 4-Terphenyl-d14	1.937	0	2.000		96.8	55.4	136				

Sample ID: **1508C64-003BMS** Client ID: **MW-23D-20150811-01** Units: **ug/L** Prep Date: **08/17/2015** Run No: **298143**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **211566** Analysis Date: **08/18/2015** Seq No: **6365412**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.565	0.50	2.000		78.2	45.6	120				
Acenaphthylene	1.468	1.0	2.000		73.4	48.3	124				
Anthracene	1.720	0.050	2.000		86.0	57.7	124				
Benz(a)anthracene	1.996	0.050	2.000		99.8	50.3	143				
Benzo(a)pyrene	1.686	0.050	2.000		84.3	44.2	127				
Benzo(b)fluoranthene	1.883	0.10	2.000		94.1	48.4	125				
Benzo(g,h,i)perylene	1.645	0.10	2.000		82.3	40.2	122				
Benzo(k)fluoranthene	1.769	0.050	2.000		88.5	45.5	122				
Chrysene	1.801	0.050	2.000		90.0	46	124				
Dibenz(a,h)anthracene	1.603	0.10	2.000		80.2	40.1	128				
Fluoranthene	1.892	0.10	2.000		94.6	58	127				
Fluorene	1.668	0.10	2.000		83.4	52.6	124				

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC-Macon
Workorder: 1508C64

ANALYTICAL QC SUMMARY REPORT

BatchID: 211566

Sample ID: **1508C64-003BMS** Client ID: **MW-23D-20150811-01** Units: **ug/L** Prep Date: **08/17/2015** Run No: **298143**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **211566** Analysis Date: **08/18/2015** Seq No: **6365412**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Indeno(1,2,3-cd)pyrene	1.682	0.050	2.000		84.1	40.3	129				
Naphthalene	1.386	0.50	2.000	0.04130	67.2	46.6	120				
Phenanthrene	1.757	0.050	2.000		87.8	50.6	122				
Pyrene	1.780	0.050	2.000	0.03695	87.2	50.1	128				
Surr: 4-Terphenyl-d14	1.716	0	2.000		85.8	55.4	136				

Sample ID: **1508C64-003BMSD** Client ID: **MW-23D-20150811-01** Units: **ug/L** Prep Date: **08/17/2015** Run No: **298143**
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **211566** Analysis Date: **08/18/2015** Seq No: **6365413**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.628	0.50	2.000		81.4	45.6	120	1.565	3.98	29.4	
Acenaphthylene	1.582	1.0	2.000		79.1	48.3	124	1.468	7.43	32.5	
Anthracene	1.749	0.050	2.000		87.4	57.7	124	1.720	1.65	21.9	
Benz(a)anthracene	2.024	0.050	2.000		101	50.3	143	1.996	1.40	26.8	
Benzo(a)pyrene	1.793	0.050	2.000		89.6	44.2	127	1.686	6.15	40.9	
Benzo(b)fluoranthene	1.784	0.10	2.000		89.2	48.4	125	1.883	5.40	24.2	
Benzo(g,h,i)perylene	1.560	0.10	2.000		78.0	40.2	122	1.645	5.33	26.2	
Benzo(k)fluoranthene	1.827	0.050	2.000		91.4	45.5	122	1.769	3.23	23.3	
Chrysene	1.845	0.050	2.000		92.2	46	124	1.801	2.40	25	
Dibenz(a,h)anthracene	1.544	0.10	2.000		77.2	40.1	128	1.603	3.78	23.6	
Fluoranthene	1.909	0.10	2.000		95.4	58	127	1.892	0.878	23.5	
Fluorene	1.702	0.10	2.000		85.1	52.6	124	1.668	2.05	31.5	
Indeno(1,2,3-cd)pyrene	1.603	0.050	2.000		80.1	40.3	129	1.682	4.83	28.8	
Naphthalene	1.512	0.50	2.000	0.04130	73.5	46.6	120	1.386	8.70	22.9	
Phenanthrene	1.769	0.050	2.000		88.4	50.6	122	1.757	0.681	20.2	
Pyrene	1.768	0.050	2.000	0.03695	86.5	50.1	128	1.780	0.685	24.7	
Surr: 4-Terphenyl-d14	1.906	0	2.000		95.3	55.4	136	1.716	0	0	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC-Macon
Workorder: 1508C64

ANALYTICAL QC SUMMARY REPORT

BatchID: 211584

Sample ID: **MB-211584** Client ID: Units: **ug/L** Prep Date: **08/18/2015** Run No: **298278**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **211584** Analysis Date: **08/19/2015** Seq No: **6367065**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	10									
2-Methylphenol	BRL	10									
3,4-Methylphenol	BRL	10									
Phenol	BRL	10									
Surr: 2,4,6-Tribromophenol	74.36	0	100.0		74.4	52	133				
Surr: 2-Fluorobiphenyl	36.55	0	50.00		73.1	50	121				
Surr: 2-Fluorophenol	45.16	0	100.0		45.2	27.5	120				
Surr: 4-Terphenyl-d14	42.69	0	50.00		85.4	46.3	137				
Surr: Nitrobenzene-d5	36.99	0	50.00		74.0	41.2	121				
Surr: Phenol-d5	33.79	0	100.0		33.8	14.3	120				

Sample ID: **LCS-211584** Client ID: Units: **ug/L** Prep Date: **08/18/2015** Run No: **298278**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **211584** Analysis Date: **08/19/2015** Seq No: **6367070**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	36.38	10	100.0		36.4	25.6	120				
Surr: 2,4,6-Tribromophenol	99.16	0	100.0		99.2	52	133				
Surr: 2-Fluorobiphenyl	46.71	0	50.00		93.4	50	121				
Surr: 2-Fluorophenol	49.30	0	100.0		49.3	27.5	120				
Surr: 4-Terphenyl-d14	52.58	0	50.00		105	46.3	137				
Surr: Nitrobenzene-d5	44.92	0	50.00		89.8	41.2	121				
Surr: Phenol-d5	33.20	0	100.0		33.2	14.3	120				

Sample ID: **1508B66-004BMS** Client ID: Units: **ug/L** Prep Date: **08/18/2015** Run No: **298278**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **211584** Analysis Date: **08/19/2015** Seq No: **6368196**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	40.87	10	100.0		40.9	31	120				

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC-Macon
Workorder: 1508C64

ANALYTICAL QC SUMMARY REPORT

BatchID: 211584

Sample ID: **1508B66-004BMS** Client ID: Units: **ug/L** Prep Date: **08/18/2015** Run No: **298278**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **211584** Analysis Date: **08/19/2015** Seq No: **6368196**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 2,4,6-Tribromophenol	79.43	0	100.0		79.4	52	133				
Surr: 2-Fluorobiphenyl	40.46	0	50.00		80.9	50	121				
Surr: 2-Fluorophenol	47.06	0	100.0		47.1	27.5	120				
Surr: 4-Terphenyl-d14	36.25	0	50.00		72.5	46.3	137				
Surr: Nitrobenzene-d5	38.58	0	50.00		77.2	41.2	121				
Surr: Phenol-d5	40.60	0	100.0		40.6	14.3	120				

Sample ID: **1508B66-004BMSD** Client ID: Units: **ug/L** Prep Date: **08/18/2015** Run No: **298278**
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **211584** Analysis Date: **08/19/2015** Seq No: **6368197**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	49.74	10	100.0		49.7	31	120	40.87	19.6	31.9	
Surr: 2,4,6-Tribromophenol	79.36	0	100.0		79.4	52	133	79.43	0	0	
Surr: 2-Fluorobiphenyl	39.28	0	50.00		78.6	50	121	40.46	0	0	
Surr: 2-Fluorophenol	59.81	0	100.0		59.8	27.5	120	47.06	0	0	
Surr: 4-Terphenyl-d14	38.73	0	50.00		77.5	46.3	137	36.25	0	0	
Surr: Nitrobenzene-d5	36.08	0	50.00		72.2	41.2	121	38.58	0	0	
Surr: Phenol-d5	49.41	0	100.0		49.4	14.3	120	40.60	0	0	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC-Macon
Workorder: 1508C64

ANALYTICAL QC SUMMARY REPORT

BatchID: 211590

Sample ID: **MB-211590**	Client ID:				Units: **mg/L**		Prep Date: **08/17/2015**		Run No: **298082**
SampleType: **MBLK**	TestCode: **Cyanide SW9014**				BatchID: **211590**		Analysis Date: **08/17/2015**		Seq No: **6362808**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	0.010									

Sample ID: **LCS-211590**	Client ID:				Units: **mg/L**		Prep Date: **08/17/2015**		Run No: **298082**
SampleType: **LCS**	TestCode: **Cyanide SW9014**				BatchID: **211590**		Analysis Date: **08/17/2015**		Seq No: **6362809**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2400	0.010	0.2500		96.0	85	115				

Sample ID: **1508C64-003DMS**	Client ID: **MW-23D-20150811-01**				Units: **mg/L**		Prep Date: **08/17/2015**		Run No: **298082**
SampleType: **MS**	TestCode: **Cyanide SW9014**				BatchID: **211590**		Analysis Date: **08/17/2015**		Seq No: **6362820**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2530	0.010	0.2500		101	70	130				

Sample ID: **1508C64-003DMSD**	Client ID: **MW-23D-20150811-01**				Units: **mg/L**		Prep Date: **08/17/2015**		Run No: **298082**
SampleType: **MSD**	TestCode: **Cyanide SW9014**				BatchID: **211590**		Analysis Date: **08/17/2015**		Seq No: **6362821**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2570	0.010	0.2500		103	70	130	0.2530	1.57	20	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC-Macon
Workorder: 1508C64

ANALYTICAL QC SUMMARY REPORT

BatchID: 211616

Sample ID: **MB-211616** Client ID: Units: **mg/L** Prep Date: **08/18/2015** Run No: **298416**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010C** BatchID: **211616** Analysis Date: **08/20/2015** Seq No: **6370466**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	BRL	0.0200									
Arsenic	BRL	0.0500									
Barium	BRL	0.0200									
Beryllium	BRL	0.0100									
Cadmium	BRL	0.0050									
Chromium	BRL	0.0100									
Copper	BRL	0.0100									
Iron	BRL	0.100									
Lead	BRL	0.0100									
Nickel	BRL	0.0200									
Zinc	BRL	0.0200									

Sample ID: **LCS-211616** Client ID: Units: **mg/L** Prep Date: **08/18/2015** Run No: **298416**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010C** BatchID: **211616** Analysis Date: **08/20/2015** Seq No: **6370467**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.033	0.0200	1.000		103	80	120				
Arsenic	1.031	0.0500	1.000		103	80	120				
Barium	1.041	0.0200	1.000		104	80	120				
Beryllium	1.041	0.0100	1.000		104	80	120				
Cadmium	1.043	0.0050	1.000		104	80	120				
Chromium	1.044	0.0100	1.000		104	80	120				
Copper	1.043	0.0100	1.000		104	80	120				
Iron	10.40	0.100	10.00		104	80	120				
Lead	1.037	0.0100	1.000		104	80	120				
Nickel	1.040	0.0200	1.000	0.0006600	104	80	120				
Zinc	1.035	0.0200	1.000		103	80	120				

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC-Macon
Workorder: 1508C64

ANALYTICAL QC SUMMARY REPORT

BatchID: 211616

Sample ID: **1508C64-006CMS** Client ID: **MW-308D-20150812-01** Units: **mg/L** Prep Date: **08/18/2015** Run No: **298416**
SampleType: **MS** TestCode: **METALS, TOTAL SW6010C** BatchID: **211616** Analysis Date: **08/20/2015** Seq No: **6370473**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.005	0.0200	1.000	0.009290	99.6	75	125				
Arsenic	1.017	0.0500	1.000		102	75	125				
Barium	1.085	0.0200	1.000	0.1154	97.0	75	125				
Beryllium	1.000	0.0100	1.000		100	75	125				
Cadmium	1.041	0.0050	1.000		104	75	125				
Chromium	1.020	0.0100	1.000	0.03074	98.9	75	125				
Copper	1.047	0.0100	1.000	0.003560	104	75	125				
Iron	9.741	0.100	10.00	0.01504	97.3	75	125				
Lead	0.9527	0.0100	1.000		95.3	75	125				
Nickel	0.9554	0.0200	1.000		95.5	75	125				
Zinc	0.9884	0.0200	1.000		98.8	75	125				

Sample ID: **1508C64-006CMSD** Client ID: **MW-308D-20150812-01** Units: **mg/L** Prep Date: **08/18/2015** Run No: **298416**
SampleType: **MSD** TestCode: **METALS, TOTAL SW6010C** BatchID: **211616** Analysis Date: **08/20/2015** Seq No: **6370474**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.002	0.0200	1.000	0.009290	99.3	75	125	1.005	0.260	20	
Arsenic	1.007	0.0500	1.000		101	75	125	1.017	1.06	20	
Barium	1.072	0.0200	1.000	0.1154	95.6	75	125	1.085	1.26	20	
Beryllium	0.9367	0.0100	1.000		93.7	75	125	1.000	6.56	20	
Cadmium	1.032	0.0050	1.000		103	75	125	1.041	0.780	20	
Chromium	1.010	0.0100	1.000	0.03074	97.9	75	125	1.020	0.949	20	
Copper	1.030	0.0100	1.000	0.003560	103	75	125	1.047	1.61	20	
Iron	9.649	0.100	10.00	0.01504	96.3	75	125	9.741	0.948	20	
Lead	0.9861	0.0100	1.000		98.6	75	125	0.9527	3.44	20	
Nickel	0.9620	0.0200	1.000		96.2	75	125	0.9554	0.680	20	
Zinc	0.9759	0.0200	1.000		97.6	75	125	0.9884	1.27	20	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC-Macon
Workorder: 1508C64

ANALYTICAL QC SUMMARY REPORT

BatchID: 211628

Sample ID: **MB-211628** Client ID: Units: **ug/L** Prep Date: **08/18/2015** Run No: **298123**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **211628** Analysis Date: **08/18/2015** Seq No: **6364042**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Carbon disulfide	BRL	5.0									
Ethylbenzene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	38.01	0	50.00		76.0	70.6	123				
Surr: Dibromofluoromethane	52.37	0	50.00		105	78.7	124				
Surr: Toluene-d8	48.30	0	50.00		96.6	81.3	120				

Sample ID: **LCS-211628** Client ID: Units: **ug/L** Prep Date: **08/18/2015** Run No: **298123**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **211628** Analysis Date: **08/18/2015** Seq No: **6364041**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	46.36	5.0	50.00		92.7	72.8	128				
Toluene	49.49	5.0	50.00		99.0	74.9	127				
Surr: 4-Bromofluorobenzene	37.00	0	50.00		74.0	70.6	123				
Surr: Dibromofluoromethane	51.69	0	50.00		103	78.7	124				
Surr: Toluene-d8	48.67	0	50.00		97.3	81.3	120				

Sample ID: **1508C64-003AMS** Client ID: **MW-23D-20150811-01** Units: **ug/L** Prep Date: **08/18/2015** Run No: **298123**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **211628** Analysis Date: **08/18/2015** Seq No: **6365002**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	46.28	5.0	50.00		92.6	70	135				
Toluene	51.27	5.0	50.00		103	70.5	137				
Surr: 4-Bromofluorobenzene	37.58	0	50.00		75.2	70.6	123				
Surr: Dibromofluoromethane	51.63	0	50.00		103	78.7	124				
Surr: Toluene-d8	48.59	0	50.00		97.2	81.3	120				

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC-Macon
Workorder: 1508C64

ANALYTICAL QC SUMMARY REPORT

BatchID: 211628

Sample ID: **1508C64-003AMSD** Client ID: **MW-23D-20150811-01** Units: **ug/L** Prep Date: **08/18/2015** Run No: **298123**
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **211628** Analysis Date: **08/18/2015** Seq No: **6365003**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	47.38	5.0	50.00		94.8	70	135	46.28	2.35	20	
Toluene	52.27	5.0	50.00		105	70.5	137	51.27	1.93	20	
Surr: 4-Bromofluorobenzene	36.82	0	50.00		73.6	70.6	123	37.58	0	0	
Surr: Dibromofluoromethane	51.01	0	50.00		102	78.7	124	51.63	0	0	
Surr: Toluene-d8	48.54	0	50.00		97.1	81.3	120	48.59	0	0	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC-Macon
Workorder: 1508C64

ANALYTICAL QC SUMMARY REPORT

BatchID: 211645

Sample ID: **MB-211645** Client ID: Units: **ug/L** Prep Date: **08/19/2015** Run No: **298338**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **211645** Analysis Date: **08/20/2015** Seq No: **6368493**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
2,4-Dimethylphenol	BRL	10									
2-Methylphenol	BRL	10									
3,4-Methylphenol	BRL	10									
Phenol	BRL	10									
Surr: 2,4,6-Tribromophenol	93.56	0	100.0		93.6	52	133				
Surr: 2-Fluorobiphenyl	44.72	0	50.00		89.4	50	121				
Surr: 2-Fluorophenol	60.37	0	100.0		60.4	27.5	120				
Surr: 4-Terphenyl-d14	45.30	0	50.00		90.6	46.3	137				
Surr: Nitrobenzene-d5	44.13	0	50.00		88.3	41.2	121				
Surr: Phenol-d5	41.38	0	100.0		41.4	14.3	120				

Sample ID: **LCS-211645** Client ID: Units: **ug/L** Prep Date: **08/19/2015** Run No: **298338**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **211645** Analysis Date: **08/20/2015** Seq No: **6368501**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	40.51	10	100.0		40.5	25.6	120				
Surr: 2,4,6-Tribromophenol	107.4	0	100.0		107	52	133				
Surr: 2-Fluorobiphenyl	51.35	0	50.00		103	50	121				
Surr: 2-Fluorophenol	62.91	0	100.0		62.9	27.5	120				
Surr: 4-Terphenyl-d14	51.73	0	50.00		103	46.3	137				
Surr: Nitrobenzene-d5	47.62	0	50.00		95.2	41.2	121				
Surr: Phenol-d5	45.15	0	100.0		45.2	14.3	120				

Sample ID: **1508D56-001BMS** Client ID: Units: **ug/L** Prep Date: **08/19/2015** Run No: **298338**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **211645** Analysis Date: **08/20/2015** Seq No: **6371216**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	42.83	10	100.0		42.8	31	120				

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

Client: ERM-Southeast
Project Name: AGLC-Macon
Workorder: 1508C64

ANALYTICAL QC SUMMARY REPORT

BatchID: 211645

Sample ID: **1508D56-001BMS** Client ID: Units: **ug/L** Prep Date: **08/19/2015** Run No: **298338**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **211645** Analysis Date: **08/20/2015** Seq No: **6371216**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 2,4,6-Tribromophenol	77.08	0	100.0		77.1	52	133				
Surr: 2-Fluorobiphenyl	34.80	0	50.00		69.6	50	121				
Surr: 2-Fluorophenol	54.36	0	100.0		54.4	27.5	120				
Surr: 4-Terphenyl-d14	35.60	0	50.00		71.2	46.3	137				
Surr: Nitrobenzene-d5	33.00	0	50.00		66.0	41.2	121				
Surr: Phenol-d5	46.41	0	100.0		46.4	14.3	120				

Sample ID: **1508D56-001BMSD** Client ID: Units: **ug/L** Prep Date: **08/19/2015** Run No: **298338**
SampleType: **MSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **211645** Analysis Date: **08/20/2015** Seq No: **6371217**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	49.07	10	100.0		49.1	31	120	42.83	13.6	31.9	
Surr: 2,4,6-Tribromophenol	83.20	0	100.0		83.2	52	133	77.08	0	0	
Surr: 2-Fluorobiphenyl	38.26	0	50.00		76.5	50	121	34.80	0	0	
Surr: 2-Fluorophenol	60.85	0	100.0		60.8	27.5	120	54.36	0	0	
Surr: 4-Terphenyl-d14	39.56	0	50.00		79.1	46.3	137	35.60	0	0	
Surr: Nitrobenzene-d5	36.01	0	50.00		72.0	41.2	121	33.00	0	0	
Surr: Phenol-d5	53.11	0	100.0		53.1	14.3	120	46.41	0	0	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC-Macon
Workorder: 1508C64

ANALYTICAL QC SUMMARY REPORT

BatchID: 211646

Sample ID: **MB-211646** Client ID: Units: **ug/L** Prep Date: **08/19/2015** Run No: **298357**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **211646** Analysis Date: **08/19/2015** Seq No: **6368819**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	BRL	0.50									
Acenaphthylene	BRL	1.0									
Anthracene	BRL	0.050									
Benz(a)anthracene	BRL	0.050									
Benzo(a)pyrene	BRL	0.050									
Benzo(b)fluoranthene	BRL	0.10									
Benzo(g,h,i)perylene	BRL	0.10									
Benzo(k)fluoranthene	BRL	0.050									
Chrysene	BRL	0.050									
Dibenz(a,h)anthracene	BRL	0.10									
Fluoranthene	BRL	0.10									
Fluorene	BRL	0.10									
Indeno(1,2,3-cd)pyrene	BRL	0.050									
Naphthalene	BRL	0.50									
Phenanthrene	BRL	0.050									
Pyrene	BRL	0.050									
Surr: 4-Terphenyl-d14	2.400	0	2.000		120	55.4	136				

Sample ID: **LCS-211646** Client ID: Units: **ug/L** Prep Date: **08/19/2015** Run No: **298357**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **211646** Analysis Date: **08/19/2015** Seq No: **6368820**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.462	0.50	2.000		73.1	66.3	118				
Acenaphthylene	1.372	1.0	2.000		68.6	64	120				
Anthracene	1.296	0.050	2.000		64.8	64.6	127				
Benz(a)anthracene	1.383	0.050	2.000		69.2	60.6	137				
Benzo(a)pyrene	1.459	0.050	2.000		73.0	64	124				
Benzo(b)fluoranthene	1.297	0.10	2.000		64.9	56.4	133				

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

Client: ERM-Southeast
Project Name: AGLC-Macon
Workorder: 1508C64

ANALYTICAL QC SUMMARY REPORT

BatchID: 211646

Sample ID: **LCS-211646** Client ID: Units: **ug/L** Prep Date: **08/19/2015** Run No: **298357**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **211646** Analysis Date: **08/19/2015** Seq No: **6368820**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzo(g,h,i)perylene	1.356	0.10	2.000		67.8	49.9	137				
Benzo(k)fluoranthene	1.464	0.050	2.000		73.2	61.7	137				
Chrysene	1.682	0.050	2.000		84.1	65.5	127				
Dibenz(a,h)anthracene	1.212	0.10	2.000		60.6	52.4	130				
Fluoranthene	1.528	0.10	2.000		76.4	67	131				
Fluorene	1.405	0.10	2.000		70.2	68.3	120				
Indeno(1,2,3-cd)pyrene	1.276	0.050	2.000		63.8	50.4	139				
Naphthalene	1.397	0.50	2.000		69.8	61.1	120				
Phenanthrene	1.434	0.050	2.000		71.7	68	119				
Pyrene	1.587	0.050	2.000		79.4	62	127				
Surr: 4-Terphenyl-d14	1.526	0	2.000		76.3	55.4	136				

Sample ID: **LCSD-211646** Client ID: Units: **ug/L** Prep Date: **08/19/2015** Run No: **298434**
SampleType: **LCSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **211646** Analysis Date: **08/21/2015** Seq No: **6371197**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.394	0.50	2.000		69.7	66.3	118	1.462	4.79	21.8	
Acenaphthylene	1.410	1.0	2.000		70.5	64	120	1.372	2.75	22.9	
Anthracene	1.352	0.050	2.000		67.6	64.6	127	1.296	4.21	18.6	
Benz(a)anthracene	1.681	0.050	2.000		84.0	60.6	137	1.383	19.4	22.9	
Benzo(a)pyrene	1.417	0.050	2.000		70.8	64	124	1.459	2.94	22.7	
Benzo(b)fluoranthene	1.558	0.10	2.000		77.9	56.4	133	1.297	18.3	20.3	
Benzo(g,h,i)perylene	1.372	0.10	2.000		68.6	49.9	137	1.356	1.21	20.6	
Benzo(k)fluoranthene	1.324	0.050	2.000		66.2	61.7	137	1.464	10.0	26.5	
Chrysene	1.376	0.050	2.000		68.8	65.5	127	1.682	20.0	21.6	
Dibenz(a,h)anthracene	1.465	0.10	2.000		73.2	52.4	130	1.212	18.9	21.7	
Fluoranthene	1.481	0.10	2.000		74.1	67	131	1.528	3.13	20.7	
Fluorene	1.390	0.10	2.000		69.5	68.3	120	1.405	1.06	20.5	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC-Macon
Workorder: 1508C64

ANALYTICAL QC SUMMARY REPORT

BatchID: 211646

Sample ID: **LCSD-211646** Client ID:
SampleType: **LCSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**
Units: **ug/L** Prep Date: **08/19/2015** Run No: **298434**
BatchID: **211646** Analysis Date: **08/21/2015** Seq No: **6371197**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Indeno(1,2,3-cd)pyrene	1.431	0.050	2.000		71.6	50.4	139	1.276	11.5	19.2	
Naphthalene	1.308	0.50	2.000		65.4	61.1	120	1.397	6.56	25.1	
Phenanthrene	1.402	0.050	2.000		70.1	68	119	1.434	2.28	19.7	
Pyrene	1.408	0.050	2.000		70.4	62	127	1.587	12.0	20.5	
Surr: 4-Terphenyl-d14	1.368	0	2.000		68.4	55.4	136	1.526	0	0	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC-Macon
Workorder: 1508C64

ANALYTICAL QC SUMMARY REPORT

BatchID: 211658

Sample ID: **MB-211658**	Client ID:			Units: **mg/L**	Prep Date: **08/19/2015**	Run No: **298289**
SampleType: **MBLK**	TestCode: **Mercury, Total SW7470A**			BatchID: **211658**	Analysis Date: **08/19/2015**	Seq No: **6367303**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.00020									

Sample ID: **LCS-211658**	Client ID:			Units: **mg/L**	Prep Date: **08/19/2015**	Run No: **298289**
SampleType: **LCS**	TestCode: **Mercury, Total SW7470A**			BatchID: **211658**	Analysis Date: **08/19/2015**	Seq No: **6367304**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.004641	0.00020	0.0050		92.8	80	120				

Sample ID: **1508C64-003CMS**	Client ID: **MW-23D-20150811-01**			Units: **mg/L**	Prep Date: **08/19/2015**	Run No: **298289**
SampleType: **MS**	TestCode: **Mercury, Total SW7470A**			BatchID: **211658**	Analysis Date: **08/19/2015**	Seq No: **6367306**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.003353	0.00020	0.0050		67.1	70	130				S

Sample ID: **1508C64-003CMSD**	Client ID: **MW-23D-20150811-01**			Units: **mg/L**	Prep Date: **08/19/2015**	Run No: **298289**
SampleType: **MSD**	TestCode: **Mercury, Total SW7470A**			BatchID: **211658**	Analysis Date: **08/19/2015**	Seq No: **6367307**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.003511	0.00020	0.0050		70.2	70	130	0.003353	4.60	20	

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC-Macon
Workorder: 1508C64

ANALYTICAL QC SUMMARY REPORT

BatchID: 211659

Sample ID: **MB-211659**	Client ID:				Units: **mg/L**		Prep Date: **08/19/2015**		Run No: **298290**	
SampleType: **MBLK**	TestCode: **Mercury, Total SW7470A**				BatchID: **211659**		Analysis Date: **08/19/2015**		Seq No: **6367341**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	BRL	0.00020									

Sample ID: **LCS-211659**	Client ID:				Units: **mg/L**		Prep Date: **08/19/2015**		Run No: **298290**	
SampleType: **LCS**	TestCode: **Mercury, Total SW7470A**				BatchID: **211659**		Analysis Date: **08/19/2015**		Seq No: **6367342**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.004727	0.00020	0.0050		94.5	80	120				

Sample ID: **1508C64-015CMS**	Client ID: **MW-24D-20150813-01**				Units: **mg/L**		Prep Date: **08/19/2015**		Run No: **298290**	
SampleType: **MS**	TestCode: **Mercury, Total SW7470A**				BatchID: **211659**		Analysis Date: **08/19/2015**		Seq No: **6367346**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.003443	0.00020	0.0050		68.9	70	130				S

Sample ID: **1508C64-015CMSD**	Client ID: **MW-24D-20150813-01**				Units: **mg/L**		Prep Date: **08/19/2015**		Run No: **298290**	
SampleType: **MSD**	TestCode: **Mercury, Total SW7470A**				BatchID: **211659**		Analysis Date: **08/19/2015**		Seq No: **6367347**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.003284	0.00020	0.0050		65.7	70	130	0.003443	4.73	20	S

Qualifiers:

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

Client: ERM-Southeast
Project Name: AGLC-Macon
Workorder: 1508C64

ANALYTICAL QC SUMMARY REPORT

BatchID: 211726

Sample ID: **MB-211726**	Client ID:				Units: **mg/L**		Prep Date: **08/20/2015**		Run No: **298483**
SampleType: **MBLK**	TestCode: **Cyanide SW9014**				BatchID: **211726**		Analysis Date: **08/21/2015**		Seq No: **6371902**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	BRL	0.010									

Sample ID: **LCS-211726**	Client ID:				Units: **mg/L**		Prep Date: **08/20/2015**		Run No: **298483**
SampleType: **LCS**	TestCode: **Cyanide SW9014**				BatchID: **211726**		Analysis Date: **08/21/2015**		Seq No: **6371903**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2479	0.010	0.2500		99.2	85	115				

Sample ID: **1508C64-021DMS**	Client ID: **MW-101-20150813-01**				Units: **mg/L**		Prep Date: **08/20/2015**		Run No: **298483**
SampleType: **MS**	TestCode: **Cyanide SW9014**				BatchID: **211726**		Analysis Date: **08/21/2015**		Seq No: **6371921**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2846	0.010	0.2500	0.03920	98.2	70	130				

Sample ID: **1508C64-021DMSD**	Client ID: **MW-101-20150813-01**				Units: **mg/L**		Prep Date: **08/20/2015**		Run No: **298483**
SampleType: **MSD**	TestCode: **Cyanide SW9014**				BatchID: **211726**		Analysis Date: **08/21/2015**		Seq No: **6371922**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2870	0.010	0.2500	0.03920	99.1	70	130	0.2846	0.840	20	

Qualifiers:

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

Data Evaluation (CD ONLY)

Appendix E-4

November 21, 2015
Project No. 0176740
Atlanta Gas Light Company

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

Sample Submittals
AGLC Macon
Febuary 16 - 18, 2015

Matrix	Sample ID	Laboratory ID
Water	TB-01-20150216-01	1502E13-001
Water	MW-25D-20150216-01	1502E13-002
Water	MW-25DMS-20150216-01	1502E13-002
Water	MW-25DMSD-20150216-01	1502E13-002
Water	MW-23D-20150216-01	1502E13-003
Water	MW-23DMS-20150216-01	1502E13-003
Water	MW-23DMSD-20150216-01	1502E13-003
Water	MW-12DRR-20150216-01	1502E13-004
Water	MW-112D-20150216-01	1502E13-005
Water	MW-110D-20150216-01	1502E13-006
Water	MW-12DD-20150216-01	1502E13-007
Water	MW-205D-20150216-01	1502E13-008
Water	MW-308D-20150216-01	1502E13-009
Water	MW-113D-20150217-01	1502F52-001
Water	MW-24D-20150217-01	1502F52-002
Water	MW-206D-20150217-01	1502F52-003
Water	MW-300D-20150217-01	1502F52-004
Water	MW-108D-20150217-01	1502F52-005
Water	MW-15-20150217-01	1502F52-006
Water	MW-304D-20150217-01	1502F52-007
Water	MW-200DR-20150217-01	1502F52-008
Water	MW-205DD-20150217-01	1502F52-009
Water	MW-204D-20150217-01	1502F52-010
Water	MW-207D-20150217-01	1502F52-011
Water	MW-301D-20150217-01	1502F52-012
Water	MW-302DD-20150217-01	1502F52-013
Water	DUP-01-20150217-01	1502F52-014
Water	DUP-02-20150217-01	1502F52-015
Water	DUP-03-20150217-01	1502F52-016
Water	MW-306D-20150218-01	1502F52-017
Water	MW-307D-20150218-01	1502F52-018
Water	MW-101-20150218-01	1502F52-019
Water	MW-305D-20150218-01	1502F52-020
Water	MW-102-20150218-01	1502F52-021
Water	MW-302D-20150218-01	1502F52-022
Water	TB-01-20150218-01	1502F52-023

ERM Analytical Data Validation Checklist

Project Name: AGLC/Macon	Laboratory: Analytical Environmental Services, Inc.
Project Reference: 0208913	Sample Matrix: Aqueous
ERM Project Phase Number: 052	Sample Start Date: 2/16/2015
Date Validated: September 23, 2015	Sample End Date: 2/18/2015

Sample Analyzed: Approximately ten percent (10%) of the samples collected were chosen for validation. The following samples within Order No: 1502E13 & 1502F52 were validated. For a full list of the samples collected, see the sample submittal summary above.

MW-200DR-20150217-01	DUP-01-20150217-01
MW-204D-20150217-01	DUP-02-20150217-01
MW-205DD-20150217-01	DUP-03-20150217-01

Parameters Analyzed: Volatile Organic Compounds (Benzene, Toluene, Ethylbenzene, Total Xylenes and carbon disulfide) by SW-846 Method 8260B, Low Level Semi-Volatile Organic Compounds and SIM Polynuclear Aromatic Hydrocarbons by SW-846 Method 8270D, Metals (Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Lead, Nickel and Zinc) by SW-846 Method 6010C, Mercury by SW-846 Method 7470A, and Cyanide by SW-846 Method 9014.Carbon Dioxide, Oxygen, Nitrogen, and Carbon Monoxide by Method AM20GAX

Laboratory Order No: 1502E13, 1502F52

PRECISION, ACCURACY, METHOD CONFORMANCE, AND COMPLETENESS ASSESSMENT

Precision:	**X**	Acceptable		Unacceptable	WFV	Initials

Comments: Laboratory precision was evaluated using laboratory control samples (LCSs), laboratory duplicates, and matrix spike duplicates (MSDs). Field sampling precision was evaluated using field duplicates. Evaluation of duplicates was done using the Relative Percent Difference (RPD). The RPD is defined as the difference between two duplicate sample results divided by the mean, and expressed as a percent. Overall, laboratory and field sampling precision were acceptable.

Accuracy:	**X**	Acceptable		Unacceptable	WFV	Initials

Comments: Accuracy is a measure of the system bias. Laboratory accuracy was evaluated using blanks, matrix spikes (MSs), LCSs, and surrogate recoveries. Overall, laboratory accuracy was acceptable.

Method Compliance:	**X**	Acceptable		Unacceptable	WFV	Initials

Comments: Method compliance was evaluated using holding times, internal standard recoveries, and surrogate recoveries. Overall method compliance was acceptable.

Completeness:	**X**	Acceptable		Unacceptable	WFV	Initials

Comments: Completeness is a percentage expression of the ratio of total acceptable data points to the total possible data points. No data points were rejected; all data are usable with some usable with qualification. For the sample data validated, no data points were rejected. The data set was 100% complete.

ERM Analytical Data Validation Checklist (Continued)

EVALUATION CRITERIA CHECK						
Data validation flags used in this review only include those used by the laboratory:						
BRL	Below reporting limit					
Only bolded comments required qualification. The other comments are of interest, but qualification of the results was not necessary.						
1. Did the laboratory identify any nonconformances related to the analytical results?	**X**	Yes		No	WFV	Initials
Explanation: The laboratory identified the following nonconformance in the case narratives for the samples validated.						
PAH Analysis by Method 8270D/SIM: QC sample 1501E13-003DMSD is reported with target analytes recoveries, RPD values, and internal standard compounds Acenapthene-d10 and Perylene-D12 outside control limits due to a suspected error during extraction/ concentration. Recoveries are demonstrated by the LCS and MS, and no analytical samples were affected.						
IC Analysis by Method 9056A: Due to sample matrix, samples 1502E13-008G and -009G required a dilution during preparation and/or analysis resulting in elevated reporting limits.						
Volatile Organic Compounds Analysis by Method 8260B: Due to sample matrix, sample 1502F52-020A required dilution during preparation and/or analysis resulting in elevated reporting limits.						
IC Analysis by Method 9056A: Due to sample matrix, samples 1502F52-017 and -018 required dilution during preparation and/or analysis resulting in elevated reporting limits.						
2. Were samples Chain-of Custody (COC) forms complete?	**X**	Yes		No	WFV	Initials
Comments: The collection date was not listed on the original COC, but was listed on the sample containers and on the COC that was received via email 2/19/2015. Also, the sample IDs for samples 1502E13-006 and -008 did not match the IDs listed on the COC. The IDs were listed on the containers as "MW-110D-16022015-01" and "MW-205D-16022015-01" respectively. The IDs were reported as listed on the COC per Donald Dowling via email 2/19/2015.						
3. Were all the analyses requested for the samples on the COCs completed by the laboratory?	**X**	Yes		No	WFV	Initials
Comments: All analyses requested for the samples on the COCs were completed by the laboratory. However, samples requiring O2, N2, CO, and CO2 analyses were subcontracted to Microseeps/Pace Analytical Energy Services, LLC.						
4. Were samples received in good condition and at appropriate temperature?	**X**	Yes		No	WFV	Initials
Comments: Samples were received in good condition and at appropriate temperature.						
5. Were the requested analytical methods in compliance with WP/QAPP, permit, or COC?	**X**	Yes		No	WFV	Initials
Comments: Requested analytical methods were in compliance with COC forms. Additionally, the test results in the validated report meet all NELAP requirements for parameters for which accreditation is required or available.						
6. Were detection limits in accordance with WP/QAPP, permit, or method?	**X**	Yes		No	WFV	Initials
Comments: Results were reported down to the practical quantitation limits.						
7. Do the laboratory reports include only those constituents requested to be reported for a specific analytical method?	**X**	Yes		No	WFV	Initials
Comments: The laboratory reported the requested constituents.						
8. Were the sample holding times met?	**X**	Yes		No	WFV	Initials
Comments: All sample holding times were met.						
9. Were correct concentration units reported?	**X**	Yes		No	WFV	Initials
Comments: Organic results were reported in µg/L and inorganics in mg/L						
10. Were the reporting requirements for flagged data met?	**X**	Yes		No	WFV	Initials
Comments: No data was flagged during the Febuary 2015 sampling event.						
11. Were laboratory blank samples free of target analyte contamination?	**X**	Yes		No	WFV	Initials

ERM Analytical Data Validation Checklist (Continued)

12. Were trip blank, field blank, and/or equipment rinse blank samples free of target analyte contamination?		**X**	Yes		No	WFV	Initials
Comments: Trip blanks were free of analytes.							
13. Were instrument calibrations within method control limits?		**X**	Yes		No	WFV	Initials
Comments: The initial calibrations were within control limits.							
14. Were surrogate recoveries within control limits?		**X**	Yes		No	WFV	Initials
Comments: Surrogate recoveries were within laboratory QC limits.							
15. Were laboratory control sample recoveries within control limits?		**X**	Yes		No	WFV	Initials
Comments: The LCS recoveries were within control limits.							
16. Were matrix spike recoveries within control limits?		**X**	Yes		No	WFV	Initials
Comments: All matrix spike recoveries were within control limits							
17. Were duplicate RPDs and/or serial dilution %Ds within control limits?		**X**	Yes		No	WFV	Initials
Comments: RPDs for MS/MSDs, laboratory duplicate samples and LCS/LCSDs met QC criteria for all target compounds/analytes for the samples validated.							
18. Were organic system performance criteria met?		**X**	Yes		No	WFV	Initials
Comments: All GC/MS internal standards were within method criteria for the samples validated.							
19. Were internal standards within method criteria for GS/MS sample analyses?		**X**	Yes		No	WFV	Initials
Comments: All GC/MS internal standards were within method criteria for the samples validated.							
20. Were inorganic system performance criteria met?		**X**	Yes		No	WFV	Initials
Comments: Inorganic system performance criteria were met for the samples validated.							
21. Were blind field duplicates collected? If so, discuss the precision (RPD) of the results.		**X**	Yes		No	WFV	Initials
Duplicate Sample No.	DUP-01-20150217-01	Primary Sample No.		MW-200DR-20150217-01			
Duplicate Sample No.	DUP-02-20150217-01	Primary Sample No.		MW-204D-20150217-01			
Duplicate Sample No.	DUP-03-20150217-01	Primary Sample No.		MW-205DD-20150217-01			
Comments: RPD's exceeded the 30% advisory limit for variation between primary and duplicate samples as follows: DUP-02/MW-204D - Naphthalene, and DUP-03/MW-205DD - zinc							
22. Were qualitative criteria for organic target analyte identification met?		**X**	Yes		No	NGV	Initials
Comments: All qualitative criteria for organic target analyte identification were met.							
23. Were 100% of the EDD concentrations and reporting limits compared to the hardcopy data reports?		**NA**	Yes	**NA**	No	WFV	Initials
Comments: The EDD is not routinely reviewed as part of the data validation process.							

ERM Analytical Data Validation Checklist (Continued)
Field Duplicate Comparisons
ACLC/Macon

Feburary 16-18, 2015

Parameter	MW-200DR-20150217-01		DUP-01-20150217-01		RPD(%)
Cyanide	0.034	mg/L	0.034	mg/L	0
Barium	0.682	mg/L	0.738	mg/L	8
Zinc	0.0204	mg/L	< 0.02	mg/L	NC

Parameter	MW-204D-20150217-01		DUP-02-20150217-01		RPD(%)
Benzene	500	ug/L	470	ug/L	6
Ethylbenzene	440	µg/L	430	µg/L	2
Xyenes, Total	46	ug/L	48	ug/L	4
Benz(a)anthracene	0.1	ug/L	0.11	ug/L	10
Acenaphthene	71	µg/L	74	µg/L	4
Fluorene	27	µg/L	28	µg/L	4
Naphthalene	**1400**	**µg/L**	**2500**	**ug/L**	**56**
Phenanthrene	23	µg/L	27.00	µg/L	16
Cyanide	0.023	mg/L	0.022	mg/L	4
Barium	4.97	mg/L	5.18	mg/L	4
Nickel	0.0602	mg/L	0.0637	mg/L	6

Parameter	MW-205DD-20150217-01		DUP-03-20150217-01		RPD(%)
Barium	0.0331	mg/L	0.0298	mg/L	10
Zinc	**0.0433**	**mg/L**	**0.0293**	**mg/L**	**39**

Sample Submittals
AGLC Macon
April 27 - 30, 2015

Matrix	Sample ID	Laboratory ID
Water	TB-01-20150427-01	1504N02-001
Water	MW-205-20150427-01	1504N02-002
Water	AMW-2-20150427-01	1504N02-003
Water	MW-08D-20150427-01	1504N02-004
Water	MW-08-20150427-01	1504N02-005
Water	TB-02-20150428-01	1504O39-001
Water	AMW-11-20150428-01	1504O39-002
Water	AMW-12-20150428-01	1504O39-003
Water	AMW-13-20150428-01	1504O39-004
Water	MW-25-20150428-01	1504O39-005
Water	AMW-9-20150428-01	1504O39-006
Water	AMW-1-20150428-01	1504O39-007
Water	TB-03-20150429-01	1504P64-001
Water	MW-109-20150429-01	1504P64-002
Water	MW-400-20150429-01	1504P64-003
Water	MW-108-20150429-01	1504P64-004
Water	MW-106-20150429-01	1504P64-005
Water	AMW-14-20150429-01	1504P64-006
Water	AMW-15-20150429-01	1504P64-007
Water	MW-22D-20150429-01	1504P64-008
Water	MW-114D-20150430-01	1504Q19-001
Water	MW-21-20150430-01	1504Q19-002
Water	MW-27DD-20150430-01	1504Q19-003
Water	MW-27D-20150430-01	1504Q19-004
Water	TB-04-20150430-01	1504Q19-005

ERM Analytical Data Validation Checklist

Project Name: AGLC/Macon	Laboratory: Analytical Environmental Services, Inc.
Project Reference: 0208913	Sample Matrix: Aqueous
ERM Project Phase Number: 052	Sample Start Date: 4/27/2015
Date Validated: 9/23/2015	Sample End Date: 4/30/2015

Parameters Analyzed: Volatile Organic Compounds (Benzene, Toluene, Ethylbenzene, Total Xylenes and carbon disulfide) by SW-846 Method 8260B, Low Level Semi-Volatile Organic Compounds and SIM Polynuclear Aromatic Hydrocarbons by SW-846 Method 8270D, Metals (Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Lead, Nickel and Zinc) by SW-846 Method 6010C, Mercury by SW-846 Method 7470A, and Cyanide by SW-846 Method 9014.

Laboratory Order No: 1504N02, 1504O39, 1504P64, & 1504Q19

PRECISION, ACCURACY, METHOD CONFORMANCE, AND COMPLETENESS ASSESSMENT

Precision:	**X**	Acceptable		Unacceptable	WFV	Initials

Comments: Laboratory precision was evaluated using laboratory control samples (LCSs), laboratory duplicates, and matrix spike duplicates (MSDs). Evaluation of duplicates was done using the Relative Percent Difference (RPD). The RPD is defined as the difference between two duplicate sample results divided by the mean, and expressed as a percent. Overall, laboratory and field sampling precision were acceptable.

Accuracy:	**X**	Acceptable		Unacceptable	WFV	Initials

Comments: Accuracy is a measure of the system bias. Laboratory accuracy was evaluated using blanks, matrix spikes (MSs), LCSs, and surrogate recoveries. Overall, laboratory accuracy was acceptable.

Method Compliance:	**X**	Acceptable		Unacceptable	WFV	Initials

Comments: Method compliance was evaluated using holding times, internal standard recoveries, and surrogate recoveries. Overall method compliance was acceptable.

Completeness:	**X**	Acceptable		Unacceptable	WFV	Initials

Comments: Completeness is a percentage expression of the ratio of total acceptable data points to the total possible data points. No data points were rejected; all data are usable with some usable with qualification. For the sample data validated, no data points were rejected. The data set was 100% complete.

ERM Analytical Data Validation Checklist (Continued)

EVALUATION CRITERIA CHECK						
Data validation flags used in this review only include those used by the laboratory: BRL Below reporting limit **Only bolded comments required qualification.** The other comments are of interest, but qualification of the results was not necessary.						
1. Did the laboratory identify any nonconformances related to the analytical results?	**X**	Yes		No	WFV	Initials
Explanation: The laboratory identified the following nonconformance in the case narratives for the samples validated.						
PAH Analysis by Method 8270D/SIM: Matrix spike and matrix spike duplicate analyses were not performed with Batches 206672 and 209771 due to insufficient sample volume.						
Volatile Organic Compounds Analysis by Method 8260B: A second set of Trip Blanks was provided but was not listed on the Chain of Custody. The second Trip Blank was placed on hold. One of the two vials for sample 1504Q19-001A was received with headspace present as signified by >1/4 inch bubble present. The laboratory proceeded with analysis using the remaining vial.						
2. Were samples Chain-of Custody (COC) forms complete?	**X**	Yes		No	WFV	Initials
Comments: Chains-of-Custody were complete and correct;						
3. Were all the analyses requested for the samples on the COCs completed by the laboratory?	**X**	Yes		No	WFV	Initials
Comments: All analyses requested for the samples on the COCs were completed by the laboratory.						
4. Were samples received in good condition and at appropriate temperature?	**X**	Yes		No	WFV	Initials
Comments: Samples were received in good condition and at appropriate temperature.						
5. Were the requested analytical methods in compliance with WP/QAPP, permit, or COC?	**X**	Yes		No	WFV	Initials
Comments: Requested analytical methods were in compliance with COC forms. Additionally, the test results in the validated report meet all NELAP requirements for parameters for which accreditation is required or available.						
6. Were detection limits in accordance with WP/QAPP, permit, or method?	**X**	Yes		No	WFV	Initials
Comments: Results were reported down to the practical quantitation limits.						
7. Do the laboratory reports include only those constituents requested to be reported for a specific analytical method?	**X**	Yes		No	WFV	Initials
Comments: The laboratory reported the requested constituents.						
8. Were the sample holding times met?	**X**	Yes		No	WFV	Initials
Comments: All sample holding times were met.						
9. Were correct concentration units reported?	**X**	Yes		No	WFV	Initials
Comments: Organic results were reported in µg/L and inorganics in mg/L						
10. Were the reporting requirements for flagged data met?	**X**	Yes		No	WFV	Initials
Comments: No data was flagged during the August 2013 sampling event.						
11. Were laboratory blank samples free of target analyte contamination?	**X**	Yes		No	WFV	Initials
Comments: Target analytes were not detected in blanks.						

ERM Analytical Data Validation Checklist (Continued)

12. Were trip blank, field blank, and/or equipment rinse blank samples free of target analyte contamination?	**X**	Yes		No	WFV	Initials
Comments: Trip blanks were free of analytes.						
13. Were instrument calibrations within method control limits?	**X**	Yes		No	WFV	Initials
Comments: The initial calibrations were within control limits.						
14. Were surrogate recoveries within control limits?	**X**	Yes		No	WFV	Initials
Comments: Surrogate recoveries were within laboratory QC limits.						
15. Were laboratory control sample recoveries within control limits?	**X**	Yes		No	WFV	Initials
Comments: The LCS recoveries were within control limits.						
16. Were matrix spike recoveries within control limits?	**X**	Yes		No	WFV	Initials
Comments: All matrix spike recoveries were within control limits						
17. Were duplicate RPDs and/or serial dilution %Ds within control limits?	**X**	Yes		No	NGV	Initials
Comments: RPDs for MS/MSDs, laboratory duplicate samples and LCS/LCSDs met QC criteria for all target compounds/analytes for the samples validated.						
18. Were organic system performance criteria met?	**X**	Yes		No	NGV	Initials
Comments: All GC/MS internal standards were within method criteria for the samples validated.						
19. Were internal standards within method criteria for GS/MS sample analyses?	**X**	Yes		No	NGV	Initials
Comments: All GC/MS internal standards were within method criteria for the samples validated.						
20. Were inorganic system performance criteria met?	**X**	Yes		No	NGV	Initials
Comments: Inorganic system performance criteria were met for the samples validated.						
21. Were blind field duplicates collected? If so, discuss the precision (RPD) of the results.		Yes	**X**	No	WFV	Initials
Comments: Field dupilcates were not collected sureing the April 2015 Sampling event						
22. Were qualitative criteria for organic target analyte identification met?	**X**	Yes		No	WFV	Initials
Comments: All qualitative criteria for organic target analyte identification were met.						
23. Were 100% of the EDD concentrations and reporting limits compared to the hardcopy data reports?	**NA**	Yes	**NA**	No	WFV	Initials
Comments: The EDD is not routinely reviewed as part of the data validation process.						

Sample Submittals
AGLC Macon
August 11 - 14, 2015

Matrix	Sample ID	Laboratory ID
Water	MW-102-20150811-01	1508C64-001
Water	MW-205DD-20150811-01	1508C64-002
Water	MW-23D-20150811-01	1508C64-003
Water	MW-23DMS-20150811-01	1508C64-003
Water	MW-23DMSD-20150811-01	1508C64-003
Water	MW-27D-20150811-01	1508C64-004
Water	MW-22D-20150811-01	1508C64-005
Water	MW-308D-20150812-01	1508C64-006
Water	MW-25D-20150812-01	1508C64-007
Water	MW-200DR-20150812-01	1508C64-008
Water	MW-205D-20150812-01	1508C64-009
Water	MW-302D-20150812-01	1508C64-010
Water	MW-302DD-20150812-01	1508C64-011
Water	MW-15-20150812-01	1508C64-012
Water	MW-204D-20150812-01	1508C64-013
Water	MW-110D-20150813-01	1508C64-014
Water	MW-24D-20150813-01	1508C64-015
Water	MW-111D-20150813-01	1508C64-016
Water	MW-301D-20150813-01	1508C64-017
Water	DUP-01-20150812-01	1508C64-018
Water	DUP-02-20150813-01	1508C64-019
Water	MW-305D-20150813-01	1508C64-020
Water	MW-101-20150813-01	1508C64-021
Water	MW-120DRR-20150813-01	1508C64-022
Water	DUP-03-20150813-01	1508C64-023
Water	MW-306D-20150814-01	1508C64-024
Water	MW-307D-20150814-01	1508C64-025
Water	TB-01-20150814-01	1508C64-026

ERM Analytical Data Validation Checklist

Project Name: AGLC/Macon	Laboratory: Analytical Environmental Services, Inc.
Project Reference: 0208913	Sample Matrix: Aqueous
ERM Project Phase Number: 052	Sample Start Date: 8/11/2015
Date Validated: September 23, 2015	Sample End Date: 8/14/2015

Sample Analyzed: Approximately ten percent (10%) of the samples collected were chosen for validation. The following samples within Order No: 1508C64 were validated. For a full list of the samples collected, see the sample submittal summary above.

MW-200DR-20150812-01	DUP-01-20150812-01
MW-110D-20150813-01	DUP-02-20150813-01
MW-12DRR-20150813-01	DUP-03-20150813-01

Parameters Analyzed: Volatile Organic Compounds (Benzene, Toluene, Ethylbenzene, Total Xylenes and carbon disulfide) by SW-846 Method 8260B, Low Level Semi-Volatile Organic Compounds and SIM Polynuclear Aromatic Hydrocarbons by SW-846 Method 8270D, Metals (Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Lead, Nickel and Zinc) by SW-846 Method 6010C, Mercury by SW-846 Method 7470A, and Cyanide by SW-846 Method 9014.

Laboratory Order No: 1508C64

PRECISION, ACCURACY, METHOD CONFORMANCE, AND COMPLETENESS ASSESSMENT

Precision:	**X**	Acceptable		Unacceptable	WFV	Initials

Comments: Laboratory precision was evaluated using laboratory control samples (LCSs), laboratory duplicates, and matrix spike duplicates (MSDs). Field sampling precision was evaluated using field duplicates. Evaluation of duplicates was done using the Relative Percent Difference (RPD). The RPD is defined as the difference between two duplicate sample results divided by the mean, and expressed as a percent. Overall, laboratory and field sampling precision were acceptable.

Accuracy:	**X**	Acceptable		Unacceptable	WFV	Initials

Comments: Accuracy is a measure of the system bias. Laboratory accuracy was evaluated using blanks, matrix spikes (MSs), LCSs, and surrogate recoveries. Overall, laboratory accuracy was acceptable.

Method Compliance:	**X**	Acceptable		Unacceptable	WFV	Initials

Comments: Method compliance was evaluated using holding times, internal standard recoveries, and surrogate recoveries. Overall method compliance was acceptable.

Completeness:	**X**	Acceptable		Unacceptable	WFV	Initials

Comments: Completeness is a percentage expression of the ratio of total acceptable data points to the total possible data points. No data points were rejected; all data are usable with some usable with qualification. For the sample data validated, no data points were rejected. The data set was 100% complete.

ERM Analytical Data Validation Checklist (Continued)

EVALUATION CRITERIA CHECK						
Data validation flags used in this review only include those used by the laboratory: BRL Below reporting limit **Only bolded comments required qualification.** The other comments are of interest, but qualification of the results was not necessary.						
1. Did the laboratory identify any nonconformances related to the analytical results?	**X**	Yes		No	NGV	Initials
Explanation: The laboratory identified the following nonconformance in the case narratives for the samples validated.						
One of the two vials submitted for sample Ids: MW-205D-20150812-01, MW-110D-20150813-01, and MW-25D-20150812-01 were received with headspace present as signified by >1/4 inch bubble present. We proceeded with analysis using the remaining vial. One of the two vials submitted for sample Ids: MW-23D-20150811-01, MW-15-20150812-01, MW-102-20150811-01, MW-302D-20150812-01 and MW-205DD-20150811-01 were received broken. We proceeded with analysis using the remaining vial. For the MS/MSD sample Ids: MW-23DMS-20150811-01 and MW-23DMSD-20150811-01 where both of the vials were received broken we used one of the amber containers for analysis, per Nic Very via phone on 8/17/15.						
Semi-Volatile Organics Analysis by Method 8270D: Due to sample matrix, sample 1508C64-009 and 020 required dilution during preparation and/or analysis resulting in elevated reporting limits.						
Semi-Volatile Organics Analysis by Method 8270D/SIM: Matrix spike and/or matrix spike duplicate analyses were not performed with Batch 211646 due to insufficient sample volume.						
Volatile Organic Compounds Analysis by Method 8260B: Due to sample matrix, sample 1508C64-009 required dilution during preparation and/or analysis resulting in elevated reporting limits.						
2. Were samples Chain-of Custody (COC) forms complete?	**X**	Yes		No	WFV	Initials
Comments: Chains-of-Custody were complete and correct; however, sample container of "MW-22D-20150811-01" had a collection time of 12:00 PM, while 3:50 PM was provided on the COC. Sample was logged in according to the COC.						
3. Were all the analyses requested for the samples on the COCs completed by the laboratory?	**X**	Yes		No	WFV	Initials
Comments: All analyses requested for the samples on the COCs were completed by the laboratory.						
4. Were samples received in good condition and at appropriate temperature?	**X**	Yes		No	WFV	Initials
Comments: Samples were received at appropriate temperature. One of the two vial submitted for MW-23D, MW-15, MW-102, MW-302D, and MW-205DD were received broken. Both vials for MW-23DMS and MW-23DMSD were received broken.						
5. Were the requested analytical methods in compliance with WP/QAPP, permit, or COC?	**X**	Yes		No	WFV	Initials
Comments: Requested analytical methods were in compliance with COC forms. Additionally, the test results in the validated report meet all NELAP requirements for parameters for which accreditation is required or available.						
6. Were detection limits in accordance with WP/QAPP, permit, or method?	**X**	Yes		No	WFV	Initials
Comments: Results were reported down to the practical quantitation limits.						
7. Do the laboratory reports include only those constituents requested to be reported for a specific analytical method?	**X**	Yes		No	WFV	Initials
Comments: The laboratory reported the requested constituents.						
8. Were the sample holding times met?	**X**	Yes		No	WFV	Initials
Comments: All sample holding times were met.						
9. Were correct concentration units reported?	**X**	Yes		No	WFV	Initials
Comments: Organic results were reported in µg/L and inorganics in mg/L						
10. Were the reporting requirements for flagged data met?	**X**	Yes		No	WFV	Initials
Comments: No data was flagged during the August 2013 sampling event.						
11. Were laboratory blank samples free of target analyte contamination?	**X**	Yes		No	WFV	Initials
Comments: Target analytes were not detected in blanks.						

ERM Analytical Data Validation Checklist (Continued)

12. Were trip blank, field blank, and/or equipment rinse blank samples free of target analyte contamination?		**X**	Yes		No	WFV	Initials
Comments: Trip blanks were free of analytes.							
13. Were instrument calibrations within method control limits?		**X**	Yes		No	WFV	Initials
Comments: The initial calibrations were within control limits.							
14. Were surrogate recoveries within control limits?		**X**	Yes		No	WFV	Initials
Comments: Surrogate recoveries were within laboratory QC limits.							
15. Were laboratory control sample recoveries within control limits?		**X**	Yes		No	WFV	Initials
Comments: The LCS recoveries were within control limits.							
16. Were matrix spike recoveries within control limits?		**X**	Yes		No	WFV	Initials
Comments: All matrix spike recoveries were within control limits							
17. Were duplicate RPDs and/or serial dilution %Ds within control limits?		**X**	Yes		No	NGV	Initials
Comments: RPDs for MS/MSDs, laboratory duplicate samples and LCS/LCSDs met QC criteria for all target compounds/analytes for the samples validated.							
18. Were organic system performance criteria met?		**X**	Yes		No	NGV	Initials
Comments: All GC/MS internal standards were within method criteria for the samples validated.							
19. Were internal standards within method criteria for GS/MS sample analyses?		**X**	Yes		No	NGV	Initials
Comments: All GC/MS internal standards were within method criteria for the samples validated.							
20. Were inorganic system performance criteria met?		**X**	Yes		No	NGV	Initials
Comments: Inorganic system performance criteria were met for the samples validated.							
21. Were blind field duplicates collected? If so, discuss the precision (RPD) of the results.		**X**	Yes		No	WFV	Initials
Duplicate Sample No.	DUP-01-20150812-01	Primary Sample No.		MW-200DR-20150812-01			
Duplicate Sample No.	DUP-02-20150813-01	Primary Sample No.		MW-110D-20150813-01			
Duplicate Sample No.	DUP-03-20150813-01	Primary Sample No.		MW-12DRR-20150813-01			
Comments: RPD's exceeded the 30% advisory limit for variation between primary and duplicate for the samples as bolded in following page							
22. Were qualitative criteria for organic target analyte identification met?		**X**	Yes		No	NGV	Initials
Comments: All qualitative criteria for organic target analyte identification were met.							
23. Were 100% of the EDD concentrations and reporting limits compared to the hardcopy data reports?		**NA**	Yes	**NA**	No	WFV	Initials
Comments: The EDD is not routinely reviewed as part of the data validation process.							

ERM Analytical Data Validation Checklist (Continued)
Field Duplicate Comparisons
ACLC/Macon

Feburary 16-18, 2015

Parameter	MW-200DR-20150812-01		DUP-01-20150812-01		RPD(%)
Benzene	36	ug/L	34	ug/L	6
Ethylbenzene	26	ug/L	24	ug/L	8
Acenaphthene	5	ug/L	< 0.5	ug/L	NC
Fluorene	0.79	ug/L	< 0.1	ug/L	NC
Phenanthrene	0.077	ug/L	< 0.05	ug/L	NC
Anthracene	0.058	ug/L	< 0.05	ug/L	NC
Fluoranthene	2	ug/L	< 0.1	ug/L	NC
Pyrene	2.3	ug/L	< 0.05	ug/L	NC
Barium	1.73	mg/L	1.71	mg/L	1

Parameter	MW-110D-20150813-01		DUP-02-20150813-01		RPD(%)
Benzene	120	ug/L	120		0
Ethylbenzene	420	ug/L	450		7
Xylenes, Total	11	ug/L	11		0
Naphthalene	**2200**	**ug/L**	**1500**		**38**
Acenaphthylene	3	ug/L	2.4		22
Acenaphthene	77	ug/L	70		10
Fluorene	19	ug/L	16		17
Phenanthrene	43	ug/L	37.00		15
Anthracene	**8.1**	**ug/L**	**5.9**		**31**
Fluoranthene	6.5	ug/L	4.8		30
Pyrene	**8.3**	**ug/L**	**6.1**		**31**
Benz(a)anthracene	**0.32**	**ug/L**	**0.23**		**33**
Chrysene	0.23	ug/L	0.17		30
Cyanide, Total	0.015	mg/L	0.012		22
Barium	3.8	mg/L	3.78		1
Nickel	0.104	mg/L	0.103		1

Parameter	MW-12DRR-20150813-01		DUP-03-20150813-01		RPD(%)
Benzene	**250**	**ug/L**	**180**	**ug/L**	**33**
Ethybenzene	**110**	**ug/L**	**77**	**ug/L**	**35**
Xylenes, Total	**60**	**ug/L**	**43**	**ug/L**	**33**
Naphthalene	550	ug/L	550	ug/L	0
Acenaphthylene	9.6	ug/L	7.5	ug/L	25
Acenaphthene	39	ug/L	31	ug/L	23
Fluorene	36	ug/L	28	ug/L	25
Phenanthrene	**18**	**ug/L**	**13**	**ug/L**	**32**
Anthracene	3.7	ug/L	3	ug/L	21
Fluoranthene	6.3	ug/L	5.8	ug/L	8
Pyrene	7.1	ug/L	6.2	ug/L	14
Benz(a)anthracene	0.23	ug/L	0.3	ug/L	26
Chrysene	**0.14**	**ug/L**	**0.22**	**ug/L**	**44**
Cyanide, Total	**0.026**	**mg/L**	**0.037**	**mg/L**	**35**
Barium	1.68	mg/L	1.62	mg/L	4

Historical Data Summary (CD ONLY)

Appendix E-5

November 21, 2015
Project No. 0176740
Atlanta Gas Light Company

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

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	AMW-1											AMW-2									
				04/28/15	08/05/13	02/04/13	11/05/12	08/06/12	05/14/12	02/08/12	11/15/11	08/09/11	05/02/11	02/17/11	04/27/15	08/05/13	02/04/13	11/05/12	08/06/12	05/14/12	02/07/12	11/15/11	08/09/11	05/02/11	02/16/11
Field Groundwater Quality Parameters																								
pH	SU	--	--	5.96	6.58	6.15	6.23	5.92	6.21	6.10	6.38	6.46	6.52	6.90	5.92	6.52	6.30	5.96	5.36	6.00	5.99	6.02	5.74	5.84	5.98
Specific Conductance	mMhos	--	--	944	1371	581	524	605	584	496	593	597	655	589	309	352	401	502	492	403	388	544	717	507	414
Temperature	°Celsius	--	--	21.15	27.21	15.66	22.66	26.50	22.67	21.37	24.40	27.69	21.87	21.53	20.57	25.48	18.26	23.57	28.97	24.27	20.89	22.06	25.39	20.39	18.19
Dissolved Oxygen (YSI)	mg/L	--	--	0.67	0.18	0.20	1.40	1.16	0.38	1.35	0.76	0.32	0.22	0.08	2.25	0.41	3.40	0.34	1.51	0.33	0.56	0.61	1.65	0.38	1.86
ORP	mV	--	--	-42.5	160.5	129.5	25.0	36.0	25.9	54.4	-68.2	126.9	-364.1	-490.3	-39.3	130.9	106.6	52.9	48.6	-8.3	-47.9	150.8	147.0	-55.1	61.1
Turbidity	NTU	--	--	27.5	7.41	4.97	10.38	284	17.4	23	864	790	234	74	3.42	0.99	5.90	4.41	6.39	1.81	20.8	9.77	290	8.31	9.70
Laboratory Results - Natural Attenuation Parameters																									
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	< 0.050	--	--	--	0.75	--	--	--	< 0.050	--	--	4.0	--	--	--	1.3	--	--	--	4.9
Sulfate	mg/L	--	--	--	--	95	--	--	--	62	--	--	--	23	--	--	60	--	--	--	65	--	--	--	100
Sulfide	mg/L	--	--	--	--	< 1.0	--	--	--	1.5	--	--	--	< 1.0	--	--	< 1.0	--	--	--	< 1.0	--	--	--	< 1.0
Ferrous Iron	mg/L	--	--	--	--	0.47 HF	--	--	--	< 0.10 HF	--	--	--	2.2	--	--	2.3 HF	--	--	--	21 HF	--	--	--	7.4
Total Iron	mg/L	--	--	--	--	1.2	--	--	--	4.2	--	--	--	14	--	--	4.2	--	--	--	25	--	--	--	8.2
Carbon Dioxide	mg/L	--	--	--	--	120	--	--	--	2.1	--	--	--	0.67	--	--	97	--	--	--	1.7	--	--	--	1.2
Methane	mg/L	--	--	--	--	1.3	--	--	--	< 0.58	--	--	--	430	--	--	17	--	--	--	39	--	--	--	30
Dissolved Nitrogen	mg/L	--	--	--	--	15	--	--	--	5.5	--	--	--	4.5	--	--	18	--	--	--	4.9	--	--	--	4.1
Dissolved Oxygen	mg/L	--	--	--	--	5.1	--	--	--	1.8	--	--	--	1.5	--	--	6.2	--	--	--	1.5	--	--	--	1.4
Laboratory Results - Organic Constituents																									
Volatile Organic Compounds																									
Benzene	µg/L	5*	9	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	22	51	170	300	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	--	--	--	--	--	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	11	10	34	42	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 10	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	17	26	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
BTEX	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**33**	**61**	**221**	**368**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Semivolatile Organic Compounds																									
Acenaphthene	µg/L	2,000*	6,100	< 10	< 10	< 0.23	0.28	1.1	1.7	--	--	--	--	--	< 10	< 10	2.8	4.2	8.4	12	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 10	< 10	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--	< 10	< 10	0.29	0.52	0.97	1.2	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 10	< 10	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--	< 10	< 10	< 0.22	< 0.22	< 0.20	< 0.22	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.20	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--	< 0.050	< 0.20	< 0.22	< 0.22	< 0.20	< 0.22	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.20	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--	< 0.050	< 0.20	< 0.22	< 0.22	< 0.20	< 0.22	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.20	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--	< 0.10	< 0.20	< 0.22	< 0.22	< 0.20	< 0.22	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 10	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--	< 10	< 10	< 0.22	< 0.22	< 0.20	< 0.22	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 10	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--	< 10	< 10	< 0.22	< 0.22	< 0.20	< 0.22	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 10	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--	< 10	< 10	< 0.22	< 0.22	< 0.20	< 0.22	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.20	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--	< 0.10	< 0.20	< 0.22	< 0.22	< 0.20	< 0.22	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 2.3	< 2.1	< 1.9	< 1.9	--	--	--	--	--	< 10	< 10	< 2.2	< 2.2	< 2.0	< 0.22	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--	< 10	< 10	< 0.22	0.38	0.49	< 2.2	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	< 10	< 10	< 0.23	0.65	0.59	0.33	--	--	--	--	--	< 10	< 10	0.74	1.1	2.6	0.33	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.20	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--	< 0.050	< 0.20	< 0.22	< 0.22	< 0.20	< 0.22	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 2.3	< 2.1	< 1.9	< 1.9	--	--	--	--	--	< 10	< 10	< 2.2	< 2.2	< 2.0	< 2.2	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 2.3	< 2.1	< 1.9	< 1.9	--	--	--	--	--	< 10	< 10	< 2.2	< 2.2	< 2.0	< 2.2	--	--	--	--	--
Naphthalene	µg/L	20*	20*	< 10	< 10	< 0.23	< 0.21	< 0.19	< 0.19	< 5.0	< 5.0	< 5.0 *	62	110	< 10	< 10	< 0.22	< 0.22	< 0.20	< 0.22	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Phenanthrene	µg/L	470	3,100	< 10	< 10	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--	< 10	< 10	< 0.22	< 0.22	< 0.20	< 0.22	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 10	< 1.2	< 1.1	< 0.19	< 0.19	--	--	--	--	--	< 10	< 10	< 1.1	< 1.1	< 0.98	< 1.1	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	< 10	< 0.23	0.22	0.26	< 0.96	--	--	--	--	--	< 10	< 10	0.25	0.87	0.73	1.4	--	--	--	--	--
Total SVOCs	µg/L	--	--	**bdl**	**bdl**	**bdl**	**1.2**	**2.0**	**2.0**	**bdl**	**bdl**	**bdl**	**62**	**110**	**bdl**	**bdl**	**4.1**	**7.1**	**13.2**	**14**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
BTEX + Total SVOCs	µg/L	--	--	**bdl**	**bdl**	**bdl**	**1.2**	**2.0**	**2.0**	**bdl**	**33**	**61**	**283**	**478**	**bdl**	**bdl**	**4.1**	**7.1**	**13.2**	**14**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Laboratory Results - Inorganic Constituents																									
Antimony	µg/L	6.3	400	< 0.0200	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	< 0.0200	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 0.0500	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	< 0.0500	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--
Barium	µg/L	2,000	7,200	0.0596	105	75	95	120	10	94	230	140	190	170	0.111	125	76	66	64	51	48	61	39	54	52
Beryllium	µg/L	31	200	< 0.0100	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	< 0.0100	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--
Cadmium	µg/L	7.8	51	0.0050	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	0.0070	13.9	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--
Chromium	µg/L	100	310	< 0.0100	< 10.0	< 10	< 10	13	< 10	< 10	22	< 10	< 10	< 10	< 0.0100	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 0.0100	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 0.0100	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Lead	µg/L	15*	15*	< 0.0100	< 10.0	< 10	< 10	< 10	< 10	< 10	23	< 10	< 10	< 10	< 0.0100	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 0.0200	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 0.0200	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Zinc	µg/L	4,700	31,000	< 0.0200	< 20.0	< 20	< 20	20	21	--	--	--	--	--	0.0914	< 20.0	245	< 20	< 20	< 20	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.00020	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	< 0.00020	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 0.10	35	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	< 0.10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters.
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	AMW-3											AMW-4								
				08/05/13	02/11/13	02/13 DUP	11/05/12	08/06/12	05/15/12	05/12 DUP	02/07/12	11/17/11	08/10/11	05/03/11	02/17/11	08/07/13	03/14/13	11/06/12	08/08/12	05/15/12	02/08/12	11/17/11	08/11/11	05/04/11	02/18/11
Field Groundwater Quality Parameters																									
pH	SU	--	--	6.25	6.56	6.56	5.90	5.20	5.86	5.86	6.19	6.08	5.86	6.02	6.43	6.59	6.90	6.59	6.13	6.44	6.71	6.66	6.71	6.70	6.87
Specific Conductance	mMhos	--	--	746	613	613	647	682	740	740	784	527	509	782	674	902	960	754	884	953	738	723	817	849	559
Temperature	°Celsius	--	--	25.67	19.33	19.33	22.73	25.72	24.84	24.84	19.26	23.02	24.46	19.79	18.59	24.10	17.61	22.32	25.18	23.58	18.59	24.48	23.32	18.06	19.26
Dissolved Oxygen (YSI)	mg/L	--	--	1.06	4.73	4.73	0.90	1.72	0.28	0.28	4.50	0.51	0.93	3.83	2.68	0.65	2.91	2.62	0.33	0.78	1.86	1.00	0.23	0.52	0.50
ORP	mV	--	--	142.8	114.3	114.3	153.6	189.5	123.5	123.5	-8.4	5.0	329.4	-29.2	0.0	-73.9	63.6	-106.1	-82.9	74.1	-27.4	-96.7	150.2	-92.4	-370.1
Turbidity	NTU	--	--	0.97	1.79	1.79	3.25	281	8.09	8.09	3.32	292	>1000	13.2	8.42	7.84	8.72	2087	271	103	211	123	>1000	107	>999
Laboratory Results - Natural Attenuation Parameters																									
Nitrogen, Nitrate (as N)	mg/L	--	--	--	1.3	1.4	--	--	--	--	6.1	--	--	--	5.4	--	14	--	--	--	0.59	--	--	--	9.6
Sulfate	mg/L	--	--	--	150	150	--	--	--	--	280	--	--	--	220	--	138	--	--	--	47	--	--	--	55
Sulfide	mg/L	--	--	--	< 1.0	< 1.0	--	--	--	--	1.4	--	--	--	< 1.0	--	< 1.0	--	--	--	< 1.0	--	--	--	1.5
Ferrous Iron	mg/L	--	--	--	< 0.10 HF	< 0.10 HF	--	--	--	--	< 0.10 HF	--	--	--	< 0.010	--	< 0.10 HF	--	--	--	< 0.10 HF	--	--	--	< 0.010
Total Iron	mg/L	--	--	--	< 0.10	< 0.10	--	--	--	--	< 0.10	--	--	--	0.62	--	0.26	--	--	--	1.0	--	--	--	8.0
Carbon Dioxide	mg/L	--	--	--	61	66	--	--	--	--	1.0	--	--	--	0.91	--	38	--	--	--	1.5	--	--	--	0.41
Methane	mg/L	--	--	--	< 0.58	< 0.58	--	--	--	--	< 0.58	--	--	--	1.1	--	37	--	--	--	82	--	--	--	140
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	--	--	--	5.0	--	--	--	4.5	--	16	--	--	--	5.5	--	--	--	4.7
Dissolved Oxygen	mg/L	--	--	--	8.9	8.7	--	--	--	--	1.8	--	--	--	1.5	--	6.4	--	--	--	1.7	--	--	--	1.7
Laboratory Results - Organic Constituents																									
Volatile Organic Compounds																									
Benzene	µg/L	5*	9	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	1,000	5.1	5,400	1,800	1,300	720	4,900	5,000	3,200	1,700
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	--	--	--	--	--	< 5.0	< 2.0	< 20	< 20	< 20	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	230	<1.0	1200	430	300	140	640	450	890	290
Toluene	µg/L	1,000*	1,100	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	190	1.6	4,400	1,200	630	610	4,200	4,100	3,000	1,800
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	480	3.1	4,200	990	570	780	3,200	2,700	4,600	1,400
BTEX	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**1,900**	**9.8**	**15,200**	**4,420**	**2,800**	**2,250**	**12,940**	**12,250**	**11,690**	**5,190**
Semivolatile Organic Compounds																									
Acenaphthene	µg/L	2,000*	6,100	< 10	< 0.19	< 0.20	< 0.23	< 0.20	< 0.23	< 0.21	--	--	--	--	--	< 10	<0.19	34	23	27	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 10	< 0.19	< 0.20	< 0.23	< 0.20	< 0.23	< 0.21	--	--	--	--	--	< 10	<0.19	54	42	35	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 10	< 0.19	< 0.20	< 0.23	< 0.20	< 0.23	< 0.21	--	--	--	--	--	< 10	<0.19	< 0.10	4.0	1.9	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.20	< 0.19	< 0.20	< 0.23	< 0.20	0.28	< 0.21	--	--	--	--	--	< 0.20	<0.19	< 0.10	< 2.1	< 1.1	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.20	< 0.19	< 0.20	< 0.23	< 0.20	0.25	< 0.21	--	--	--	--	--	< 0.20	<0.19	< 0.10	< 2.1	< 1.1	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.20	< 0.19	< 0.20	< 0.23	< 0.20	< 0.23	< 0.21	--	--	--	--	--	< 0.20	<0.19	< 0.10	< 2.1	< 1.1	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 0.19	< 0.20	< 0.23	< 0.20	< 0.23	< 0.21	--	--	--	--	--	< 10	<0.19	< 0.10	< 2.1	< 1.1	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 0.19	< 0.20	< 0.23	< 0.20	< 0.23	< 0.21	--	--	--	--	--	< 10	<0.19	< 0.10	< 2.1	< 1.1	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 0.19	< 0.20	< 0.23	< 0.20	0.35	< 0.21	--	--	--	--	--	< 10	<0.19	< 0.10	< 2.1	< 1.1	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.20	< 0.19	< 0.20	< 0.23	< 0.20	< 0.23	< 0.21	--	--	--	--	--	< 0.20	<0.19	< 0.10	< 2.1	< 1.1	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 1.9	< 2.0	< 2.3	< 2.0	< 2.3	< 2.1	--	--	--	--	--	< 10	<1.9	130	< 21	< 11	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 10	< 0.19	< 0.20	< 0.23	< 0.20	0.27	< 0.21	--	--	--	--	--	< 10	<0.19	< 0.10	3.2	< 1.1	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	< 10	< 0.19	< 0.20	< 0.23	< 0.20	< 0.23	< 0.21	--	--	--	--	--	< 10	<0.19	21	17	15	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.20	< 0.19	< 0.20	< 0.23	< 0.20	< 0.23	< 0.21	--	--	--	--	--	< 0.20	<0.19	< 0.10	< 2.1	< 1.1	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 1.9	< 2.0	< 2.3	< 2.0	< 2.3	< 2.1	--	--	--	--	--	< 10	<1.9	< 100	29	< 11	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 1.9	< 2.0	< 2.3	< 2.0	< 2.3	< 2.1	--	--	--	--	--	< 10	<1.9	< 100	< 21	< 11	--	--	--	--	--
Naphthalene	µg/L	20*	20*	< 10	0.59	< 0.20	< 0.23	< 0.20	< 0.23	< 0.21	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	150	<0.19	1,800	690 D	420	510	1,900	1,100	1,200	530
Phenanthrene	µg/L	470	3,100	< 10	< 0.19	< 0.20	< 0.23	< 0.20	< 0.23	< 0.21	--	--	--	--	--	< 10	<0.19	42	46	25	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 0.97	< 0.99	< 1.2	< 0.98	< 1.1	< 1.0	--	--	--	--	--	< 10	<0.96	960	47	15	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	< 0.19	< 0.20	< 0.23	< 0.20	0.58	0.22	--	--	--	--	--	< 10	<0.19	< 0.10	3.9	1.3	--	--	--	--	--
Total SVOCs	µg/L	--	--	**bdl**	**0.59**	**bdl**	**bdl**	**bdl**	**1.73**	**0.22**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**150**	**bdl**	**3,041**	**905**	**540**	**510**	**1,900**	**1,100**	**1,200**	**530**
BTEX + Total SVOCs	µg/L	--	--	**bdl**	**0.59**	**bdl**	**bdl**	**bdl**	**1.73**	**0.22**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**2,050**	**9.8**	**18,241**	**5,325**	**3,340**	**2,760**	**14,840**	**13,350**	**12,890**	**5,720**
Laboratory Results - Inorganic Constituents																									
Antimony	µg/L	6.3	400	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	< 50.0	< 20	< 20	56	< 20	--	--	--	--	--
Barium	µg/L	2,000	7,200	60.1	42	44	38	90	36	36	45	78	460	57	93	127	130	340	1,100	170	250	320	620	170	120
Beryllium	µg/L	31	200	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	< 10.0	< 4.0	< 4.0	9.9	< 4.0	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10	< 10	< 10	19	< 10	< 10	< 10	< 10	42	< 10	< 10	< 10.0	< 10	< 10	430	< 10	< 10	< 10	22	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	320	< 20	< 20	< 10.0	< 20	< 20	310	< 20	< 20	< 20	91	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10	< 10	< 10	20	< 10	< 10	< 10	25	560	< 10	< 10	< 10.0	< 10	< 10	400	< 10	< 10	< 10	190	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 20.0	< 40	< 40	120	< 40	< 40	< 40	< 40	< 40	< 40
Zinc	µg/L	4,700	31,000	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	< 20.0	< 20	< 20	440	< 20	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	16	< 10	< 10	26	22	21	21	< 10	--	--	--	< 10	< 10	< 10	< 10	10	< 10	< 10	< 10	--	--	< 10

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters.
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	AMW-5												AMW-6									
				08/07/13	03/13/13	11/06/12	08/07/12	05/15/12	02/08/12	11/17/11	DUP 11/17	08/10/11	08/11 DUP	05/04/11	02/22/11	08/05/13	02/12/13	11/05/12	08/06/12	05/14/12	02/09/12	11/18/11	08/08/11	05/03/11	02/17/11
Field Groundwater Quality Parameters																									
pH	SU	--	--	6.35	6.39	6.27	6.31	6.38	6.20	6.52	6.52	6.41	6.41	6.46	6.62	7.23	5.97	5.62	5.79	5.71	5.89	6.20	5.65	5.94	6.02
Specific Conductance	mMhos	--	--	646	433	490	520	582	354	479	479	536	536	526	383	602	492	516	541	499	426	507	597	736	441
Temperature	°Celsius	--	--	21.95	17.76	22.09	24.69	23.75	19.55	21.24	21.24	21.70	21.70	18.86	19.99	26.27	17.92	21.10	25.98	20.74	17.47	16.18	24.70	18.61	17.55
Dissolved Oxygen (YSI)	mg/L	--	--	0.48	0.40	1.71	3.63	0.59	1.62	0.35	0.35	0.25	0.25	0.12	0.37	0.16	1.71	1.14	0.75	0.80	1.32	0.40	0.47	0.44	4.78
ORP	mV	--	--	-90.7	-225.5	-73.9	-21.1	-77.9	-19.9	-93.5	-93.5	151.8	151.8	-100.8	-356.3	-5.6	-35.7	4.0	48.2	65.4	-6.5	0.1	-16.1	-39.8	-2.6
Turbidity	NTU	--	--	4.46	8.82	5.10	2.84	1.45	1.48	9.86	9.86	>1000	>1000	36.9	>999	6.01	5.67	1291	9.7	9.27	9.08	8.94	4.22	23.8	121
Laboratory Results - Natural Attenuation Parameters																									
Nitrogen, Nitrate (as N)	mg/L	--	--	--	< 0.050	--	--	--	< 0.050	--	--	--	--	--	< 0.050	--	< 0.050	--	--	--	< 0.050	--	--	--	< 0.050
Sulfate	mg/L	--	--	--	6	--	--	--	< 5.0	--	--	--	--	--	< 5.0	--	140	--	--	--	120	--	--	--	130
Sulfide	mg/L	--	--	--	< 1.0	--	--	--	< 1.0	--	--	--	--	--	< 1.0	--	< 1.0	--	--	--	< 1.0	--	--	--	< 1.0
Ferrous Iron	mg/L	--	--	--	0.58 HF	--	--	--	5.6 HF	--	--	--	--	--	4.1	--	12 HF	--	--	--	5.1 HF	--	--	--	9.7
Total Iron	mg/L	--	--	--	14	--	--	--	11	--	--	--	--	--	22	--	13	--	--	--	6.0	--	--	--	16
Carbon Dioxide	mg/L	--	--	--	100	--	--	--	2.0	--	--	--	--	--	0.92	--	140	--	--	--	2.6	--	--	--	2.1
Methane	mg/L	--	--	--	620	--	--	--	220	--	--	--	--	--	490	--	23	--	--	--	20	--	--	--	15
Dissolved Nitrogen	mg/L	--	--	--	19	--	--	--	5.3	--	--	--	--	--	3.0	--	--	--	--	--	4.6	--	--	--	3.0
Dissolved Oxygen	mg/L	--	--	--	5.1	--	--	--	1.4	--	--	--	--	--	1.0	--	7.4	--	--	--	1.4	--	--	--	1.0
Laboratory Results - Organic Constituents																									
Volatile Organic Compounds																									
Benzene	µg/L	5*	9	840	540	910	390	680	640	520	610	890	960	720	900	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 10	< 10	< 10	< 20	--	--	--	--	--	--	--	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	700	280	1,000	500	460	220	480	550	830	680	580	920	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	400	430	1,200	340	630	640	520	670	1,700	1,600	870	2,000	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	1,300	2,200	4,100	1,400	2300	2400	1,500	1,700	3,600	2,900	3,000	4,000	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
BTEX	µg/L	--	--	**3,240**	**3,450**	**7,210**	**2,630**	**4,070**	**3,900**	**3,020**	**3,530**	**7,020**	**6,140**	**5,170**	**7,820**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Semivolatile Organic Compounds																									
Acenaphthene	µg/L	2,000*	6,100	28	37	40	32	51	--	--	--	--	--	--	--	< 10	1.0	0.84	0.43	0.85	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	33	40	43	21	48	--	--	--	--	--	--	--	< 10	< 0.20	< 0.21	< 0.23	< 0.22	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 10	4.5	< 20	< 1.9	< 23	--	--	--	--	--	--	--	< 10	< 0.20	< 0.21	< 0.23	< 0.22	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	1.2	< 3.9	< 20	< 1.9	< 23	--	--	--	--	--	--	--	< 0.20	< 0.20	< 0.21	< 0.23	0.24	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	0.56	< 3.9	< 20	< 1.9	< 23	--	--	--	--	--	--	--	< 0.20	< 0.20	< 0.21	< 0.23	0.22	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	1.3	< 3.9	< 20	< 1.9	< 23	--	--	--	--	--	--	--	< 0.20	< 0.20	< 0.21	< 0.23	0.39	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 3.9	< 20	< 1.9	< 23	--	--	--	--	--	--	--	< 10	< 0.20	< 0.21	< 0.23	< 0.22	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 3.9	< 20	< 1.9	< 23	--	--	--	--	--	--	--	< 10	< 0.20	< 0.21	< 0.23	< 0.22	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 3.9	< 20	< 1.9	< 23	--	--	--	--	--	--	--	< 10	< 0.20	< 0.21	< 0.23	0.26	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	0.21	< 3.9	< 20	< 1.9	< 23	--	--	--	--	--	--	--	< 0.20	< 0.20	< 0.21	< 0.23	< 0.22	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	62	< 39	< 200	120	< 230	--	--	--	--	--	--	--	< 10	< 2.0	< 2.1	< 2.3	< 2.2	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 10	< 3.9	< 20	< 1.9	< 23	--	--	--	--	--	--	--	< 10	< 0.20	< 0.21	< 0.23	0.44	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	14	22	26	17	28	--	--	--	--	--	--	--	< 10	< 0.20	< 0.21	< 0.23	< 0.22	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	0.37	< 3.9	< 20	< 1.9	< 23	--	--	--	--	--	--	--	< 0.20	< 0.20	< 0.21	< 0.23	< 0.22	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	12	< 39	< 200	< 19	< 230	--	--	--	--	--	--	--	< 10	< 2.0	< 2.1	< 2.3	< 2.2	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	17	< 39	< 200	38	< 230	--	--	--	--	--	--	--	< 10	< 2.0	< 2.1	< 2.3	< 2.2	--	--	--	--	--
Naphthalene	µg/L	20*	20*	1,400	950	2,500	440	2,700	1,800	1,600	1,300	2,500 *	2,600	3,600	2,900	< 10	< 0.20	< 0.21	< 0.23	< 0.22	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Phenanthrene	µg/L	470	3,100	42	70	130	38	62	--	--	--	--	--	--	--	< 10	< 0.20	< 0.21	< 0.23	< 0.22	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 20	< 98	< 9.5	< 110	--	--	--	--	--	--	--	< 10	< 1.0	< 1.0	< 1.1	< 1.1	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	< 3.9	< 20	2.1	< 23	--	--	--	--	--	--	--	< 10	< 0.20	0.23	< 0.23	0.48	--	--	--	--	--
Total SVOCs	µg/L	--	--	**1,612**	**1,124**	**2,739**	**708**	**2,889**	**1,800**	**1,600**	**1,300**	**2,500**	**2,600**	**3,600**	**2,900**	**bdl**	**1.0**	**1.1**	**0.43**	**2.88**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
BTEX + Total SVOCs	µg/L	--	--	**4,852**	**4,574**	**9,949**	**3,338**	**6,959**	**5,700**	**4,620**	**4,830**	**9,520**	**8,740**	**8,770**	**10,720**	**bdl**	**1.0**	**1.1**	**0.43**	**2.88**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Laboratory Results - Inorganic Constituents																									
Antimony	µg/L	6.3	400	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--
Barium	µg/L	2,000	7,200	318	240	520	150	220	330	330	270	460	470	290	400	36.6	63	60	54	51	62	71	74	66	81
Beryllium	µg/L	31	200	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10	14	< 10	< 10	< 10	< 10	< 10	12	44	27	12	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	22	< 20	< 20	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	33	< 10	< 10	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Zinc	µg/L	4,700	31,000	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters.
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	AMW-7										AMW-8										
				08/07/13	03/14/13	11/07/12	8/7/2012	05/16/12	02/08/12	11/17/11	08/09/11	05/04/11	02/22/11	08/07/13	03/13/13	11/07/12	8/7/2012	05/16/12	02/09/12	11/18/11	08/09/11	08/11 DUP	05/04/11	05/11 DUP	02/22/11
Field Groundwater Quality Parameters																									
pH	SU	--	--	6.81	6.35	6.21	6.15	6.27	6.10	6.22	6.19	6.18	6.37	7.12	6.66	6.31	6.21	6.47	6.44	6.50	6.43	6.43	6.48	6.48	6.56
Specific Conductance	mMhos	--	--	469	439	364	493	399	292	326	333	468	256	1,096	804	510	575	971	1,389	566	661	661	899	899	810
Temperature	°Celsius	--	--	24.13	16.90	17.93	27.64	22.42	18.00	19.63	22.44	17.68	17.44	23.13	16.52	17.04	22.86	21.58	17.35	20.69	27.16	27.16	17.70	17.70	18.23
Dissolved Oxygen (YSI)	mg/L	--	--	0.59	1.14	7.13	3.99	1.58	5.50	0.53	0.41	0.31	0.78	0.18	3.39	0.50	2.68	0.41	0.94	0.58	0.16	0.16	0.52	0.52	0.29
ORP	mV	--	--	-43.9	34.9	-45.2	5.0	-100.3	16.0	-74.5	142.5	-97.3	-243.5	-56.7	159.1	-49.0	-7.7	-73.9	-40.7	-108.1	138.7	138.7	-433.9	-433.9	-279.2
Turbidity	NTU	--	--	1.72	6.82	10	161	22.3	57.3	511	>1000	452	>999	1.09	5.03	101	83.3	9.2	9.82	308	>1000	>1000	7.06	7.06	381
Laboratory Results - Natural Attenuation Parameters																									
Nitrogen, Nitrate (as N)	mg/L	--	--	--	0.19	--	--	--	0.47	--	--	--	0.22	--	0.28	--	--	--	0.23	--	--	--	--	--	1.0
Sulfate	mg/L	--	--	--	78	--	--	--	27	--	--	--	18	--	120	--	--	--	200	--	--	--	--	--	95
Sulfide	mg/L	--	--	--	1.1	--	--	--	1.6	--	--	--	3.1	--	< 1.0	--	--	--	< 1.0	--	--	--	--	--	5.3
Ferrous Iron	mg/L	--	--	--	1.1 HF	--	--	--	< 0.10 HF	--	--	--	1.4	--	< 0.10 HF	--	--	--	2.5 HF	--	--	--	--	--	< 0.010
Total Iron	mg/L	--	--	--	2.3	--	--	--	1.0	--	--	--	13	--	1.1	--	--	--	4.1	--	--	--	--	--	18
Carbon Dioxide	mg/L	--	--	--	61	--	--	--	1.2	--	--	--	0.74	--	71	--	--	--	2.6	--	--	--	--	--	1.1
Methane	mg/L	--	--	--	19	--	--	--	1.2	--	--	--	100	--	< 0.58	--	--	--	24	--	--	--	--	--	12
Dissolved Nitrogen	mg/L	--	--	--	19	--	--	--	4.7	--	--	--	4.2	--	17	--	--	--	5.2	--	--	--	--	--	3.9
Dissolved Oxygen	mg/L	--	--	--	6.0	--	--	--	1.6	--	--	--	1.5	--	6.9	--	--	--	1.5	--	--	--	--	--	1.3
Laboratory Results - Organic Constituents																									
Volatile Organic Compounds																									
Benzene	µg/L	5*	9	770	180	3,300	870	1,800	8.6	3,600	6,000	3,800	2,300	< 5.0	< 1.0	780	620	110	14	590	600	530	< 50	<25	< 50
Carbon Disulfide	µg/L	329	1,700	< 5.0	<10	< 50	< 50	< 25	--	--	--	--	--	< 5.0	< 2.0	< 100	< 20	< 5.0	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	160	21	1,000	330	730	< 5.0	580	< 500	660	< 500	< 5.0	< 1.0	1,500	810	380	44	950	760	670	130	130	450
Toluene	µg/L	1,000*	1,100	1,500	400	10,000	2,800	5,000	25	7,700	13,000	9,300	5,700	< 5.0	< 1.0	4,600	3,700 D	590	39	2,600	2,400	2,600	240	240	580
Total Xylenes	µg/L	31,000	200,000	690	370	5,200	1,800	2,600	20	3,800	3,700	4,900	2,400	< 5.0	< 2.0	5,100	2,200	780	120	3,100	2,500	2,300	1,400	1,300	3,300
BTEX	µg/L	--	--	**3,120**	**971**	**19,500**	**5,800**	**10,130**	**54**	**15,680**	**22,700**	**18,660**	**10,400**	**bdl**	**bdl**	**11,980**	**7,330**	**1,860**	**217**	**7,240**	**5,660**	**5,570**	**1,770**	**1,670**	**4,330**
Semivolatile Organic Compounds																									
Acenaphthene	µg/L	2,000*	6,100	< 10	2.0	28	21	28	--	--	--	--	--	< 10	< 0.20	32	27	14	--	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	12	5.7	99	69	100	--	--	--	--	--	< 10	< 0.20	48	41	19	--	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 10	0.30	2.8	< 1.9	2.1	--	--	--	--	--	< 10	0.36	4.2	< 2.0	< 2.2	--	--	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.20	< 0.20	< 2.3	< 1.9	< 2.1	--	--	--	--	--	< 0.20	0.21	< 2.4	< 2.0	< 2.2	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.20	< 0.20	< 2.3	< 1.9	< 2.1	--	--	--	--	--	< 0.20	< 0.20	< 2.4	< 2.0	< 2.2	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.20	< 0.20	< 2.3	< 1.9	< 2.1	--	--	--	--	--	< 0.20	< 0.20	< 2.4	< 2.0	< 2.2	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 0.20	< 2.3	< 1.9	< 2.1	--	--	--	--	--	< 10	< 0.20	< 2.4	< 2.0	< 2.2	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 0.20	< 2.3	< 1.9	< 2.1	--	--	--	--	--	< 10	< 0.20	< 2.4	< 2.0	< 2.2	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 0.20	< 2.3	< 1.9	< 2.1	--	--	--	--	--	< 10	0.25	< 2.4	< 2.0	< 2.2	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.20	< 0.20	< 2.3	< 1.9	< 2.1	--	--	--	--	--	< 0.20	< 0.20	< 2.4	< 2.0	< 2.2	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	69	32	540	350	460	--	--	--	--	--	< 10	< 2.0	38	30	< 22	--	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 10	<0.20	2.3	2.2	< 2.1	--	--	--	--	--	< 10	0.30	4.4	3.9	< 2.2	--	--	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	< 10	1.5	20	16	18	--	--	--	--	--	< 10	< 0.20	21	19	7.3	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.20	<0.2	< 2.3	< 1.9	< 2.1	--	--	--	--	--	< 0.20	< 0.20	< 2.4	< 2.0	< 2.2	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	40	42	< 23	75	300	--	--	--	--	--	< 10	< 2.0	< 24	< 20	< 22	--	--	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	62	28	300	150	500	--	--	--	--	--	< 10	< 2.0	< 24	< 20	< 22	--	--	--	--	--	--	--
Naphthalene	µg/L	20*	20*	260	1.8	1,800	380	1,100	6.3	1,100	740 *	1,100	1,300	< 10	< 0.20	2,100	1,600	650	170	1,100	1,700	1,400	680	700	1,800
Phenanthrene	µg/L	470	3,100	< 10	0.73	28	23	19	--	--	--	--	--	< 10	0.54	52	46	20	--	--	--	--	--	--	--
Phenol	µg/L	9,390	61,000	30	37	130	73	390	--	--	--	--	--	< 10	< 0.99	< 12	< 9.9	< 11	--	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	<0.20	3.1	3.1	2.6	--	--	--	--	--	< 10	0.35	5.3	5.7	< 2.2	--	--	--	--	--	--	--
Total SVOCs	µg/L	--	--	**473**	**151**	**2,953**	**1,162**	**2,920**	**6.3**	**1,100**	**740**	**1,100**	**1300**	**bdl**	**2.01**	**2,305**	**1,773**	**710**	**170**	**1,100**	**1,700**	**1,400**	**680**	**700**	**1,800**
BTEX + Total SVOCs	µg/L	--	--	**3,593**	**1,122**	**22,453**	**6,962**	**13,050**	**60**	**16,780**	**23,440**	**19,760**	**11,700**	**bdl**	**2.01**	**14,285**	**9,103**	**2,570**	**387**	**8,340**	**7,360**	**6,970**	**2,450**	**2,370**	**6,130**
Laboratory Results - Inorganic Constituents																									
Antimony	µg/L	6.3	400	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--
Barium	µg/L	2,000	7,200	52.5	29	55	76	35	36	44	53	69	46	59.2	41	140	89	59	87	130	170	95	74	76	92
Beryllium	µg/L	31	200	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10	10	< 10	< 10	< 10	< 10	< 10	18	< 10	< 10.0	< 10	< 10	12	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	34	< 20	< 20	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10	< 10	13	< 10	< 10	< 10	< 10	< 10	< 10	< 10.0	< 10	12	17	< 10	< 10	23	10	20	< 10	< 10	12
Nickel	µg/L	100	2,000	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Zinc	µg/L	4,700	31,000	< 20.0	< 20	20	29	< 20	--	--	--	--	--	< 20.0	< 20	< 20	23	< 20	--	--	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	11	< 10	< 10	< 10	< 10	11	--	--	--	--	--	< 10

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters.
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	AMW-9											AMW-10										AMW-11		AMW-12	
				04/28/15	08/06/13	03/13/13	11/06/12	08/06/12	05/14/12	02/09/12	11/18/11	08/08/11	05/04/11	02/22/11	08/07/13	02/12/13	11/07/12	08/08/12	05/16/12	02/14/12	11/18/11	08/11/11	05/04/11	02/23/11	04/28/15	08/06/13	04/28/15	08/06/13
Field Groundwater Quality Parameters																												
pH	SU	--	--	4.64	4.51	4.92	4.58	5.07	4.71	5.33	4.91	4.48	5.05	5.59	6.41	6.35	6.18	6.09	6.21	5.92	6.38	6.20	6.24	6.44	5.99	7.06	5.41	6.06
Specific Conductance	mMhos	--	--	374	341	317	371	414	398	353	378	474	405	364	726	628	528	676	716	561	541	651	569	378	581	861	389	292
Temperature	°Celsius	--	--	16.87	19.93	17.56	16.78	23.04	23.64	16.88	18.80	23.01	18.63	17.36	22.53	19.54	16.98	23.79	24.20	18.49	15.13	20.61	21.39	20.51	19.31	26.81	19.61	26.11
Dissolved Oxygen (YSI)	mg/L	--	--	0.75	1.27	1.06	1.36	1.76	1.52	5.18	0.50	0.49	0.28	2.73	0.15	1.79	2.38	0.53	0.43	2.70	0.30	0.26	0.62	2.63	2.05	0.27	2.44	0.60
ORP	mV	--	--	-24.7	212.2	1.5	237.0	125.1	167.1	40.8	210.1	357.7	-420.6	160.1	-2.5	-58.9	-71.2	-40.7	-66.0	-40.7	-75.4	162.3	-54.3	-92.3	-30.4	1.5	-31.4	146.4
Turbidity	NTU	--	--	461	230	>4000	37.3	34.6	51.1	34.2	306	125	652	273	3.03	51.3	3.02	131	7.75	18.0	6.05	233	5.12	>999	9.91	1.38	1.4	0.98
Laboratory Results - Natural Attenuation Parameters																												
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	< 0.050	--	--	--	< 0.050	--	--	--	< 0.050	--	< 0.050	--	--	--	< 0.050	--	--	--	< 0.050	--	--	--	--
Sulfate	mg/L	--	--	--	--	91	--	--	--	110	--	--	--	83	--	40	--	--	--	110	--	--	--	62	--	--	--	--
Sulfide	mg/L	--	--	--	--	1.0	--	--	--	< 1.0	--	--	--	< 1.0	--	< 1.0	--	--	--	1.2	--	--	--	< 1.0	--	--	--	--
Ferrous Iron	mg/L	--	--	--	--	< 0.10 HF	--	--	--	0.23 HF	--	--	--	1.0	--	36 HF	--	--	--	16 HF	--	--	--	0.36	--	--	--	--
Total Iron	mg/L	--	--	--	--	14	--	--	--	1.6	--	--	--	1.4	--	59	--	--	--	21	--	--	--	8.9	--	--	--	--
Carbon Dioxide	mg/L	--	--	--	--	110	--	--	--	2.5	--	--	--	1.5	--	200	--	--	--	3200	--	--	--	1.1	--	--	--	--
Methane	mg/L	--	--	--	--	1.7	--	--	--	1.3	--	--	--	14	--	250	--	--	--	< 0.58	--	--	--	35	--	--	--	--
Dissolved Nitrogen	mg/L	--	--	--	--	16	--	--	--	6.6	--	--	--	4.7	--	--	--	--	--	5200	--	--	--	4.1	--	--	--	--
Dissolved Oxygen	mg/L	--	--	--	--	9.4	--	--	--	2.3	--	--	--	1.7	--	3.0	--	--	--	1500	--	--	--	1.4	--	--	--	--
Laboratory Results - Organic Constituents																												
Volatile Organic Compounds																												
Benzene	µg/L	5*	9	< 5.0	< 5.0	< 1.0	3.6	2.7	< 5.0	< 5.0	20	11	22	< 5.0	< 5.0	390	410	670	180	250	170	240	180	110	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	--	--	--	--	--	< 5.0	< 20	< 20	< 20	< 25	--	--	--	--	--	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	1,000	760	1,200	370	290	450	520	410	210	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	20	17	20	< 25	< 25	25	11	13	< 10	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	480	410	440	190	540	300	390	490	200	< 5.0	< 5.0	< 5.0	< 5.0
BTEX	µg/L	--	--	**bdl**	**bdl**	**bdl**	**3.6**	**2.7**	**bdl**	**bdl**	**20**	**11**	**22**	**bdl**	**bdl**	**1,890**	**1,597**	**2,330**	**740**	**1,080**	**945**	**1,161**	**1,093**	**520**	**bdl**	**bdl**	**bdl**	**bdl**
Semivolatile Organic Compounds																												
Acenaphthene	µg/L	2,000*	6,100	< 10	< 10	< 0.19	< 0.22	< 0.22	< 0.21	--	--	--	--	--	< 10	38	52	38	18	--	--	--	--	--	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 10	< 10	< 0.19	< 0.22	< 0.22	0.21	--	--	--	--	--	< 10	15	13	15	3.9	--	--	--	--	--	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31,000	< 10	< 10	< 0.19	< 0.22	< 0.22	0.29	--	--	--	--	--	< 10	2.2	< 1.9	2.4	0.53	--	--	--	--	--	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	<0.050	< 0.20	0.20	0.22	< 0.22	1.8	--	--	--	--	--	< 0.20	< 2.0	< 1.9	< 2.0	< 0.23	--	--	--	--	--	<0.050	< 0.20	<0.050	< 0.20
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	0.29	0.24	0.29	< 0.22	2.0	--	--	--	--	--	< 0.20	< 2.0	< 1.9	< 2.0	< 0.23	--	--	--	--	--	< 0.050	< 0.20	< 0.050	< 0.20
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	0.64	0.39	0.58	< 0.22	3.2	--	--	--	--	--	< 0.20	< 2.0	< 1.9	< 2.0	< 0.23	--	--	--	--	--	< 0.10	< 0.20	< 0.10	< 0.20
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 10	0.39	0.43	0.22	2.1	--	--	--	--	--	< 10	< 2.0	< 1.9	< 2.0	< 0.23	--	--	--	--	--	< 10	< 10	< 10	< 10
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 10	0.37	0.31	< 0.22	< 0.21	--	--	--	--	--	< 10	< 2.0	< 1.9	< 2.0	< 0.23	--	--	--	--	--	< 10	< 10	< 10	< 10
Chrysene	µg/L	117	392	< 10	< 10	0.26	0.35	< 0.22	1.9	--	--	--	--	--	< 10	< 2.0	< 1.9	< 2.0	0.35	--	--	--	--	--	< 10	< 10	< 10	< 10
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.20	< 0.19	< 0.22	< 0.22	< 0.21	--	--	--	--	--	< 0.20	< 2.0	< 1.9	< 2.0	< 0.23	--	--	--	--	--	< 0.10	< 0.20	< 0.10	< 0.20
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 1.9	< 2.2	< 2.2	< 2.1	--	--	--	--	--	< 10	< 20	< 19	< 20	4.1	--	--	--	--	--	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	0.31	0.34	< 0.22	2.9	--	--	--	--	--	< 10	< 2.0	< 1.9	< 2.0	< 0.23	--	--	--	--	--	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 10	< 10	0.48	0.61	< 0.22	0.23	--	--	--	--	--	< 10	17	20	16	6.1	--	--	--	--	--	< 10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	0.44	0.34	0.31	< 0.22	1.5	--	--	--	--	--	< 0.20	< 2.0	< 1.9	< 2.0	< 0.23	--	--	--	--	--	< 0.050	< 0.20	< 0.050	< 0.20
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 1.9	< 2.2	< 2.2	< 2.1	--	--	--	--	--	< 10	< 20	< 19	< 20	< 2.3	--	--	--	--	--	< 10	< 10	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 1.9	< 2.2	< 2.2	< 2.1	--	--	--	--	--	< 10	< 20	< 19	< 20	< 2.3	--	--	--	--	--	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 10	< 10	< 0.19	< 0.22	< 0.22	1.1	7.1	< 5.0	< 5.0 *	< 5.0	< 5.0	< 10	390	690	460	200	510	520	590 *	690	300	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	470	3,100	< 10	< 10	1.3	0.95	0.22	1.4	--	--	--	--	--	< 10	36	31	37	8.8	--	--	--	--	--	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	0.97	< 1.1	< 1.1	< 1.1	--	--	--	--	--	< 10	11	< 9.7	23	12	--	--	--	--	--	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 10	< 10	0.34	0.39	< 0.22	3.3	--	--	--	--	--	< 10	< 2.0	< 1.9	< 2.0	0.23	--	--	--	--	--	< 10	< 10	< 10	< 10
Total SVOCs	µg/L	--	--	**bdl**	**1.37**	**5.6**	**4.78**	**0.44**	**21.9**	**7.1**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**509**	**806**	**591**	**254**	**510**	**520**	**590**	**690**	**300**	**bdl**	**bdl**	**bdl**	**bdl**
BTEX + Total SVOCs	µg/L	--	--	**bdl**	**1.37**	**5.6**	**8.4**	**3.1**	**19.9**	**7.1**	**20**	**11**	**22**	**bdl**	**bdl**	**2,399**	**2,403**	**2,921**	**994**	**1,590**	**1,465**	**1,740**	**1,783**	**820**	**bdl**	**bdl**	**bdl**	**bdl**
Laboratory Results - Inorganic Constituents																												
Antimony	µg/L	6.3	400	< 0.0200	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	< 0.0200	< 20.0	< 0.0200	< 20.0
Arsenic	µg/L	50*	50*	< 0.0500	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	< 0.0500	< 50.0	< 0.0500	< 50.0
Barium	µg/L	2,000	7,200	0.0345	44.9	83	44	40	36	35	97	96	1,400	46	42.3	440	450	810	240	300	220	600	370	170	0.0423	53.6	0.0428	38.5
Beryllium	µg/L	31	200	< 0.0100	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	< 0.0100	< 10.0	< 0.0100	< 10.0
Cadmium	µg/L	7.8	51	< 0.0050	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	< 0.0050	< 5.0	< 0.0050	< 5.0
Chromium	µg/L	100	310	< 0.0100	< 10.0	11	< 10	< 10	< 10	< 10	< 10	< 10	390	< 10	< 10.0	< 10	< 10	34	< 10	< 10	10	90	< 10	< 10	0.177	< 10.0	0.0157	< 10.0
Copper	µg/L	630	4,100	< 0.0100	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	750	< 20	< 10.0	< 20	< 20	20	< 20	< 20	20	< 20	< 20	< 20	< 0.0100	< 10.0	< 0.0100	< 10.0
Lead	µg/L	15*	15*	< 0.0100	< 10.0	20	< 10	< 10	< 10	< 10	< 10	< 10	1,200	< 10	< 10.0	< 10	< 10	20	< 10	< 10	10	120	< 10	< 10	< 0.0100	< 10.0	< 0.0100	< 10.0
Nickel	µg/L	100	2,000	< 0.0200	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	200	< 40	< 20.0	< 40	< 40	< 40	< 40	< 40	40	< 40	< 40	< 40	< 0.0200	< 20.0	< 0.0200	< 20.0
Zinc	µg/L	4,700	31,000	< 0.0200	64.7	98	100	110	100	--	--	--	--	--	< 20.0	32	< 20	32	< 20	--	--	--	--	--	< 0.0200	< 20.0	< 0.0200	< 20.0
Mercury	µg/L	2*	2*	< 0.00020	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	< 0.00020	< 0.20	< 0.00020	< 0.20
Total Cyanide	µg/L	310	2,000	< 0.010	< 10	< 10	16	24	< 10	< 10	--	--	--	< 10	< 10	< 10	28	< 10	< 10	< 10	--	--	--	< 10	0.015	45	< 0.010	< 10

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	AMW-13		AMW-14	AMW-15
				04/28/15	08/06/13	04/29/15	04/29/15
Field Groundwater Quality Parameters							
pH	SU	--	--	5.41	6.75	6.18	6.02
Specific Conductance	mMhos	--	--	415	646	373	158
Temperature	°Celsius	--	--	22.22	27.72	18.46	17.72
Dissolved Oxygen (YSI)	mg/L	--	--	1.75	0.41	1.26	7.96
ORP	mV	--	--	-28.3	83.7	-27.1	39.0
Turbidity	NTU	--	--	9.61	13.7	5.58	24.1
Laboratory Results - Natural Attenuation Parameters							
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--	--
Sulfate	mg/L	--	--	--	--	--	--
Sulfide	mg/L	--	--	--	--	--	--
Ferrous Iron	mg/L	--	--	--	--	--	--
Total Iron	mg/L	--	--	--	--	--	--
Carbon Dioxide	mg/L	--	--	--	--	--	--
Methane	mg/L	--	--	--	--	--	--
Dissolved Nitrogen	mg/L	--	--	--	--	--	--
Dissolved Oxygen	mg/L	--	--	--	--	--	--
Laboratory Results - Organic Constituents							
Volatile Organic Compounds							
Benzene	µg/L	5*	9	< 5.0	< 5.0	< 5.0	57
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	9.3
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	15
BTEX	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**
Semivolatile Organic Compounds							
Acenaphthene	µg/L	2,000*	6,100	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31,000	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	<0.050	< 0.20	< 0.050	< 0.050
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.20	< 0.050	< 0.050
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.20	< 0.10	< 0.10
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 10	< 10	< 10
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 10	< 10	< 10
Chrysene	µg/L	117	392	< 10	< 10	< 10	< 10
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.20	< 0.10	< 0.10
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.20	< 0.050	< 0.050
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 10	< 10	< 10	20
Phenanthrene	µg/L	470	3,100	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 10	< 10	< 10	< 10
Total SVOCs	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**
BTEX + Total SVOCs	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**
Laboratory Results - Inorganic Constituents							
Antimony	µg/L	6.3	400	< 0.0200	< 20.0	< 0.0200	< 0.0200
Arsenic	µg/L	50*	50*	< 0.0500	< 50.0	< 0.0500	< 0.0500
Barium	µg/L	2,000	7,200	0.0488	93.9	0.0925	0.158
Beryllium	µg/L	31	200	< 0.0100	< 10.0	< 0.0100	< 0.0100
Cadmium	µg/L	7.8	51	< 0.0050	< 5.0	< 0.0050	< 0.0050
Chromium	µg/L	100	310	<0.0100	< 10.0	<0.0100	<0.0100
Copper	µg/L	630	4,100	< 0.0100	< 10.0	< 0.0100	< 0.0100
Lead	µg/L	15*	15*	< 0.0100	< 10.0	< 0.0100	< 0.0100
Nickel	µg/L	100	2,000	< 0.0200	< 20.0	< 0.0200	< 0.0200
Zinc	µg/L	4,700	31,000	< 0.0200	< 20.0	< 0.0200	< 0.0200
Mercury	µg/L	2*	2*	< 0.00020	< 0.20	< 0.00020	< 0.00020
Total Cyanide	µg/L	310	2,000	< 0.010	< 10	< 0.010	< 0.010

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-07					MW-08							
				08/06/13	08/13 DUP	02/08/13	08/11/09	03/05/04	04/27/15	08/05/13	02/04/13	02/08/12	02/17/11	02/23/10	08/11/09	12/12/02
Field Groundwater Quality Parameters																
pH	SU	--	--	5.12		5.86	6.59	5.72	5.95	5.08	5.55	5.51	2.19	6.02	5.79	6.10
Specific Conductance	mMhos	--	--	185		191	230	171	271	419	273	262	198	339	481	289
Temperature	°Celsius	--	--	24.16		15.37	25.85	18.88	19.59	25.97	20.01	21.22	17.64	17.89	23.98	23.37
Dissolved Oxygen (YSI)	mg/L	--	--	4.35		6.27	5.75	2.10	3.85	3.29	2.10	2.23	2.00	3.43	2.96	0.24
ORP	mV	--	--	-25.1		130.5	-122.4	97.0	59.2	34.6	186.2	73.2	5.7	73.4	-179.9	-8.2
Turbidity	NTU	--	--	8.62		2.97	1.82	12.9	1.01	0.21	6.62	5.2	78.3	4.31	1.50	1.64
Laboratory Results - Natural Attenuation Parameters																
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.894
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	1.3	0.45	--	--	--	0.26	0.38	0.065	0.091	< 0.050	< 0.0500
Sulfate	mg/L	--	--	--	--	33	59	--	--	--	60	55	35	64	92	27.5
Sulfide	mg/L	--	--	--	--	< 1.0	< 1.0	--	--	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.00
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.169
Total Manganese	mg/L	--	--	--	--	--	--	0.218	--	--	--	--	--	--	--	0.175
Ferrous Iron	mg/L	--	--	--	--	< 0.10 HF	< 0.010	--	--	--	1.3 HF	0.40 HF	0.19 HF	0.29	2.8	4.86
Total Iron	mg/L	--	--	--	--	19	0.16	1.21	--	--	1.8	0.79	1.2	0.99	3.1	4.82
Carbon Dioxide	mg/L	--	--	--	--	120	0.37	--	--	--	110	1800	1.2	1.1	0.77	120
Methane	mg/L	--	--	--	--	< 0.58	<0.19	--	--	--	9.3	1.7	3.3	12	3.7	100
Dissolved Nitrogen	mg/L	--	--	--	--	--	4.4	--	--	--	17	5300	3.9	4.2	4.7	16
Dissolved Oxygen	mg/L	--	--	--	--	6.5	1.6	--	--	--	5.2	1700	1.4	1.5	1.7	7.5
Laboratory Results - Organic Constituents																
Volatile Organic Compounds																
Benzene	µg/L	5.0*	9	< 5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 2.0	--	--	< 5.0	< 5.0	< 2.0	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
BTEX	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Semivolatile Organic Compounds																
Acenaphthene	µg/L	2,000*	6,100	< 10	< 10	16	--	< 10	< 10	< 10	1.3	--	--	--	--	< 10
Acenaphthylene	µg/L	470	3,100	< 10	< 10	13	--	< 10	< 10	< 10	< 0.19	--	--	--	--	< 10
Anthracene	µg/L	4,700	31, 000	< 10	< 10	< 0.20	--	< 10	< 10	< 10	< 0.19	--	--	--	--	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.20	< 0.20	< 0.20	--	--	<0.050	< 0.20	< 0.19	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.20	< 0.20	< 0.20	--	--	< 0.050	< 0.20	< 0.19	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.20	< 0.20	< 0.20	--	--	< 0.10	< 0.20	< 0.19	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 10	< 0.20	--	--	< 10	< 10	< 0.19	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 10	< 0.20	--	--	< 10	< 10	< 0.19	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 10	< 0.20	--	--	< 10	< 10	< 0.19	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.20	< 0.20	< 0.20	--	--	< 0.10	< 0.20	< 0.19	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 10	< 2.0	--	< 10	< 10	< 10	< 1.9	--	--	--	--	< 10
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	1.6	--	< 10	< 10	< 10	< 0.19	--	--	--	--	< 10
Fluorene	µg/L	1,000*	4,100	< 10	< 10	6.0	--	< 10	< 10	< 10	< 0.19	--	--	--	--	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.20	< 0.20	< 0.20	--	--	< 0.050	< 0.20	< 0.19	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 2.0	--	< 10	< 10	< 10	< 1.9	--	--	--	--	< 10
4-Methylphenol	µg/L	78	510	< 10	< 10	< 2.0	--	< 10	< 10	< 10	< 1.9	--	--	--	--	< 10
Naphthalene	µg/L	20*	20*	< 10	< 10	7.8	< 9.8	< 10	< 10	< 10	< 0.19	< 5.0	< 9.4	< 9.4	< 11	< 10
Phenanthrene	µg/L	470	3,100	< 10	< 10	0.48	--	< 10	< 10	< 10	< 0.19	--	--	--	--	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 0.99	--	< 10	< 10	< 10	< 0.97	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	< 10	4.7	--	< 10	< 10	< 10	0.29	--	--	--	--	< 10
Total Semivolatiles	µg/L	--	--	**bdl**	**bdl**	**50**	**bdl**	**bdl**	**bdl**	**bdl**	**1.6**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
BTEX + Total SVOCs	µg/L	--	--	**bdl**	**bdl**	**50**	**bdl**	**bdl**	**bdl**	**bdl**	**1.6**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Laboratory Results - Inorganic Constituents																
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20	--	< 40	< 0.0200	< 20.0	< 20	--	--	--	--	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 20	--	< 50	< 0.0500	< 50.0	< 20	--	--	--	--	< 50
Barium	µg/L	2,000	7,200	31.2	31.4	100	59	39.6	0.0725	61.6	66	69	58	64	0.11	56
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 4.0	--	--	< 0.0100	< 10.0	< 4.0	--	--	--	--	--
Cadmium	mg/L	7.8	51	< 5.0	< 5.0	< 5.0	--	--	< 0.0050	< 5.0	< 5.0	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10	< 10	< 10	< 0.0100	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 20	< 20	< 10	< 0.0100	< 10.0	< 20	< 20	< 20	< 20	< 20	< 10
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10	< 10	< 10	< 0.0100	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 40	< 40	< 20	< 0.0200	< 20.0	< 40	< 40	< 40	< 40	< 40	< 20
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20	--	< 20	< 0.0200	< 20.0	< 20	--	--	--	--	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	--	< 0.5	< 0.00020	< 0.20	< 0.20	--	--	--	--	< 0.5
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 0.010	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters.
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-09																														
				08/06/13	02/07/13	11/07/12	08/09/12	08/12 DUP	05/16/12	02/07/12	11/16/11	08/11/11	05/05/11	02/23/11	11/09/10	08/10/10	05/10/10	02/23/10	08/13/09	06/08/06	03/10/06	12/22/05	09/29/05	03/15/05	12/16/04	10/01/04	06/09/04	03/04/04	12/18/03	09/09/03	06/11/03	03/11/03	12/11/02	09/17/02
Field Groundwater Quality Parameters																																		
pH	SU	--	--	5.35	6.16	6.10	5.97	5.97	--	6.22	4.91	6.09	5.99	6.13	6.04	5.95	5.72	6.03	6.02	6.61	6.44	6.16	6.45	6.47	6.36	6.04	6.52	6.43	6.39	5.37	6.6	6.19	6.23	6.24
Specific Conductance	mMhos	--	--	495	467	476	445	445	--	419	378	518	523	468	479	495	480	482	486	536	494	292	402	431	493	314	561	408	424	477	501	577	399	454
Temperature	°Celsius	--	--	23.01	12.14	20.94	25.47	25.47	--	17.89	18.80	27.19	20.47	20.42	26.10	25.96	20.73	17.67	25.96	23.30	18.72	19.88	24.43	19.15	23.02	24.92	21.32	18.77	20.72	23.76	22.88	18.72	21.69	26.69
Dissolved Oxygen (YSI)	mg/L	--	--	0.67	0.14	0.78	0.60	0.60	--	4.04	0.50	0.22	0.16	0.09	0.08	0.09	0.43	0.60	2.15	0.28	0.44	0.77	0.27	2.66	1.68	0.84	0.11	0.65	0.26	0.29	0.10	0.04	0.18	0.12
ORP	mV	--	--	-29.2	-50.10	-73.3	-21.10	-21.1	--	-30.2	210.1	130.5	-97.4	-62.6	-65.3	-64.9	-57.2	-55.3	-11.5	-92.2	-72.2	9.5	-26.3	-88.4	-81.9	43.4	-108.7	-3.1	-143.3	-87.8	-94	-63.7	-73.4	-60.6
Turbidity	NTU	--	--	1.77	1.06	6.24	4.38	4.38	--	9.85	306	666	1.95	0.41	3.47	5.34	8.51	15.1	2.5	2.74	3.0	3.54	4.27	1.17	2.08	0.05	0.70	2.75	2.20	3.29	1.1	2.8	0.10	3.75
Laboratory Results - Natural Attenuation Parameters																																		
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.57	0.61	< 0.20	0.56	0.78	0.39	0.83	0.429	0.289	0.274	0.280
Nitrogen, Nitrate (as N)	mg/L	--	--	--	< 0.050	--	--	--	--	6.4	--	--	--	< 0.050	--	--	--	< 0.050	<0.25	--	--	--	--	< 0.500	< 0.0500	0.0687	< 0.0500	< 0.500	< 0.0500	< 0.0500	< 0.500	< 0.0500	< 0.0500	0.059
Sulfate	mg/L	--	--	--	< 5.0	--	--	--	--	100	--	--	--	< 5.0	--	--	--	< 5.0	9.0	--	--	--	--	1.29	3.08	35.2	2.63	9.23	24.0	2.17	14.5	83	13.3	12.6
Sulfide	mg/L	--	--	--	< 0.010	--	--	--	--	1.70	--	--	--	< 1.0	--	--	--	< 1.0	< 1.0	--	--	--	--	< 1.0	1.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.00	< 1.00
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.693	0.646	0.131	0.804	0.684	0.655	0.792	0.81	0.916	0.450	0.685
Total Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.696	0.656	0.114	0.783	0.712	0.668	0.804	0.831	0.938	0.462	0.573
Ferrous Iron	mg/L	--	--	--	16 HF	--	--	--	--	< 10	--	--	--	8.2 HF	--	--	--	26	13	--	--	--	--	20.2	17.0	1.0	46.5	28.3	10.7	32.8	14.1	12.8	18.6	16.9
Total Iron	mg/L	--	--	--	44	--	--	--	--	< 10	--	--	--	39	--	--	--	45	37	--	--	--	--	29.0	28.2	0.793	34.9	25.3	16.8	35.0	25.9	11.9	18.3	17.7
Carbon Dioxide	mg/L	--	--	--	170	--	--	--	--	3.3	--	--	--	2.7	--	--	--	2.9	2.3	--	--	--	--	110	130	140	120	130	130	120	140	160	140	160
Methane	mg/L	--	--	--	1300	--	--	--	--	1300	--	--	--	1500	--	--	--	1400	1200	--	--	--	--	2,500	2,200	130	2,200	1,600	570	1,800	1,700	810	1,800	2,200
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	--	--	4.4	--	--	--	3.9	--	--	--	3.3	4.0	--	--	--	--	19	17	16	15	21	17	14	15	19	15	16
Dissolved Oxygen	mg/L	--	--	--	2.9	--	--	--	--	1.5	--	--	--	1.2	--	--	--	0.95	1.2	--	--	--	--	1.8	0.81	1.2	0.46	0.95	1.1	0.53	0.58	0.72	6.0	4.3
Laboratory Results - Organic Constituents																																		
Volatile Organic Compounds																																		
Benzene	µg/L	5*	9	1,300	1,300	1,300	640	1,300 D	1300	980	29	930	1,200	880	910	1,000	1,100	1,000	940	900	980	< 5.0	600	600	830	11	1,100	440	60	410	470	120	830	1,100
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 20	< 50	< 50	< 2.0	< 250	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	2,800	2,200	2,500	1,300	2,700 D	2,600	2,100	170	1,800	2,900	2,100	--	--	--	2,200	2,500	2,000	2,300	13	1,700	1,400	1,800	18	2,900	890	120	390	940	300	1,800	2,200
Toluene	µg/L	1,000*	1,100	790	500	580	290	590 D	580	480	< 5.0	510	680	450	--	--	--	600	460	1,400	1,500	< 5.0	560	640	1,200	< 5.0	1,100	290	25	480	500	23	780	970
Total Xylenes	µg/L	31,000	200,000	5,300	3800	4,600	2,400	4,900 D	4,500	3,800	82	2,600	4,300	3,800	--	--	--	3,700	3,300	4,200	4,800	7.4	2,800	1,900	3,500	18	4,100	490	89	1,600	980	136	1,000	3,600
BTEX	µg/L	--	--	**10,190**	**7,800**	**8,980**	**4,630**	**9,490**	**8,980**	**7,360**	**281**	**5,840**	**9,080**	**7,230**	**910**	**1,000**	**1,100**	**7,500**	**7,200**	**8,500**	**9,580**	**20**	**5,660**	**4,540**	**7,330**	**47**	**9,200**	**2,110**	**294**	**2,880**	**2,890**	**579**	**4,410**	**7,870**
Semivolatile Organic Compounds																																		
Acenaphthene	µg/L	2,000*	6,100	< 10	29	45	36	33	33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	70	64	< 10	87	74	26	93	64	21	45	33
Acenaphthylene	µg/L	470	3,100	52	40	68	52	49	47	--	--	--	--	--	--	--	--	--	--	--	--	--	--	36	51	< 10	47	18	< 10	61	22	< 10	29	30
Anthracene	µg/L	4,700	31,000	< 10	2.4	4.2	3.4	3.9	2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	0.47	< 2.4	< 1.9	< 1.9	< 1.9	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	0.45	< 2.4	< 1.9	< 1.9	< 1.9	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	0.44	< 2.4	< 1.9	< 1.9	< 1.9	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 2.4	< 1.9	< 1.9	< 1.9	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 2.4	< 1.9	< 1.9	< 1.9	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 2.4	< 1.9	< 1.9	< 1.9	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	0.22	< 2.4	< 1.9	< 1.9	< 1.9	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	52	180	210	180	170	140	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15	22	< 10	< 10	< 10	< 10	< 10	< 10	< 10	15	15
Fluoranthene	µg/L	1,000*	4,100	< 10	< 2.4	2.0	< 1.9	< 1.9	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 10	20	30	25	25	22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	26	24	< 10	31	23	< 10	38	23	< 10	15	15
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	0.35	< 2.4	< 1.9	< 1.9	< 1.9	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 24	< 19	58	56	72	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	< 10	< 24	< 19	< 19	< 19	< 21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	2,400	1,400	4,900	2,000 D	2,000 D	2,500	3,700	300	2,100	4,300	3,800	4,000	4,500	3,100	2,000	3,000	1,000	1,400	17	1,300	1,300	2,200	42	2,500	910	180	210	820	290	890	730
Phenanthrene	µg/L	470	3,100	67	45	83	64	73	46	--	--	--	--	--	--	--	--	--	--	--	--	--	--	89	91	< 10	120	84	50	120	91	21	63	43
Phenol	µg/L	9,390	61,000	< 10	20	< 9.7	13	13	26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 10	< 2.4	1.9	2.1	2.2	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total Semivolatiles	µg/L	--	--	**2,573**	**1,736**	**5,344**	**2,434**	**2,425**	**2,888**	**3,700**	**300**	**2,100**	**4,300**	**3,800**	**4,000**	**4,500**	**3,100**	**2,000**	**3,000**	**1,000**	**1,400**	**17**	**1,300**	**1,536**	**2,452**	**42**	**2,785**	**1,109**	**256**	**522**	**1,020**	**332**	**1,057**	**866**
BTEX + Total SVOCs	µg/L	--	--	**12,763**	**9,536**	**14,324**	**7,064**	**11,915**	**11,868**	**11,060**	**500**	**7,940**	**13,380**	**11,030**	**4,910**	**5,500**	**4,200**	**9,500**	**10,200**	**9,500**	**10,980**	**37**	**6,960**	**6,076**	**9,782**	**89**	**11,985**	**3,219**	**550**	**3,402**	**3,910**	**911**	**5,467**	**8,736**
Laboratory Results - Inorganic Constituents																																		
Antimony	µg/L	6.3	40	< 20.0	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	893	790	840	770	760	1,300	36	91	820	700	620	--	--	--	550	360	211	210	59.9	167	155	160	54.7	152	111	97.8	165	122	71.6	113	133
Beryllium	µg/L	31	200	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10	< 10	< 10	< 10	44	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	< 10	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 20	< 20	< 20	< 20	85	< 20	< 20	< 20	< 20	< 20	--	--	--	< 20	< 20	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10.0	< 10	< 10	< 10	< 10	110	< 10	< 10	13	< 10	< 10	--	--	--	< 10	< 10	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	20.5	< 40	< 40	< 40	< 40	44	< 40	< 40	< 40	< 40	< 40	--	--	--	< 40	< 40	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	< 20.0	< 20	28	49	49	2,900	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	--	--	--	< 10	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters.
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-10		MW-11																
				02/06/13	09/17/02	02/07/13	02/08/12	02/17/11	02/23/10	08/12/09	03/15/05	12/15/04	09/30/04	06/08/04	6/04 DUP	03/03/04	12/17/03	09/09/03	06/11/03	03/11/03	12/09/02	09/17/02
Field Groundwater Quality Parameters																						
pH	SU	--	--	5.65	5.72	5.59	5.32	5.49	5.43	5.96	5.43	5.37	5.33	5.64	5.64	5.45	5.52	5.50	5.56	5.40	5.35	5.38
Specific Conductance	mMhos	--	--	287	350	293	322	304	474	330	278	314	324	314	314	273	305	301	300	294	276	294
Temperature	°Celsius	--	--	20.56	23.11	17.27	19.4	16.77	12.92	28.79	19.03	23.03	28.66	24.53	24.53	18.37	22.95	27.51	23.95	19.14	23.37	29.30
Dissolved Oxygen (YSI)	mg/L	--	--	2.33	0.23	2.94	0.67	0.84	0.49	2.48	2.08	4.11	0.35	0.63	0.63	0.38	0.16	0.23	0.25	0.21	0.46	0.07
ORP	mV	--	--	159.8	40.1	187.8	71.1	44.7	20.43	75.4	157.7	242.5	158.6	148.7	148.7	107.8	190.8	21.4	156.3	227.6	273.3	194.4
Turbidity	NTU	--	--	1.79	2.11	4.02	7.76	0.65	0.57	0.00	0.00	4.3	0.00	0.89	0.89	0.23	0.00	0.00	0.00	2.4	0.00	0.16
Laboratory Results - Natural Attenuation Parameters																						
Nitrogen, Ammonia (as N)	mg/L	--	--	--	< 0.200	--	--	--	--	--	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.200	< 0.200	< 0.200	< 0.20
Nitrogen, Nitrate (as N)	mg/L	--	--	0.46	0.207	1.1	0.83	0.59	0.15	< 1.0	1.80	1.07	1.50	1.05	1.1	2.14	1.27	1.44	0.934	1.83	0.896	1.03
Sulfate	mg/L	--	--	72	65.0	95	91	99	120	91	77.2	70.9	83.5	85.9	78.1	78.5	77.9	79.5	49.7	65.5	72.9	65.5
Sulfide	mg/L	--	--	< 1.0	< 1.00	< 1.0	1.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.00	< 1.00
Dissolved Manganese	mg/L	--	--	--	0.0226	--	--	--	--	--	0.326	0.243	0.293	0.335	0.333	0.401	0.310	0.397	0.456	0.422	0.318	0.337
Total Manganese	mg/L	--	--	--	0.0392	--	--	--	--	--	0.327	0.262	0.295	0.339	0.341	0.427	0.320	0.405	0.473	0.431	0.311	0.33
Ferrous Iron	mg/L	--	--	< 0.10 HF	< 0.200	< 0.10 HF	0.17 HF	0.15	< 0.010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.100	< 0.200	< 0.200
Total Iron	mg/L	--	--	< 0.10	0.735	< 0.10	0.13	< 0.010	< 0.010	< 0.1	< 0.1	0.119	< 0.1	< 0.1	< 0.1	< 0.1	< 0.100	< 0.100	0.108	< 0.100	< 0.100	< 0.100
Carbon Dioxide	mg/L	--	--	130	**	130	2.4	1.8	1.8	1.3	160	180	180	170	170	170	170	130	190	180	**	170
Methane	mg/L	--	--	< 0.58	**	< 0.58	< 0.58	77	77	<0.19	0.36	0.88	2.3	0.45	0.64	0.52	1.1	0.62	3.0	0.54	**	0.58
Dissolved Nitrogen	mg/L	--	--	--	**	--	5.2	4.6	4.6	4.1	22	15	14	14	18	18	17	14	14	17	**	15
Dissolved Oxygen	mg/L	--	--	8.5	**	5.8	1.6	1.6	1.6	1.4	2.9	2.4	1.5	1.2	2.1	1.6	2.1	2.6	1.3	1.2	**	7.1
Laboratory Results - Organic Constituents																						
Volatile Organic Compounds																						
Benzene	µg/L	5.0*	9.0	< 1.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1700	< 2.0	--	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 1.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 1.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 2.0	< 5.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
BTEX	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Semivolatile Organic Compounds																						
Acenaphthene	µg/L	2,000*	6,100	< 0.20	< 10	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 0.20	< 10	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31, 000	< 0.20	< 10	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.20	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.20	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.20	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.20	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.20	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 0.20	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.20	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 2.0	< 10	< 2.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 0.20	< 10	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 0.20	< 10	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.20	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 2.0	< 10	< 2.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	< 2.0	< 10	< 2.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 0.20	< 10	0.50	< 5.0	< 5.0	<9.9	<9.4	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	470	3,100	< 0.20	< 10	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 0.98	< 10	< 0.98	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 0.20	< 10	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total Semivolatiles	µg/L	--	--	**bdl**	**bdl**	**0.50**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
BTEX + Total SVOCs	µg/L	--	--	**bdl**	**bdl**	**0.50**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Laboratory Results - Inorganic Constituents																						
Antimony	µg/L	6.3	40	< 20	< 40	< 20	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 20	< 50	< 20	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	47	80	31	30	33	42	36	35.7	38.8	39.7	37.8	37.8	38.8	42	42.7	43.4	41.8	43	46
Beryllium	mg/L	31	200	< 4.0	--	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	--	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 20	< 10	< 20	< 20	< 20	< 20	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 40	< 20	< 40	< 40	< 40	< 40	< 40	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	< 20	< 20	< 20	--	--	--	--	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.5	< 0.20	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters.
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-12																MW-12R				
				08/12/09	06/06/06	03/08/06	12/21/05	09/29/05	03/25/05	12/14/04	10/04/04	06/09/04	03/03/04	12/17/03	09/09/03	06/10/03	03/12/03	12/10/02	09/18/02	11/06/01	02/06/13	02/09/12	02/15/11	2/11 DUP	02/23/10
Field Groundwater Quality Parameters																								
pH	SU	--	--	6.01	3.63	3.61	3.71	3.70	5.13	3.52	3.26	4.33	3.71	3.75	3.75	3.66	3.82	4.61	4.44	5.62	4.05	4.03	4.10	4.10	4.15
Specific Conductance	mMhos	--	--	468	630	667	630	723	497	752	817	690	887	1492	1280	1196	968	617	964	788	642	649	567	567	584
Temperature	°Celsius	--	--	24.75	23.54	19.1	21.44	26.97	19.23	22.21	26.29	22.34	18.30	21.64	25.68	22.44	18.90	22.56	27.83	25.85	19.63	17.49	17.92	17.92	17.34
Dissolved Oxygen (YSI)	mg/L	--	--	4.13	0.20	0.42	0.83	0.26	0.52	2.61	0.67	0.60	0.88	0.24	0.21	0.40	0.11	0.22	0.06	0.22	1.24	1.26	4.12	4.12	0.70
ORP	mV	--	--	-77.1	357.7	361.1	364.6	278.0	333.2	347.0	338.2	283	262.9	275.9	296	309.2	287.1	211.9	208.7	11.0	295.4	54.2	239.0	239.0	312.1
Turbidity	NTU	--	--	7.54	4.97	4.59	0.00[#]	4.82	4.61	2.99	2.17	0.73	1.26	0.24	2.03	0.25	0.90	0.00	7.60	8.42	4.15	8.55	2.26	2.26	1.85
Laboratory Results - Natural Attenuation Parameters																									
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	4.75	5.17	6.35	5.65	8.25	8.37	13.3	10.3	8.26	5.57	8.64	7.23	--	--	--	--	--
Nitrogen, Nitrate (as N)	mg/L	--	--	< 0.050	--	--	--	--	0.503	1.79	4.80	< 0.5	2.99	1.04	< 0.0500	< 0.0500	0.101	< 0.050	0.075	< 0.050	0.64	0.40	0.52	0.51	0.44
Sulfate	mg/L	--	--	--	--	--	--	--	227	161	164	134	517	487	607	378	481	301	457	281	290	270	260	250	230
Sulfide	mg/L	--	--	130	--	--	--	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.00	< 1.00	< 1.00	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	0.889	0.953	1.10	0.923	1.06	1.25	1.60	1.44	1.44	0.950	1.36	0.974	--	--	--	--	--
Total Manganese	mg/L	--	--	--	--	--	--	--	0.820	0.965	1.06	0.891	1.43	1.19	1.62	1.44	1.46	0.945	1.22	1.01	--	--	--	--	--
Ferrous Iron	mg/L	--	--	36	--	--	--	--	10.1	9.4	8.9	34	25.0	30.1	67.6	1.5	47.1	35.5	38.0	21.4	14 HF	15 HF	12 HF	12 HF	9.3
Total Iron	mg/L	--	--	41	--	--	--	--	10.2	10.6	11.3	25.2	29.1	31.0	68.4	46.3	49.5	25.5	43.9	79.6	15	17	13	13	9.8
Carbon Dioxide	mg/L	--	--	0.85	--	--	--	--	180	160	150	170	170	120	130	180	200	210	180	160	110	2.2	1.3	1.3	2.4
Methane	mg/L	--	--	1.7	--	--	--	--	14	6.9	4.3	25	10	16	7.6	21	43	82	33	40	51	79	31	34	36
Dissolved Nitrogen	mg/L	--	--	4.4	--	--	--	--	26	16	15	15	20	18	13	14	18	15	22	11	--	5.6	3.7	4.3	3.9
Dissolved Oxygen	mg/L	--	--	1.5	--	--	--	--	4.6	1.6	2.3	0.81	1.1	1.5	2.4	0.81	0.72	7.2	8.2	0.98	6.3	1.8	1.4	1.5	1.3
Laboratory Results - Organic Constituents																									
Volatile Organic Compounds																									
Benzene	µg/L	5.0*	9.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	5.9	31	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1700.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 2.0	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	12	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 5.0	< 5.0	< 5.0	**6.8**
BTEX	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**5.9**	**43**	**bdl**	**bdl**	**bdl**	**bdl**	**6.8**
Semivolatile Organic Compounds																									
Acenaphthene	µg/L	2,000*	6,100	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.19	--	--	--	--
Acenaphthylene	µg/L	470	3,100	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.19	--	--	--	--
Anthracene	µg/L	4,700	31, 000	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.19	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.19	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.19	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.19	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.19	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.19	--	--	--	--
Chrysene	µg/L	117	392	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.19	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.19	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 1.9	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.19	--	--	--	--
Fluorene	µg/L	1,000*	4,100	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.19	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.19	--	--	--	--
2-Methylphenol	µg/L	780	5,100	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 1.9	--	--	--	--
4-Methylphenol	µg/L	78	510	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 1.9	--	--	--	--
Naphthalene	µg/L	20*	20*	<9.8	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	26	24	< 0.19	5.5	< 5.0	< 5.0	33
Phenanthrene	µg/L	470	3,100	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.19	--	--	--	--
Phenol	µg/L	9,390	61,000	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.97	--	--	--	--
Pyrene	µg/L	1,000*	3,100	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	0.47	--	--	--	--
Total Semivolatiles	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**26**	**24**	**0.47**	**5.5**	**bdl**	**bdl**	**33**
BTEX + Total SVOCs	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**32**	**67**	**0.47**	**5.5**	**bdl**	**bdl**	**40**
Laboratory Results - Inorganic Constituents																									
Antimony	µg/L	6.3	40	--	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 20	--	--	--	--
Arsenic	µg/L	50*	50*	--	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 20	--	--	--	--
Barium	µg/L	2,000	7,200	40	< 20	< 20	22.1	< 20	< 20	< 20	21.0	< 20	< 20	< 20	24.8	< 20	< 20	< 20	35	31	< 10	12	15	15	20
Beryllium	µg/L	31	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 4.0	--	--	--	--
Cadmium	µg/L	7.8	51	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5.0	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 20	21.1	30.5	32.9	29.3	14.5	34.2	39.8	< 10	39.9	21.8	40.5	55.2	26	< 10	18	< 10	< 20	< 20	< 20	< 20	< 20
Lead	µg/L	15*	15*	< 10	< 10	< 10	14.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 40	< 20	24.2	24.5	< 20	< 20	28.8	38.4	< 20	44.5	25.3	36.8	41	32	< 20	< 10	< 20	< 40	< 40	< 40	< 40	< 40
Zinc	µg/L	4,700	31,000	--	--	--	--	--	111	183	246	74.2	320	149	215	254	187	51	107	26	76	--	--	--	--
Mercury	µg/L	2*	2*	--	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.54	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.20	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	12	< 10	< 10	44	18	39	21	33	10	27	19	30	19	74	73	66	66	46

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters.
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-12IR																MW-12I																		
				08/06/13	02/05/13	11/06/12	08/08/12	08/12 DUP	05/15/12	02/09/12	11/15/11	08/09/11	05/03/11	05/11 DUP	02/15/11	11/10/10	08/10/10	05/10/10	02/24/10	08/14/09	06/07/06	06/06 DUP	03/09/06	12/21/05	09/29/05	09/05 DUP	03/16/05	03/05 DUP	12/16/04	10/04/04	10/04 DUP	06/09/04	03/04/04	12/17/03	09/09/03	06/10/03	03/12/03	12/10/02	09/18/02	11/07/01
Field Groundwater Quality Parameters																																						
pH	SU	--	--	5.69	5.75	5.56	5.16	5.16	6.06	5.52	5.64	5.65	5.48	5.48	5.56	5.47	5.65	5.51	5.78	5.98	5.81	5.81	5.65	5.59	5.49	5.49	5.56	5.56	5.49	5.59	5.59	6.08	5.81	5.83	5.81	5.92	5.86	5.79	5.89	5.88
Specific Conductance	mMhos	--	--	634	605	584	593	593	595	564	559	561	532	532	479	497	516	505	506	391	460	460	395	359	407	407	381	381	413	388	388	463	472	750	517	458	482	513	546	482
Temperature	°Celsius	--	--	24.30	21.06	19.07	22.92	22.92	24.91	18.92	24.05	24.57	23.52	23.52	19.85	23.72	25.71	20.70	13.52	27.54	21.93	21.93	21.10	21.98	24.39	24.39	20.77	20.77	23.84	24.82	24.82	21.57	21.05	23.16	24.52	21.94	21.34	23.53	25.2	24.37
Dissolved Oxygen (YSI)	mg/L	--	--	0.76	0.42	0.34	0.21	0.21	0.59	0.21	0.22	0.16	0.23	0.23	1.29	0.19	2.7	0.39	7.04	6.61	0.19	0.19	0.25	0.28	0.15	0.15	0.80	0.80	3.06	2.22	2.22	0.56	0.28	0.26	0.26	0.06	0.09	0.38	0.05	0.25
ORP	mV	--	--	91.6	66.8	101.6	66.5	66.5	31.2	72.6	81.7	212.4	-405.7	-405.7	78.3	93.6	-37.9	98	64.6	-105.3	-71.9	-71.9	-28.3	-94.2	-99.7	-99.7	113.3	113.3	89.9	37.1	37.1	18.7	77.6	-65.2	13.7	-18.5	11.7	20.4	21	-36.7
Turbidity	NTU	--	--	9.20	9.09	0.29	1.72	1.72	8.53	9.59	4.6	9.21	9.60	9.60	9.26	0.49	5.72	9.83	50.7	8.81	0.42	0.42	4.2	0.00*	1.10	1.10	1.09	1.09	0.96	0.73	0.73	1.96	4.95	--	1.10	26.1	4.3	3.2	1.5	6.8
Laboratory Results - Natural Attenuation Parameters																																						
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.14	2.44	3.01	2.57	--	2.44	2.78	2.94	3.41	3.09	2.72	2.51	2.86	2.86
Nitrogen, Nitrate (as N)	mg/L	--	--	--	< 0.050	--	--	--	--	< 0.050	--	--	--	--	< 0.050	--	--	--	< 0.050	< 0.050	--	--	--	--	--	--	0.186	0.139	0.209	0.0732	--	< 0.5	< 0.500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	0.314
Sulfate	mg/L	--	--	--	210	--	--	--	--	190	--	--	--	--	160	--	--	--	140	110	--	--	--	--	--	--	102	103	93.8	112	--	248	134	126	193	110	124	112	140	232
Sulfide	mg/L	--	--	--	< 1.0	--	--	--	--	< 1.0	--	--	--	--	< 1.0	--	--	--	< 1.0	< 1.0	--	--	--	--	--	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.00	< 1.00	< 1.00
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.36	1.40	1.39	1.22	--	1.47	1.44	1.49	1.28	1.32	1.55	1.84	1.76	1.69
Total Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.46	1.46	1.34	1.19	1.26	1.44	1.53	1.46	1.22	1.39	1.61	1.67	1.62	1.75
Ferrous Iron	mg/L	--	--	--	14 HF	--	--	--	--	11 HF	--	--	--	--	9.2 HF	--	--	--	7.5	4.6	--	--	--	--	--	--	10.6	10.5	7.9	7.0	--	30.2	27.1	19.6	25.7	15.6	24.4	37.3	27.6	25.7
Total Iron	mg/L	--	--	--	14	--	--	--	--	14	--	--	--	--	12	--	--	--	32	4.6	--	--	--	--	--	--	9.58	9.39	9.36	6.72	7.33	24.7	25.0	24.4	24.0	67	25.7	27.5	27.9	31.4
Carbon Dioxide	mg/L	--	--	--	100	--	--	--	--	2.3	--	--	--	--	1.4	--	--	--	1.6	0.24	--	--	--	--	--	--	200	200	200	190	--	170	44	160	38	170	180	170	160	160
Methane	mg/L	--	--	--	120	--	--	--	--	240	--	--	--	--	56	--	--	--	65	0.3	--	--	--	--	--	--	48	15	82	63	--	33	3,000	39	0.91	67	90	69	54	62
Dissolved Nitrogen	mg/L	--	--	--	18	--	--	--	--	5.3	--	--	--	--	4.6	--	--	--	3.4	4.5	--	--	--	--	--	--	25	23	15	9.2	--	19	21	18	12	14	17	16	16	12
Dissolved Oxygen	mg/L	--	--	--	6.3	--	--	--	--	1.6	--	--	--	--	1.6	--	--	--	1.2	1.7	--	--	--	--	--	--	5.2	5.6	1.4	7.4	--	0.97	0.85	1.2	2.9	0.60	0.93	6.7	6.0	0.74
Laboratory Results - Organic Constituents																																						
Volatile Organic Compounds																																						
Benzene	µg/L	5*	9	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	1.4	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	140	140	180	460	630	590	26	24	69	21	23	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0	< 5.0	7.1	6.8	6.3	15	23	24	< 5.0	< 5.0	6.2	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0	< 5.0	< 5.0	5.0	5.9	16	22	22	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0	< 5.0	44	44	37	82	110	110	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
BTEX	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**1.4**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**191**	**196**	**229**	**573**	**785**	**746**	**26**	**24**	**75**	**21**	**23**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Semivolatile Organic Compounds																																						
Acenaphthene	µg/L	2,000*	6,100	< 10	14	7.9	15	14	8.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18	18	< 10	15	16	24	22	37	23	17	20	33	27	64
Acenaphthylene	µg/L	470	3,100	< 10	14	7.8	16	15	8.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	52	50	< 10	43	46	71	66	90	60	52	66	100	75	22
Anthracene	µg/L	4,700	31,000	< 10	0.66	0.67	0.8	0.8	0.61	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	0.47	0.62	0.58	0.72	0.72	0.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.20	< 0.19	< 0.23	< 0.19	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.20	< 0.19	< 0.23	< 0.19	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 0.19	< 0.23	< 0.19	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 0.19	< 0.23	< 0.19	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	0.5	0.49	0.56	0.59	0.34	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.20	< 0.19	< 0.23	< 0.19	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 1.9	< 2.3	< 1.9	< 1.9	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 10	11	9.5	11	10	6.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	13	< 10	< 10	12	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	14	27	20	34	33	20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	40	39	< 10	35	38	48	46	69	46	36	43	65	51	41
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.20	< 0.19	< 0.23	< 0.19	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 1.9	< 2.3	< 1.9	< 1.9	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	< 10	< 1.9	< 2.3	< 1.9	< 1.9	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 10	3.4	0.25	0.49	0.46	6.7	18	< 5.0	< 5.0	15	14	6.3	9.1	< 5.0	80	< 9.8	< 9.4	530	580	440	710	810	910	63	66	< 10	57	59	18	< 10	25	< 10	39	46	52	24	22
Phenanthrene	µg/L	470	3,100	< 10	0.97	1.1	1.2	1.1	1.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14	13	< 10	11	12	14	14	20	< 10	11	15	24	15	15
Phenol	µg/L	9,390	61,000	< 10	< 0.97	< 1.2	< 0.97	< 0.96	< 1.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	14	13	15	15	9.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	10	11	13	15	< 10	< 10	12	15	11	< 10
Total Semivolatiles	µg/L	--	--	**14**	**86**	**61**	**95**	**91**	**55**	**18**	**bdl**	**bdl**	**15**	**14**	**6**	**9**	**bdl**	**80**	**bdl**	**bdl**	**530**	**580**	**440**	**710**	**810**	**910**	**187**	**186**	**0.0**	**161**	**181**	**186**	**161**	**269**	**129**	**155**	**202**	**301**	**203**	**164**
BTEX + Total SVOCs	µg/L	--	--	**14**	**86**	**61**	**95**	**92**	**57**	**18**	**bdl**	**bdl**	**15**	**14**	**6**	**9**	**bdl**	**80**	**bdl**	**bdl**	**721**	**776**	**669**	**1,283**	**1,595**	**1,656**	**213**	**210**	**75**	**182**	**204**	**186**	**161**	**269**	**129**	**155**	**202**	**301**	**203**	**164**
Laboratory Results - Inorganic Constituents																																						
Antimony	µg/L	6.3	40	< 20.0	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	31.7	23	25	27	27	25	26	32	30	26	26	27	--	--	--	100	64	164	159	172	206	216	204	69.9	69.5	85.5	77.5	82.8	68.6	70.0	74.8	487	74.9	80.6	76	72	81
Beryllium	µg/L	31	200	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	11	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 10	< 20	< 20	< 20	< 20	--	--	--	< 20	< 20	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	12.3	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 20	< 40	< 40	< 40	< 40	--	--	--	< 40	< 40	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	27.6	21	21	24	23	20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 20	< 20	21.9	27.6	25.5	< 20	25.1	< 20	41.2	96.2	23	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.5	< 0.5	0.05	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	16	28	74	14	16	12	18	--	--	--	--	13	--	--	--	< 10	18	14	13	12	12	< 10	< 10	< 10	< 10	21	11	12	< 10	< 10	< 10	< 10	< 10	< 10	10	< 10

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters.
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-14																			
				02/05/13	02/15/12	02/22/11	02/23/10	08/11/09	06/06/06	03/09/06	12/21/05	09/30/05	3/1505	12/14/04	10/01/04	06/08/04	03/03/04	12/16/03	09/08/03	06/11/03	03/11/03	12/10/02	09/17/02	11/08/01
Field Groundwater Quality Parameters																							
pH	SU	--	--	6.08	6.18	6.27	6.14	6.3	6.20	6.32	6.38	6.25	6.33	7.28	6.20	6.33	6.32	6.46	6.34	6.4	6.43	6.28	6.14	6.32
Specific Conductance	mMhos	--	--	212	184	177	179	241	229	210	198	288	200	258	252	296	172	236	289	269	243	376	380	502
Temperature	°Celsius	--	--	17.04	19.74	17.87	15.20	30.97	22.75	18.28	18.88	26.47	17.93	19.33	26.73	23.39	15.66	19.42	26.43	22.86	17.15	20.85	26.37	24.36
Dissolved Oxygen (YSI)	mg/L	--	--	3.22	2.77	3.62	3.82	4.81	0.33	0.99	3.74	0.68	3.71	0.57	1.32	1.34	4.42	4.35	1.03	1.8	2.66	1.39	0.55	0.24
ORP	mV	--	--	230.1	-36.6	6.3	108	53.9	82.1	79.1	144.3	25.9	141.0	120.5	108.9	91.2	108.2	117.6	3.4	37.2	201.0	79.9	168.9	-23.5
Turbidity	NTU	--	--	1.86	23.70	41.7	9.27	9.09	4.89	9.68	10.56	4.96	9.53	3.15	7.5	5.40	21.6	--	4.02	15.4	17.9	11.4	12.8	8.89
Laboratory Results - Natural Attenuation Parameters																								
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	< 0.20	0.22	< 0.20	0.38	< 0.20	< 0.20	0.33	< 0.200	< 0.200	1.92	1.09	3.59
Nitrogen, Nitrate (as N)	mg/L	--	--	0.81	0.18	0.23	1.0	0.086	--	--	--	--	0.266	< 0.0500	0.121	< 0.0500	1.17	1.42	0.596	0.779	1.63	0.469	1.35	< 0.500
Sulfate	mg/L	--	--	21	71	20	19	22	--	--	--	--	20.8	18.0	22.3	16.5	22.0	22.4	24.7	17.9	25.1	36.2	64.5	25.8
Sulfide	mg/L	--	--	< 1.0	1.4	< 1.0	< 1.0	< 1.0	--	--	--	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.00	< 1.00	< 1.00
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	0.0534	0.0996	0.126	0.355	0.0168	0.367	0.140	0.128	< 0.0050	0.922	0.368	3.02
Total Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	0.0787	0.107	0.136	0.417	0.0308	0.551	0.174	0.231	0.643	1.13	0.347	3.08
Ferrous Iron	mg/L	--	--	< 0.10 HF	3.5 HF	< 0.010	< 0.010	< 0.010	--	--	--	--	< 0.1	0.1	0.1	0.2	< 0.1	< 0.1	0.1	0.1	< 0.100	1.60	0.206	3.47
Total Iron	mg/L	--	--	< 0.10	4.2	1.0	0.59	0.57	--	--	--	--	0.380	0.307	0.320	0.351	0.74	0.795	0.333	1.68	3.87	6.75	1.39	3.06
Carbon Dioxide	mg/L	--	--	54	1.7	0.47	0.50	0.46	--	--	--	--	53	85	75	78	46	50	64	82	60	84	66	120
Methane	mg/L	--	--	1.8	9.7	7.9	<0.19	1.5	--	--	--	--	22	230	48	5.4	0.95	3.9	2.4	10	3.5	40	11	87
Dissolved Nitrogen	mg/L	--	--	20	5.4	4.6	4.1	4.5	--	--	--	--	23	20	16	18	20	18	14	14	17	17	14	13
Dissolved Oxygen	mg/L	--	--	8.6	1.7	1.6	1.5	1.6	--	--	--	--	4.7	3.5	3.0	2.8	4.9	5.9	2.2	1.5	3.7	8.4	5.6	2.0
Laboratory Results - Organic Constituents																								
Volatile Organic Compounds																								
Benzene	µg/L	5.0*	9.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Naphthalene	µg/L	31,000	200,000	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
BTEX	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Semivolatile Organic Compounds																								
Acenaphthene	µg/L	2,000*	6,100	< 0.22	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 0.22	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31, 000	< 0.22	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 2.2	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 0.22	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 0.22	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 2.2	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	< 2.2	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 0.22	< 5.0	< 5.0	< 10	<9.4	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	470	3,100	< 0.22	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 1.1	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 0.22	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total Semivolatiles	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
BTEX + Total SVOCs	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Laboratory Results - Inorganic Constituents																								
Antimony	µg/L	6.3	40	< 20	--	--	--	--	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 20	--	--	--	--	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	90	120	89	83	140	112	98.1	356	156	97.8	119	114	142	83.2	106	121	120	117	171	180	325
Beryllium	µg/L	31	200	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10	< 10	< 10	< 10	< 10	< 10	< 10	17.6	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 20	< 20	< 20	< 20	< 20	< 10	< 10	44.7	< 10	1,640	617	10.2	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	88.8	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 40	< 40	< 40	< 40	< 40	< 20	< 20	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	< 20	--	--	--	--	--	--	--	--	297	126	< 20	22.6	< 20	< 20	< 20	24.3	47	36	< 20	37
Mercury	µg/L	2*	2*	< 0.20	--	--	--	--	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	12	< 10	< 10	43	52	120

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters.
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-14I																					
				02/04/13	02/15/12	02/22/11	02/23/10	08/11/09	06/06/06	03/09/06	12/21/05	09/28/05	03/15/05	12/15/04	09/30/04	07/15/04	06/09/04	03/03/04	12/16/03	09/08/03	06/11/03	03/11/03	03/03 DUP	12/10/02	09/17/02	11/08/01
Field Groundwater Quality Parameters																									
pH	SU	--	--	6.69	5.83	5.87	6.18	5.95	6.24	6.17	6.11	6.31	6.15	7.39	6.15	--	6.10	6.11	6.2	5.15	6.38	6.27	6.27	6.08	6.13	6.17
Specific Conductance	mMhos	--	--	269	250	278	315	423	448	416	401	432	399	417	467	--	463	393	436	421	421	453	453	429	464	461
Temperature	°Celsius	--	--	19.53	19.58	20.67	18.22	26.35	23.02	20.43	22.05	23.40	20.69	22.48	24.15	--	20.95	19.96	21.57	23.43	20.86	20.58	20.58	22.27	23.47	22.61
Dissolved Oxygen (YSI)	mg/L	--	--	0.32	0.85	0.39	1.46	5.67	0.20	0.40	0.42	0.55	1.71	0.19	0.28	--	0.21	0.57	0.22	0.34	0.03	0.09	0.09	0.06	0.16	0.19
ORP	mV	--	--	-56.4	41.2	-9.5	27	-9.9	-37.3	-8.2	-13.6	-5.9	-13.4	-148.1	-59.1	--	-86.6	58.0	-109.2	-79.3	-151.8	***	***	-43.2	-49.9	-79.4
Turbidity	NTU	--	--	3.62	8.23	8.27	1.52	1.41	0.33	1.46	2.54	0.50	1.52	2.82	0.65	--	0.40	2.83	--	1.49	9.72	4.92	4.92	2.30	1.31	9.50
Laboratory Results - Natural Attenuation Parameters																									
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	11.7	12.0	11.5	--	10.6	12.8	11.6	11.4	11.1	12	12.2	10.5	12.2	11.2
Nitrogen, Nitrate (as N)	mg/L	--	--	< 0.050	0.18	< 0.050	0.097	< 0.050	--	--	--	--	< 0.500	< 0.0500	< 0.0500	--	< 0.5	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	0.297
Sulfate	mg/L	--	--	44	18	54	32	41	--	--	--	--	47.3	39.5	39.6	--	73.7	49.0	47.7	32.0	17.2	36.9	39.6	43.2	40.5	31.5
Sulfide	mg/L	--	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	--	--	--	--	< 1.0	< 1.0	< 1.0	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.00	< 1.00	< 1.00
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	1.62	1.53	1.78	--	1.5	1.57	1.77	1.92	1.81	1.76	1.7	1.63	1.66	1.35
Total Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	1.55	1.56	1.78	--	1.51	1.52	1.64	1.95	1.80	1.77	1.87	1.55	1.64	1.88
Ferrous Iron	mg/L	--	--	6.4 HF	< 0.10 HF	3.4	7.5	6.8	--	--	--	--	17.7	12.2	13.5	--	16.7	6.2	6.5	12.6	13.0	12.2	13.4	14.5	14.1	11.1
Total Iron	mg/L	--	--	7.8	0.20	3.9	8.6	16	--	--	--	--	8.89	11.4	12.5	--	11.6	7.15	10.4	12.7	14.9	11.7	12.3	9.94	11.4	12.9
Carbon Dioxide	mg/L	--	--	87	830	1.0	1.5	1.3	--	--	--	--	160	170	160	--	180	160	140	96	160	170	200	170	180	150
Methane	mg/L	--	--	74	2.4	14	82	69	--	--	--	--	320	430	420	--	400	44	340	550	610	470	700	520	650	280
Dissolved Nitrogen	mg/L	--	--	18	5100	4.2	3.1	4.1	--	--	--	--	26	15	16	--	15	17	20	14	14	18	16	16	17	13
Dissolved Oxygen	mg/L	--	--	5.0	1800	1.4	1.0	1.4	--	--	--	--	4.2	1.1	1.2	--	0.44	0.89	3.6	0.53	0.66	2.9	0.55	6.6	6.4	0.79
Laboratory Results - Organic Constituents																									
Volatile Organic Compounds																									
Benzene	µg/L	5.0*	9.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	8.2	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	16	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	10	7.7	< 5.0
Toluene	µg/L	1,000*	1,100	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Naphthalene	µg/L	31,000	200,000	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	5.3	< 5.0	< 5.0
BTEX	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**8.2**	**bdl**	**bdl**	**15**	**7.7**	**bdl**
Semivolatile Organic Compounds																									
Acenaphthene	µg/L	2,000*	6,100	3.4	--	--	--	--	--	--	--	--	38	48	43	< 5.0	24	20	29	38	57	33 J	37 J	35	36	< 10
Acenaphthylene	µg/L	470	3,100	1.2	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	41
Anthracene	µg/L	4,700	31, 000	< 0.19	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.392	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	12	39	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.392	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 1.9	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	0.48	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	0.89	--	--	--	--	--	--	--	--	11	14	11	< 10	< 10	< 10	< 10	< 10	12	< 10	< 10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 1.9	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	< 1.9	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 0.19	< 5.0	< 5.0	< 10	<9.9	< 10	80	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	23	19	21	58	48	24
Phenanthrene	µg/L	470	3,100	< 0.19	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	1.2	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	0.93	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total Semivolatiles	µg/L	--	--	**8.1**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**80**	**bdl**	**bdl**	**49**	**62**	**54**	**bdl**	**24**	**20**	**29**	**38**	**92**	**52**	**58**	**93**	**84**	**65**
BTEX + Total SVOCs	µg/L	--	--	**8.1**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**96**	**bdl**	**bdl**	**49**	**62**	**54**	**bdl**	**24**	**20**	**29**	**38**	**100**	**52**	**58**	**108**	**92**	**65**
Laboratory Results - Inorganic Constituents																									
Antimony	µg/L	6.3	40	< 20	--	--	--	--	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 20	--	--	--	--	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	71	180	180	300	220	276	281	287	301	296	292	339	292	292	277	292	369	343	379	404	314	314	394
Beryllium	µg/L	31	200	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 20	< 20	< 20	< 20	< 20	< 10	< 10	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 40	< 40	< 40	< 40	< 40	< 20	< 20	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	< 20	--	--	--	--	--	--	--	--	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	--	--	--	--	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	14	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters.
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-15																							
				08/12/15	02/17/15	02/06/13	02/13 DUP	02/14/12	02/12 DUP	02/23/11	02/25/10	08/12/09	06/06/06	03/08/06	12/21/05	09/28/05	03/16/05	12/14/04	09/30/04	06/08/04	03/03/04	12/16/03	09/09/03	06/10/03	03/12/03	12/10/02	09/19/02	11/06/01
Field Groundwater Quality Parameters																											
pH	SU	--	--	5.71	5.09	4.64		4.92		5.37	5.56	5.40	5.74	6.06	5.74	5.69	6.20	5.84	6.16	5.95	5.98	5.69	5.77	6.05	6.11	5.80	5.99	5.98
Specific Conductance	mMhos	--	--	0.880	851	1044		938		485	774	987	915	781	795	1165	568	828	650	1,022	1,000	1532	952	717	891	754	934	976
Temperature	°Celsius	--	--	24.28	14.83	16.01		15.57		14.96	11.36	23.86	21.23	17.58	19.02	25.54	16.39	20.03	25.08	21.11	16.63	20.66	24.33	21.06	16.85	20.10	24.28	22.16
Dissolved Oxygen (YSI)	mg/L	--	--	0.18	0.66	0.47		0.39		1.13	0.59	3.07	0.24	0.52	0.79	0.28	1.20	2.97	0.76	1.04	0.69	0.18	0.24	0.34	0.58	1.79	0.10	1.5
ORP	mV	--	--	-18.3	99.7	301.1		73.2		210.3	154.4	-187	192.3	157.2	220.8	-18.1	219.9	233.5	47.9	122.3	106.1	69.1	31.2	118.1	250.3	87.4	6.00	30.0
Turbidity	NTU	--	--	3.28	8.81	1.34		3.95		4.67	9.82	0.46	0.23	1.66	4.98	1.36	4.90	2.6	1.11	1.06	1.49	--	4.45	6.53	17.7	1.82	1.50	9.02
Laboratory Results - Natural Attenuation Parameters																											
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20	15.7	1.54	25.6	5.97	27.8	25.8	8.15	2.62	28.4	37.9	36.0
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	31	30	21	22	4.8	6.9	6.4	--	--	--	--	13.6	10.3	6.93	33.6	35.2	45.2	58.8	38.9	45.9	17.7	0.0654	0.515
Sulfate	mg/L	--	--	--	--	370	370	310	310	310	330	350	--	--	--	--	124	4.83	95.8	248	240	153	116	71.9	100	201	263	281
Sulfide	mg/L	--	--	--	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	--	--	--	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.00	< 1.00	< 1.00
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.58	2.86	0.592	3.95	2.54	3.54	4.23	2.93	1.53	5.52	6.86	7.35
Total Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.40	2.89	0.692	3.99	2.66	3.54	4.32	3.01	1.55	5.42	6.05	7.30
Ferrous Iron	mg/L	--	--	--	--	0.13 HF	0.28 HF	< 0.10 HF	0.11 HF	< 0.010	< 0.010	< 0.010	--	--	--	--	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.100	12.7	22.0	21.7
Total Iron	mg/L	--	--	--	--	0.18	0.18	0.16	0.18	0.12	0.50	< 0.010	--	--	--	--	0.213	0.230	0.159	0.166	0.293	0.104	0.338	0.781	1.89	9.12	21.4	19.9
Carbon Dioxide	mg/L	--	--	--	--	110	99	2.7	2.8	1.7	1.4	1.2	--	--	--	--	140	140	120	180	160	170	170	210	120	190	250	200
Methane	mg/L	--	--	--	--	2.4	2.2	1.8	2.1	<0.58	0.58	<0.19	--	--	--	--	0.77	1.1	3.2	1.4	0.62	1.5	2.2	2.4	1.4	35	93	330
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	5.1	5.3	3.8	4.1	4.3	--	--	--	--	26	21	17	17	18	15	14	14	16	16	16	12
Dissolved Oxygen	mg/L	--	--	--	--	6.6	7.2	1.6	1.7	1.3	1.3	1.6	--	--	--	--	6.8	2.6	4.4	0.97	1.6	1.1	1.8	1.3	3.6	7.5	5.5	1.8
Laboratory Results - Organic Constituents																											
Volatile Organic Compounds																											
Benzene	µg/L	5.0*	9.0	< 5.0	< 5.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1700.0	< 5.0	< 5.0	< 2.0	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
BTEX	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Semivolatile Organic Compounds																											
Acenaphthene	µg/L	2,000*	6,100	< 0.50	< 10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 1.0	< 10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31, 000	0.11	< 10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 0.050	< 10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 10	< 2.1	< 2.1	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 0.10	< 10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 0.10	< 10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 2.1	< 2.1	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	< 10	< 10	< 2.1	< 2.1	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 0.50	< 10	< 0.21	< 0.21	< 5.0	< 5.0	< 5.0	<9.8	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	470	3,100	< 0.050	< 10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 1.1	< 1.1	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 0.050	< 10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total Semivolatiles	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
BTEX + Total SVOCs	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Laboratory Results - Inorganic Constituents																											
Antimony	µg/L	6.3	40	<0.0200	< 20.0	< 20	< 20	--	--	--	--	--	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	<0.0500	< 50.0	< 20	< 20	--	--	--	--	--	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	0.0336	**50**	16	16	19	18	41	49	35	21.8	33.7	28.5	38.7	84.7	38.3	87.3	35.4	80.8	48.7	74.6	105	119	34	34	35
Beryllium	µg/L	31	200	< 0.0100	< 10.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 0.0050	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 0.0100	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 0.0100	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 0.0100	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 0.0200	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	< 0.0200	297	320	330	--	--	--	--	--	--	--	--	--	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.00020	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	0.113	108	120	120	130	130	65	110	150	167	315	121	282	199	355	216	236	403	173	189	51	248	181	276	227

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters.
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-21		MW-23		
				04/30/15	07/12/06	02/13/12	02/24/11	03/05/04
Field Groundwater Quality Parameters								
pH	SU	--	--	5.99	--	6.07	6.16	6.20
Specific Conductance	mMhos	--	--	58	--	287	272	347
Temperature	°Celsius	--	--	16.44	--	19.25	16.63	20.76
Dissolved Oxygen (YSI)	mg/L	--	--	0.98	--	6.32	1.42	1.86
ORP	mV	--	--	-44.1	--	0.5	9.1	42.5
Turbidity	NTU	--	--	14.1	--	3.89	0.56	10.65
Laboratory Results - Natural Attenuation Parameters								
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	0.85	0.75	--
Sulfate	mg/L	--	--	--	--	36	35	--
Sulfide	mg/L	--	--	--	--	< 1.0	< 1.0	--
Dissolved Manganese	mg/L	--	--	--	--	--	--	--
Total Manganese	mg/L	--	--	--	--	--	--	< 0.005
Ferrous Iron	mg/L	--	--	--	--	< 0.10 HF	< 0.010	--
Total Iron	mg/L	--	--	--	--	< 0.10	< 0.010	0.171
Carbon Dioxide	mg/L	--	--	--	--	1.6	1.0	--
Methane	mg/L	--	--	--	--	< 0.58	<0.58	--
Dissolved Nitrogen	mg/L	--	--	--	--	5.0	4.4	--
Dissolved Oxygen	mg/L	--	--	--	--	1.6	1.5	--
Laboratory Results - Organic Constituents								
Volatile Organic Compounds								
Benzene	µg/L	5.0*	9.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Naphthalene	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
BTEX	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Semivolatile Organic Compounds								
Acenaphthene	µg/L	2,000*	6,100	< 10	< 10	--	--	< 10
Acenaphthylene	µg/L	470	3,100	< 10	< 10	--	--	< 10
Anthracene	µg/L	4,700	31, 000	< 10	< 10	--	--	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 10	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 10	--	--	--
Chrysene	µg/L	117	392	< 10	< 0.050	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	--	--	--	< 10
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	--	--	< 10
Fluorene	µg/L	1,000*	4,100	< 10	< 10	--	--	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	--	--	--	< 10
4-Methylphenol	µg/L	78	510	< 10	--	--	--	< 10
Naphthalene	µg/L	20*	20*	< 10	< 10	< 5.0	< 5.0	< 10
Phenanthrene	µg/L	470	3,100	< 10	< 10	--	--	< 10
Phenol	µg/L	9,390	61,000	< 10	--	--	--	< 10
Pyrene	µg/L	1,000*	3,100	< 10	< 10	--	--	< 10
Total Semivolatiles	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Laboratory Results - Inorganic Constituents								
Antimony	µg/L	6.3	40	< 0.0200	< 0.0200	--	--	< 40
Arsenic	µg/L	50*	50*	< 0.0500	< 0.0500	--	--	< 50
Barium	µg/L	2,000	7,200	0.0756	0.0730	74	67	71.8
Beryllium	µg/L	31	200	< 0.0100	< 0.0100	--	--	--
Cadmium	µg/L	7.8	51	< 0.0050	< 0.0050	--	--	--
Chromium	µg/L	100	310	<0.0100	<0.0100	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 0.0100	< 0.0100	< 20	< 20	< 10
Lead	µg/L	15*	15*	< 0.0100	< 0.0100	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 0.0200	< 0.0200	< 40	< 40	< 20
Zinc	µg/L	4,700	31,000	< 0.0200	< 0.0200	--	--	< 20
Mercury	µg/L	2*	2*	< 0.00020	< 0.00020	--	--	< 0.5
Total Cyanide	µg/L	310	2,000	< 0.010	< 0.010	< 10	< 10	< 10

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters.
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-25						
				04/28/15	02/04/13	02/07/12	02/16/11	02/23/10	08/13/09	06/12/03
Field Groundwater Quality Parameters										
pH	SU	--	--	5.16	4.48	5.35	5.45	5.44	5.08	5.33
Specific Conductance	mMhos	--	--	409	342	391	331	398	346	334
Temperature	°Celsius	--	--	20.52	21.08	18.99	19.16	15.26	23.74	21.73
Dissolved Oxygen (YSI)	mg/L	--	--	0.66	0.44	1.01	0.88	3.33	6.63	0.25
ORP	mV	--	--	-31.1	523.5	79.2	447.3	175.9	-76.5	213.5
Turbidity	NTU	--	--	1.3	6.39	1.85	0.80	8.42	2.82	7.09
Laboratory Results - Natural Attenuation Parameters										
Nitrogen, Ammonia (as N	mg/L	--	--	--	--	--	--	--	--	< 0.200
Nitrogen, Nitrate (as N)	mg/L	--	--	--	6.3	< 5.0	4.0	3.3	2.1	2.38
Sulfate	mg/L	--	--	--	89	< 5.0	96	110	95	85.1
Sulfide	mg/L	--	--	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	0.0591
Total Manganese	mg/L	--	--	--	--	--	--	--	--	0.059
Ferrous Iron	mg/L	--	--	--	0.11 HF	37	< 0.010	< 0.010	< 0.1	< 0.1
Total Iron	mg/L	--	--	--	0.15	45	< 0.010	0.24	< 0.1	< 0.1
Carbon Dioxide	mg/L	--	--	--	170	4.2	0.96	2.1	0.74	230
Methane	mg/L	--	--	--	< 0.58	< 0.58	< 0.58	< 0.19	0.21	0.60
Dissolved Nitrogen	mg/L	--	--	--	16	4.1	4.7	3.7	4.2	14
Dissolved Oxygen	mg/L	--	--	--	5.2	0.96	1.6	1.3	1.5	1.3
Laboratory Results - Organic Constituents										
Volatile Organic Compounds										
Benzene	µg/L	5*	9	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 2.0	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
BTEX	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Semivolatile Organic Compounds										
Acenaphthene	µg/L	2,000*	6,100	< 10	< 0.20	--	--	--	--	< 10
Acenaphthylene	µg/L	470	3,100	< 10	< 0.20	--	--	--	--	< 10
Anthracene	µg/L	4,700	31,000	< 10	< 0.20	--	--	--	--	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.20	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.20	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.20	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 0.20	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 0.20	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 0.20	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.20	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 2.0	--	--	--	--	< 10
Fluoranthene	µg/L	1,000*	4,100	< 10	< 0.20	--	--	--	--	< 10
Fluorene	µg/L	1,000*	4,100	< 10	< 0.20	--	--	--	--	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.20	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 2.0	--	--	--	--	< 10
4-Methylphenol	µg/L	78	510	< 10	< 2.0	--	--	--	--	< 10
Naphthalene	µg/L	20*	20*	< 10	< 0.20	< 5.0	< 5.0	<9.5	< 10	< 10
Phenanthrene	µg/L	470	3,100	< 10	0.43	--	--	--	--	< 10
Phenol	µg/L	9,390	61,000	< 10	< 0.99	--	--	--	--	< 10
Pyrene	µg/L	1,000*	3,100	< 10	< 0.20	--	--	--	--	< 10
Total Semivolatiles	µg/L	--	--	**bdl**	**0.43**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
BTEX + Total SVOCs	µg/L	--	--	**bdl**	**0.43**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Inorganic Constituents										
Antimony	µg/L	6.3	40	<0.0200	< 20	--	--	--	--	< 40
Arsenic	µg/L	50*	50*	<0.0500	< 20	--	--	--	--	< 50
Barium	µg/L	2,000	7,200	0.0336	32	820	33	40	32	33
Beryllium	µg/L	31	200	< 0.0100	< 4.0	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 0.0050	< 5.0	--	--	--	--	--
Chromium	µg/L	100	310	<0.0100	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 0.0100	< 20	< 20	< 20	< 20	< 20	< 10
Lead	µg/L	15*	15*	< 0.0100	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 0.0200	< 40	< 40	< 40	< 40	< 40	< 20
Zinc	µg/L	4,700	31,000	0.0470	59	--	--	--	--	28
Mercury	µg/L	2*	2*	< 0.00020	< 0.20	--	--	--	--	< 0.5
Total Cyanide	µg/L	310	2,000	< 0.010	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters.
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-26 02/05/13
Field Groundwater Quality Parameters				
pH	SU	--	--	6.41
Specific Conductance	mMhos	--	--	642
Temperature	°Celsius	--	--	14.36
Dissolved Oxygen (YSI)	mg/L	--	--	0.65
ORP	mV	--	--	-28.2
Turbidity	NTU	--	--	2.02
Laboratory Results - Natural Attenuation Parameters				
Nitrogen, Ammonia (as N	mg/L	--	--	--
Nitrogen, Nitrate (as N)	mg/L	--	--	< 0.050
Sulfate	mg/L	--	--	200
Sulfide	mg/L	--	--	4.5
Dissolved Manganese	mg/L	--	--	--
Total Manganese	mg/L	--	--	--
Ferrous Iron	mg/L	--	--	34 HF
Total Iron	mg/L	--	--	50
Carbon Dioxide	mg/L	--	--	170
Methane	mg/L	--	--	32
Dissolved Nitrogen	mg/L	--	--	18
Dissolved Oxygen	mg/L	--	--	2.0
Laboratory Results - Organic Constituents				
Volatile Organic Compounds				
Benzene	µg/L	5.0*	9	< 1.0
Carbon Disulfide	µg/L	329	1700	< 2.0
Ethylbenzene	µg/L	700*	2,300	< 1.0
Toluene	µg/L	1,000*	1,100	< 1.0
Naphthalene	µg/L	31,000	200,000	< 2.0
BTEX	µg/L	--	--	**bdl**
Semivolatile Organic Compounds				
Acenaphthene	µg/L	2,000*	6,100	< 2.0
Acenaphthylene	µg/L	470	3,100	< 2.0
Anthracene	µg/L	4,700	31, 000	< 2.0
Benzo[a]anthracene	µg/L	1.17	3.92	< 2.0
Benzo[a]pyrene	µg/L	0.2*	0.39	< 2.0
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 2.0
Benzo[g,h,i]perylene	µg/L	10	10	< 2.0
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 2.0
Chrysene	µg/L	117	392	< 2.0
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 2.0
2,4-Dimethylphenol	µg/L	700*	700*	< 20
Fluoranthene	µg/L	1,000*	4,100	< 2.0
Fluorene	µg/L	1,000*	4,100	< 2.0
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 2.0
2-Methylphenol	µg/L	780	5,100	< 20
4-Methylphenol	µg/L	78	510	< 20
Naphthalene	µg/L	20*	20*	< 2.0
Phenanthrene	µg/L	470	3,100	< 2.0
Phenol	µg/L	9,390	61,000	< 9.9
Pyrene	µg/L	1,000*	3,100	< 2.0
Total Semivolatiles	µg/L	--	--	**bdl**
BTEX + Total SVOCs	µg/L	--	--	**bdl**
Laboratory Results - Inorganic Constituents				
Antimony	µg/L	6.3	40	< 20
Arsenic	µg/L	50*	50*	< 20
Barium	µg/L	2,000	7,200	120
Beryllium	µg/L	31	200	< 4.0
Cadmium	µg/L	7.8	51	< 5.0
Chromium	µg/L	100	310	< 10
Copper	µg/L	630	4,100	< 20
Lead	µg/L	15*	15*	< 10
Nickel	µg/L	100	2,000	< 40
Zinc	µg/L	4,700	31,000	< 20
Mercury	µg/L	2*	2*	< 0.20
Total Cyanide	µg/L	310	2,000	< 10

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters.
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-28		
				02/07/13	03/05/04	03/04 DUP
Field Groundwater Quality Parameters						
pH	SU	--	--	6.28	6.73	6.73
Specific Conductance	mMhos	--	--	240	412	412
Temperature	°Celsius	--	--	16.97	17.56	17.56
Dissolved Oxygen (YSI)	mg/L	--	--	1.96	0.42	0.42
ORP	mV	--	--	14.0	-125.5	-125.5
Turbidity	NTU	--	--	8.27	20.2	20.2
Laboratory Results - Natural Attenuation Parameters						
Nitrogen, Ammonia (as N	mg/L	--	--	--	--	--
Nitrogen, Nitrate (as N)	mg/L	--	--	0.12	--	--
Sulfate	mg/L	--	--	15	--	--
Sulfide	mg/L	--	--	< 1.0	--	--
Dissolved Manganese	mg/L	--	--	--	--	--
Total Manganese	mg/L	--	--	--	6.11	6.14
Ferrous Iron	mg/L	--	--	9.2 HF	--	--
Total Iron	mg/L	--	--	10	34.3	35.6
Carbon Dioxide	mg/L	--	--	72.0	--	--
Methane	mg/L	--	--	82	--	--
Dissolved Nitrogen	mg/L	--	--	--	--	--
Dissolved Oxygen	mg/L	--	--	6.6	--	--
Laboratory Results - Organic Constituents						
Volatile Organic Compounds						
Benzene	µg/L	5.0*	9	< 1.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 2.0	--	--
Ethylbenzene	µg/L	700*	2,300	< 1.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 1.0	< 5.0	< 5.0
Naphthalene	µg/L	31,000	200,000	< 2.0	< 5.0	< 5.0
BTEX	µg/L	--	--	**bdl**	**bdl**	**bdl**
Semivolatile Organic Compounds						
Acenaphthene	µg/L	2,000*	6,100	< 0.19	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 0.19	< 10	< 10
Anthracene	µg/L	4,700	31, 000	< 0.19	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.19	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.19	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.19	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.19	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.19	--	--
Chrysene	µg/L	117	392	< 0.19	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.19	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 1.9	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 0.19	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 0.19	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.19	--	--
2-Methylphenol	µg/L	780	5,100	< 1.9	< 10	< 10
4-Methylphenol	µg/L	78	510	< 1.9	< 10	< 10
Naphthalene	µg/L	20*	20*	< 0.19	< 10	< 10
Phenanthrene	µg/L	470	3,100	< 0.19	< 10	< 10
Phenol	µg/L	9,390	61,000	< 0.97	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 0.19	< 10	< 10
Total Semivolatiles	µg/L	--	--	**bdl**	**bdl**	**bdl**
BTEX + Total SVOCs	µg/L	--	--	**bdl**	**bdl**	**bdl**
Laboratory Results - Inorganic Constituents						
Antimony	µg/L	6.3	40	< 20	< 40	< 40
Arsenic	µg/L	50*	50*	< 20	< 50	< 50
Barium	µg/L	2,000	7,200	82	115	115
Beryllium	µg/L	31	200	< 4.0	--	--
Cadmium	µg/L	7.8	51	< 5.0	--	--
Chromium	µg/L	100	310	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 20	< 10	< 10
Lead	µg/L	15*	15*	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 40	< 20	< 20
Zinc	µg/L	4,700	31,000	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters.
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-101																							
				08/13/15	02/18/15	08/07/13	08/13 DUP	02/07/13	02/13 DUP	11/07/12	11/12 DUP	08/09/12	05/16/12	05/12 DUP	02/09/12	02/12 DUP	11/16/11	11/11 DUP	08/10/11	08/11 DUP	05/04/11	02/24/11	11/10/10	11/10 DUP	08/10/10	05/11/10	05/11 DUP	02/25/10
Field Groundwater Quality Parameters																											
pH	SU	--	--	5.87	5.38	5.56		5.08		6.23		6.11	6.17		5.6		5.84		6.54		4.84	6.15	6.29		6.01	6.12		5.92
Specific Conductance	mMhos	--	--	0.534	490	498		814		1049		1125	976		828		997		1.185		404	696	954		958	948		720
Temperature	°Celsius	--	--	27.35	13.50	23.36		14.94		21.1		25.58	23.62		17.07		26.14		23.85		20.26	17.84	23.54		28.39	18.57		12.69
Dissolved Oxygen (YSI)	mg/L	--	--	0.19	1.57	0.41		0.78		0.59		0.66	0.81		2.89		0.61		1.19		0.89	1.29	0.21		0.30	0.68		0.95
ORP	mV	--	--	-23.1	125.0	-123.0		200.8		3.6		-6.1	28.2		4.3		29.4		-73.3		173.2	-19.8	-79.4		-3.3	-21.0		47.7
Turbidity	NTU	--	--	4.65	9.50	7.07		1.05		18.9		3.80	3.16		8.35		155		4.02		2.44	9.98	3.3		3.14	5.17		91.30
Laboratory Results - Natural Attenuation Parameters																											
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--	--	69	69	--	--	--	--	--	69	72	--	--	--	--	--	3.4	--	--	--	--	6.6
Sulfate	mg/L	--	--	--	--	--	--	120	120	--	--	--	--	--	170	160	--	--	--	--	--	280	--	--	--	--	210
Sulfide	mg/L	--	--	--	--	--	--	< 1.0	< 1.0	--	--	--	--	--	< 1.0	< 1.0	--	--	--	--	--	5.9	--	--	--	--	< 1.0
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ferrous Iron	mg/L	--	--	--	--	--	--	5.5 HF	5.6 HF	--	--	--	--	--	2.8 HF	2.4 HF	--	--	--	--	--	10	--	--	--	--	5.6
Total Iron	mg/L	--	--	--	--	--	--	5.6	5.5	--	--	--	--	--	3.2	3.1	--	--	--	--	--	12	--	--	--	--	14
Carbon Dioxide	mg/L	--	--	--	--	--	--	76	69	--	--	--	--	--	1.3	1.3	--	--	--	--	--	0.62	--	--	--	--	1.3
Methane	mg/L	--	--	--	--	--	--	3.5	3.4	--	--	--	--	--	10	11	--	--	--	--	--	61	--	--	--	--	1400
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	5.8	4.9	--	--	--	--	--	4.7	--	--	--	--	3.7
Dissolved Oxygen	mg/L	--	--	--	--	--	--	7.2	12	--	--	--	--	--	2.3	1.5	--	--	--	--	--	1.5	--	--	--	--	1.2
Laboratory Results - Organic Constituents																											
Volatile Organic Compounds																											
Benzene	µg/L	5*	9	< 5.0	49	< 5.0	< 5.0	25	20	27	26	51	43	44	25	26	24	20	65	74	19	120	150	150	130	140	130	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 5.0	9.6	5.9	5.0	5.6	12	8.7	8.3	11	9.9	7.9	6.9	<25	<25	6.7	61	--	--	--	--	--	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	6.9	< 5.0	< 5.0	14	9.3	< 1.0	< 1.0	< 1.0	15	15	6.4	6.1	< 5.0	< 5.0	<25	<25	7.8	64	--	--	--	--	--	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	18	< 5.0	< 5.0	18	12	< 2.0	< 2.0	9.9	32	31	9.6	8.3	< 5.0	< 5.0	<25	<25	12	88	--	--	--	--	--	< 5.0
BTEX	µg/L	--	--	**bdl**	**74**	**bdl**	**bdl**	**67**	**47**	**32**	**32**	**73**	**99**	**98**	**52**	**50**	**32**	**27**	**65**	**74**	**46**	**333**	**150**	**150**	**130**	**140**	**130**	**bdl**
Semivolatile Organic Compounds																											
Acenaphthene	µg/L	2,000*	6,100	11	< 10	< 10	< 10	11	7.0	17	16	19	18	26	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	5	< 10	< 10	< 10	3.8	2.2	4.7	4.4	6.8	7.1	9.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	0.78	< 10	< 10	< 10	0.77	0.40	0.81	0.97	< 0.20	0.65	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 10	< 10	< 10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 10	< 10	< 10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 0.050	< 10	< 10	< 10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	1.2	< 10	< 10	< 10	0.59	0.34	1.3	1.4	1.5	0.55	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	9.5	< 10	< 10	< 10	13	8.1	12	13	22	15	22	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	µg/L	20*	20*	< 0.50	310	< 10	< 10	290	180	4.1	3.2	170 D	490	410	120	100	14	16	1100	1300	160	1700	1100	840	1900	770	990	<9.4
Phenanthrene	µg/L	470	3,100	0.28	< 10	< 10	< 10	5.4	3.1	8.7	9.5	16	4.8	7.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	1.4	< 0.99	< 0.99	< 0.99	< 0.98	0.99	< 11	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	0.92	< 10	< 10	< 10	0.44	0.35	1.1	1.1	1.1	0.38	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Semivolatiles	µg/L	--	--	**29**	**310**	**bdl**	**bdl**	**326**	**201**	**50**	**50**	**236**	**537**	**475**	**120**	**100**	**14**	**16**	**1100**	**1300**	**160**	**1700**	**1100**	**840**	**1900**	**770**	**990**	**bdl**
BTEX + Total SVOCs	µg/L	--	--	**#VALUE!**	**384**	**bdl**	**bdl**	**393**	**249**	**82**	**81**	**309**	**636**	**573**	**172**	**150**	**46**	**43**	**1165**	**1374**	**206**	**2033**	**1250**	**990**	**2030**	**910**	**1120**	**bdl**
Inorganic Constituents																											
Antimony	µg/L	6.3	40	< 0.0200	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 0.0500	< 50.0	< 50.0	< 50.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Barium	µg/L	2,000	7,200	0.0453	76.7	126	132	150	150	20	18	20	82	79	270	290	33	38	22	22	47	35	--	--	--	--	--	74
Beryllium	µg/L	31	200	< 0.0100	< 10.0	< 10.0	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 0.0050	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 0.0100	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	--	--	< 10
Copper	µg/L	630	4,100	< 0.0100	< 10.0	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	< 20
Lead	µg/L	15*	15*	< 0.0100	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	--	--	< 10
Nickel	µg/L	100	2,000	< 0.0200	< 20.0	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--	--	--	--	< 40
Zinc	µg/L	4,700	31,000	< 0.0200	26.3	78.5	50.6	190	180	< 20	< 20	< 20	53	53	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.00020	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	0.039	30	40	21	110	110	230	190	160	55	100	83	60	--	--	--	--	--	140	--	--	--	--	--	71

Notes:
bdl - below detection limt
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters.
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-101 (Continued)																							
				08/13/09	06/08/06	03/10/06	12/22/05	09/30/05	03/14/05	03/05 DUP	12/15/04	12/04 DUP	10/01/04	10/04 DUP	06/10/04	03/04/04	03/04 DUP	12/16/03	12/03 DUP	09/09/03	09/03 DUP	06/10/03	06/03 DUP	03/12/03	12/11/02	09/19/02	09/02 DUP
Field Groundwater Quality Parameters																											
pH	SU	--	--	6.4	6.45	6.45	6.48	6.65	6.42	6.42	6.38	6.38	6.37	6.37	6.81	6.81	6.81	6.46	6.46	6.61	6.61	6.68	6.68	6.57	6.35	6.36	6.36
Specific Conductance	mMhos	--	--	1191	634	772	732	756	664	664	793	793	820	820	841	740	740	1,114	1,114	610	610	591	591	743	726	757	757
Temperature	°Celsius	--	--	31.69	21.71	18.15	20.96	26.36	18.04	18.04	22.48	22.48	25.85	25.85	21.74	18.65	18.65	22.16	22.16	25.38	25.38	21.86	21.86	20.03	22.88	27.31	27.31
Dissolved Oxygen (YSI)	mg/L	--	--	5.37	0.13	0.30	0.37	0.06	2.61	2.61	1.58	1.58	0.34	0.34	0.74	0.38	0.38	0.22	0.82	0.15	0.15	0.02	0.02	0.10	0.06	0.02	0.02
ORP	mV	--	--	-85.3	-75.9	-75.0	-99.9	-99.1	-70.9	-70.9	-103.1	-103.1	-101.4	-101.4	-85.2	-147.3	-147.3	-161.2	-161.2	-125.8	-125.8	-128	-128	-96.1	-87.3	-88.6	-88.6
Turbidity	NTU	--	--	3.79	1.79	4.36	3.60	4.34	2.90	2.90	5.1	5.1	0.68	0.68	1.80	4.64	4.64	--	--	3.59	3.59	13.9	13.9	7.95	31.7	10.5	10.5
Laboratory Results - Natural Attenuation Parameters																											
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	24.5	23.6	23.1	20.2	21.4	23.2	22.4	19.2	22.2	19.9	22.8	21.4	21.4	22.8	22.4	27.9	29.8	35.8	33.7
Nitrogen, Nitrate (as N)	mg/L	--	--	6.5	--	--	--	--	0.514	0.478	0.337	0.341	1.31	1.01	< 0.5	< 0.500	< 0.0500	0.0384	0.0686	0.306	0.330	< 0.500	< 0.500	0.224	0.113	< 0.0500	< 0.0500
Sulfate	mg/L	--	--	340	--	--	--	--	75.1	73.9	121	124	130	131	212	111	118	79.0	75.5	50.2	36.8	25.1	24.1	35.1	40.3	48.8	48.2
Sulfide	mg/L	--	--	< 1.0	--	--	--	--	< 1.0	< 1.0	1.0	1.0	2.9	4.5	5.8	2.8	2.4	2.8	3.0	< 1.0	2.3	< 1.0	< 1.0	< 1.0	< 1.00	< 1.00	< 1.00
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	1.68	1.68	1.44	1.45	1.46	1.49	1.64	1.63	1.62	1.47	1.48	1.38	1.33	1.53	1.56	2.35	1.89	2.12	2.15
Total Manganese	mg/L	--	--	--	--	--	--	--	1.72	1.65	1.47	1.51	1.45	1.42	1.72	1.7	1.79	1.53	1.55	1.42	1.44	1.67	1.69	2.34	2.07	1.94	1.99
Ferrous Iron	mg/L	--	--	14	--	--	--	--	37.5	37.4	31.9	32.8	21.5	22.3	11.7	59.4	31.3	20.2	19.5	29.1	29.8	16.0	15.0	34.9	34.0	28.6	27.7
Total Iron	mg/L	--	--	28	--	--	--	--	36.5	35.4	29.6	29.8	30.0	29.5	42.7	36.2	37.6	34.0	34.8	30.9	31.2	34.0	34.4	36.7	35.5	31.4	33
Carbon Dioxide	mg/L	--	--	0.41	--	--	--	--	160	170	150	140	120	110	75	99	98	100	100	110	110	120	120	180	220	200	220
Methane	mg/L	--	--	0.49	--	--	--	--	170	150	210	300	190	200	250	300	280	340	390	230	54	390	400	390	280	250	300
Dissolved Nitrogen	mg/L	--	--	4.8	--	--	--	--	25	25	18	19	16	15	17	23	21	14	16	15	13	15	14	20	14	12	14
Dissolved Oxygen	mg/L	--	--	1.7	--	--	--	--	2.5	2.9	1.8	0.68	0.60	0.53	0.55	0.89	0.87	0.67	0.22	1.5	1.8	0.59	0.54	0.58	5.0	2.6	3.1
Laboratory Results - Organic Constituents																											
Volatile Organic Compounds																											
Benzene	µg/L	5.0*	9	27	< 5.0	< 5.0	< 5.0	7.0	< 5.0	< 5.0	41	40	440	440	1,200	160	150	100	97	350	330	51	51	48	77	100	100
Ethylbenzene	µg/L	700*	2,300	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	5.1	< 5.0	71	74	250	25	24	11	11	30	27	15	15	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	130	130	670	17	16	< 5.0	5.7	22	19	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Naphthalene	µg/L	31,000	200,000	19	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	82	91	400	20	19	8.6	8.7	39	36	11	11	< 5.0	< 5.0	< 5.0	< 5.0
BTEX	µg/L	--	--	**46**	**bdl**	**bdl**	**bdl**	**7.0**	**bdl**	**bdl**	**46**	**40**	**723**	**735**	**2,520**	**222**	**209**	**120**	**122**	**441**	**412**	**77**	**77**	**48**	**77**	**100**	**100**
Semivolatile Organic Compounds																											
2,4-Dimethylphenol	µg/L	700*	700*	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	12	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
2-Methylphenol	µg/L	780	5,100	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	23	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	39	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthene	µg/L	2,000*	6,100	--	--	--	--	--	27	26	29	30	26	26	45	30	32	32	34	32	31	26	25	31	31	23	26
Acenaphthylene	µg/L	470	3,100	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	14	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31, 000	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	--	--	--	--	--	21	21	15	15	< 10	< 10	< 10	< 10	< 10	14	15	14	< 10	20	20	32	32	33	34
Naphthalene	µg/L	20*	20*	450	< 10	< 10	< 10	< 10	< 10	< 10	10	11	700	850	3,600	400	450	160	170	390	420	340	370	< 10	49	130	64
Phenanthrene	µg/L	470	3,100	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	49	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total Semivolatiles	µg/L	--	--	**450**	**bdl**	**bdl**	**bdl**	**bdl**	**48**	**47**	**54**	**56**	**726**	**876**	**3,720**	**430**	**482**	**206**	**219**	**436**	**451**	**386**	**415**	**63**	**112**	**186**	**124**
BTEX + Total SVOCs	µg/L	--	--	**496**	**bdl**	**bdl**	**bdl**	**7.0**	**48**	**47**	**100**	**96**	**1449**	**1611**	**6240**	**652**	**691**	**326**	**341**	**877**	**863**	**463**	**492**	**111**	**189**	**286**	**224**
Laboratory Results - Inorganic Constituents																											
Antimony	µg/L	6.3	40	--	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	--	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	76	79.7	101	81.1	84.0	72.3	70.3	68.7	68.2	74.9	73.6	88	109	114	110	110	108	109	91.1	91.7	99	124	111	117
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 20	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Mercury	µg/L	2*	2*	--	--	--	--	--	< 0.2	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	µg/L	100	2,000	< 40	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	20	< 20	< 20
Zinc	µg/L	4,700	31,000	--	--	--	--	--	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	20	< 20	< 20
Total Cyanide	µg/L	310	2,000	130	67	77	15	58	81	86	112	114	55	50	107	64	71	98	97	50	52	19	24	43	55	97	84

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters.
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-102																														
				08/11/15	02/18/15	08/06/13	02/05/13	11/06/12	08/07/12	05/15/12	02/13/12	11/15/11	08/10/11	05/04/11	02/24/11	11/10/10	08/10/10	05/11/10	02/25/10	08/12/09	06/06/06	03/08/06	12/20/05	09/28/05	03/16/05	12/14/04	09/30/04	06/08/04	03/03/04	12/16/03	09/10/03	06/10/03	03/12/03	12/11/02***	09/19/02
Field Groundwater Quality Parameters																																		
pH	SU	--	--	5.89	6.49	5.93	6.54	6.53	5.5	5.95	6.54	5.77	6.08	6.07	6.41	6.06	6.25	6.61	6.66	5.93	5.93	6.20	6.64	6.17	6.34	6.24	6.79	6.33	6.34	6.3	6.4	6.69	6.98	NM	6.34
Specific Conductance	mMhos	--	--	0.888	451	706	824	575	645	739	711	594	472	414	322	253	300	320	246	749	302	341	312	277	308	358	361	463	450	705	561	525	616	NM	799
Temperature	°Celsius	--	--	27.50	13.84	24.87	20.69	20.89	26.12	23.47	16.77	23.72	27.53	20.58	16.6	22.19	25.33	19.87	12.47	30.10	22.76	17.74	19.58	26.38	15.74	20.28	26.12	22.74	16.35	20.69	25.3	22.39	17.59	NM	25.75
Dissolved Oxygen (YSI)	mg/L	--	--	0.98	5.83	1.71	0.51	1.75	0.81	2.20	1.56	0.97	0.92	0.90	2.03	0.50	3.0	0.8	5.85	2.69	0.29	0.59	0.44	0.20	0.63	3.14	1.28	8.10[2]	0.55	0.23	0.40	0.06	0.12	NM	0.50
ORP	mV	--	--	-15.6	81.0	-114.2	151.3	76.5	160.4	88.4	58.1	191.3	79.1	123.5	142.8	69.7	55.8	22.4	88	-160.1	45.1	135.2	-30.9	-77.8	-59.1	16.9	-100.2	52.2	56.4	-62.9	-75.5	-206.5	-124.5	NM	2.4
Turbidity	NTU	--	--	9.62	9.52	2.24	0.42	6.17	16.4	4.62	2.04	41.1	11.6	4.76	5.05	0.12	2.42	7.12	5.21	3.45	0.21	0.02	1.58	2.71	2.50	2.2	0.2	109.2	1.96	--	1.87	5.15	4.65	NM	18.0
Laboratory Results - Natural Attenuation Parameters																																		
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.59	0.32	1.07	1.84	1.95	1.72	4.71	3.80	5.21	8.85	14.5
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--	0.13	--	--	--	0.26	--	--	--	0.064	--	--	--	7.4	0.81	--	--	--	--	0.134	0.459	0.517	0.43	5.51	0.412	< 0.0500	< 0.500	< 0.0500	2.47	0.114
Sulfate	mg/L	--	--	--	--	--	350	--	--	--	220	--	--	--	66	--	--	--	29	220	--	--	--	--	51.5	4.83	30.4	81.7	78.3	50.0	104	71.9	94.1	183	105
Sulfide	mg/L	--	--	--	--	--	< 1.0	--	--	--	< 1.0	--	--	--	< 1.0	--	--	--	< 1.0	< 1.0	--	--	--	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.00	< 1.00
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.66	1.75	0.778	0.827	1.84	0.255	1.72	1.43	1.74	1.22	1.14
Total Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.59	1.82	0.826	0.651	2.03	0.223	1.74	1.41	1.92	1.24	0.968
Ferrous Iron	mg/L	--	--	--	--	--	< 0.10 HF	--	--	--	< 0.10 HF	--	--	--	< 0.010	--	--	--	0.12	< 0.010	--	--	--	--	3.0	0.6	1.1	0.2	2.6	0.4	15.2	9.4	9.02	0.133	3.72
Total Iron	mg/L	--	--	--	--	--	0.11	--	--	--	< 0.10	--	--	--	0.13	--	--	--	0.6	0.57	--	--	--	--	2.60	0.915	1.24	10.2	3.79	0.515	15.8	8.97	7.93	4.94	6.83
Carbon Dioxide	mg/L	--	--	--	--	--	37	--	--	--	0.97	--	--	--	0.78	--	--	--	0.45	1.1	--	--	--	--	100	83	49	160	120	98	120	90	49	81	150
Methane	mg/L	--	--	--	--	--	< 0.58	--	--	--	< 0.58	--	--	--	3.5	--	--	--	15	0.23	--	--	--	--	180	74	23	7.1	0.87	2.5	7.8	150	110	14	27
Dissolved Nitrogen	mg/L	--	--	--	--	--	19	--	--	--	5.0	--	--	--	4.5	--	--	--	3.9	4.4	--	--	--	--	26	15	16	16	22	16	13	15	21	15	16
Dissolved Oxygen	mg/L	--	--	--	--	--	7.8	--	--	--	1.6	--	--	--	1.5	--	--	--	1.4	1.5	--	--	--	--	6.5	1.4	1.9	0.92	1.1	1.6	0.47	0.48	0.69	7.5	6.7
Laboratory Results - Organic Constituents																																		
Volatile Organic Compounds																																		
Benzene	µg/L	5*	9	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
BTEX	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Semivolatile Organic Compounds																																		
Acenaphthene	µg/L	2,000*	6,100	< 0.50	< 10	< 10	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 1.0	< 10	< 10	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31,000	< 0.050	< 10	< 10	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.20	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.20	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.20	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 10	< 10	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 10	< 10	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 0.050	< 10	< 10	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.20	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 2.5	< 2.0	< 1.9	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 0.10	< 10	< 10	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 0.10	< 10	< 10	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.20	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 2.5	< 2.0	< 1.9	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 2.5	< 2.0	< 1.9	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 0.50	< 10	< 10	< 0.25	1.2	< 0.19	< 0.22	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<9.8	<9.8	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	37
Phenanthrene	µg/L	470	3,100	< 0.050	< 10	< 10	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 1.2	< 0.99	< 0.95	< 1.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	11	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 0.050	< 10	< 10	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total Semivolatiles	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**1.2**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**11**	**bdl**	**37**
BTEX + Total SVOCs	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**1.2**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**11**	**bdl**	**37**
Inorganic Constituents																																		
Antimony	µg/L	6.3	40	< 0.0200	< 20.0	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 0.0500	< 50.0	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	0.2100	68.7	180	51	110	110	110	97	120	290	180	88	--	--	--	82	220	154	158	116	125	147	129	106	146	149	104	163	137	104	180	183
Beryllium	µg/L	31	200	< 0.0100	< 10.0	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 0.0050	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 0.0100	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 0.0100	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	< 20	< 20	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 0.0100	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	20.1	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 0.0200	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--	--	< 40	< 40	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	0.2420	124	184	470	28	< 20	30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 20	< 20	< 20	55	< 20	< 20	< 20	< 20	< 20	30	< 20
Mercury	µg/L	2*	2*	< 0.00020	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	< 0.010	17	106	22	21	180	170	34	--	--	--	55	--	--	--	46	390	57	56	57	59	41	35	90	95	101	159	133	46	190	293	283

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters.
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
** Samples collected for dissolved gases were misplaced during shipment; therefore, they were not a'--lyzed.
*** No readings due to faulty meter.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-103																		
				2/6/2013	02/13/12	2/22/2011	02/25/10	08/12/09	06/06/06	03/16/06	09/29/05	03/14/05	12/15/04	10/01/04	06/10/04	03/04/04	12/16/03	09/10/03	06/11/03	03/11/03	12/11/02	09/19/02
Field Groundwater Quality Parameters																						
pH	SU	--	--	5.99	5.48	5.84	4.94	5.5	6.00	6.17	6.40	6.44	6.38	6.46	6.80	6.67	6.51	6.6	6.67	6.52	6.49	6.51
Specific Conductance	mMhos	--	--	348	324	408	224	535	961	785	778	743	759	651	743	723	1,212	719	673	695	644	674
Temperature	°Celsius	--	--	20.99	15.87	20.04	15.37	25.13	22.13	20.43	24.57	20.65	22.97	25.55	21.85	20.12	22.45	24.37	21.98	20.53	23.54	26.43
Dissolved Oxygen (YSI)	mg/L	--	--	0.58	0.71	0.81	1.81	5.15	0.27	0.30	0.46	4.10	1.66	0.24	0.60	0.49	0.24	0.31	0.46	0.05	0.05	0.06
ORP	mV	--	--	116.4	44.4	112.2	263.6	100.2	80.6	101.2	-28.2	25.7	-48.3	-8.5	-45.8	-72.4	-82.3	-28.8	-22.3	-97.1	-117.9	-83.7
Turbidity	NTU	--	--	1.49	9.00	5.73	0.57	3.59	0.58	4.15	1.71	2.23	3.0	1.7	2.52	9.81	--	4.71	8.34	6.8	4.58	2.8
Laboratory Results - Natural Attenuation Parameters																						
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	33.6	25.9	17.8	31.2	25.4	1.02	40.0	37.4	9.89	9.66	20.3
Nitrogen, Nitrate (as N)	mg/L	--	--	2.5	15	0.15	7.4	35	--	--	--	3.56	3.86	3.62	4.86	1.89	3.05	5.19	6.12	< 0.0500	2.24	< 0.0500
Sulfate	mg/L	--	--	88	40	110	34	70	--	--	--	172	145	70.4	82.8	67.8	90.8	51.8	29.0	86.2	66.2	28.9
Sulfide	mg/L	--	--	< 1.0	< 1.0	1.2	< 1.0	< 1.0	--	--	--	< 1.0	< 1.0	1.0	< 1.0	1.4	3.4	< 1.0	< 1.0	< 1.0	< 1.00	< 1.00
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	0.983	1.05	0.976	0.911	1.00	0.974	0.688	0.701	1.65	1.80	1.5
Total Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	1.00	1.08	0.998	0.936	1.09	0.958	0.694	0.716	1.74	1.81	1.44
Ferrous Iron	mg/L	--	--	< 0.10 HF	< 0.10 HF	0.22	< 0.010	< 0.010	--	--	--	3.9	5.9	1.5	4.5	8.2	3.1	1.5	1.1	29.4	31.1	15.6
Total Iron	mg/L	--	--	0.64	0.23	0.93	0.38	< 0.010	--	--	--	4.30	5.68	1.93	5.51	8.98	4.58	1.73	6.17	29.1	21.9	16.3
Carbon Dioxide	mg/L	--	--	42	1.0	1.6	0.57	0.41	--	--	--	94	100	92	100	130	100	91	110	110	120	120
Methane	mg/L	--	--	0.83	< 0.58	3.0	0.37	0.9	--	--	--	57	75	140	210	240	230	200	160	320	22	240
Dissolved Nitrogen	mg/L	--	--	--	7.7	4.0	3.6	4.8	--	--	--	24	15	14	19	22	17	15	13	19	15	15
Dissolved Oxygen	mg/L	--	--	7.2	2.4	1.4	1.2	1.7	--	--	--	2.9	0.97	1.2	0.77	1.1	1.4	2.4	1.7	0.72	5.4	5.1
Laboratory Results - Organic Constituents																						
Volatile Organic Compounds																						
Benzene	µg/L	5.0*	9	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	15	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1700	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Naphthalene	µg/L	31,000	200,000	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
BTEX	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**15**	**bdl**	**bdl**	**bdl**	**bdl**
Semivolatile Organic Compounds																						
Acenaphthene	µg/L	2,000*	6,100	< 0.20	--	--	--	--	--	--	--	< 10	< 10	< 10	30	44	50	60	39	22 J	21	21
Acenaphthylene	µg/L	470	3,100	< 0.20	--	--	--	--	--	--	--	< 10	< 10	14	14	28	30	45	18	< 10	11	< 10
Anthracene	µg/L	4,700	31, 000	< 0.20	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 2.0	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 0.20	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 0.20	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 2.0	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	< 2.0	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 0.20	< 5.0	< 5.0	< 9.8	< 9.8	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	470	3,100	< 0.20	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 1.0	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 0.20	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total Semivolatiles	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**14**	**44**	**72**	**80**	**105**	**57**	**22**	**32**	**21**
BTEX + Total SVOCs	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**14**	**44**	**72**	**80**	**120**	**57**	**22**	**32**	**21**
Laboratory Results - Inorganic Constituents																						
Antimony	µg/L	6.3	40	< 20	--	--	--	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 20	--	--	--	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	100	160	28	75	250	193	251	135	135	178	139	180	184	169	148	150	192	180	229
Beryllium	µg/L	31	200	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 20	< 20	24	< 20	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10	< 10	13	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 40	< 40	< 40	< 40	< 40	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	< 20	--	--	--	--	--	--	--	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	--	--	--	--	--	--	--	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	< 10	< 10	61	< 10	12	12	13	22	38	37	< 10	23	14	21	19	< 10	< 10	57	< 10

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters.
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-104																
				2/5/2013	2/14/2012	2/21/2011	2/24/2010	8/11/2009	03/15/05	12/16/04	09/30/04	06/09/04	03/03/04	12/17/03	09/08/03	06/11/03	03/12/03	12/11/02	09/17/02	09/02 DUP
Field Groundwater Quality Parameters																				
pH	SU	--	--	5.73	5.36	5.52	5.85	6.28	5.56	6.21	5.48	5.80	5.60	5.68	5.60	5.65	5.62	5.41	5.24	5.24
Specific Conductance	mMhos	--	--	159	154	168	127	241	217	238	259	280	273	280	279	271	298	316	361	361
Temperature	°Celsius	--	--	19	17.14	20.02	9.88	31.71	18.90	22.42	26.87	22.72	18.69	20.9	27.19	22.71	17.16	21.96	27.62	27.62
Dissolved Oxygen (YSI)	mg/L	--	--	1.89	3.77	0.98	5.1	5.76	2.15	1.78	1.20	1.45	2.09	0.77	0.23	0.66	1.45	0.42	0.21	0.21
ORP	mV	--	--	215.6	7.7	-1.4	122.9	-110	227.9	78.9	148.6	136.8	101.6	215.4	26.5	120.1	232.5	253.1	231.8	231.8
Turbidity	NTU	--	--	5.55	8.05	6.07	9.21	8.84	4.51	8.69	9.0	1.74	3.52	--	1.82	0.9	4.93	28.9	0.81	0.81
Laboratory Results - Natural Attenuation Parameters																				
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200
Nitrogen, Nitrate (as N)	mg/L	--	--	1.5	2.7	1.9	0.79	2.2	1.54	1.44	1.63	2.61	2.36	1.87	1.57	2.11	3.15	2.74	2.63	2.61
Sulfate	mg/L	--	--	60	47	44	40	55	74.2	70.7	69.8	79.5	70.4	76.6	87.5	61.8	84	101	111	118
Sulfide	mg/L	--	--	< 1.0	12	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.00	< 1.00	< 1.00
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	0.0475	0.0482	0.0301	0.106	0.105	0.138	0.248	0.183	0.192	0.200	0.262	0.264
Total Manganese	mg/L	--	--	--	--	--	--	--	0.0782	0.0556	0.0327	0.104	0.12	0.145	0.233	0.177	0.192	0.212	0.256	0.237
Ferrous Iron	mg/L	--	--	< 0.10 HF	< 0.10 HF	< 0.010	< 0.010	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.100	< 0.200	< 0.200	< 0.200
Total Iron	mg/L	--	--	0.22	1.0	0.47	0.50	<0.1	0.571	0.471	0.230	< 0.1	0.189	0.415	< 0.100	0.208	0.371	0.157	2.31	1.07
Carbon Dioxide	mg/L	--	--	60	1.3	0.77	0.59	2.2	100	110	110	130	110	130	110	120	120	120	150	150
Methane	mg/L	--	--	< 0.58	< 0.58	<0.58	<0.19	<0.19	0.53	2.6	7.4	1.4	0.55	1.3	1.6	1.9	1.0	2.6	0.96	0.92
Dissolved Nitrogen	mg/L	--	--	18	6.4	4.8	4.1	4.4	25	15	11	16	22	18	13	16	20	14	16	14
Dissolved Oxygen	mg/L	--	--	8.1	2.1	1.7	1.5	1.6	5.5	3.0	4.5	1.6	4.4	2.2	2.2	1.6	3.0	7.1	7.4	6.5
Laboratory Results - Organic Constituents																				
Volatile Organic Compounds																				
Benzene	µg/L	5.0*	9	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Naphthalene	µg/L	31,000	200,000	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
BTEX	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Semivolatile Organic Compounds																				
Acenaphthene	µg/L	2,000*	6,100	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31, 000	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 2.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 2.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	< 2.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 0.20	< 5.0	< 5.0	<9.4	<9.4	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	470	3,100	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 0.99	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	--	< 10	< 10	< 10	< 10	< 10
Total Semivolatiles	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
BTEX + Total SVOCs	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Laboratory Results - Inorganic Constituents																				
Antimony	µg/L	6.3	40	< 20	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 20	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	21	24	28	34	30	29.8	29.9	37.4	29.9	29.9	31.5	30.7	30.2	25	35	38	36
Beryllium	µg/L	31	200	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 20	< 20	< 20	< 20	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 40	< 40	< 40	< 40	< 40	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	< 20	--	--	--	--	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	12	< 10	< 10	< 10	< 10	< 10	< 10	10	< 10	< 10	< 10	11	11

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters.
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-104I																MW-105	
				2/5/2013	2/14/2012	2/21/2011	2/24/2010	8/11/2009	03/15/05	12/15/04	09/30/04	6/9/2004	03/03/04	12/17/03	09/08/03	06/11/03	03/11/03	12/11/02	09/19/02	02/06/13	06/11/03
Field Groundwater Quality Parameters																					
pH	SU	--	--	5.90	5.74	5.73	6.00	6.20	5.80	7.14	5.42	6.05	5.91	6.02	4.82	6.07	5.93	5.78	5.47	5.04	5.39
Specific Conductance	mMhos	--	--	151	137	153	128	218	224	242	248	257	274	275	303	326	318	316	308	317	238
Temperature	°Celsius	--	--	20.51	16.86	20.42	12.32	31.7	19.35	24.08	27.6	22.61	18.45	21.89	27.81	23.02	18.57	23.5	27.9	20.97	21.75
Dissolved Oxygen (YSI)	mg/L	--	--	0.81	3.82	0.42	2.01	5.46	0.77	0.44	0.35	0.79	0.70	0.50	0.30	0.08	0.23	0.07	0.10	1.80	1.51
ORP	mV	--	--	166.1	-21	-10.8	71.6	-134.2	212.4	-68.1	56.8	130.8	73.9	199.2	20.5	72.5	190.2	218.3	208	257.2	208.7
Turbidity	NTU	--	--	0.1	6.03	9.25	8.72	0.91	4.51	3.82	3.97	1.19	3.74	--	4.91	0	3.11	2.80	3.51	9.9	12.8
Laboratory Results - Natural Attenuation Parameters																					
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.200	< 0.200	< 0.200	< 0.200	--	< 0.200
Nitrogen, Nitrate (as N)	mg/L	--	--	0.77	1.6	0.63	0.63	0.85	0.85	0.764	0.851	0.909	1.25	0.367	0.362	0.977	1.24	0.935	0.757	3.8	2.10
Sulfate	mg/L	--	--	31	29	33	33	36	48.4	50.6	51.1	53.1	60.2	58.3	58.8	48.6	69.8	72.4	85.4	100	41.8
Sulfide	mg/L	--	--	< 1.0	110	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.00	< 1.00	< 1.0	< 1.0
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	0.166	0.160	0.197	0.429	0.414	0.503	0.502	0.529	0.697	0.694	0.79	--	0.0382
Total Manganese	mg/L	--	--	--	--	--	--	--	0.268	0.174	0.191	0.429	0.444	0.504	0.514	0.532	0.706	0.705	0.735	--	0.0522
Ferrous Iron	mg/L	--	--	< 0.10 HF	< 0.10 HF	< 0.010	< 0.010	<0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.100	< 0.200	< 0.200	< 0.10 HF	< 0.1
Total Iron	mg/L	--	--	< 0.10	< 0.10	0.58	0.58	<0.1	5.73	0.533	1.75	0.209	< 0.1	0.496	3.52	0.118	0.475	< 0.100	6.93	0.21	0.662
Carbon Dioxide	mg/L	--	--	62	1.3	0.61	0.61	0.25	110	120	130	110	110	110	110	110	120	110	130	140	170
Methane	mg/L	--	--	0.7	< 0.58	0.48	0.48	<0.19	0.37	1.8	2.9	0.55	1.9	4.1	6.5	4.0	1.7	1.5	7.9	< 0.58	0.93
Dissolved Nitrogen	mg/L	--	--	17	5.0	4.1	4.1	4.4	26	17	16	16	20	20	13	16	21	16	22	--	13
Dissolved Oxygen	mg/L	--	--	6.9	1.7	1.4	1.4	1.6	4.2	2.0	3.0	1.2	2.0	3.2	1.2	1.3	1.8	7.5	8.9	7.1	2.4
Laboratory Results - Organic Constituents																					
Volatile Organic Compounds																					
Benzene	µg/L	5.0*	9	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 2.0	--
Ethylbenzene	µg/L	700*	2,300	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 5.0
Naphthalene	µg/L	31,000	200,000	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 5.0
BTEX	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Semivolatile Organic Compounds																					
Acenaphthene	µg/L	2,000*	6,100	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.20	< 10
Acenaphthylene	µg/L	470	3,100	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.20	< 10
Anthracene	µg/L	4,700	31, 000	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.20	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20	--
Chrysene	µg/L	117	392	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20	--
2,4-Dimethylphenol	µg/L	700*	700*	< 2.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	< 10
Fluoranthene	µg/L	1,000*	4,100	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.20	< 10
Fluorene	µg/L	1,000*	4,100	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.20	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20	--
2-Methylphenol	µg/L	780	5,100	< 2.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	< 10
4-Methylphenol	µg/L	78	510	< 2.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	< 10
Naphthalene	µg/L	20*	20*	< 0.20	< 5.0	< 5.0	< 10	<11	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.20	< 10
Phenanthrene	µg/L	470	3,100	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.20	< 10
Phenol	µg/L	9,390	61,000	< 0.99	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.99	< 10
Pyrene	µg/L	1,000*	3,100	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	--	< 10	< 10	< 10	< 10	< 0.20	< 10
Total Semivolatiles	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
BTEX + Total SVOCs	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Laboratory Results - Inorganic Constituents																					
Antimony	µg/L	6.3	40	< 20	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 20	< 40
Arsenic	µg/L	50*	50*	< 20	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 20	< 50
Barium	µg/L	2,000	7,200	20	21	22	24	28	37.2	36.7	38.2	35.5	34.8	39.6	44.0	38.8	38	42	40	32	59.6
Beryllium	µg/L	31	200	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 4.0	--
Cadmium	µg/L	7.8	51	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5.0	--
Chromium	µg/L	100	310	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 20	< 20	< 20	< 20	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 20	< 10
Lead	µg/L	15*	15*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 40	< 40	< 40	< 40	< 40	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 40	< 20
Zinc	µg/L	4,700	31,000	< 20	--	--	--	--	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.20	< 0.5
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters.
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-106												MW-107											
				04/29/15	02/06/13	06/06/06	03/08/06	12/22/05	09/29/05	03/15/05	12/15/04	10/01/04	03/02/04	12/16/03	09/10/03	02/06/13	06/06/06	03/08/06	12/21/05	09/29/05	12/15/04	10/01/04	03/02/04	03/04 DUP	12/16/03	09/10/03	09/03 DUP
Field Groundwater Quality Parameters																											
Groundwater Elevation	ft AMSL	--	--	297.95	294.88	295.64	296.11	295.62	295.74	296.77	296.17	296.21	296.56	295.69	296.66	294.78	295.52	296.01	295.54	295.63	296.04	296.16	296.43	296.43	295.58	296.52	296.52
pH	SU	--	--	3.56	5.55	5.53	5.64	5.90	5.49	5.09	5.24	5.18	5.12	4.95	3.87	6.13	6.38	6.35	6.39	6.29	6.15	6.28	6.05	6.05	5.93	5.92	5.92
Specific Conductance	mMhos	--	--	317	451	515	425	557	553	361	426	550	516	849	393	469	556	483	488	524	527	502	448	448	789	496	496
Temperature	°Celsius	--	--	17.43	20.93	21.51	21.04	22.55	23.83	20.49	22.8	23.61	21.44	22.61	24.22	18.88	21.80	19.53	21.21	25.83	22.49	26.05	19.69	19.69	21.69	24.89	24.89
Dissolved Oxygen (YSI)	mg/L	--	--	3.56	0.73	0.35	0.42	0.75	0.20	0.43	3.07	0.30	0.45	0.25	0.33	0.17	0.19	0.22	0.42	0.22	1.79	0.39	0.35	0.35	0.40	0.15	0.15
ORP	mV	--	--	59.4	148.4	186.8	180.6	158.2	-33.7	267.5	154.7	81.1	113.4	123.8	180.5	-58.3	-89.1	-90.7	-66.7	-110.6	-81.6	-193.3	28.3	28.3	-111.7	-94	-94
Laboratory Results - Natural A	NTU	--	--	9.02	2.07	3.93	4.9	4.7	5.98	4.32	3.7	7.10	7.55	--	15.1	9.83	3.20	4.2	4.87	4.54	5.0	2.93	10.6	10.6	--	4.8	4.8
Laboratory Results - '--tural Attenuation Parameters																											
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	2.26	1.08	1.76	1.02	35.2	1.46	1.46
Nitrogen, Nitrate (as N)	mg/L	--	--	--	0.37	--	--	--	--	1.68	0.588	< 0.0500	0.124	0.0649	< 0.0500	< 0.050	--	--	--	--	< 0.0500	< 0.0500	< 0.250	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Sulfate	mg/L	--	--	--	120	--	--	--	--	143	63.6	135	147	128	147	130	--	--	--	--	82.1	82.9	122	83.7	94.5	159	155
Sulfide	mg/L	--	--	--	< 1.0	--	--	--	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	--	--	--	--	< 1.0	1.2	< 1.0	1.3	< 1.0	< 1.0	< 1.0
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	0.266	0.209	0.239	0.358	0.512	0.511	--	--	--	--	--	0.480	0.528	0.691	0.696	0.792	1.03	1.03
Total Manganese	mg/L	--	--	--	--	--	--	--	--	0.276	0.215	0.231	0.368	0.507	0.487	--	--	--	--	--	0.511	0.504	0.72	0.724	0.778	1.00	1.02
Ferrous Iron	mg/L	--	--	--	< 0.10 HF	--	--	--	--	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.3	9.3 HF	--	--	--	--	5.2	5.5	6.5	8.9	5.0	7.7	7.8
Total Iron	mg/L	--	--	--	0.28	--	--	--	--	0.544	< 0.100	0.202	0.302	0.340	0.610	9.6	--	--	--	--	5.55	5.54	7.16	7.23	8.33	8.30	8.62
Carbon Dioxide	mg/L	--	--	--	140	--	--	--	--	200	210	250	230	240	75	100	--	--	--	--	120	140	150	150	110	81	73
Methane	mg/L	--	--	--	1.3	--	--	--	--	0.44	3.8	33	3.8	27	1.9	< 0.58	--	--	--	--	590	680	750	650	900	560	490
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	--	--	23	21	15	20	16	18	--	--	--	--	--	16	12	20	21	16	14	13
Dissolved Oxygen	mg/L	--	--	--	6.4	--	--	--	--	4.2	2.6	1.8	2.4	1.4	2.8	5.6	--	--	--	--	3.5	0.76	1.0	1.3	2.1	0.98	0.94
Laboratory Results - Organic Constituents																											
Volatile Organic Compounds																											
Benzene	µg/L	5.0*	9	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 2.0	--	--	--	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Naphthalene	µg/L	1,000*	1,100	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
BTEX	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Semivolatile Organic Compounds																											
Acenaphthene	µg/L	2,000*	6,100	< 10	< 0.22	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	1.6	--	--	--	--	< 10	< 10	< 10	< 10	< 10	10	< 10
Acenaphthylene	µg/L	470	3,100	< 10	< 0.22	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31, 000	< 10	< 0.22	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	<0.050	< 0.22	--	--	--	--	--	--	--	--	--	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.22	--	--	--	--	--	--	--	--	--	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.22	--	--	--	--	--	--	--	--	--	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 0.22	--	--	--	--	--	--	--	--	--	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 0.22	--	--	--	--	--	--	--	--	--	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 0.22	--	--	--	--	--	--	--	--	--	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.22	--	--	--	--	--	--	--	--	--	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 2.2	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 10	< 0.22	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	0.28	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 10	< 0.22	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	1.3	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.22	--	--	--	--	--	--	--	--	--	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 2.2	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10	< 2.2	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 10	< 0.22	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	47	< 0.20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	69	62
Phenanthrene	µg/L	470	3,100	< 10	< 0.22	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 1.1	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 1.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 10	< 0.22	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	1.4	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	--
Total Semivolatiles	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**47**	**4.6**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**79**	**62**
BTEX + Total SVOCs	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**47**	**4.6**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**79**	**62**
Laboratory Results - Inorganic Constituents																											
Antimony	µg/L	6.3	40	< 0.0200	< 20	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 20	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 0.0500	< 20	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 20	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	0.0328	25	29.8	25.8	30.1	< 20	31.1	26.9	29.2	33.5	33.7	33.3	26	42.8	39.2	44.5	41.6	50.2	38.3	44.3	44.0	52.8	65.3	67.3
Beryllium	µg/L	31	200	< 0.0100	< 4.0	--	--	--	--	--	--	--	--	--	--	< 4.0	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 0.0050	< 5.0	--	--	--	--	--	--	--	--	--	--	< 5.0	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	<0.0100	< 10	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 0.0100	< 20	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 20	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	0.0119	< 10	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 0.0200	< 40	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 40	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	< 0.0200	< 20	--	--	--	--	< 20	< 20	< 20	24.7	< 20	< 20	< 20	--	--	--	--	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.00020	< 0.20	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.20	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	0.094	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	10	14	< 10	13	< 10	12	< 10	< 10	< 10	< 10	11	< 10	16

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters.
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-108										MW-109									
				04/29/15	02/06/13	02/07/12	02/18/11	02/23/10	08/12/09	03/15/05	12/16/04	10/01/04	06/10/04	04/29/15	08/08/13	02/06/13	02/08/12	02/16/11	02/16 DUP	02/23/10	08/12/09	03/15/05	12/16/04
Field Groundwater Quality Parameters																							
pH	SU	--	--	6.10	6.02	5.99	6.13	6.09	6.5	6.19	5.29	6.11	6.45	4.86	4.85	4.53	4.43	4.48		4.75	4.51	4.71	5.93
Specific Conductance	mMhos	--	--	376.00	286	271	275	227	225	182	215	220	203	169	146	122	130	137		140	152	207	140
Temperature	°Celsius	--	--	19.09	21.19	20.71	20.4	18.59	28.28	20.07	22.74	25.13	22.15	19.49	25.55	20.78	20.69	20.15		17.49	25.85	20.31	24.02
Dissolved Oxygen (YSI)	mg/L	--	--	0.61	1.25	1.46	0.32	1.99	2.15	4.13	0.43	0.98	0.99	0.169	1.23	6.08	1.47	6.27		4.41	3.38	5.25	5.82
ORP	mV	--	--	-39.40	154.9	9.2	39.9	64.3	47	50.9	-57	46.5	36.6	-38.3	189.2	342.6	10.2	413		153.20	-140.5	242.9	152.1
Turbidity	NTU	--	--	7.97	4.07	9.37	2.91	9.51	4.96	1.74	3.09	0.00	33.3	1.36	0.48	1.62	4.54	9.12		2.34	0.51	5.64	18.3
Laboratory Results - Natural Attenuation Parameters																							
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	< 0.20	< 0.20
Nitrogen, Nitrate (as N)	mg/L	--	--	--	0.07	0.12	0.38	0.07	< 0.050	0.304	0.0596	< 0.05	0.131	--	--	0.37	0.52	0.055	0.064	0.29	0.1	1.46	0.984
Sulfate	mg/L	--	--	--	36	33	24	24	25	9.63	13.5	16.4	14.3	--	--	29	30	27	26	31	37	54.1	24.5
Sulfide	mg/L	--	--	--	< 1.0	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	--	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	0.144	0.178	0.164	0.182	--	--	--	--	--	--	--	--	0.164	0.218
Total Manganese	mg/L	--	--	--	--	--	--	--	--	0.157	0.173	0.162	0.183	--	--	--	--	--	--	--	--	0.181	0.176
Ferrous Iron	mg/L	--	--	--	0.29 HF	2.2 HF	3.1	1.4	0.87	1.9	1.4	2.2	0.7	--	--	< 0.10 HF	< 0.10 HF	< 0.010	< 0.010	< 0.010	< 0.1	< 0.1	< 0.1
Total Iron	mg/L	--	--	--	0.61	2.6	3.2	2.8	1.2	2.09	1.56	1.58	1.71	--	--	31	< 0.10	0.36	0.22	0.11	< 0.010	1.47	0.302
Carbon Dioxide	mg/L	--	--	--	81	1.3	0.56	0.8	0.69	76	72	75	69	--	--	180	1.9	0.76	0.65	1.30	0.83	120	100
Methane	mg/L	--	--	--	8.1	11	3.0	16	5.4	13	8.5	11	11	--	--	< 0.58	0.70	<0.58	<0.58	0.51	1.6	2.6	8.6
Dissolved Nitrogen	mg/L	--	--	--	--	5.9	4.2	3.7	4.6	25	16	19	16	--	--	--	4.9	4.2	4.4	4.5	4.4	22	18
Dissolved Oxygen	mg/L	--	--	--	7.3	1.8	1.5	1.3	1.6	4.6	2.2	3.6	1.2	--	--	5.5	1.6	1.6	1.7	1.5	1.5	8.0	7.2
Laboratory Results - Organic Constituents																							
Volatile Organic Compounds																							
Benzene	µg/L	5.0*	9	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1700	< 5.0	< 2.0	--	--	--	--	--	--	--	--	< 5.0	< 5.0	< 2.0	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Naphthalene	µg/L	31,000	200,000	< 5.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
BTEX	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Semivolatile Organic Compounds																							
Acenaphthene	µg/L	2,000*	6,100	< 10	< 0.25	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	4.4	--	--	--	--	--	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 10	< 0.25	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	11	--	--	--	--	--	< 10	< 10
Anthracene	µg/L	4,700	31, 000	< 10	< 0.25	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	1.8	--	--	--	--	--	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	<0.050	< 0.25	--	--	--	--	--	--	--	--	<0.050	< 0.20	2.6	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.25	--	--	--	--	--	--	--	--	< 0.050	< 0.20	3.2	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.25	--	--	--	--	--	--	--	--	< 0.10	< 0.20	1.7	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 0.25	--	--	--	--	--	--	--	--	< 10	< 10	1.1	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 0.25	--	--	--	--	--	--	--	--	< 10	< 10	2.2	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 0.25	--	--	--	--	--	--	--	--	< 10	< 10	2.5	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.25	--	--	--	--	--	--	--	--	< 0.10	< 0.20	0.30	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 2.5	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	--	--	--	--	--	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 10	< 0.25	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	4.7	--	--	--	--	--	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 10	< 0.25	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	6.3	--	--	--	--	--	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.25	--	--	--	--	--	--	--	--	< 0.050	< 0.20	0.65	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 2.5	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	--	--	--	--	--	< 10	< 10
3 & 4-Methylphenol	µg/L	78	510	< 10	< 2.5	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	--	--	--	--	--	< 10	< 10
Naphthalene	µg/L	20*	20*	< 10	< 0.25	< 5.0	< 5.0	<9.8	<9.4	< 10	< 10	< 10	< 10	< 10	< 10	44	< 5.0	< 5.0	< 5.0	<9.4	<11	< 10	< 10
Phenanthrene	µg/L	470	3,100	< 10	< 0.25	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	8.7	--	--	--	--	--	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 1.2	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 0.99	--	--	--	--	--	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 10	< 0.25	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	7.4	--	--	--	--	--	< 10	< 10
Total Semivolatiles	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**103**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
BTEX + Total SVOCs	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**103**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Laboratory Results - Inorganic Constituents																							
Antimony	µg/L	6.3	40	< 0.0200	< 20	--	--	--	--	< 40	< 40	< 40	< 40	< 0.0200	< 20.0	< 20	--	--	--	--	--	< 40	< 40
Arsenic	µg/L	50*	50*	< 0.0500	< 20	--	--	--	--	< 50	< 50	< 50	< 50	< 0.0500	< 50.0	< 20	--	--	--	--	--	< 50	< 50
Barium	µg/L	2,000	7,200	0.0611	79	78	61	62	54	47.2	53.0	51.7	56.9	0.0786	73.4	36	75	97	98	77	58	164	402
Beryllium	µg/L	31	200	< 0.0100	< 4.0	--	--	--	--	--	--	--	--	< 0.0100	< 10.0	< 4.0	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 0.0050	< 5.0	--	--	--	--	--	--	--	--	< 0.0050	< 5.0	< 5.0	--	--	--	--	--	--	--
Chromium	µg/L	100	310	<0.0100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<0.0100	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 0.0100	< 20	< 20	< 20	< 20	< 20	< 10	< 10	< 10	< 10	< 0.0100	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 10	< 10
Lead	µg/L	15*	15*	< 0.0100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.0100	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 0.0200	< 40	< 40	< 40	< 40	< 40	< 20	< 20	< 20	< 20	< 0.0200	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 20	< 20
Zinc	µg/L	4,700	31,000	< 0.0200	< 20	--	--	--	--	< 20	< 20	< 20	< 20	< 0.0200	< 20.0	< 20	--	--	--	--	--	38.8	< 20
Mercury	µg/L	2*	2*	< 0.00020	< 0.20	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.00020	< 0.20	< 0.20	--	--	--	--	--	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	< 0.010	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.010	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	30

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters.
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-201																			
				08/08/13	02/06/13	11/08/12	08/08/12	05/17/12	02/16/12	11/17/11	08/11/11	05/04/11	2/15/2011	11/10/2010	8/10/2010	08/10 DUP	5/11/2010	02/24/10	08/13/09	08/09 DUP	06/08/06	03/10/06	12/22/05	09/29/05
Field Groundwater Quality Parameters																							
pH	SU	--	--	5.05	5.18	5.34	4.38	5.31	5.16	5.05	5.09	5.41	5.36	4.89	5.69	5.69	5.42	5.38	5.14	5.14	5.61	4.52	5.02	6.23
Specific Conductance	mMhos	--	--	383	263	311	259	291	283	270	297	361	286	270	326	326	360	391	351	351	271	502	408	537
Temperature	°Celsius	--	--	23.23	21.42	16.87	22.75	23.04	20.10	23.12	26.92	20.23	20.47	24.36	23.76	23.76	21.74	16.98	25.35	25.35	24.41	20.70	23.27	25.74
Dissolved Oxygen (YSI)	mg/L	--	--	5.62	0.54	1.48	1.58	6.21	0.32	0.20	0.88	0.54	0.72	0.27	3.30	3.30	0.69	0.87	2.75	2.75	0.50	0.30	0.43	0.65
ORP	mV	--	--	-75.2	18	16.3	123.3	2.5	3.0	44.6	262.4	-28.6	39.9	71.5	-99.2	-99.2	-19.1	32.8	103.1	103.1	230.8	96.3	96.0	-69.1
Turbidity	NTU	--	--	0.51	1.31	1.67	683	1.95	2.73	1.07	4.5	0.85	0.75	1.41	3.37	3.37	1.34	1.42	0.00	0.00	7.34	4.6	4.96	3.52
Laboratory Results - Natural Attenuation Parameters																								
Nitrogen, Nitrate (as N)	mg/L	--	--	--	< 0.050	--	--	--	0.083	--	--	--	0.32	--	--	--	--	< 0.050	0.077	0.074	--	--	--	--
Sulfate	mg/L	--	--	--	< 5.0	--	--	--	60	--	--	--	66	--	--	--	--	120	110	110	--	--	--	--
Sulfide	mg/L	--	--	--	< 1.0	--	--	--	1.9	--	--	--	< 1.0	--	--	--	--	< 1.0	< 1.0	< 1.0	--	--	--	--
Ferrous Iron	mg/L	--	--	--	29 HF	--	--	--	16 HF	--	--	--	10	--	--	--	--	4.5	9.1	8.9	--	--	--	--
Total Iron	mg/L	--	--	--	28	--	--	--	15	--	--	--	11	--	--	--	--	4.5	9.1	9.1	--	--	--	--
Carbon Dioxide	mg/L	--	--	--	160	--	--	--	3.7	--	--	--	1.9	--	--	--	--	2	1.7	1.7	--	--	--	--
Methane	mg/L	--	--	--	250	--	--	--	350	--	--	--	190	--	--	--	--	100	96	100	--	--	--	--
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	--	4.6	--	--	--	4.2	--	--	--	--	4	4.2	4.2	--	--	--	--
Dissolved Oxygen	mg/L	--	--	--	5.8	--	--	--	1.6	--	--	--	1.4	--	--	--	--	1.3	1.5	1.5	--	--	--	--
Laboratory Results - Organic Constituents																								
Volatile Organic Compounds																								
Benzene	µg/L	5*	9	390	1,700	2,400	2,300	2,500	550	2,500	2,900	510	730	3,300	2,500	2,700	1,100	350	310	410	4,400	710	2,600	1,900
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 40	< 40	< 40	< 40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	220	1,100	1,300	1,700	1,700	410	1,100	1,300	370	510	--	--	--	--	190	180	220	1,800	500	1,100	840
Toluene	µg/L	1,000*	1,100	8.8	62	77	64	91	< 100	<250	120	< 100	31	--	--	--	--	11	<25	<25	220	23	91	40
Total Xylenes	µg/L	31,000	200,000	380	2,100	2,500	1,400	3,200	700	2,400	3,000	520	1,100	--	--	--	--	320	240	280	5,900	720	2,800	1,200
BTEX	µg/L	--	--	**999**	**4,962**	**6,277**	**5,464**	**7,491**	**1,660**	**6,000**	**7,320**	**1,400**	**2,371**	**3,300**	**2,500**	**2,700**	**1,100**	**871**	**730**	**910**	**12,320**	**1,953**	**6,591**	**3,980**
Semivolatile Organic Compounds																								
Acenaphthene	µg/L	2,000*	6,100	< 10	19	17	30	47	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 10	< 2.0	< 0.22	< 2.0	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 10	2.9	3.0	4.7	7.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.20	< 2.0	< 0.22	< 2.0	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.20	< 2.0	< 0.22	< 2.0	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.20	< 2.0	< 0.22	< 2.0	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 2.0	< 0.22	< 2.0	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 2.0	< 0.22	< 2.0	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 2.0	< 0.22	< 2.0	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.20	< 2.0	< 0.22	< 2.0	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	40	< 2.2	69	130	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 10	< 2.0	1.5	2.8	2.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	< 10	13	11	26	30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.20	< 2.0	< 0.22	< 2.0	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 20	< 2.2	< 20	< 22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 20	< 2.2	< 20	< 22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	µg/L	20*	20*	490	1,600	2,900	1,800 D	4,900	2,100	3,500	5,700 *	1,700	2,200	5,500	4,800	5,900	1,500	200	670	580	2,400	600	2,500	1,900
Phenanthrene	µg/L	470	3,100	20	60	110	150	160	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 10	< 1.1	11	< 11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	< 2.0	1.8	2.9	2.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total SVOCS	µg/L	--	--	**68**	**1,735**	**3,044**	**2,096**	**5,279**	**2,100**	**3,500**	**5,700**	**1,700**	**2,200**	**5,500**	**4,800**	**5,900**	**1,500**	**200**	**670**	**580**	**2,400**	**600**	**2,500**	**1,900**
BTEX + Total SVOCs	µg/L	--	--	**1,067**	**6,697**	**9,321**	**7,560**	**12,770**	**3,760**	**9,500**	**13,020**	**3,100**	**4,571**	**8,800**	**7,300**	**8,600**	**2,700**	**1,071**	**14,720**	**2,553**	**14,720**	**2,553**	**9,091**	**5,880**
Laboratory Results - Inorganic Constituents																								
Antimony	µg/L	6.3	40	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Barium	µg/L	2,000	7,200	25.9	860	990	1,000	1,000	370	1,100	910	280	370	--	--	--	--	100	190	170	943	190	635	< 20
Beryllium	µg/L	31	200	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10	< 10	34	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	--	< 10	< 10.0	< 10	< 10.0	10.8	< 10.0	< 10
Copper	µg/L	630	4,100	< 10.0	< 20	< 20	43	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	< 20	< 20	< 20	< 10.0	< 10.0	< 10.0	< 10
Lead	µg/L	15*	15*	< 10.0	< 10	< 10	44	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	--	< 10	< 10.0	< 10	< 10.0	18.2	< 10.0	< 10
Nickel	µg/L	100	2,000	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--	--	--	< 40	< 40	< 40	< 20.0	< 20.0	< 20.0	< 20
Zinc	µg/L	4,700	31,000	< 20.0	< 20	< 20	100	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	0.24	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
bdl - below detection limit
Naphthalene
Phenanthrene
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-202		MW-203															
				02/11/13	09/29/05	02/11/13	11/08/12	08/08/12	08/12 DUP	05/17/12	02/14/12	11/16/11	08/11/11	05/04/11	02/25/11	11/10/10	08/10/10	08/10 DUP	05/11/10	02/24/10	08/13/09
Field Groundwater Quality Parameters																					
pH	SU	--	--	5.08	5.9	6.23	6.21	6.41	6.41	6.77	6.14	6.27	6.44	5.99	6.12	6.17	6.11	6.11	6.00	6.38	6.78
Specific Conductance	mMhos	--	--	257	377	292	287	144	144	134	150	186	188	327	276	293	246	246	175	76	120
Temperature	°Celsius	--	--	20.38	26.15	20.59	19.64	24.47	24.47	22.91	18.42	23.92	26.94	19.86	18.71	23.2	24.32	24.32	20.26	12.11	29.32
Dissolved Oxygen (YSI)	mg/L	--	--	2.23	0.40	1.42	0.91	0.50	0.50	2.40	0.50	0.16	0.50	0.23	0.42	0.19	1.78	1.78	1.25	1.24	5.83
ORP	mV	--	--	48.5	-23	-33.5	-7.4	-11.4	-11.4	69.6	30.8	-51.7	-55.0	-76.3	-18.2	-60.6	-45.9	-45.9	36.2	50.7	22.1
Turbidity	NTU	--	--	6.97	3.93	2.71	1.21	6.79	6.79	3.14	9.21	2.54	9.52	5.68	8.6	20.6	9.63	9.63	7.57	24.2	4.5
Laboratory Results - Natural Attenuation Parameters																					
Nitrogen, Nitrate (as N)	mg/L	--	--	0.062	--	< 0.050	--	--	--	--	< 0.050	--	--	--	0.15	--	--	--	--	0.26	< 0.050
Sulfate	mg/L	--	--	40	--	9.2	--	--	--	--	9.0	--	--	--	< 5.0	--	--	--	--	< 5.0	310
Sulfide	mg/L	--	--	< 1.0	--	< 1.0	--	--	--	--	2.3	--	--	--	< 1.0	--	--	--	--	< 1.0	< 1.0
Ferrous Iron	mg/L	--	--	16 HF	--	15 HF	--	--	--	--	0.99 HF	--	--	--	13	--	--	--	--	< 0.010	< 0.010
Total Iron	mg/L	--	--	18	--	31	--	--	--	--	2.2	--	--	--	26	--	--	--	--	1	0.34
Carbon Dioxide	mg/L	--	--	160	--	110	--	--	--	--	750	--	--	--	1.6	--	--	--	--	0.16	1.7
Methane	mg/L	--	--	600	--	97	--	--	--	--	19	--	--	--	230	--	--	--	--	2.4	1.1
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	--	--	--	5400	--	--	--	4.2	--	--	--	--	4	4.2
Dissolved Oxygen	mg/L	--	--	4.6	--	5.6	--	--	--	--	1700	--	--	--	1.3	--	--	--	--	1.3	1.5
Laboratory Results - Organic Constituents																					
Volatile Organic Compounds																					
Benzene	µg/L	5*	9	1,000	1,900	8.2	< 1.0	2.2	1.2	1.5	25	60	65	400	430	< 5.0	150	150	220	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 20	--	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	720	1,100	7.0	< 1.0	< 1.0	< 1.0	< 1.0	13	7.1	9.9	120	170	--	--	--	--	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	23	23	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	<25	--	--	--	--	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	470	660	2.9	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	20	43	--	--	--	--	< 5.0	< 5.0
BTEX	µg/L	--	--	**2,213**	**3,683**	**18.1**	**bdl**	**2.2**	**1.2**	**1.5**	**38**	**67**	**75**	**540**	**643**	**bdl**	**150**	**150**	**220**	**bdl**	**bdl**
Semivolatile Organic Compounds																					
Acenaphthene	µg/L	2,000*	6,100	13	--	19	2.8	1.5	0.92	0.83	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 2.1	--	< 0.20	< 0.24	< 0.21	< 0.20	< 0.23	--	--	--	--	--	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	2.1	--	0.20	< 0.24	< 0.21	< 0.20	< 0.23	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 2.1	--	< 0.20	< 0.24	< 0.21	< 0.20	< 0.23	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 2.1	--	< 0.20	< 0.24	< 0.21	< 0.20	< 0.23	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 2.1	--	< 0.20	< 0.24	< 0.21	< 0.20	< 0.23	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 2.1	--	< 0.20	< 0.24	< 0.21	< 0.20	< 0.23	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 2.1	--	< 0.20	< 0.24	< 0.21	< 0.20	< 0.23	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 2.1	--	< 0.20	< 0.24	< 0.21	< 0.20	< 0.23	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 2.1	--	< 0.20	< 0.24	< 0.21	< 0.20	< 0.23	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 21	--	< 2.0	< 2.4	< 2.1	< 2.0	< 2.3	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 2.1	--	0.30	0.24	< 0.21	< 0.20	< 0.23	--	--	--	--	--	--	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	11	--	6.4	0.83	0.52	0.30	< 0.23	--	--	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 2.1	--	< 0.20	< 1.9	< 0.21	< 0.20	< 0.23	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 21	--	< 2.0	< 2.4	< 2.1	< 2.0	< 2.3	--	--	--	--	--	--	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 21	--	< 2.0	< 2.4	< 2.1	< 2.0	< 2.3	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	µg/L	20*	20*	1,900	1,300	4.7	< 0.24	1.30	0.56	0.30	7.2	21	8.4 *	220	550	< 5.0	91	80	230	< 9.9	< 9.7
Phenanthrene	µg/L	470	3,100	69	--	0.38	< 0.24	< 0.21	< 0.20	< 0.23	--	--	--	--	--	--	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	--	< 1.0	< 1.2	3.7	2.9	< 1.1	--	--	--	--	--	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 2.1	--	0.33	0.26	< 0.21	< 0.20	< 0.23	--	--	--	--	--	--	--	--	--	--	--
Total SVOCS	µg/L	--	--	**1,995**	**1,300**	**31**	**4.1**	**7.0**	**4.7**	**1.13**	**7.2**	**21**	**8.4**	**220**	**550**	**bdl**	**91**	**80**	**230**	**bdl**	**bdl**
BTEX + Total SVOCs	µg/L	--	--	**4,208**	**4,983**	**49**	**4.1**	**9.2**	**4.7**	**2.6**	**45**	**88**	**83**	**760**	**1,193**	**bdl**	**241**	**230**	**450**	**bdl**	**bdl**
Laboratory Results - Inorganic Constituents																					
Antimony	µg/L	6.3	40	< 20	--	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 20	--	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--
Barium	µg/L	2,000	7,200	560	41.6	320	200	97	96	58	120	130	210	510	520	--	--	--	--	36	44
Beryllium	µg/L	31	200	< 4.0	--	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	--	< 10	< 10
Copper	µg/L	630	4,100	< 20	< 10	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	< 20	< 20
Lead	µg/L	15*	15*	17	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	--	< 10	< 10
Nickel	µg/L	100	2,000	< 40	< 20	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--	--	--	< 40	< 40
Zinc	µg/L	4,700	31,000	62	--	45	92	550	540	160	--	--	--	--	--	--	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	--	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 10	12	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	--	--	--	--	< 10	19

Notes:
bdl - below detection limit
Naphthalene
Phenanthrene
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-204														
				08/05/13	02/11/13	11/06/12	08/07/12	05/15/12	02/13/12	11/17/11	08/09/11	05/03/11	02/15/11	11/09/10	08/11/10	05/11/10	02/24/10	08/14/09
Field Groundwater Quality Parameters																		
pH	SU	--	--	5.19	6.03	5.72	5.05	5.72	5.78	5.72	5.55	5.69	5.84	5.77	5.94	5.86	6.10	6.12
Specific Conductance	mMhos	--	--	702	287	668	673	680	497	719	680	678	385	543	658	601	501	794
Temperature	°Celsius	--	--	26.72	20.92	20.85	24.52	23.72	19.43	21.54	24.92	20.84	21.05	25.05	25.42	21.91	13.95	25.39
Dissolved Oxygen (YSI)	mg/L	--	--	1.53	0.86	0.35	0.24	0.35	0.89	0.28	0.91	0.20	1.25	0.36	0.58	0.57	1.68	1.71
ORP	mV	--	--	-68.0	-12.2	30.6	197.8	173.0	36.8	103.3	106.4	-15.0	103.4	149.0	1.3	57.2	74.9	109.3
Turbidity	NTU	--	--	1.39	0.44	6.25	2.40	0.58	9.27	5.06	7.67	3.31	9.82	2.33	7.61	8.19	9.34	4
Laboratory Results - Natural Attenuation Parameters																		
Nitrogen, Nitrate (as N)	mg/L	--	--	--	< 0.050	--	--	--	0.060	--	--	--	0.062	--	--	--	< 0.050	0.056
Sulfate	mg/L	--	--	--	54	--	--	--	140	--	--	--	110	--	--	--	150	6.8
Sulfide	mg/L	--	--	--	< 1.0	--	--	--	< 1.0	--	--	--	< 1.0	--	--	--	< 1.0	< 1.0
Ferrous Iron	mg/L	--	--	--	0.15 HF	--	--	--	0.11 HF	--	--	--	0.11	--	--	--	< 0.010	0.13
Total Iron	mg/L	--	--	--	< 0.10	--	--	--	0.36	--	--	--	1.9	--	--	--	0.82	1.3
Carbon Dioxide	mg/L	--	--	--	120	--	--	--	1.4	--	--	--	1.1	--	--	--	2.1	0.079
Methane	mg/L	--	--	--	< 0.58	--	--	--	1.1	--	--	--	<0.58	--	--	--	7.1	4.1
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	--	4.5	--	--	--	4.3	--	--	--	2.9	1.7
Dissolved Oxygen	mg/L	--	--	--	5.9	--	--	--	1.5	--	--	--	1.5	--	--	--	0.98	1.7
Laboratory Results - Organic Constituents																		
Volatile Organic Compounds																		
Benzene	µg/L	5*	9	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0	< 5.0
BTEX	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Semivolatile Organic Compounds																		
Acenaphthene	µg/L	2,000*	6,100	< 10	< 0.20	< 0.20	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 10	< 0.20	< 0.20	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 10	< 0.20	< 0.20	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.20	< 0.20	< 0.20	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.20	< 0.20	< 0.20	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.20	< 0.20	< 0.20	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 0.20	< 0.20	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 0.20	< 0.20	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 0.20	< 0.20	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.20	< 0.20	< 0.20	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 2.0	< 2.0	< 1.9	< 2.3	--	--	--	--	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 10	< 0.20	< 0.20	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	< 10	< 0.20	< 0.20	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.20	< 0.20	< 0.20	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 2.0	< 2.0	< 1.9	< 2.3	--	--	--	--	--	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 2.0	< 2.0	< 1.9	< 2.3	--	--	--	--	--	--	--	--	--	--
Naphthalene	µg/L	20*	20*	< 10	< 0.20	3.0	< 0.19	< 0.23	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<9.9	<9.4
Phenanthrene	µg/L	470	3,100	< 10	< 0.20	< 0.20	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 0.99	< 1.0	< 0.96	< 1.1	--	--	--	--	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	< 0.20	0.36	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--
Total SVOCS	µg/L	--	--	**bdl**	**bdl**	**3.4**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
BTEX + Total SVOCs	µg/L	--	--	**bdl**	**bdl**	**3.4**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Laboratory Results - Inorganic Constituents																		
Antimony	µg/L	6.3	40	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--
Barium	µg/L	2,000	7,200	54.5	44	44	59	41	43	42	53	48	47	--	--	--	41	57
Beryllium	µg/L	31	200	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--	--	< 40	< 40
Zinc	µg/L	4,700	31,000	< 20.0	< 20	21	28	< 20	--	--	--	--	--	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 10	10	< 10	15	21	< 10	--	--	--	< 10	--	--	--	< 10	< 10

Notes:
bdl - below detection limit
Naphthalene
Phenanthrene
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-205																	MW-206
				04/27/15	08/06/13	02/07/13	11/07/12	08/07/12	05/17/12	02/14/12	11/15/11	08/10/11	05/03/11	02/23/11	02/11 DUP	11/09/10	11/10 DUP	08/10/10	08/10 DUP	05/10/10	02/23/10	02/11/13
Field Groundwater Quality Parameters																					
pH	SU	--	--	6.45	8.08	6.32	6.28	6.17	6.74	6.16	6.34	6.18	6.08	6.39	6.39	6.24	6.24	4.16	4.16	6.25	6.37	5.8
Specific Conductance	mMhos	--	--	272	293	244	276	297	295	251	293	289	323	273	273	314	314	328	328	314	339	521
Temperature	°Celsius	--	--	20.23	24.72	18.09	20.72	24.17	22.74	19.10	22.57	23.92	20.23	19.7	19.7	22.24	22.24	23.68	23.68	19.18	17.18	19.01
Dissolved Oxygen (YSI)	mg/L	--	--	1	0.06	1.29	1.35	2.0	0.34	2.05	0.22	0.28	0.17	0.32	0.32	0.25	0.25	0.27	0.27	0.73	3.77	0.24
ORP	mV	--	--	-62.7	-94.1	-27.1	-43.5	7.6	-66.6	-29.9	-100.0	146.2	-102.1	-105.6	-105.6	-1.0	-1.0	79.5	79.5	-102.8	-45.6	-3.1
Turbidity	NTU	--	--	0.56	1.96	5.81	0.95	1.59	3.58	3.11	7.26	2.02	0.89	2.43	2.43	1.18	1.18	0.65	0.65	2.97	3.61	32.9
Laboratory Results - Natural Attenuation Parameters																					
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	< 0.050	--	--	--	< 0.050	--	--	--	< 0.050	0.07	--	--	--	--	--	< 0.050	< 0.050
Sulfate	mg/L	--	--	--	--	12	--	--	--	7.2	--	--	--	< 5.0	< 5.0	--	--	--	--	--	< 5.0	150
Sulfide	mg/L	--	--	--	--	< 1.0	--	--	--	< 1.0	--	--	--	< 1.0	< 1.0	--	--	--	--	--	< 1.0	< 1.0
Ferrous Iron	mg/L	--	--	--	--	17 HF	--	--	--	21 HF	--	--	--	6.1	5.7	--	--	--	--	--	23	14 HF
Total Iron	mg/L	--	--	--	--	20	--	--	--	24	--	--	--	26	22	--	--	--	--	--	30	15
Carbon Dioxide	mg/L	--	--	--	--	86	--	--	--	1.8	--	--	--	1.1	1.1	--	--	--	--	--	1.3	150
Methane	mg/L	--	--	--	--	22	--	--	--	42	--	--	--	55	62	--	--	--	--	--	150	7.1
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	--	--	6.5	--	--	--	4.3	4.5	--	--	--	--	--	3.3	--
Dissolved Oxygen	mg/L	--	--	--	--	5.0	--	--	--	1.9	--	--	--	1.3	1.4	--	--	--	--	--	0.98	6.6
Laboratory Results - Organic Constituents																					
Volatile Organic Compounds																					
Benzene	µg/L	5*	9	66	53	5.8	24	16	42	26	62	350	37	19	55	580	33	33	33	63	91	< 1.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	< 2.0
Ethylbenzene	µg/L	700*	2,300	150	130	4.5	32	18	75	29	34	230	66	67	120	--	--	--	--	--	130	< 1.0
Toluene	µg/L	1,000*	1,100	13	11	< 1.0	1.5	1.0	8.8	< 5.0	< 5.0	41	8.1	8.9	15	--	--	--	--	--	17	< 1.0
Total Xylenes	µg/L	31,000	200,000	100	98	7.2	15	11	57	29	18	240	42	51	99	--	--	--	--	--	100	< 2.0
BTEX	µg/L	--	--	**329**	**292**	**17.5**	**73**	**46**	**183**	**84**	**114**	**861**	**153**	**146**	**289**	**580**	**33**	**33**	**33**	**63**	**338**	**bdl**
Semivolatile Organic Compounds																					
Acenaphthene	µg/L	2,000*	6,100	72	55	36	47	34	49	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Acenaphthylene	µg/L	470	3,100	< 10	< 10	< 0.19	< 0.23	4.0	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Anthracene	µg/L	4,700	31,000	< 10	< 10	1.3	2.1	2.1	2.5	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Benzo[a]anthracene	µg/L	1.17	3.92	0.20	< 0.20	0.19	< 0.23	< 0.21	0.28	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.20	< 0.19	< 0.23	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.20	< 0.19	< 0.23	< 0.21	0.22	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 10	< 0.19	< 0.23	< 0.21	0.22	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 10	< 0.19	< 0.23	< 0.21	0.21	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Chrysene	µg/L	117	392	< 10	< 10	0.26	< 0.23	0.22	0.31	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.20	< 0.19	< 0.23	< 0.21	0.22	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 1.9	< 2.3	< 2.1	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	< 2.0
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	2.9	3.6	3.6	3.0	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Fluorene	µg/L	1,000*	4,100	32	21	18	23	21	25	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.20	< 0.19	< 0.23	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 1.9	< 2.3	< 2.1	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	< 2.0
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 1.9	< 2.3	< 2.1	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	< 2.0
Naphthalene	µg/L	20*	20*	280	160	19	55	28	150	130	79	940 *	140	580	330	120	100	63	63	270	160	< 0.20
Phenanthrene	µg/L	470	3,100	29	17	3.7	9.4	5.8	14	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Phenol	µg/L	9,390	61,000	< 10	< 10	1	< 1.1	< 1.0	< 1.0	--	--	--	--	--	--	--	--	--	--	--	--	< 1.0
Pyrene	µg/L	1,000*	3,100	< 10	< 10	4.1	3.8	4.1	4.3	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Total SVOCS	µg/L	--	--	**413**	**253**	**86**	**144**	**103**	**246**	**130**	**79**	**940**	**140**	**580**	**330**	**120**	**100**	**63**	**63**	**270**	**160**	**bdl**
BTEX + Total SVOCs	µg/L	--	--	**742**	**545**	**104**	**216**	**149**	**429**	**214**	**193**	**1,801**	**293**	**726**	**619**	**700**	**133**	**96**	**96**	**333**	**498**	**bdl**
Laboratory Results - Inorganic Constituents																					
Antimony	µg/L	6.3	40	< 0.0200	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	< 20
Arsenic	µg/L	50*	50*	< 0.0500	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	< 20
Barium	µg/L	2,000	7,200	0.0908	91.5	51	64	58	68	63	87	190	71	82	64	--	--	--	--	--	110	29
Beryllium	µg/L	31	200	< 0.0100	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	< 4.0
Cadmium	µg/L	7.8	51	< 0.0050	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	< 5.0
Chromium	µg/L	100	310	< 0.0100	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	--	--	< 10	< 10
Copper	µg/L	630	4,100	< 0.0100	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	< 20	< 20
Lead	µg/L	15*	15*	< 0.0100	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	--	--	< 10	< 10
Nickel	µg/L	100	2,000	< 0.0200	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--	--	--	--	< 40	< 40
Zinc	µg/L	4,700	31,000	0.2420	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	< 20
Mercury	µg/L	2*	2*	< 0.0002	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Total Cyanide	µg/L	310	2,000	< 0.01	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	< 10	--	--	--	--	--	< 10	< 10

Notes:
bdl - below detection limit
Naphthalene
Phenanthrene
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-400 04/29/15
roundwater Quality Parameters				
pH	SU	--	--	5.90
Specific Conductance	mMhos	--	--	520
Temperature	°Celsius	--	--	16.72
Dissolved Oxygen (YSI)	mg/L	--	--	2.71
ORP	mV	--	--	-7.1
Turbidity	NTU	--	--	9.2
Laboratory Results - Natural Attenuation Parameters				
Nitrogen, Nitrate (as N)	mg/L	--	--	--
Sulfate	mg/L	--	--	--
Sulfide	mg/L	--	--	--
Ferrous Iron	mg/L	--	--	--
Total Iron	mg/L	--	--	--
Carbon Dioxide	mg/L	--	--	--
Methane	mg/L	--	--	--
Dissolved Nitrogen	mg/L	--	--	--
Dissolved Oxygen	mg/L	--	--	--
Laboratory Results - Organic Constituents				
Volatile Organic Compounds				
Benzene	µg/L	5*	9	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0
Ethylbenzene	µg/L	700*	2,300	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0
BTEX	µg/L	--	--	**bdl**
Semivolatile Organic Compounds				
Acenaphthene	µg/L	2,000*	6,100	< 10
Acenaphthylene	µg/L	470	3,100	< 10
Anthracene	µg/L	4,700	31,000	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	<0.050
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10
Benzo[g,h,i]perylene	µg/L	10	10	< 10
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10
Chrysene	µg/L	117	392	< 10
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10
2,4-Dimehylphenol	µg/L	700*	700*	< 10
Fluoranthene	µg/L	1,000*	4,100	< 10
Fluorene	µg/L	1,000*	4,100	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050
2-Methylphenol	µg/L	780	5,100	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10
Naphthalene	µg/L	20*	20*	< 10
Phenanthrene	µg/L	470	3,100	< 10
Phenol	µg/L	9,390	61,000	< 10
Pyrene	µg/L	1,000*	3,100	< 10
Total SVOCs	µg/L	--	--	**bdl**
BTEX + SVOCs	µg/L	--	--	**bdl**
Inorganic Constituents				
Antimony	µg/L	6.3	40	< 0.0200
Arsenic	µg/L	50*	50*	< 0.0500
Barium	µg/L	2,000	7,200	0.0381
Beryllium	µg/L	31	200	< 0.0100
Cadmium	µg/L	7.8	51	< 0.0050
Chromium	µg/L	100	310	< 0.0100
Copper	µg/L	630	4,100	< 0.0100
Lead	µg/L	15*	15*	< 0.0100
Nickel	µg/L	100	2,000	< 0.0200
Zinc	µg/L	4,700	31,000	< 0.0200
Mercury	µg/L	2*	2*	< 0.0002
Total Cyanide	µg/L	310	2,000	0.099

Notes:
bdl - below detection limit
Naphthalene
Phenanthrene
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-08D		
				04/27/15	08/06/14	12/07/06
Field Groundwater Quality Parameters						
pH	SU	--	--	5.61	7.22	--
Specific Conductance	mMhos	--	--	336	338	--
Temperature	°Celsius	--	--	21.31	22.45	--
Dissolved Oxygen (YSI)	mg/L	--	--	0.49	0.95	--
ORP	mV	--	--	-66.2	-105.7	--
Turbidity	NTU	--	--	14.8	2.24	--
Laboratory Results - Natural Attenuation Parameters						
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--
Sulfate	mg/L	--	--	--	--	--
Sulfide	mg/L	--	--	--	--	--
Ferrous Iron	mg/L	--	--	--	--	--
Total Iron	mg/L	--	--	--	--	--
Carbon Dioxide	mg/L	--	--	--	--	--
Methane	mg/L	--	--	--	--	--
Dissolved Nitrogen	mg/L	--	--	--	--	--
Dissolved Oxygen	mg/L	--	--	--	--	--
Laboratory Results - Organic Constituents						
Volatile Organic Compounds						
Benzene	µg/L	5*	9	< 5.0	< 5.0	< 5
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 5
BTEX	µg/L	--	--	**bdl**	**bdl**	**bdl**
Semivolatile Organic Compounds						
Acenaphthene	µg/L	2,000*	6,100	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 10	< 10	< 10
Anthracene	µg/L	4,700	31,000	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 10
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 10
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 10
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 10	< 10
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 10	< 10
Chrysene	µg/L	117	392	< 10	< 10	< 10
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 10
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 10
2-Methylphenol	µg/L	780	5,100	< 10	< 10	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	--
Naphthalene	µg/L	20*	20*	< 10	< 10	< 10
Phenanthrene	µg/L	470	3,100	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 10	< 10	< 10
Total SVOCs	µg/L	--	--	**bdl**	**bdl**	**bdl**
BTEX + SVOCs	µg/L	--	--	**bdl**	**bdl**	**bdl**
Inorganic Constituents						
Antimony	µg/L	6.3	40	< 20.0	< 20.0	--
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	--
Barium	µg/L	2,000	7,200	902	9790	--
Beryllium	µg/L	31	200	< 10.0	< 10.0	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	--
Chromium	µg/L	100	310	< 10.0	< 10.0	--
Copper	µg/L	630	4,100	< 10.0	< 10.0	--
Lead	µg/L	15*	15*	< 10.0	< 10.0	--
Nickel	µg/L	100	2,000	< 20.0	< 20.0	--
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	--
Mercury	µg/L	2*	2*	< 0.20	< 0.20	--
Total Cyanide	µg/L	310	2,000	< 10	12	--

Notes:
bdl - below detection limit
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.

Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS
Exceeds Type 2 RRS (only indicated for off-site wells)

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-09D																				
				02/19/14	08/05/14	8/05 DUP	08/07/13	02/07/13	11/07/12	08/09/12	05/16/12	02/07/12	11/16/11	11/16 DUP	08/11/11	08/11 DUP	05/05/11	02/18/11	11/09/10	08/10/10	05/10/10	02/23/10	02/10 DUP	08/13/09	06/08/06
Field Groundwater Quality Parameters																								
pH	SU	--	--	6.29	6.80		7.31	6.11	6.22	6.37	6.65	6.67	6.58	6.58	6.78	6.78	6.86	6.31	6.41	6.17	6.17	7.18	7.18	7.12	6.82
Specific Conductance	mMhos	--	--	257	364		419	243	225	400	273	374	385	385	433	433	425	243	270	281	278	404	404	362	320
Temperature	°Celsius	--	--	20.80	23.63		23.28	14.62	19.58	25.52	25.18	18.94	23.14	23.14	24.60	24.60	21.24	22.43	24.41	24.69	21.61	20.41	20.41	24.67	22.62
Dissolved Oxygen (YSI)	mg/L	--	--	0.31	0.34		0.15	0.17	1.65	0.84	1.13	1.32	0.24	0.24	0.70	0.70	0.32	0.12	0.22	0.33	1.16	1.28	1.28	4.31	0.22
ORP	mV	--	--	78.3	-30.4		-91.6	-82.4	41.8	-35.2	-27.9	-77.6	-88.5	-88.5	150.5	150.5	-104.6	-73.1	-88.3	-60.8	-36.9	-120.6	-120.6	-47.4	-127.8
Turbidity	NTU	--	--	0.76	1.37		0.39	0.69	2.51	2.97	2.45	0.54	0.53	0.53	8.82	8.82	5.26	0.63	0.65	0.27	0.71	1.23	1.23	0	0.79
Laboratory Results - Natural Attenuation Parameters																								
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Nitrate (as N)	mg/L	--	--	< 0.25	--	--	--	< 0.050	--	--	--	< 0.050	--	--	--	--	--	< 0.050	--	--	--	< 0.050	< 0.050	< 0.050	--
Sulfate	mg/L	--	--	**2.1**	--	--	--	< 5.0	--	--	--	< 5.0	--	--	--	--	--	< 5.0	--	--	--	< 5.0	< 5.0	< 5.0	--
Sulfide	mg/L	--	--	< 1.0	--	--	--	< 1.0	--	--	--	1.1	--	--	--	--	--	< 1.0	--	--	--	< 1.0	< 1.0	< 1.0	--
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ferrous Iron	mg/L	--	--	< 0.100	--	--	--	<0.100	--	--	--	1.0 HF	--	--	--	--	--	0.55 HF	--	--	--	0.17	< 0.010	0.34	--
Total Iron	mg/L	--	--	0.211	--	--	--	**0.211**	--	--	--	2.7	--	--	--	--	--	1.1	--	--	--	1.1	1.2	1.5	--
Carbon Dioxide	mg/L	--	--	45	--	--	--	**45**	--	--	--	0.63	--	--	--	--	--	0.53	--	--	--	0.26	0.24	0.2	--
Methane	mg/L	--	--	15	--	--	--	**15**	--	--	--	1500	--	--	--	--	--	570	--	--	--	36	<0.19	<0.19	--
Dissolved Nitrogen	mg/L	--	--	19	--	--	--	**19**	--	--	--	5.1	--	--	--	--	--	3.8	--	--	--	3.7	4.3	4.4	--
Dissolved Oxygen	mg/L	--	--	4.7	--	--	--	**4.7**	--	--	--	1.6	--	--	--	--	--	1.3	--	--	--	1.1	1.3	1.5	--
Laboratory Results - Organic Constituents																								
Volatile Organic Compounds																								
Benzene	µg/L	5*	9	< 5.0	77	86	350	< 1.0	< 1.0	< 1.0	< 5.0	16	44	38	91	93	13	5.6	13	7.5	7.0	94	88	23	59
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	7.7	< 5.0	6.6	7.5	6.1	< 5.0	< 5.0	5.4	6.3	--	--	--	16	14	10	11
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	11	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0	< 5.0	< 5.0	< 5.0
BTEX	µg/L	--	--	**bdl**	**77**	**86**	**350**	**11**	**bdl**	**7.7**	**bdl**	**23**	**51.5**		**91**	**93**	**18**	**12**	**13**	**8**	**7**	**110**	**102**	**33**	**70**
Semivolatile Organic Compounds																									
Acenaphthene	µg/L	2,000*	6,100	< 10	< 10	< 10	< 10	0.87	< 0.19	0.71	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 10	< 10	< 10	< 10	< 0.26	< 0.19	< 0.19	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 10	< 10	< 10	< 10	< 0.26	< 0.19	< 0.19	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.20	< 0.26	< 0.19	< 0.19	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.050	< 0.20	< 0.26	< 0.19	< 0.19	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.10	< 0.20	< 0.26	< 0.19	< 0.19	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 10	< 10	< 10	< 0.26	< 0.19	< 0.19	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 10	< 10	< 10	< 0.26	< 0.19	< 0.19	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 10	< 10	< 10	< 0.26	< 0.19	< 0.19	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	< 0.20	< 0.26	< 0.19	< 0.19	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 2.6	< 1.9	< 1.9	4.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	< 10	< 10	< 0.26	< 0.19	< 0.19	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	< 10	< 10	< 10	< 10	< 0.26	< 0.19	0.23	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.20	< 0.26	< 0.19	< 0.19	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 2.6	< 1.9	< 1.9	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 2.6	< 1.9	< 1.9	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	µg/L	20*	20*	< 10	130	120	96	2.2	< 0.19	29	0.21	82	120	80	58	58	11	41	6.0	< 10	80	58	54	16	33
Phenanthrene	µg/L	470	3,100	< 10	< 10	< 10	< 10	< 0.26	< 0.19	< 0.19	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 1.3	< 0.97	< 0.95	< 1.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	< 10	< 10	< 10	< 0.26	< 0.19	< 0.19	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total SVOCs	µg/L	--	--	**bdl**	**130**	**120**	**96**	**3.1**	**bdl**	**30**	**4.5**	**82**	**120**	**80**	**58**	**58**	**11**	**41**	**6**	**bdl**	**80**	**58**	**54**	**33**	**33**
BTEX + SVOCs	µg/L	--	--	**bdl**	**207**	**206**	**446**	**14**	**bdl**	**38**	**4.5**	**105**	**172**	**80**	**149**	**151**	**29**	**53**	**19**	**8**	**87**	**168**	**156**	**49**	**103**
Inorganic Constituents																									
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Barium	µg/L	2,000	7,200	2290	3050	3080	3,250	2,300	2,200	2,900	2,300	3,000	3,100	3,100	2,600	2,600	2,700	2,000	--	--	--	2,100	2,100	2,100	1,650
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	7.4	< 4.0	5.0	5.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	< 10	< 10.0	< 10.0
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 10.0	< 20	21	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	< 20	< 20	< 20	< 10.0
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	< 10	< 10.0	< 10.0
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--	--	< 40	< 40	< 40	< 20.0
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20	23	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	--	--	16	--	--	--	< 10	< 10	< 10	< 10

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
Only those constituents that are MGP-related and HSRA-regulated are reported on this table
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-09D						
				03/10/06	12/22/05	12/05 DUP	09/29/05	02/28/05	02/05 DUP	12/16/04
Field Groundwater Quality Parameters										
pH	SU	--	--	6.58	6.70	6.70	7.06	8.85	8.85	8.85
Specific Conductance	mMhos	--	--	285	277	277	308	355	355	326
Temperature	°Celsius	--	--	19.72	20.77	20.77	21.94	19.84	19.84	21.20
Dissolved Oxygen (YSI)	mg/L	--	--	0.31	0.46	0.46	0.20	1.53	1.53	1.69
ORP	mV	--	--	-105.0	-96.4	-96.4	-70.1	-65.8	-65.8	-47.5
Turbidity	NTU	--	--	1.2	2.69	2.69	3.14	11.7	11.7	9.19
Laboratory Results - Natural Attenuation Parameters										
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	< 0.20	< 0.20	< 0.20
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--	--	< 0.0500	< 0.500	< 0.0500
Sulfate	mg/L	--	--	--	--	--	--	1.32	4.42	3.78
Sulfide	mg/L	--	--	--	--	--	--	< 1.0	< 1.0	< 1.0
Dissolved Manganese	mg/L	--	--	--	--	--	--	0.0868	0.0825	0.0426
Total Manganese	mg/L	--	--	--	--	--	--	0.141	0.142	0.138
Ferrous Iron	mg/L	--	--	--	--	--	--	0.4	0.4	0.7
Total Iron	mg/L	--	--	--	--	--	--	1.65	1.59	2.40
Carbon Dioxide	mg/L	--	--	--	--	--	--	0.6	2.6	0.52
Methane	mg/L	--	--	--	--	--	--	350	340	600
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	22	20	20
Dissolved Oxygen	mg/L	--	--	--	--	--	--	4.8	2.6	1.4
Laboratory Results - Organic Constituents										
Volatile Organic Compounds										
Benzene	µg/L	5*	9	58	45	44	120	550	550	560
Carbon Disulfide	µg/L	329	1,700	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	7.3	9.6	9.5	11	5.6	5.7	16
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	5.0	8.4	8.2	14	44	45	98
BTEX	µg/L	--	--	**70**	**63**	**62**	**145**	**600**	**601**	**674**
Semivolatile Organic Compounds										
Acenaphthene	µg/L	2,000*	6,100	--	--	--	--	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	--	--	--	--	< 10	< 10	< 10
Anthracene	µg/L	4,700	31,000	--	--	--	--	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	--	--	--	--	48	44	48
Fluoranthene	µg/L	1,000*	4,100	--	--	--	--	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	--	--	--	--	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	--	--	--	--	< 10	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	--	--	--	--	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 10	< 10	13	< 10	120	100	140
Phenanthrene	µg/L	470	3,100	--	--	--	--	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	--	--	--	--	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	--	--	--	--	< 10	< 10	< 10
Total SVOCs	µg/L	--	--	**bdl**	**bdl**	**13**	**bdl**	**168**	**144**	**188**
BTEX + SVOCs	µg/L	--	--	**70**	**63**	**75**	**145**	**768**	**745**	**862**
Inorganic Constituents										
Antimony	µg/L	6.3	40	--	--	--	--	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	--	--	--	--	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	1,580	1,480	1,470	1,380	1,100	1,110	1,080
Beryllium	µg/L	31	200	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	--	--	--	--	< 20	< 20	< 20
Mercury	µg/L	2*	2*	--	--	--	--	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
bdl - below detection limi
-- = Type 2 and Type 4 RRS are not applicable to or were not calculate
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes
Only those constituents that are MGP-related and HSRA-regulated are r
Values are listed with the laboratory- or equipment-reported number of s
Exceeds Type 2 RRS (only indicated for
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-12DRR							
				08/13/15	08/15 DUP	02/16/15	02/18/14	02/14 DUP	08/05/14	08/14 DUP	08/06/13
Field Groundwater Quality Parameters											
pH	SU	--	--	6.36		6.54	6.68		6.41		6.33
Specific Conductance	mMhos	--	--	0.53		438	445		504		521
Temperature	°Celsius	--	--	25.82		17.65	20.79		23.69		25.49
Dissolved Oxygen (YSI)	mg/L	--	--	0.32		0.55	0.22		0.38		0.58
ORP	mV	--	--	-170.70		-60.0	-56.1		-112.4		-94.7
Turbidity	NTU	--	--	6.65		4.20	1.45		0.52		9.41
Laboratory Results - Natural Attenuation Parameters											
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	< 0.25	< 0.25	< 0.25	--	--	--
Sulfate	mg/L	--	--	--	--	1.4	1.1	< 1.0	--	--	--
Sulfide	mg/L	--	--	--	--	< 1.0	< 1.0	< 1.0	--	--	--
Ferrous Iron	mg/L	--	--	--	--	3.98	2.1	1.92	--	--	--
Total Iron	mg/L	--	--	--	--	5.19	5.53	5.61	--	--	--
Carbon Dioxide	mg/L	--	--	--	--	94	85	84	--	--	--
Carbon Monoxide	mg/L	--	--	--	--	< 1.0	< 1.0	< 1.0	--	--	--
Methane	mg/L	--	--	--	--	920	840	780	--	--	--
Dissolved Nitrogen	mg/L	--	--	--	--	21	20	19	--	--	--
Dissolved Oxygen	mg/L	--	--	--	--	2.7	2.6	2	--	--	--
Laboratory Results - Organic Constituents											
Volatile Organic Compounds											
Benzene	µg/L	5.0*	9.0	250	180	280	280	290	340	370	460
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/L	700*	2,300	110	77	100	120	130	130	160	180
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	6.9	7.0	5.4	5.9	9.8
Total Xylenes	µg/L	31,000	200,000	60	43	100	94	98	56	65	100
Semivolatile Organic Compounds											
Acenaphthene	µg/L	2,000*	6,100	39	31	< 10	35	35	39	33	30
Acenaphthylene	µg/L	470	3,100	9.6	7.5	< 10	12	12	16	14	14
Anthracene	µg/L	4,700	31, 000	3.7	3.0	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	0.23	0.30	0.079	0.29	0.27	0.17	0.14	< 0.20
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	0.083	< 0.050	0.087	< 0.050	< 0.050	< 0.050	< 0.20
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	0.11	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	0.12	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	0.10	< 10	< 10	< 10	< 10	< 10	< 10
Chrysene	µg/L	117	392	0.14	0.22	< 10	< 10	< 10	< 10	< 10	< 10
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	0.11	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	6.3	5.8	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	36	28	31	40	41	48	42	35
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	0.11	< 0.050	0.087	< 0.050	< 0.050	< 0.050	< 0.20
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	550	550	770	530	570	1,000	870	1,400
Phenanthrene	µg/L	470	3,100	18	13	13	14	17	25	23	28
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	7.1	6.2	< 10	< 10	< 10	< 10	< 10	< 10
Laboratory Results - Inorganic Constituents											
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0
Barium	µg/L	2,000	7,200	1,680	1,620	1,550	1,420	1,430	1,610	1,630	1,530
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	42.8	< 20.0	< 20.0	< 20.0	< 20.0	43.9
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Total Cyanide	µg/L	310	2,000	26	37	33	26	20	48	37	40

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters.
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-12DR					MW-12D														
				11/10/10	08/10/10	05/10/10	05/10 DUP	02/23/10	08/14/09	06/07/06	03/09/06	03/06 DUP	12/21/05	12/05 DUP	09/29/05	03/02/05	12/16/04	12/04 DUP	10/01/04	06/09/04	03/04/04	12/17/03	12/03 DUP	09/10/03
Field Groundwater Quality Parameters																								
pH	SU	--	--	12.24	12.31	12.69	12.69	12.13	7.24	8.11	7.41	7.41	6.99	6.99	6.62	6.55	6.45	6.45	6.68	6.90	6.97	6.53	6.53	7.01
Specific Conductance	mMhos	--	--	13,270	19,220	18,510	18,510	2,398	376	831	664	664	798	798	760	1,242	1642	1642	1,569	406	440	672	672	288
Temperature	°Celsius	--	--	22.4	25.55	23.04	23.04	12.87	27.19	24.64	21.77	21.77	19.92	19.92	23.76	21.93	23.15	23.15	24.44	22.52	22.06	21.84	21.84	24.26
Dissolved Oxygen (YSI)	mg/L	--	--	0.71	0.76	1.24	1.24	1.08	5.73	0.13	0.31	0.31	0.19	0.19	0.16	1.16	3.67	3.67	3.25	0.55	0.35	0.30	0.30	0.19
ORP	mV	--	--	-128.6	-54.2	-108.6	-108.6	-105.0	-85.0	-145.5	-55.9	-55.9	-72.2	-72.2	-76.5	-18.4	12.7	12.7	-2.4	-111.6	-164.0	-191	-191	-177
Turbidity	NTU	--	--	6.24	0.65	5.52	5.52	0.62	3.32	4.60	2.8	2.8	0.00	0.00	1.29	4.34	4.51	4.51	2.3	3.14	5.63	--	--	11.0
Laboratory Results - Natural Attenuation Parameters																								
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.84	9.49	10.3	13.0	0.42	0.56	0.47	0.47	0.60
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--	--	< 0.050	< 0.050	--	--	--	--	--	--	< 0.500	0.0529	0.162	0.241	< 0.5	< 0.250	< 0.0500	< 0.0500	< 0.0500
Sulfate	mg/L	--	--	--	--	--	--	290	26	--	--	--	--	--	--	302	352	486	187	2.19	2.70	3.73	4.16	8.82
Sulfide	mg/L	--	--	--	--	--	--	< 1.0	< 1.0	--	--	--	--	--	--	< 1.0	< 1.0	< 1.0	2.8	< 1.0	< 1.0	1.3	1.6	< 1.0
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.87	2.16	2.15	1.74	0.548	0.584	0.663	0.664	0.474
Total Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.90	2.29	2.39	1.77	0.556	0.673	0.669	0.668	0.504
Ferrous Iron	mg/L	--	--	--	--	--	--	< 0.010	0.24	--	--	--	--	--	--	0.9	< 0.1	< 0.1	< 0.1	2.4	3.2	1.5	8.6	1.9
Total Iron	mg/L	--	--	--	--	--	--	0.14	2.8	--	--	--	--	--	--	6.45	6.01	6.29	2.58	2.13	3.83	2.78	2.77	2.41
Carbon Dioxide	mg/L	--	--	--	--	--	--	< 0.050	0.15	--	--	--	--	--	--	120	150	150	130	41	< 0.6	51	49	14
Methane	mg/L	--	--	--	--	--	--	47	40	--	--	--	--	--	--	360	360	350	470	2,600	120	2,900	3,000	150
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	4	5	--	--	--	--	--	--	15	16	14	14	16	24	20	21	14
Dissolved Oxygen	mg/L	--	--	--	--	--	--	1.5	1.8	--	--	--	--	--	--	1.3	4.3	3.3	12	0.46	2.7	1.1	1.1	0.66
Laboratory Results - Organic Constituents																								
Volatile Organic Compounds																								
Benzene	µg/L	5.0*	9.0	250	190	170	190	200	13	18	38	38	47	84	300	200	240	250	320	4,300	2,900	4,200	3,400	11
Carbon Disulfide	µg/L	329	1,700	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	--	--	--	--	33	5.4	9.3	26	25	10	20	59	44	41	41	20	1,100	620	910	740	< 5.0
Toluene	µg/L	1,000*	1,100	--	--	--	--	130	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	6.8	5.0	< 5.0	< 5.0	48	< 250	24	68	72	< 5.0
Total Xylenes	µg/L	31,000	200,000	--	--	--	--	250	< 5.0	< 5.0	6.4	6.3	7.2	12	60	48	45	47	48	830	170	1,320	1,070	< 5.0
BTEX	µg/L	--	--	**250**	**190**	**170**	**190**	**613**	**18**	**27**	**70**	**69**	**64**		**426**	**297**	**326**	**338**	**436**	**6,230**	**3,714**	**6,498**	**5,282**	**11**
Semivolatile Organic Compounds																								
Acenaphthene	µg/L	2,000*	6,100	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	78	79	100	100	56
Acenaphthylene	µg/L	470	3,100	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	23	23	27	26	13
Anthracene	µg/L	4,700	31, 000	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	59	63	78	79	43
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	430	790	330	200	890	28	20	220	300	200	240	< 10	240	400	340	< 10	8,400	5,900	9,400	8,900	5,600
Phenanthrene	µg/L	470	3,100	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	62	70	80	83	33
Phenol	µg/L	9,390	61,000	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total Semivolatiles	µg/L	--	--	**430**	**790**	**330**	**200**	**890**	**28**	**20**	**220**	**300**	**200**	**240**	**ND**	**240**	**400**	**340**	**ND**	**8,622**	**6,135**	**9,685**	**9,188**	**5,745**
BTEX + Total SVOCs	µg/L	--	--	**680**	**980**	**500**	**390**	**1,503**	**46**	**47**	**290**	**369**	**264**	**356**	**426**	**537**	**726**	**678**	**436**	**14,852**	**9,849**	**16,183**	**14,470**	**5,756**
Laboratory Results - Inorganic Constituents																								
Antimony	µg/L	6.3	40	--	--	--	--	--	--	--	--	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	--	--	--	--	--	--	--	--	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	--	--	--	--	400	280	269	243	259	276	257	197	61.2	42.4	43.7	23.8	2,730	2,510	2,490	2,520	851
Beryllium	µg/L	31	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	--	--	--	--	1,500	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	--	--	--	--	< 20	< 20	160	680	76.3	73.9	58.7	261	159	325	337	574	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	--	--	--	--	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	11.4	46.7	47.9	31.9	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	--	--	--	--	< 40	42	158	125	125	195	161	< 20	344	369	379	223	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	--	--	--	--	--	--	--	--	--	--	--	--	648	824	857	693	< 20	< 20	< 20	< 20	< 20
Mercury	µg/L	2*	2*	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	--	--	--	--	130	19	25	24	46	19	20	45	24	51	38	27	51	56	81	84	< 10

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
Only those constituents that are MGP-related and HSRA-regulated are reported on this table
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	06/10/03	03/12/03	12/10/02	09/18/02	11/06/01
Field Groundwater Quality Parameters								
pH	SU	--	--	7.07	6.73	6.58	6.82	6.80
Specific Conductance	mMhos	--	--	295	400	393	400	376
Temperature	°Celsius	--	--	23.57	22.36	22.27	24.14	24.49
Dissolved Oxygen (YSI)	mg/L	--	--	0.07	0.04	0.18	0.03	0.09
ORP	mV	--	--	-156	-118.3	-99.6	-178.4	-135.2
Turbidity	NTU	--	--	5.1	0.9	4.3	10	31
Laboratory Results - Natural Attenuation Parameters								
Nitrogen, Ammonia (as N)	mg/L	--	--	0.546	0.754	0.505	0.724	0.448
Nitrogen, Nitrate (as N)	mg/L	--	--	< 0.500	< 0.0500	< 0.050	< 0.050	0.454
Sulfate	mg/L	--	--	3.06	5.81	5.10	4.08	4.28
Sulfide	mg/L	--	--	< 1.0	< 1.0	< 1.00	< 1.00	0.500
Dissolved Manganese	mg/L	--	--	0.497	0.514	0.525	0.522	0.451
Total Manganese	mg/L	--	--	0.543	0.532	0.614	0.483	0.519
Ferrous Iron	mg/L	--	--	1.9	1.69	2.78	1.55	1.89
Total Iron	mg/L	--	--	2.66	1.72	4.18	1.75	2.67
Carbon Dioxide	mg/L	--	--	21	40	40	33	23
Methane	mg/L	--	--	2,000	3,300	2,600	3,000	380
Dissolved Nitrogen	mg/L	--	--	17	18	17	20	13
Dissolved Oxygen	mg/L	--	--	0.63	0.66	4.9	7.1	0.78
Laboratory Results - Organic Constituents								
Volatile Organic Compounds								
Benzene	µg/L	5.0*	9.0	920	2,400	2,200	1,500	4,700
Carbon Disulfide	µg/L	329	1,700	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	390	830	830	510	1,200
Toluene	µg/L	1,000*	1,100	6.0	14	19	20	11
Total Xylenes	µg/L	31,000	200,000	300	740	200	500	92
BTEX	µg/L	--	--	**1,616**	**3,984**	**3,249**	**2,530**	**6,003**
Semivolatile Organic Compounds								
Acenaphthene	µg/L	2,000*	6,100	30	< 100	63	49	< 10
Acenaphthylene	µg/L	470	3,100	< 10	< 100	17	17	42
Anthracene	µg/L	4,700	31, 000	< 10	< 100	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	--	--	--	--	--
Chrysene	µg/L	117	392	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 100	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 10	< 100	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	24	< 100	48	39	30
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 100	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	< 10	< 100	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	3,000	4,400	6,700	5,200	4,500
Phenanthrene	µg/L	470	3,100	21	< 100	50	40	23
Phenol	µg/L	9,390	61,000	< 10	< 100	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	< 100	< 10	< 10	< 10
Total Semivolatiles	µg/L	--	--	**3,075**	**4,400**	**6,878**	**5,345**	**4,595**
BTEX + Total SVOCs	µg/L	--	--	**4,691**	**8,384**	**10,127**	**7,875**	**10,598**
Laboratory Results - Inorganic Constituents								
Antimony	µg/L	6.3	40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	967	2,850	2,840	2,200	1,420
Beryllium	µg/L	31	200	--	--	--	--	--
Cadmium	µg/L	7.8	51	--	--	--	--	--
Chromium	µg/L	100	310	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	< 20	< 20	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	20	93	86	113	62

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1
Only those constituents that are MGP-related and HSRA-regulated are reported on t
Values are listed with the laboratory- or equipment-reported number of significant dig
Exceeds Type 2 RRS (only indicated for of
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-12DD																					
				02/16/15	02/19/14	08/05/14	08/07/13	02/06/13	11/07/12	08/09/12	05/16/12	02/09/12	11/16/11	08/11/11	05/04/11	05/11 DUP	02/17/11	11/10/10	08/10/10	05/10/10	02/25/10	08/14/09	06/07/06	03/09/06	12/21/05	09/30/05
Field Groundwater Quality Parameters																									
pH	SU	--	--	7.32	8.13	7.78	6.05	7.32	7.02	6.87	7.58	7.31	7.44	7.29	6.98	6.98	7.62	7.80	6.12	5.86	8.62	11.65	9.79	9.88	9.80	8.95
Specific Conductance	mMhos	--	--	209	241	227	225	225	220	231	231	230	239	256	284	284	294	280	508	506	216	173	266	215	209	161
Temperature	°Celsius	--	--	18.44	24.24	24.35	23.72	19.70	21.02	22.89	22.09	18.16	23.11	23.56	23.02	23.02	23.55	23.00	26.84	23.54	22.12	27.75	25.03	24.40	23.91	23.22
Dissolved Oxygen (YSI)	mg/L	--	--	0.81	0.26	0.34	1.08	2.23	0.50	1.12	1.29	0.56	0.43	0.28	0.97	0.97	0.30	1.05	19.74	0.72	0.54	1.15	0.26	0.27	0.23	0.35
ORP	mV	--	--	-53.0	-172.8	-161.4	-59.4	-19.4	-74.6	0.3	-90.2	-114.4	-103.4	174.0	-402.6	-402.6	-153.4	-4.4	-91.1	-45.2	-3.1	158.7	-143.3	-142.5	-150.3	-22.4
Turbidity	NTU	--	--	0.99	15.6	6.00	2.12	2.69	3.61	17.2	5.90	0.98	2.21	11.8	7.95	7.95	1.34	1.17	2.42	21.8	2.71	9.89	43.1	45	4.36	51.7
Laboratory Results - Natural Attenuation Parameters																									
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	< 0.050	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Nitrate (as N)	mg/L	--	--	--	< 0.25	--	--	< 5.0	--	--	--	< 0.050	--	--	--	--	< 0.050	--	--	--	< 0.050	< 0.050	--	--	--	--
Sulfate	mg/L	--	--	--	6.3	--	--	1.0	--	--	--	7.4	--	--	--	--	24	--	--	--	19	< 5.0	--	--	--	--
Sulfide	mg/L	--	--	--	1.6	--	--	--	--	--	--	< 1.0	--	--	--	--	< 1.0	--	--	--	< 1.0	< 1.0	--	--	--	--
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Manganese	mg/L	--	--	--	--	--	--	< 0.10 HF	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ferrous Iron	mg/L	--	--	--	0.258	--	--	0.22	--	--	--	< 0.10 HF	--	--	--	--	< 0.010	--	--	--	< 0.010	< 0.010	--	--	--	--
Total Iron	mg/L	--	--	--	0.161	--	--	2.7 J	--	--	--	0.11	--	--	--	--	0.12	--	--	--	0.2	0.23	--	--	--	--
Carbon Dioxide	mg/L	--	--	--	< 5.0	--	--	< 1.0	--	--	--	100	--	--	--	--	0.081	--	--	--	< 0.050	< 50	--	--	--	--
Carbon Monoxide	mg/L			--	< 1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methane	mg/L	--	--	--	260	--	--	160	--	--	--	< 0.58	--	--	--	--	1.6	--	--	--	120	150	--	--	--	--
Dissolved Nitrogen	mg/L	--	--	--	14	--	--	--	--	--	--	5000	--	--	--	--	4.8	--	--	--	4.1	4.5	--	--	--	--
Dissolved Oxygen	mg/L	--	--	--	1.4	--	--	6.8	--	--	--	1500	--	--	--	--	1.6	--	--	--	1.5	1.5	--	--	--	--
Laboratory Results - Organic Constituents																									
Volatile Organic Compounds																									
Benzene	µg/L	5*	9	44	130	140	8.0	150	29	41	35	71	81	25	15	27	< 5.0	< 5.0	< 5.0	< 5.0	310	68	180	38	40	40
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	10	19	28	< 5.0	16	7.9	7.4	7.0	8.4	18	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	40	< 5.0	14	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	6	6	< 5.0	5.2	1.4	1.7	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	10	< 5.0	5.3	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	11	13	21	< 5.0	12	6.0	8.4	8.4	10	22		< 5.0	< 5.0	< 5.0	--	--	--	46	< 5.0	15	< 5.0	< 5.0	< 5.0
BTEX	µg/L	--	--	**65**	**168**	**195**	**8.0**	**183**	**44**	**59**	**50**	**89**	**121**	**25**	**15**	**27**	**bdl**	**bdl**	**bdl**	**bdl**	**406**	**68**	**214**	**38**	**40**	**40**
Semivolatile Organic Compounds																									
Acenaphthene	µg/L	2,000*	6,100	< 10	< 10	< 10	< 10	0.45	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 10	< 10	< 10	< 10	0.24	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 10	< 10	< 10	< 10	< 0.19	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.20	< 0.19	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.050	< 0.20	< 0.19	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.10	< 0.20	< 0.19	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 10	< 10	< 10	< 0.19	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 10	< 10	< 10	< 0.19	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 10	< 10	< 10	< 0.19	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	< 0.20	< 0.19	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 1.9	< 1.9	< 20	< 2.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	< 10	< 10	< 0.19	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	< 10	< 10	< 10	< 10	0.21	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.20	< 0.19	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 1.9	< 1.9	< 20	< 2.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 1.9	< 1.9	< 20	< 2.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	µg/L	20*	20*	13	< 10	62	< 10	0.44	< 0.19	< 2.0	< 0.23	46	110	7.6	< 5.0	9.4	< 5.0	< 5.0	< 5.0	< 5.0	< 9.7	< 9.7	55	< 10	18	< 10
Phenanthrene	µg/L	470	3,100	< 10	< 10	< 10	< 10	< 0.19	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	9.6	< 0.97	< 9.9	< 1.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	< 10	< 10	< 10	< 0.19	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Semivolatiles	µg/L	--	--	**13**	**bdl**	**62**	**bdl**	**10.9**	**bdl**	**bdl**	**bdl**	**46**	**110**	**7.6**	**bdl**	**9.4**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**55**	**bdl**	**18**	**bdl**
BTEX + Total SVOCs	µg/L	--	--	**78**	**168**	**257**	**8.0**	**194**	**44**	**59**	**43**	**135**	**221**	**33**	**15**	**36**	**bdl**	**bdl**	**bdl**	**bdl**	**406**	**68**	**269**	**38**	**58**	**40**
Inorganic Constituents																									
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Barium	µg/L	2,000	7,200	94.8	92.1	66.1	86.4	89	85	86	75	77	83	73	64	67	39	--	--	--	31	390	130	109	109	102
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	6.3	6.3	6.3	6.3	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	< 10	< 10	< 10	< 10.0	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	< 20	< 20	< 10	< 10	< 10.0	< 10
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	< 10	< 10	< 10	15.1	12.3
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--	--	< 40	< 40	< 20	< 20	< 20.0	< 20
Zinc	µg/L	4,700	31,000	312	87.8	62.7	312	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 10	< 10	12	10	20	28	24	21	24	--	--	--	--	15	--	--	--	12	88	23	19	27	28

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
Only those constituents that are MGP-related and HSRA-regulated are reported on this table
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituent

Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-12DD 03/02/05	12/14/04	10/05/04	06/11/04	03/05/04	12/18/03	09/10/03	06/12/03	06/03 DUP	03/13/03	03/03 DUP	12/12/02	09/18/02	11/07/01
Field Groundwater Quality Parameters																	
pH	SU	--	--	7.75	8.18	7.90	9.99	8.37	10.32	10.54	12.01	12.01	11.67	11.67	11.89	11.97	12.00
Specific Conductance	mMhos	--	--	122	102	98	248	154	222	683	1057	1057	1,195	1,195	2,711	4,196	4,630
Temperature	°Celsius	--	--	22.99	24.98	26.9	27.48	--	22.34	23.94	24.58	24.58	22.75	22.75	21.50	26.32	22.80
Dissolved Oxygen (YSI)	mg/L	--	--	1.27	2.76	1.50	1.61	3.81	0.31	0.82	0.76	0.76	0.19	0.19	0.30	0.13	0.24
ORP	mV	--	--	-60.1	-111.6	-62.7	-78.8	-60.8	-177.2	-204.1	-150.4	-150.4	-199.9	-199.9	-213.5	-209.3	-194.8
Turbidity	NTU	--	--	--	35.6	59	22	--	13.40	14.2	15	15	9.61	9.61	7.70	13.0	9.81
Laboratory Results - Natural Attenuation Parameters																	
Nitrogen, Ammonia (as N)	mg/L	--	--	0.21	< 0.20	< 0.20	0.28	0.27	0.32	0.36	0.303	0.358	0.484	0.414	0.557	0.573	0.691
Nitrogen, Nitrate (as N)	mg/L	--	--	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	0.0579	< 0.0500	0.0828	0.0817	0.0749	< 0.0500	< 0.0500	< 0.0500	0.525
Sulfate	mg/L	--	--	1.50	21.2	1.79	2.63	5.18	3.09	4.54	10.8	8.56	6.82	6.39	4.85	4.97	3.08
Sulfide	mg/L	--	--	2.0	1.4	< 1.0	2.3	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.00	< 1.00	2.74
Dissolved Manganese	mg/L	--	--	< 0.0050	0.0071	< 0.005	< 0.005	< 0.005	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.005	< 0.005	< 0.005
Total Manganese	mg/L	--	--	0.0204	0.0166	0.0240	0.0152	0.0111	0.0083	< 0.0050	0.0052	< 0.0050	< 0.0050	0.0111	< 0.005	< 0.005	< 0.005
Ferrous Iron	mg/L	--	--	0.4	0.1	0.2	< 0.1	< 0.1	0.8	< 0.1	0.2	0.3	0.137	0.154	< 0.200	< 0.200	< 2.00
Total Iron	mg/L	--	--	1.97	0.345	1.12	0.932	0.435	0.525	< 0.100	0.212	0.168	0.187	0.303	0.126	< 0.100	< 0.100
Carbon Dioxide	mg/L	--	--	< 0.60	< 0.60	< 0.60	< 0.6	180	< 0.60	< 0.60	< 0.60	< 0.60	< 0.60	< 0.60	< 0.60	0.40	< 0.60
Carbon Monoxide	mg/L			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methane	mg/L	--	--	280	160	120	200	25	94	170	180	190	200	200	220	200	220
Dissolved Nitrogen	mg/L	--	--	22	16	16	19	21	23	19	20	20	23	23	19	23	16
Dissolved Oxygen	mg/L	--	--	2.4	1.7	2.0	0.61	1.6	5.4	1.6	1.3	1.4	1.4	1.3	6.7	6.5	2.8
Laboratory Results - Organic Constituents																	
Volatile Organic Compounds																	
Benzene	µg/L	5*	9	290	430	230	560	190	130	630	390	400	680	740	1,000	1,800	1,800
Carbon Disulfide	µg/L	329	1,700	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	19	31	21	40	13	14	31	17	16	9.0	42	41	45	38
Toluene	µg/L	1,000*	1,100	8.0	11	6.7	16	5.7	6.2	13	8.6	8.2	6.1	15	14	16	13
Total Xylenes	µg/L	31,000	200,000	28	35	20	38	5.0	13.8	30	17	17	6.2	46	21	61	23
BTEX	µg/L	--	--	**345**	**507**	**278**	**654**	**214**	**164**	**704**	**433**	**441**	**701**	**843**	**1,076**	1,861	**1,874**
Semivolatile Organic Compounds																	
Acenaphthene	µg/L	2,000*	6,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	16	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	39	71	< 10	< 10	< 10	< 10	89	17	16	150	180	160	220	150
Phenanthrene	µg/L	470	3,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	18	< 10	< 10	< 10	< 10	< 10	< 10	< 10	19	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total Semivolatiles	µg/L	--	--	**73**	**71**	**bdl**	**bdl**	**bdl**	**bdl**	**89**	**17**	**35**	**150**	**180**	**160**	**220**	**150**
BTEX + Total SVOCs	µg/L	--	--	**418**	**578**	**278**	**654**	**214**	**164**	**793**	**450**	**476**	**851**	**1,023**	**1,236**	**2,081**	**2,024**
Inorganic Constituents																	
Antimony	µg/L	6.3	40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	76.0	110	164	208	136	161	287	287	281	382	404	932	1,490	1,860
Beryllium	µg/L	31	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	21.5	< 10	32.1	116	10.4	< 10	< 10	< 10	< 10	< 10	< 10	10	< 10	< 10
Copper	µg/L	630	4,100	< 10	< 10	< 10	16.1	< 10	< 10	< 10	10.1	10.4	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	23.4	21.9	< 10	12	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20	< 20	< 20	97.7	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	44.0	< 20	25.3	< 20	27.9	< 20	< 20	21.7	21.2	22	30	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	18	10	< 10	< 10	36	< 10	< 10	< 10	< 10	16	15	< 10	< 10	< 10

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calcula
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becom
Only those constituents that are MGP-related and HSRA-regulated are
Values are listed with the laboratory- or equipment-reported number of
Exceeds Type 2 RRS (only indicated fo
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-22D			MW-23D					
				08/12/15	04/29/15	03/01/05	08/11/15	02/16/15	08/05/13	02/28/05	10/06/04	06/10/03
Field Groundwater Quality Parameters												
pH	SU	--	--	7.69	6.83	6.66	5.93	5.87	5.55	6.07	5.91	6.17
Specific Conductance	mMhos	--	--	0.327	0.475	423	0.304	0.369	363	378	388	399
Temperature	°Celsius	--	--	26.29	19.41	19.85	27.58	17.45	26.06	22.07	24.18	23.37
Dissolved Oxygen (YSI)	mg/L	--	--	0.31	0.50	1.03	0.26	0.82	1.09	2.78	0.11	0.14
ORP	mV	--	--	-169.1	-74.0	-87.4	149.7	200.9	-105.6	148.6	85.0	113.8
Turbidity	NTU	--	--	9.73	1.90	2.76	9.92	2.01	9.12	12.5	5.19	3.3
Laboratory Results - Natural Attenuation Parameters												
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	< 0.20	--	--	--	< 0.20	< 0.20	< 0.200
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	< 0.500	--	--	--	< 0.0500	< 0.0500	< 0.0500
Sulfate	mg/L	--	--	--	--	2.67	--	--	--	28.0	55.2	39.7
Sulfide	mg/L	--	--	--	--	< 1.0	--	--	--	< 1.0	< 1.0	< 1.0
Dissolved Manganese	mg/L	--	--	--	--	1.45	--	--	--	0.596	0.510	0.637
Total Manganese	mg/L	--	--	--	--	1.43	--	--	--	0.622	0.529	0.651
Ferrous Iron	mg/L	--	--	--	--	6.7	--	--	--	< 0.1	< 0.1	0.7
Total Iron	mg/L	--	--	--	--	6.43	--	--	--	0.375	< 0.1	1.35
Carbon Dioxide	mg/L	--	--	--	--	31	--	--	--	140	150	170
Methane	mg/L	--	--	--	--	24	--	--	--	31	22	23
Dissolved Nitrogen	mg/L	--	--	--	--	21	--	--	--	16	15	14
Dissolved Oxygen	mg/L	--	--	--	--	1.5	--	--	--	1.1	1.5	1.0
Laboratory Results - Organic Constituents												
Volatile Organic Compounds												
Benzene	µg/L	5.0*	9.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	--	< 5.0	< 5.0	< 5.0	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Naphthalene	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
BTEX	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Semivolatile Organic Compounds												
Acenaphthene	µg/L	2,000*	6,100	< 10	< 0.50	< 10	< 10	< 0.50	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 10	< 1.0	< 10	< 10	< 1.0	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31, 000	< 10	< 0.050	< 10	< 10	< 0.050	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	--	< 0.050	< 0.050	< 0.20	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	--	< 0.050	< 0.050	< 0.20	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	--	< 0.10	< 0.10	< 0.20	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 0.10	--	< 10	< 0.10	< 10	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 0.050	--	< 10	< 0.050	< 10	--	--	--
Chrysene	µg/L	117	392	< 10	< 0.050	--	< 10	< 0.050	< 10	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	--	< 0.10	< 0.10	< 0.20	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 10	< 0.10	< 10	< 10	< 0.10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 10	< 0.10	< 10	< 10	< 0.10	< 10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	--	< 0.050	< 0.050	< 0.20	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 10	< 0.50	< 10	< 10	< 0.50	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	470	3,100	< 10	< 0.050	< 10	< 10	< 0.050	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 10	< 0.050	< 10	< 10	< 0.050	< 10	< 10	< 10	< 10
Total Semivolatiles	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
BTEX + Total SVOCs	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Laboratory Results - Inorganic Constituents												
Antimony	µg/L	6.3	40	< 0.0200	< 0.0200	< 40	< 0.0200	< 0.0200	< 20.0	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 0.0500	< 0.0500	< 50	< 0.0500	< 0.0500	< 50.0	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	0.907	1.44	1,290	0.0644	0.0661	54.3	52.2	48.2	50
Beryllium	µg/L	31	200	< 0.0100	< 0.0100	--	< 0.0100	< 0.0100	< 10.0	--	--	--
Cadmium	µg/L	7.8	51	< 0.0050	< 0.0050	--	< 0.0050	< 0.0050	< 5.0	--	--	--
Chromium	µg/L	100	310	< 0.0100	< 0.0100	< 10	< 0.0100	< 0.0100	< 10.0	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 0.0100	< 0.0100	< 10	< 0.0100	< 0.0100	< 10.0	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 0.0100	< 0.0100	< 10	< 0.0100	< 0.0100	< 10.0	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 0.0200	< 0.0200	< 20	< 0.0200	< 0.0200	< 20.0	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	< 0.0200	< 0.0200	< 20	< 0.0200	< 0.0200	< 20.0	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.00020	< 0.00020	< 0.5	< 0.00020	< 0.00020	< 0.20	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	< 0.010	< 0.010	< 10	< 0.010	< 0.010	< 10	< 10	< 10	< 10

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
Only those constituents that are MGP-related and HSRA-regulated are reported on this table
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-24D																				
				08/13/15	02/17/15	02/04/13	02/06/12	02/15/11	02/22/10	08/14/09	06/06/06	03/09/06	12/20/05	09/30/05	03/01/05	12/14/04	09/30/04	06/08/04	03/03/04	12/16/03	09/09/03	06/10/03	03/11/03	12/11/02	09/18/02	11/08/01
Field Groundwater Quality Parameters																								
pH	SU	--	--	6.08	6.03	5.84	5.9	5.77	6.05	6.14	5.68	5.74	5.83	5.88	5.83	9.78	5.91	5.71	5.91	6.16	4.79	6.13	5.92	5.84	6.03	5.89
Specific Conductance	mMhos	--	--	0.484	0.064	195	247	198	69	324	368	350	379	450	348	461	536	478	436	381	468	466	404	486	568	538
Temperature	°Celsius	--	--	21.66	15.75	15.89	16.64	18.33	14.62	23.77	19.70	18.80	18.48	21.33	19.27	19.28	21.05	21.91	18.16	17.34	21.04	20.5	18.52	20.06	21.98	21.50
Dissolved Oxygen (YSI)	mg/L	--	--	0.21	1.45	0.74	0.31	1.49	4.73	5.12	0.71	1.26	0.40	0.80	1.57	0.5	0.27	0.23	0.61	2.46	0.37	0.11	0.37	0.17	0.04	0.18
ORP	mV	--	--	-80.8	100.1	55.4	57.5	79.1	135.4	214.6	4.3	35.3	-8.7	-16.8	103.4	-110.3	-35.1	-27.6	47.7	146.8	-51	-9.5	22.0	0.2	-32.5	-31.6
Turbidity	NTU	--	--	34	9.47	7.53	27.7	7.31	9.51	0.95	35.7	33.8	23.4	48.3	56.6	24.5	6.1	60	75.6	--	22.7	100	35	60.0	29.0	28.6
Laboratory Results - Natural Attenuation Parameters																								
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	0.26	0.287	0.253	< 0.200	< 0.200	0.110
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	0.073	0.057	< 0.050	0.46	< 0.050	--	--	--	--	< 0.500	< 0.0500	< 0.0500	< 0.5	< 0.250	0.258	0.206	< 0.0500	< 0.0500	< 0.050	0.056	< 0.0500
Sulfate	mg/L	--	--	--	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	1.32	1.26	2.43	1.92	2.32	3.36	< 2.00	< 1.00	2.05	1.88	1.82	< 1.00
Sulfide	mg/L	--	--	--	--	< 1.0	1.8	< 1.0	< 1.0	< 1.0	--	--	--	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1.00	< 1.00	< 1.00
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	1.71	2.15	2.32	2.33	2.12	1.63	2.32	2.24	1.68	2.45	2.55	2.56
Total Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	1.67	2.14	2.35	2.39	2.34	1.67	2.33	2.2	1.74	2.36	2.26	2.54
Ferrous Iron	mg/L	--	--	--	--	18 HF	16	12	< 0.010	4.9	--	--	--	--	13.7	38.6	38.3	38.1	25.1	0.2	11.6	14.6	15.7	49.5	36.0	41.3
Total Iron	mg/L	--	--	--	--	18	2.7	15	0.73	5.8	--	--	--	--	15.4	37.4	38.7	33.5	29.3	6.07	39.7	37.5	18.0	40.3	38.3	43.0
Carbon Dioxide	mg/L	--	--	--	--	140	3.5	1.8	0.23	0.94	--	--	--	--	140	200	180	200	190	79	200	200	200	230	190	170
Methane	mg/L	--	--	--	--	140	120	72	0.29	56	--	--	--	--	120	410	420	290	250	3.5	500	300	210	300	390	300
Dissolved Nitrogen	mg/L	--	--	--	--	18	3.9	4.3	4.1	4.5	--	--	--	--	18	20	16	20	22	17	21	19	20	16	19	17
Dissolved Oxygen	mg/L	--	--	--	--	4.7	0.99	1.4	1.5	1.6	--	--	--	--	3.0	2.3	0.98	0.51	0.83	5.1	0.64	0.62	0.58	4.6	6.0	1.1
Laboratory Results - Organic Constituents																								
Volatile Organic Compounds																								
Benzene	µg/L	5.0*	9.0	39	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	7.5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1700.0	< 5.0	< 5.0	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	31	< 5.0	1.9	< 5.0	< 5.0	< 5.0	< 5.0	5.6	< 5.0	< 5.0	5.1	< 5.0	11	< 5.0	57	84	< 5.0	12	16	5.2	110	24	130
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Naphthalene	µg/L	31,000	200,000	< 5.0	< 5.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
BTEX	µg/L	--	--	**70**	**bdl**	**1.9**	**bdl**	**bdl**	**bdl**	**7.5**	**5.6**	**bdl**	**bdl**		**bdl**	**11**	**bdl**	**57**	**84**	**bdl**	**12**	**16**	**5.2**	**110**	**24**	**130**
Semivolatile Organic Compounds																								
Acenaphthene	µg/L	2,000*	6,100	15	< 10	2.3	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	13	< 10	13	< 10	< 10	15	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 1.0	< 10	0.32	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	15
Anthracene	µg/L	4,700	31, 000	0.41	< 10	< 0.19	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 10	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 10	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 0.050	< 10	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 10	< 1.9	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 0.10	< 10	< 0.19	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	1.5	< 10	0.48	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 1.9	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	< 10	< 10	< 1.9	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	220	< 10	3.5	< 5.0	< 5.0	< 9.4	< 10	13	< 10	< 10	< 10	< 10	17	11	36	66	< 10	35	35	< 10	98	23	130
Phenanthrene	µg/L	470	3,100	2.4	< 10	< 0.19	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 0.97	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	0.11	< 10	< 0.19	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total Semivolatiles	µg/L	--	--	**239**	**0**	**6.6**	**bdl**	**bdl**	**bdl**	**bdl**	**13**	**bdl**	**bdl**	**bdl**	**bdl**	**17**	**11**	**36**	**79**	**bdl**	**48**	**35**	**bdl**	**113**	**23**	**145**
BTEX + Total SVOCs	µg/L	--	--	**309**	**#VALUE!**	**8.5**	**bdl**	**bdl**	**bdl**	**7.5**	**19**	**bdl**	**bdl**	**5.1**	**bdl**	**28**	**11**	**93**	**163**	**bdl**	**60**	**51**	**5.2**	**223**	**47**	**275**
Laboratory Results - Inorganic Constituents																								
Antimony	µg/L	6.3	40	< 0.0200	< 0.0200	< 20	--	--	--	--	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 0.0500	< 0.0500	< 20	--	--	--	--	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	4.37	0.422	2,300	2,600	2,200	470	2,800	3,510	3,040	3,910	4,170	2,870	3,850	4,120	3,940	4,060	3,080	4,210	2,600	3,550	3,940	4,130	4,400
Beryllium	µg/L	31	200	< 0.0100	< 0.0100	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 0.0050	< 0.0050	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 0.0100	< 0.0100	< 10	< 10	< 10	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 0.0100	< 0.0100	< 20	< 20	< 20	< 20	< 20	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 0.0100	< 0.0100	< 10	< 10	< 10	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Mercury	µg/L	2*	2*	< 0.0200	< 0.0200	< 40	--	--	--	--	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	µg/L	100	2,000	0.197	0.0398	20	< 40	< 40	< 40	< 40	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	< 0.00020	< 0.00020	< 0.20	--	--	--	--	--	--	--	--	25.4	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Total Cyanide	µg/L	310	2,000	< 0.010	< 0.010	< 10	< 10	15	< 10	< 10	< 10	< 10	< 10	< 10	17	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
Only those constituents that are MGP-related and HSRA-regulated are reported on this table
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-25D														
				08/12/15	02/16/15	08/05/13	02/04/13	11/06/12	08/07/12	05/14/12	02/07/12	11/18/11	08/08/11	05/02/11	02/16/11	11/09/10	08/09/10	05/10/10	02/23/10
Field Groundwater Quality Parameters																		
pH	SU	--	--	5.40	5.60	4.65	5.53	5.62	5.09	5.41	5.22	5.46	5.49	5.06	5.40	5.49	7.14	5.43	5.59
Specific Conductance	mMhos	--	--	0.446	0.371	441	408	416	484	464	426	403	489	485	418	471	502	470	493
Temperature	°Celsius	--	--	26.25	17.09	23.67	16.81	19.04	22.92	24.02	19.76	17.02	27.36	19.96	22.49	22.74	24.74	20.35	15.21
Dissolved Oxygen (YSI)	mg/L	--	--	0.59	2.67	3.01	1.83	1.75	2.72	2.01	0.57	0.75	0.64	0.84	2.63	1.67	0.87	0.97	4.26
ORP	mV	--	--	4.2	129.2	-2.3	258.2	195.5	109.9	138.7	78.1	243.7	226.5	-15.6	282.5	241.2	-145.3	203.8	161.5
Turbidity	NTU	--	--	0.52	2.43	0.75	0.78	1.17	2.56	0.93	1.29	1.46	5.75	2.54	2.31	0.10	6.08	1.18	2.33
Laboratory Results - Natural Attenuation Parameters																			
Nitrogen, Ammonia (as N	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--	3.4	--	--	--	4.2	--	--	--	4.2	--	--	--	3.7
Sulfate	mg/L	--	--	--	--	--	< 5.0	--	--	--	< 5.0	--	--	--	< 5.0	--	--	--	< 5.0
Sulfide	mg/L	--	--	--	--	--	< 1.0	--	--	--	< 1.0	--	--	--	< 1.0	--	--	--	< 1.0
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ferrous Iron	mg/L	--	--	--	--	--	< 0.10 HF	--	--	--	< 0.10 HF	--	--	--	< 0.010	--	--	--	< 0.010
Total Iron	mg/L	--	--	--	--	--	< 0.10	--	--	--	< 0.10	--	--	--	< 0.010	--	--	--	< 0.010
Carbon Dioxide	mg/L	--	--	--	--	--	76	--	--	--	1.6	--	--	--	2.1	--	--	--	0.93
Methane	mg/L	--	--	--	--	--	< 0.58	--	--	--	< 0.58	--	--	--	<0.58	--	--	--	<0.19
Dissolved Nitrogen	mg/L	--	--	--	--	--	18	--	--	--	5.6	--	--	--	4.4	--	--	--	3.8
Dissolved Oxygen	mg/L	--	--	--	--	--	6.2	--	--	--	1.8	--	--	--	1.4	--	--	--	1.3
Laboratory Results - Organic Constituents																			
Volatile Organic Compounds																			
Benzene	µg/L	5*	9	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0
BTEX	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**		**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Semivolatile Organic Compounds																			
Acenaphthene	µg/L	2,000*	6,100	< 0.50	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 1.0	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 0.050	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.20	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.20	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.20	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 0.050	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.20	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 1.9	< 2.0	< 2.0	< 2.1	--	--	--	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 0.10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	< 0.10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.20	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 1.9	< 2.0	< 2.0	< 2.1	--	--	--	--	--	--	--	--	--
4-Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 1.9	< 2.0	< 2.0	< 2.1	--	--	--	--	--	--	--	--	--
Naphthalene	µg/L	20*	20*	< 0.50	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.21	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<9.4
Phenanthrene	µg/L	470	3,100	< 0.050	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 0.97	< 0.99	< 1.0	< 1.1	--	--	--	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 0.050	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Total Semivolatiles	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
BTEX + Total SVOCs	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Inorganic Constituents																			
Antimony	µg/L	6.3	40	< 0.0200	< 0.0200	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 0.0500	< 0.0500	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--
Barium	µg/L	2,000	7,200	**3.79**	**3.50**	3,150	3,800	3,700	4,100	3,600	4,200	4,000	3,700	4,000	3,500	--	--	--	3,900
Beryllium	µg/L	31	200	< 0.0100	< 0.0100	< 10.0	< 4.0	5.7	< 4.0	5.3	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 0.0050	< 0.0050	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 0.0100	< 0.0100	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10
Copper	µg/L	630	4,100	< 0.0100	< 0.0100	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	< 20
Lead	µg/L	15*	15*	< 0.0100	**0.0103**	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10
Nickel	µg/L	100	2,000	< 0.0200	< 0.0200	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--	--	< 40
Zinc	µg/L	4,700	31,000	< 0.0200	**0.0292**	< 20.0	< 20	25	< 20	< 20	--	--	--	--	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.00020	< 0.00020	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 0.010	< 0.010	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	--	--	--	< 10

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
Only those constituents that are MGP-related and HSRA-regulated are reported on this table
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-26D		MW-27D												
				03/01/05	03/05/04	08/11/15	04/30/15	03/01/05	12/15/04	10/04/04	06/10/04	03/04/04	12/17/03	09/09/03	06/12/03	03/12/03	12/11/02	09/19/02	11/09/01
Field Groundwater Quality Parameters																		
pH	SU	--	--	12.05	11.81	6.80	7.16	6.32	7.18	6.06	6.28	6.34	6.12	5.29	6.35	6.32	6.09	6.27	9.24
Specific Conductance	mMhos	--	--	2,066	2362	0.254	266	182	206	213	242	209	335	212	202	222	190	219	230
Temperature	°Celsius	--	--	17.67	18.69	25.40	18.9	18.96	20.18	21.34	24.06	21.77	20.85	23.16	21	20.12	20.44	21.07	19.98
Dissolved Oxygen (YSI)	mg/L	--	--	1.38	1.22	1.29	3.7	1.29	0.21	0.05	1.78	0.45	0.48	0.32	0.38	0.12	0.18	0.13	0.29
ORP	mV	--	--	-444.4	8.6	-14.5	-14.8	-13.1	-130.6	-19.6	-36.8	44.0	-101.4	-74.3	-59	-29.6	2.3	-31.9	-14.5
Turbidity	NTU	--	--	2.95	1.41	1.03	2.97	0.72	0.53	0.92	1.80	2.72	1.81	3.27	0.0	1.2	0.0	0.0	2.06
Laboratory Results - Natural Attenuation Parameters																			
Nitrogen, Ammonia (as N	mg/L	--	--	0.25	--	--	--	< 0.20	0.23	0.26	0.29	< 0.20	< 0.20	0.39	0.327	0.336	0.260	< 0.200	< 0.200
Nitrogen, Nitrate (as N)	mg/L	--	--	< 0.0500	--	--	--	< 0.500	< 0.0500	< 0.0500	< 0.5	< 0.250	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.050	0.561	0.091
Sulfate	mg/L	--	--	5.88	--	--	--	3.25	3.49	5.24	3.13	4.05	4.21	3.62	3.06	3.43	3.18	3.78	4.12
Sulfide	mg/L	--	--	1.5	--	--	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.00	< 1.00	< 1.00
Dissolved Manganese	mg/L	--	--	< 0.0050	--	--	--	1.40	1.41	1.48	1.5	1.48	1.52	1.51	1.49	1.51	1.47	1.4	1.35
Total Manganese	mg/L	--	--	0.0351	0.0067	--	--	1.44	1.44	1.48	1.5	1.5	1.48	1.53	1.49	1.52	1.55	1.32	1.26
Ferrous Iron	mg/L	--	--	< 0.1	--	--	--	3.0	3.1	3.0	5.4	3.5	1.4	< 2.5	2.4	2.6	1.88	2.21	1.66
Total Iron	mg/L	--	--	0.126	< 0.1	--	--	3.04	2.95	2.73	2.67	2.87	2.37	2.86	2.31	2.5	2.92	2.07	1.97
Carbon Dioxide	mg/L	--	--	< 0.60	--	--	--	62	67	61	68	72	65	59	72	75	67	68	42
Methane	mg/L	--	--	140	--	--	--	220	270	300	120	3.8	5.6	0.66	220	280	0.75	96	33
Dissolved Nitrogen	mg/L	--	--	22	--	--	--	26	31	24	20	31	26	20	23	25	19	25	18
Dissolved Oxygen	mg/L	--	--	3.6	--	--	--	1.7	3.0	1.4	1.0	1.6	1.5	2.4	1.8	1.2	6.8	7.7	1.9
Laboratory Results - Organic Constituents																			
Volatile Organic Compounds																			
Benzene	µg/L	5.0*	9	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1700	--	--	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Naphthalene	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
BTEX	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**		**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Semivolatile Organic Compounds																			
Acenaphthene	µg/L	2,000*	6,100	< 10	< 10	< 0.50	< 0.50	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 10	< 10	< 1.0	< 1.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31, 000	< 10	< 10	< 0.050	< 0.050	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	--	--	< 0.050	< 0.050	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	--	--	< 0.050	< 0.050	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	--	--	< 0.10	< 0.10	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	--	--	< 0.10	< 0.10	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	--	--	< 0.050	< 0.050	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	--	--	< 0.050	< 0.050	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	--	--	< 0.10	< 0.10	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	< 0.10	< 0.10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 10	< 10	< 0.10	< 0.10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	--	--	< 0.050	< 0.050	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 10	< 10	< 0.50	< 0.50	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	470	3,100	< 10	< 10	< 0.050	< 0.050	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 10	< 10	< 0.050	< 0.050	< 10	< 10	< 10	< 10	< 10	< 10	12	< 10	< 10	< 10	< 10	< 10
Total Semivolatiles	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**12.0**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
BTEX + Total SVOCs	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**12.0**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Laboratory Results - Inorganic Constituents																			
Antimony	µg/L	6.3	40	< 40	< 40	< 0.0200	< 0.0200	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 50	< 50	< 0.0500	< 0.0500	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	1,450	1,720	**0.813**	**0.813**	869	862	878	865	954	904	921	600	910	968	825	859
Beryllium	µg/L	31	200	--	--	< 0.0100	< 0.0100	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	--	--	< 0.0050	< 0.0050	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10	< 10	< 0.0100	< 0.0100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10	< 10	< 0.0100	< 0.0100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10	< 10	< 0.0100	< 0.0100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20	< 20	< 0.0200	< 0.0200	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	< 20	< 20	< 0.0200	< 0.0200	< 20	< 20	< 20	< 20	22.7	< 20	< 20	< 20	< 20	22	< 20	< 20
Mercury	µg/L	2*	2*	< 0.5	< 0.5	< 0.00020	< 0.00020	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 0.010	< 0.010	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
Only those constituents that are MGP-related and HSRA-regulated are reported on this table
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents

Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-27DD												
				04/30/15	03/01/05	12/15/04	10/04/04	06/10/04	03/04/04	12/17/03	09/10/03	06/12/03	03/13/03	12/12/02	09/19/02	11/9/2001
Field Groundwater Quality Parameters																
pH	SU	--	--	7.24	7.44	7.22	7.48	7.25	9.74	7.06	6.91	9.53	7.22	7.67	10.59	7.62
Specific Conductance	mMhos	--	--	602	507	515	575	604	481	864	465	525	564	516	663	548
Temperature	°Celsius	--	--	19.02	19.59	20.32	21.87	21.58	20.20	20.53	21.42	22.68	20.19	19.78	21.36	21.91
Dissolved Oxygen (YSI)	mg/L	--	--	0.52	1.39	0.39	0.21	0.12	0.62	0.35	0.83	0.09	0.18	0.22	0.35	1.70
ORP	mV	--	--	-82.7	-144.2	-220.5	-168.5	-141.5	-9.1	-207.3	-190.2	-204.5	-159.1	-215.3	-40.6	-122.1
Turbidity	NTU	--	--	16.9	2.83	3.0	5.8	4.30	1.18	0.00	6.81	0.5	49	1.40	8.50	4.64
Laboratory Results - Natural Attenuation Parameters																
Nitrogen, Ammonia (as N	mg/L	--	--	--	0.22	0.32	0.37	0.48	1.01	0.23	0.47	0.699	0.379	0.345	0.315	0.343
Nitrogen, Nitrate (as N)	mg/L	--	--	--	< 0.500	< 0.0500	< 0.0500	< 0.5	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Sulfate	mg/L	--	--	--	41.1	1.21	38.9	28.5	3.40	37.2	35.3	28.6	38.6	43.0	46.2	37.3
Sulfide	mg/L	--	--	--	1.5	< 1.0	< 1.0	< 1.0	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.00	< 1.00	< 1.00
Dissolved Manganese	mg/L	--	--	--	0.862	0.826	0.915	0.882	0.0166	0.932	0.687	0.294	0.901	0.908	0.856	0.805
Total Manganese	mg/L	--	--	--	0.853	0.857	0.913	0.905	0.0537	0.950	0.673	0.298	0.971	0.954	0.811	0.795
Ferrous Iron	mg/L	--	--	--	3.4	4.1	4.5	6.3	< 0.1	2.9	1.7	0.1	4.56	4.08	2.67	2.03
Total Iron	mg/L	--	--	--	3.55	4.63	3.80	3.72	< 0.1	3.73	2.10	0.209	4.96	3.96	3.98	2.22
Carbon Dioxide	mg/L	--	--	--	8.9	12	13	11	< 0.6	15	3.9	< 0.60	14	14	0.60	6.0
Methane	mg/L	--	--	--	5.3	5.7	4.1	6.6	3.4	5.8	8.8	5.3	5.2	4.6	2.5	2.9
Dissolved Nitrogen	mg/L	--	--	--	24	19	18	20	22	20	22	19	23	18	20	17
Dissolved Oxygen	mg/L	--	--	--	3.9	1.0	0.91	0.83	2.0	1.2	3.0	1.0	1.1	7.3	7.2	14
Laboratory Results - Organic Constituents																
Volatile Organic Compounds																
Benzene	µg/L	5.0*	9	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1700	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Naphthalene	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
BTEX	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Semivolatile Organic Compounds																
Acenaphthene	µg/L	2,000*	6,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31, 000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	470	3,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total Semivolatiles	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
BTEX + Total SVOCs	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Laboratory Results - Inorganic Constituents																
Antimony	µg/L	6.3	40	< 0.0200	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 0.0500	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	**0.544**	423	447	424	421	205	429	337	278	424	407	342	273
Beryllium	µg/L	31	200	< 0.0100	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 0.0050	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 0.0100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 0.0100	< 10	< 10	< 10	< 10	26	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 0.0100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 0.0200	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	< 0.0200	< 20	< 20	< 20	< 20	39.2	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.00020	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	**0.064**	25	18	55	< 10	< 10	55	< 10	< 10	39	< 10	39	37

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated f
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes th
Only those constituents that are MGP-related and HSRA-regulated are repo
Values are listed with the laboratory- or equipment-reported number of sign
Exceeds Type 2 RRS (only indicated for off-sit
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-108D								MW-110D									
				2/17/2015	02/06/13	02/07/12	02/23/11	02/23/10	08/12/09	03/02/05	12/16/04	08/13/15	8/13 DUP	02/16/15	08/07/13	08/13 DUP	02/08/13	02/13 DUP	11/07/12	11/12 DUP	08/09/12	05/17/12
Field Groundwater Quality Parameters																					
pH	SU	--	--	6.96	6.73	5.22	6.47	6.51	8.89	8.21	10.15	6.14		6.18	5.07		6.27		6.32		5.62	6.57
Specific Conductance	mMhos	--	--	0.140	151	426	115	111	141	169	246	0.565		0.495	492		503		503		548	527
Temperature	°Celsius	--	--	19.07	21.85	19.76	20.30	19.35	25.18	21.11	22.59	26.45		17.20	25.46		20.28		23.88		26.84	24.06
Dissolved Oxygen (YSI)	mg/L	--	--	2.00	0.65	0.57	2.19	3.67	5.94	0.87	0.58	0.38		1.68	0.71		1.38		0.2		0.17	0.83
ORP	mV	--	--	86.3	-76.5	78.1	150.10	155.70	32.6	-191.4	-141.1	-146.7		-145.9	-142.9		-40.4		-113.2		-47.8	-61.2
Turbidity	NTU	--	--	2.11	0.31	1.29	3.42	0.62	0	1.64	6.41	2.42		9.26	0.28		9.8		0.95		7.21	4.63
Laboratory Results - Natural Attenuation Parameters																					
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	< 0.20	< 0.20	--	--	**--**	--	--	--	--	--	--	--	--
Nitrogen, Nitrate (as N)	mg/L	--	--	--	< 0.050	4.2	< 0.050	< 0.050	< 0.050	< 0.0500	< 0.0500	--	--	< 0.25	--	--	0.34 *	< 0.050	--	--	--	--
Sulfate	mg/L	--	--	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	2.73	4.31	--	--	**1.1**	--	--	7.0	< 5.0	--	--	--	--
Sulfide	mg/L	--	--	--	< 1.0	< 1.0	1.60	< 1.0	< 1.0	< 1.0	< 1.0	--	--	< 1.00	--	--	< 1.0	< 1.0	--	--	--	--
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	0.198	0.0439	--	--	**--**	--	--	--	--	--	--	--	--
Total Manganese	mg/L	--	--	--	--	--	--	--	--	0.193	0.0984	--	--	**--**	--	--	--	--	--	--	--	--
Ferrous Iron	mg/L	--	--	--	< 0.10 HF	< 0.10 HF	< 0.010	< 0.010	< 0.010	0.3	0.1	--	--	**5.60**	--	--	4.6 HF	4.8 HF	--	--	--	--
Total Iron	mg/L	--	--	--	0.29	< 0.10	0.22	< 0.010	0.330	0.360	0.446	--	--	**6.61**	--	--	6.8	4.4	--	--	--	--
Carbon Dioxide	mg/L	--	--	--	7.2	1.6	0.18	0.16	< 0.050	0.71	< 0.60	--	--	**150**	--	--	120	66	--	--	--	--
Methane	mg/L	--	--	--	70	< 0.58	<0.58	<0.19	4.1	69	240	--	--	**960**	--	--	620	520	--	--	--	--
Dissolved Nitrogen	mg/L	--	--	--	--	5.6	4.7	4.0	4.8	18	17	--	--	**21**	--	--	--	--	--	--	--	--
Dissolved Oxygen	mg/L	--	--	--	7.0	1.8	1.6	1.4	1.7	1.2	1.5	--	--	**3.9**	--	--	2.8	5.7	--	--	--	--
Laboratory Results - Organic Constituents																					
Volatile Organic Compounds																					
Benzene	µg/L	5*	9	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**120**	**120**	**340**	580	620	150	150	430	280	380	400
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 2.0	--	--	--	--	--	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 40	< 40	< 40	< 40	< 40	< 40
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**420**	**450**	**560**	390	460	310	320	550	440	480	480
Toluene	µg/L	1,000*	1,100	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	5.2	5.7	< 20	< 20	< 20	< 20	< 20	< 20
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**11**	**11**	**47**	64	45	< 40	< 40	< 40	< 40	< 40	< 40
BTEX	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**551.0**	**581.0**		**1,039**	**1,131**	**460**	**470**	**980**	**720**	**860**	**880**
Semivolatile Organic Compounds																						
Acenaphthene	µg/L	2,000*	6,100	< 10	< 0.25	--	--	--	--	< 10	< 10	**77**	**70**	**97**	100	96	81	17	89	99	100	110
Acenaphthylene	µg/L	470	3,100	< 10	< 0.25	--	--	--	--	< 10	< 10	**3.0**	**2.4**	< 10	< 10	< 10	3.9	1.9	4.5	4.4	5.3	6.7
Anthracene	µg/L	4,700	31,000	< 10	< 0.25	--	--	--	--	< 10	< 10	**8.1**	**5.9**	< 10	< 10	< 10	6.4	0.34	6.8	6.7	9.5	12
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.25	--	--	--	--	--	--	**0.32**	**0.23**	**0.20**	0.27	0.3	< 1.9	< 1.9	< 2.0	< 0.20	< 1.9	< 2.0
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.25	--	--	--	--	--	--	< 0.050	< 0.050	< 0.050	< 0.20	< 0.20	< 1.9	< 1.9	< 2.0	< 0.20	< 1.9	< 2.0
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.25	--	--	--	--	--	--	< 0.10	< 0.10	< 0.10	< 0.20	< 0.20	< 1.9	< 1.9	< 2.0	< 0.20	< 1.9	< 2.0
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 0.25	--	--	--	--	--	--	< 0.10	< 0.10	< 10	< 10	< 10	< 1.9	< 1.9	< 2.0	< 0.20	< 1.9	< 2.0
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 0.25	--	--	--	--	--	--	< 0.050	< 0.050	< 10	< 10	< 10	< 1.9	< 1.9	< 2.0	< 0.20	< 1.9	< 2.0
Chrysene	µg/L	117	392	< 10	< 0.25	--	--	--	--	--	--	**0.23**	**0.17**	< 10	< 10	< 10	< 1.9	< 1.9	< 2.0	< 0.20	< 1.9	< 2.0
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.25	--	--	--	--	--	--	< 0.10	< 0.10	< 0.10	< 0.20	< 0.20	< 1.9	< 1.9	< 2.0	< 0.20	< 1.9	< 2.0
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 2.5	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 19	< 19	< 20	< 2.0	< 19	< 20
Fluoranthene	µg/L	1,000*	4,100	< 10	< 0.25	--	--	--	--	< 10	< 10	**6.5**	**4.8**	< 10	< 10	< 10	5.3	2.1	5.2	5.5	7.7	8.9
Fluorene	µg/L	1,000*	4,100	< 10	< 0.25	--	--	--	--	< 10	< 10	**19**	**16**	**33**	32	31	25	14	28	29	35	38
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.25	--	--	--	--	--	--	< 0.050	< 0.050	< 0.050	< 0.20	< 0.20	< 1.9	< 1.9	< 2.0	< 0.20	< 1.9	< 2.0
2-Methylphenol	µg/L	780	5,100	< 10	< 2.5	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 19	< 19	< 20	< 2.0	< 19	< 20
3 & 4 Methylphenol	µg/L	78	510	< 10	< 2.5	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 19	< 19	< 20	< 2.0	< 19	< 20
Naphthalene	µg/L	20*	20*	< 10	< 0.25	< 5.0	< 5.0	<9.9	<9.4	< 10	< 10	2,200	1.5	3,400	4,400	4,200	2,300	15	5,000	1,400	1,900 D	4,100
Phenanthrene	µg/L	470	3,100	< 10	< 0.25	--	--	--	--	< 10	< 10	**43**	**37**	**53**	59	60	42	42	49	58	69	71
Phenol	µg/L	9,390	61,000	< 10	< 1.2	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 9.7	< 9.7	< 10	2.4	< 9.6	< 9.9
Pyrene	µg/L	1,000*	3,100	< 10	< 0.25	--	--	--	--	< 10	< 10	**8.3**	**6.1**	< 10	< 10	< 10	8.1	2.2	6.4	6.1	9.9	8.7
Total SVOCs	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**2365.5**	**1306.1**	**3583.2**	**4,591**	**4,387**	**2,472**	**95**	**5,189**	**1,611**	**2,136**	**4,355**
BTEX + SVOCs	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**2916.5**	**1887.1**	**3583.2**	**5,630**	**5,518**	**2,932**	**565**	**6,169**	**2,331**	**2,996**	**5,235**
Inorganic Constituents																						
Antimony	µg/L	6.3	40	< 0.0200	< 20	--	--	--	--	< 40	< 40	< 0.0200	< 0.0200	< 0.0200	< 20.0	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20
Arsenic	µg/L	50*	50*	< 0.0500	< 20	--	--	--	--	< 50	< 50	< 0.0500	< 0.0500	< 0.0500	< 50.0	< 50.0	< 20	< 20	< 20	< 20	< 20	< 20
Barium	µg/L	2,000	7,200	**0.631**	600	4200	540	470	620	513	416	**3.80**	**3.78**	**4.07**	5,100	5,210	3,200	800	5,000	4,800	5,000	4,600
Beryllium	µg/L	31	200	< 0.0100	< 4.0	--	--	--	--	--	--	< 0.0100	< 0.0100	< 0.0100	< 10.0	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Cadmium	µg/L	7.8	51	**0.0066**	< 5.0	--	--	--	--	--	--	< 0.0050	< 0.0050	< 0.0050	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chromium	µg/L	100	310	< 0.0100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.0100	< 0.0100	< 0.0100	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 0.0100	< 20	< 20	< 20	< 20	< 20	< 10	< 10	< 0.0100	< 0.0100	< 0.0100	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20
Lead	µg/L	15*	15*	< 0.0100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.0100	< 0.0100	< 0.0100	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 0.0200	< 40	< 40	< 40	< 40	< 40	< 20	< 20	**0.104**	**0.103**	**0.107**	138	140	160	< 40	160	160	160	170
Zinc	µg/L	4,700	31,000	**0.0433**	< 20	--	--	--	--	< 20	< 20	< 0.0200	< 0.0200	< 0.0200	< 20.0	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.00020	< 0.20	--	--	--	--	< 0.5	< 0.5	< 0.00020	< 0.00020	< 0.00020	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Total Cyanide	µg/L	310	2,000	< 0.010	< 10	< 10	< 10	< 10	< 10	< 10	< 10	**0.015**	**0.012**	< 0.010	18	18	20	32	24	25	19	23

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters.
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-110D																	
				02/15/12	02/12 DUP	11/17/11	08/10/11	05/05/11	02/21/11	11/10/10	08/10/10	05/11/10	02/24/10	02/10 DUP	08/12/09	06/07/06	03/09/06	12/22/05	09/30/05	03/02/05	03/05 DUP	12/16/04	09/30/04
Field Groundwater Quality Parameters																					
pH	SU	--	--	6.2		6.32	6.31	6.17	6.23	6.07	6.12	5.86	6.13		6.05	6.13	6.16	6.38	6.17	6.24		5.62	6.10
Specific Conductance	mMhos	--	--	488		547	577	467	489	504	508	506	432		507	521	475	449	524	523		509	472
Temperature	°Celsius	--	--	20.97		21.39	30.14	19.43	21.38	24.66	26.84	23.54	16.26		26.32	24.43	21.19	20.93	25.21	21.1		22.39	24.79
Dissolved Oxygen (YSI)	mg/L	--	--	2.11		0.48	0.25	0.86	0.53	0.11	19.74	0.72	1.67		3.46	0.24	0.28	0.61	0.34	1.42		0.16	0.04
ORP	mV	--	--	-65.8		-59	-81.8	-69.0	-74.4	-108.6	-91.1	-45.2	-102.3		-131.6	-96.1	-87.0	-55.6	-99.3	-112.8		-150.9	-234.3
Turbidity	NTU	--	--	3.93		4.6	29.0	8.59	7.58	0.24	2.42	21.8	0.61		3.19	1.02	0.90	4.29	2.10	1.62		5.32	2.98
Laboratory Results - Natural Attenuation Parameters																					
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20	< 0.20	< 0.20	< 0.20
Nitrogen, Nitrate (as N)	mg/L	--	--	< 0.050	< 0.050	--	--	--	< 0.050	--	--	--	< 0.050	< 0.050	0.19	--	--	--	--	< 0.500	< 0.500	< 0.0500	< 0.0500
Sulfate	mg/L	--	--	< 5.0	< 5.0	--	--	--	< 5.0	--	--	--	< 5.0	< 5.0	< 5.0	--	--	--	--	2.38	< 1.00	1.97	4.95
Sulfide	mg/L	--	--	1.0	< 1.0	--	--	--	< 1.0	--	--	--	< 1.0	< 1.0	< 1.0	--	--	--	--	1.3	< 1.0	< 1.0	< 1.0
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.760	0.762	0.584	1.36
Total Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.754	0.748	0.635	1.36
Ferrous Iron	mg/L	--	--	5.3 HF	4.9 HF	--	--	--	1.0	--	--	--	3	2.8	1.7	--	--	--	--	3.8	3.7	3.8	5.3
Total Iron	mg/L	--	--	7.3	7.5	--	--	--	6.7	--	--	--	4.1	4.3	3.6	--	--	--	--	4.09	4.07	3.98	5.51
Carbon Dioxide	mg/L	--	--	2.3	2.3	--	--	--	1.6	--	--	--	1.8	1.8	1.5	--	--	--	--	140	150	170	160
Methane	mg/L	--	--	480	480	--	--	--	720	--	--	--	720	780	230	--	--	--	--	1,500	1,700	2700	1,500
Dissolved Nitrogen	mg/L	--	--	4.8	5.5	--	--	--	4.1	--	--	--	4	4.1	4.1	--	--	--	--	17	18	16	16
Dissolved Oxygen	mg/L	--	--	1.5	1.6	--	--	--	1.4	--	--	--	1.2	1.3	1.4	--	--	--	--	3.4	2.8	0.88	0.86
Laboratory Results - Organic Constituents																					
Volatile Organic Compounds																					
Benzene	µg/L	5*	9	< 250	< 250	<250	370	290	310	430	450	610	620	580	<25	790	1,100	1,200	1,900	1,900	1,900	1,600	950
Carbon Disulfide	µg/L	329	1,700	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	340	340	<250	<250	<250	350	--	--	--	490	460	440	710	770	350	950	900	950	900	820
Toluene	µg/L	1,000*	1,100	<250	<250	<250	<250	<250	<250	--	--	--	< 50	< 50	<25	18	31	79	100	220	230	170	71
Total Xylenes	µg/L	31,000	200,000	<250	<250	<250	<250	<250	<250	--	--	--	91	82	29	330	370	370	490	480	520	570	410
BTEX	µg/L	--	--	**340**	**340**	**bdl**	**370**	**290**	**660**	**430**	**450**	**610**	**1,201**	**1,122**	**469**	**1,848**	**2,271**	**1,999**	**3,440**	**3,500**	**3,600**	**3,240**	**2,251**
Semivolatile Organic Compounds																					
Acenaphthene	µg/L	2,000*	6,100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	110	100	120	83
Acenaphthylene	µg/L	470	3,100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	43	42	30	49
Anthracene	µg/L	4,700	31,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11	11	10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	44	42	47	49
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	4,500	4,600	2,700	2,600	2,700	5,500	6,400	6,800	4,900	3,600	4,100	4,000	4,400	4,600	3,000	6,300	6,000	5,500	7,200	4,400
Phenanthrene	µg/L	470	3,100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	73	70	74	64
Phenol	µg/L	9,390	61,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	13
Pyrene	µg/L	1,000*	3,100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10
Total SVOCs	µg/L	--	--	**4,500**	**4,600**	**2,700**	**2,600**	**2,700**	**5,500**	**6,400**	**6,800**	**4,900**	**3,600**	**4,100**	**4,000**	**4,400**	**4,600**	**3,000**	**6,300**	**6,281**	**5,765**	**7,481**	**4,658**
BTEX + SVOCs	µg/L	--	--	**4,840**	**4,940**	**2,700**	**2,970**	**2,990**	**6,160**	**6,830**	**7,250**	**5,510**	**4,801**	**5,222**	**4,469**	**6,248**	**6,871**	**4,999**	**9,740**	**9,781**	**9,365**	**10,721**	**6,909**
Inorganic Constituents																					
Antimony	µg/L	6.3	40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	4,100	4,200	4,200	5,500	4,300	5,000	--	--	--	5,300	5,400	6,500	6,740	6,600	6,740	7,270	6,120	6,050	7,090	4,060
Beryllium	µg/L	31	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10	< 10	< 10	< 10.0	--	--	--	< 10	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	< 20	< 20	< 20	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10	< 10	< 10	< 10.0	--	--	--	< 10	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	170	180	170	190	200	200	--	--	--	230	230	280	121	130	106	97	24.6	24.7	< 20	< 20
Zinc	µg/L	4,700	31,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 20	< 20	< 20	< 20
Mercury	µg/L	2*	2*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	15	22	--	--	--	24	--	--	--	25	24	12	42	55	15	41	48	50	115	27

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for t
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the T
Only those constituents that are MGP-related and HSRA-regulated are reporte
Values are listed with the laboratory- or equipment-reported number of significa
Exceeds Type 2 RRS (only indicated for off-si
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-111(D)													
				8/13/2015	11/08/12	11/18/11	08/13/09	08/09 DUP	06/07/06	06/06 DUP	03/10/06	03/06 DUP	12/22/05	09/30/05	09/05 DUP	03/02/05	12/16/04	09/30/04
Field Groundwater Quality Parameters																		
pH	SU	--	--	6.21	6.62	6.48	6.47		6.42		6.58		6.60	6.41		6.67	6.51	6.51
Specific Conductance	mMhos	--	--	0.542	547	540	598		691		772		618	683		673	739	719
Temperature	°Celsius	--	--	26.85	21.46	22.4	24.99		22.58		20.87		22.81	25.35		20.05	19.5	24.06
Dissolved Oxygen (YSI)	mg/L	--	--	0.23	0.20	0.24	4.97		0.49		0.36		0.37	0.22		1.45	1.62	0.39
ORP	mV	--	--	-204.5	-151.6	-124.3	-184.8		-107.7		-93.1		-85.0	-114.2		-84.4	-102.1	-127.5
Turbidity	NTU	--	--	5.59	0.73	2.40	2.52		1.05		2.86		2.37	0.00		1.24	6.02	2.8
Laboratory Results - Natural Attenuation Parameters																		
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.51	0.61	< 0.20
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--	< 0.050	< 0.050	--	--	--	--	--	--	--	< 0.500	< 0.0500	< 0.0500
Sulfate	mg/L	--	--	--	--	--	< 5.0	< 5.0	--	--	--	--	--	--	--	1.85	1.44	1.67
Sulfide	mg/L	--	--	--	--	--	2.3	2.3	--	--	--	--	--	--	--	1.1	< 1.0	< 1.0
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.02	0.941	0.941
Total Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.02	0.989	0.987
Ferrous Iron	mg/L	--	--	--	--	--	< 0.010	< 0.010	--	--	--	--	--	--	--	4.6	5.4	4.7
Total Iron	mg/L	--	--	--	--	--	1.8	1.9	--	--	--	--	--	--	--	4.54	4.97	4.72
Carbon Dioxide	mg/L	--	--	--	--	--	0.76	0.88	--	--	--	--	--	--	--	110	130	140
Methane	mg/L	--	--	--	--	--	28	29	--	--	--	--	--	--	--	3,100	2100	2,600
Dissolved Nitrogen	mg/L	--	--	--	--	--	5.3	4.5	--	--	--	--	--	--	--	18	18	18
Dissolved Oxygen	mg/L	--	--	--	--	--	1.9	1.6	--	--	--	--	--	--	--	0.78	3.6	0.97
Laboratory Results - Organic Constituents																		
Volatile Organic Compounds																		
Benzene	µg/L	5*	9	1,700	570	1,700	3,900	3,800	4,600	4,700	6,100	6,000	2,600	6,500	6,400	6,900	5,700	7,300
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	820	240	920	1,300	1,200	1,200	1,100	1,600	1,600	300	1,200	1,800	1,500	1,200	1,400
Toluene	µg/L	1,000*	1,100	380	320	1,400	1,800	1,700	38	39	60	59	28	40	53	170	120	190
Xylene	µg/L	31,000	200,000	330	220	940	900	850	1,200	1,100	1,400	1,400	570	1,100	1,600	980	780	830
BTEX	µg/L	--	--	**3,230**	**1,350**	**4,960**	**7,900**	**7,550**	**7,038**	**6,939**	**9,160**	**9,059**	**3,498**		**9,853**	**9,550**	**7,800**	**9,720**
Semivolatile Organic Compounds																		
Acenaphthene	µg/L	2,000*	6,100	53	84	--	--	--	--	--	--	--	--	--	--	140	150	150
Acenaphthylene	µg/L	470	3,100	44	14	--	--	--	--	--	--	--	--	--	--	12	< 10	< 10
Anthracene	µg/L	4,700	31,000	9.6	13	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	0.73	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	0.15	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	0.20	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	0.057	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	0.53	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 21	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	8.2	11	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	35	68	--	--	--	--	--	--	--	--	--	--	34	31	42
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 21	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	< 10	< 21	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	3.8	1,800	9,300	5,100	5,300	4,400	4,300	3,600	3,600	< 10	5,800	6,600	5,400	4,800	5,800
Phenanthrene	µg/L	470	3,100	58	100	--	--	--	--	--	--	--	--	--	--	39	37	46
Phenol	µg/L	9,390	61,000	15	< 10	--	--	--	--	--	--	--	--	--	--	19	< 10	42
Pyrene	µg/L	1,000*	3,100	12	13	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
Total Semivolatiles	µg/L	--	--	**240**	**2,103**	**9,300**	**5,100**	**5,300**	**4,400**	**4,300**	**3,600**	**3,600**	**0.0**	**5,800**	**6,600**	**5,644**	**5,018**	**6,080**
BTEX + Total SVOCs	µg/L	--	--	**3,470**	**3,453**	**14,260**	**13,000**	**12,850**	**11,438**	**11,239**	**12,760**	**12,659**	**3,498**	**14,640**	**16,453**	**15,194**	**12,818**	**15,800**
Laboratory Results - Inorganic Constituents																		
Antimony	µg/L	6.3	400	< 0.0200	< 20	--	--	--	--	--	--	--	--	--	--	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 0.0500	< 20	--	--	--	--	--	--	--	--	--	--	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	**1.09**	550	500	160	170	3,470	3,510	3,410	3,480	3,430	3,430	2,720	2,720	2,730	2,660
Beryllium	µg/L	31	200	< 0.0100	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 0.0050	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 0.0100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10.0	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 0.0100	< 20	< 20	< 20	< 20	< 10	< 10	< 10	< 10	10.1	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 0.0100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10.0	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 0.0200	40	49	< 40	< 40	< 10	< 10	< 10	< 10	< 20.0	< 10	< 10	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	< 0.0200	< 20	--	--	--	--	--	--	--	--	--	--	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.00020	< 0.20	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	**0.013**	19	--	< 10	10	< 10	< 10	< 10	< 10	< 10	11	< 10	< 10	25	< 10

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
Only those constituents that are MGP-related and HSRA-regulated are reported on this table
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituent

Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-112D																		
				2/16/2015	08/06/13	02/05/13	11/06/12	08/07/12	05/14/12	02/15/12	11/17/11	08/08/11	05/05/11	02/24/11	11/10/10	08/09/10	05/10/10	02/23/10	08/11/09	06/07/06	03/09/06	12/20/05	09/29/05	03/01/05
Groundwater Quality Parameters																						
pH	SU	--	--	9.77	10.26	10.93	10.75	9.91	10.59	10.40	10.72	10.08	10.67	10.98	10.43	8.86	10.83	11.03	11.43	11.01	11.09	11.01	10.60	6.89
Specific Conductance	mMhos	--	--	0.306	296	390	366	382	389	318	372	391	426	355	327	435	427	407	536	558	585	422	464	489
Temperature	°Celsius	--	--	16.81	22.84	15.87	16.66	24.41	24.2	19.10	21.27	23.99	20.66	16.40	20.17	24.52	19.69	16.70	29.32	20.50	20.07	19.36	22.09	20.26
Dissolved Oxygen (YSI)	mg/L	--	--	4.70	0.15	4.60	0.75	2.14	4.40	6.64	0.47	1.74	4.39	4.23	2.77	1.20	3.29	4.10	4.99	0.68	2.10	0.56	0.16	0.82
ORP	mV	--	--	146.3	-70.3	101.7	55.7	7.4	15.3	-70.2	-100.9	9.3	-103.2	-32.4	-40.3	61.2	29.3	5.4	22.6	-102.1	-99.0	-92.4	-20.3	-423.6
Turbidity	NTU	--	--	7.99	1.01	1.43	1.27	7.20	2.08	3.29	4.00	5.06	9.17	6.89	3.15	2.37	1.24	4.92	0.75	2.98	2.14	3.16	16.04	8.78
Laboratory Results - Natural Attenuation Parameters																						
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Nitrogen, Nitrate (as N)	mg/L	--	--	**1.0**	--	0.29	--	--	--	0.29	--	--	--	0.27	--	--	--	0.32	0.21	--	--	--	--	< 0.0500
Sulfate	mg/L	--	--	**4.1**	--	< 5.0	--	--	--	< 5.0	--	--	--	5.7	--	--	--	7.3	7.3	--	--	--	--	10.6
Sulfide	mg/L	--	--	< 1.00	--	< 1.0	--	--	--	1.8	--	--	--	1.2	--	--	--	< 1.0	< 1.0	--	--	--	--	1.1
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.287
Total Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.302
Ferrous Iron	mg/L	--	--	< 0.100	--	< 0.10 HF	--	--	--	< 0.10 HF	--	--	--	< 0.010	--	--	--	< 0.010	< 0.010	--	--	--	--	0.5
Total Iron	mg/L	--	--	**0.266**	--	< 0.10	--	--	--	0.10	--	--	--	0.16	--	--	--	0.26	0.27	--	--	--	--	1.09
Carbon Dioxide	mg/L	--	--	< 5.0	--	< 5.0	--	--	--	< 0.050	--	--	--	< 0.050	--	--	--	0.14	< 0.050	--	--	--	--	35
Methane	mg/L	--	--	**6**	--	5.4	--	--	--	< 0.58	--	--	--	<0.58	--	--	--	4.8	20	--	--	--	--	26
Dissolved Nitrogen	mg/L	--	--	**20**	--	18	--	--	--	5.2	--	--	--	4.2	--	--	--	3.9	4.5	--	--	--	--	19
Dissolved Oxygen	mg/L	--	--	**8.0**	--	9.0	--	--	--	1.9	--	--	--	1.5	--	--	--	1.4	1.6	--	--	--	--	2.5
Laboratory Results - Organic Constituents																						
Volatile Organic Compounds																						
Benzene	µg/L	5*	9	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	--	--	< 5.0	--	--	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	--	--	< 5.0	--	--	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	--	--	< 5.0	--	--	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
BTEX	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**		**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Semivolatile Organic Compounds																						
Acenaphthene	µg/L	2,000*	6,100	< 10	< 10	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Acenaphthylene	µg/L	470	3,100	< 10	< 10	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Anthracene	µg/L	4,700	31,000	< 10	< 10	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.20	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.20	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.20	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 10	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 10	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 10	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.20	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 2.1	< 2.2	< 1.9	< 2.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Fluorene	µg/L	1,000*	4,100	< 10	< 10	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.20	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 2.1	< 2.2	< 1.9	< 2.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 2.1	< 2.2	< 1.9	< 2.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Naphthalene	µg/L	20*	20*	< 10	< 10	< 0.21	< 0.22	< 0.19	< 0.23	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	<9.9	<9.8	< 10	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	470	3,100	< 10	< 10	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 1.1	< 1.1	< 0.95	< 1.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Pyrene	µg/L	1,000*	3,100	< 10	< 10	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Total SVOCs	µg/L	--	--	**bdl**	**ND**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
BTEX + SVOCs	µg/L	--	--	**bdl**	**ND**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Inorganic Constituents																						
Antimony	µg/L	6.3	40	< 0.0200	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 40
Arsenic	µg/L	50*	50*	< 0.0500	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 50
Barium	µg/L	2,000	7,200	0.218	93.4	110	110	130	100	100	130	120	150	130	--	--	--	95	111	179	163	185	211	550
Beryllium	µg/L	31	200	< 0.0100	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 0.0050	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 0.0100	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	< 10	< 10.0	< 10.0	< 10.0	< 10	< 10
Copper	µg/L	630	4,100	< 0.0100	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	< 20	< 20	< 10.0	< 10.0	< 10.0	< 10	< 10
Lead	µg/L	15*	15*	< 0.0100	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	< 10	< 10.0	< 10.0	< 10.0	< 10	< 10
Nickel	µg/L	100	2,000	< 0.0200	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--	--	< 40	< 40	< 20.0	< 20.0	< 20.0	< 10	< 20
Zinc	µg/L	4,700	31,000	< 0.0200	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 20
Mercury	µg/L	2*	2*	< 0.00020	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5
Total Cyanide	µg/L	310	2,000	< 0.010	< 10	< 10	< 10	< 10	12	< 10	--	--	--	< 10	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
Only those constituents that are MGP-related and HSRA-regulated are reported on this table
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituent

Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-113D																				
				2/17/2015	08/05/13	02/04/13	11/06/12	08/06/12	05/14/12	02/13/12	11/16/11	08/09/11	05/04/11	02/24/11	11/09/10	08/09/10	05/10/09	02/24/10	08/11/09	06/06/06	03/10/06	12/21/05	09/29/05	03/25/05	03/01/05
Groundwater Quality Parameters																								
pH	SU	--	--	5.63	6.36	5.76	5.82	5.64	5.79	5.71	5.75	5.81	5.43	5.79	5.76	5.33	5.25	5.73	6.55	5.68	5.73	5.85	6.0	5.87	5.87
Specific Conductance	mMhos	--	--	0.354	357	362	363	366	363	295	351	368	369	321	356	360	352	363	368	373	374	321	370	357	385
Temperature	°Celsius	--	--	15.85	25.35	18.82	19.51	27.04	24.98	19.98	23.81	25.79	22.04	19.16	24.04	27.65	21.26	17.13	25.47	23.37	18.78	17.41	23.61	21.69	22.41
Dissolved Oxygen (YSI)	mg/L	--	--	1.14	0.14	0.36	1.30	1.56	0.84	5.86	0.70	0.86	0.31	1.07	0.15	0.19	0.62	2.32	2.89	0.33	0.46	1.43	0.20	0.07	1.01
ORP	mV	--	--	162.9	101.2	138.3	78.9	82.6	-125.7	11.9	126.7	87.5	-22.0	136.0	148.7	72.4	123.5	114.6	-171.4	126.3	151.4	157.0	69.1	184.5	134.5
Turbidity	NTU	--	--	0.63	0.19	0.64	0.31	1.29	1.15	0.86	1.09	1.94	0.70	6.6	0.21	0.71	0.54	1.03	0.29	0.42	0.35	0.23	0.5	2.46	31.0
Laboratory Results - Natural Attenuation Parameters																								
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.99
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	< 0.050	--	--	--	3.0	--	--	--	< 0.050	--	--	--	1.2	< 0.050	--	--	--	--	--	< 0.0500
Sulfate	mg/L	--	--	--	--	41	--	--	--	52	--	--	--	53	--	--	--	20	61	--	--	--	--	--	70.9
Sulfide	mg/L	--	--	--	--	< 1.0	--	--	--	1.2	--	--	--	< 1.0	--	--	--	< 1.0	< 1.0	--	--	--	--	--	< 1.0
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.22
Total Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.22
Ferrous Iron	mg/L	--	--	--	--	0.29 HF	--	--	--	< 0.10 HF	--	--	--	0.18	--	--	--	0.2	0.28	--	--	--	--	--	0.3
Total Iron	mg/L	--	--	--	--	0.40	--	--	--	< 0.10	--	--	--	0.29	--	--	--	0.25	0.38	--	--	--	--	--	2.86
Carbon Dioxide	mg/L	--	--	--	--	160	--	--	--	2.1	--	--	--	1.8	--	--	--	1.9	1.4	--	--	--	--	--	170
Methane	mg/L	--	--	--	--	32	--	--	--	< 0.58	--	--	--	8.2	--	--	--	25	37	--	--	--	--	--	140
Dissolved Nitrogen	mg/L	--	--	--	--	18	--	--	--	4.4	--	--	--	4.1	--	--	--	3.8	4.2	--	--	--	--	--	19
Dissolved Oxygen	mg/L	--	--	--	--	7.1	--	--	--	1.5	--	--	--	1.4	--	--	--	1.3	1.4	--	--	--	--	--	1.9
Laboratory Results - Organic Constituents																								
Volatile Organic Compounds																								
Benzene	µg/L	5*	9	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	6.5
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	< 5.0
BTEX	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**		**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**6.5**
Semivolatile Organic Compounds																								
Acenaphthene	µg/L	2,000*	6,100	< 10	< 10	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Acenaphthylene	µg/L	470	3,100	< 10	< 10	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Anthracene	µg/L	4,700	31,000	< 10	< 10	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.20	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.20	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.20	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 10	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 10	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 10	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.20	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 2.5	< 2.2	< 2.2	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Fluorene	µg/L	1,000*	4,100	< 10	< 10	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.20	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 2.5	< 2.2	< 2.2	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 2.5	< 2.2	< 2.2	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Naphthalene	µg/L	20*	20*	< 10	< 10	< 0.25	< 0.22	< 0.22	< 0.22	< 5.0	< 5.0	< 5.0	5.0	< 5.0	< 5.0	< 5.0	< 5.0	<9.4	<9.8	< 10	< 10	< 10	< 10	9.1	24
Phenanthrene	µg/L	470	3,100	< 10	< 10	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 1.3	< 1.1	< 1.1	< 1.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Pyrene	µg/L	1,000*	3,100	< 10	< 10	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Total SVOCs	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**5.0**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**9.1**	**24**
BTEX + SVOCs	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**5.0**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**9.1**	**31**
Inorganic Constituents																								
Antimony	µg/L	6.3	40	< 0.0200	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 40
Arsenic	µg/L	50*	50*	< 0.0500	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 50
Barium	µg/L	2,000	7,200	0.0750	72.3	65	110	67	72	48	72	71	84	65	--	--	--	65	69.0	63.8	60.9	47.0	65.0	--	87.7
Beryllium	µg/L	31	200	< 0.0100	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 0.0050	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 0.0100	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10.0	--	--	--	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10	--	< 10
Copper	µg/L	630	4,100	< 0.0100	< 10.0	< 20	< 20	< 20	< 20	27	< 20	< 20	< 20	< 20	--	--	--	< 20	< 20	< 10.0	< 10.0	< 10.0	< 10	--	14.2
Lead	µg/L	15*	15*	< 0.0100	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10.0	--	--	--	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10	--	< 10
Nickel	µg/L	100	2,000	< 0.0200	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--	--	< 40	< 40	< 20.0	< 20.0	< 20.0	< 10	--	< 20
Zinc	µg/L	4,700	31,000	< 0.0200	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	68.4
Mercury	µg/L	2*	2*	< 0.00020	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5
Total Cyanide	µg/L	310	2,000	< 0.010	< 10	< 10	10	15	11	< 10	--	--	--	10	--	--	--	< 10	< 10	< 10	< 10	< 10	10	--	< 10

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters.
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-114D							
				04/29/15	02/25/10	08/13/09	06/07/06	03/09/06	12/22/05	09/29/05	03/01/05
Field Groundwater Quality Parameters											
pH	SU	--	--	7.9	9.51	9.99	7.12	7.00	7.26	7.77	7.02
Specific Conductance	mMhos	--	--	395	291	383	500	432	422	431	462
Temperature	°Celsius	--	--	20.12	19.01	29.57	26.90	20.57	22.10	24.89	20.89
Dissolved Oxygen (YSI)	mg/L	--	--	6.23	7.22	5.85	0.37	0.45	0.31	0.09	0.72
ORP	mV	--	--	-29.8	23.2	-169.8	-154.2	-157.9	162.3	142.6	-86.9
Turbidity	NTU	--	--	1.45	0.7	0.98	0.74	2.6	3.11	3.94	23.1
Laboratory Results - Natural Attenuation Parameters											
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--		--	--	--	--	< 0.20
Nitrogen, Nitrate (as N)	mg/L	--	--	--	< 0.050	0.93	--	--	--	--	< 0.500
Sulfate	mg/L	--	--	--	20	20	--	--	--	--	4.54
Sulfide	mg/L	--	--	--	< 1.0	< 1.0	--	--	--	--	< 1.0
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	0.809
Total Manganese	mg/L	--	--	--	--	--	--	--	--	--	0.845
Ferrous Iron	mg/L	--	--	--	< 0.010	< 0.010	--	--	--	--	2.4
Total Iron	mg/L	--	--	--	< 0.010	< 0.010	--	--	--	--	2.85
Carbon Dioxide	mg/L	--	--	--	< 0.050	< 0.050	--	--	--	--	18
Methane	mg/L	--	--	--	1.2	1.2	--	--	--	--	99
Dissolved Nitrogen	mg/L	--	--	--	3.9	4.6	--	--	--	--	22
Dissolved Oxygen	mg/L	--	--	--	1.5	1.7	--	--	--	--	1.9
Laboratory Results - Organic Constituents											
Volatile Organic Compounds											
Benzene	µg/L	5*	9	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	5.2
Carbon Disulfide	µg/L	329	1,700	< 5.0	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
BTEX	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**5.2**
Semivolatile Organic Compounds											
Acenaphthene	µg/L	2,000*	6,100	< 10	--	--	--	--	--	--	< 10
Acenaphthylene	µg/L	470	3,100	< 10	--	--	--	--	--	--	< 10
Anthracene	µg/L	4,700	31,000	< 10	--	--	--	--	--	--	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	--	--	--	--	--	--	< 10
Fluoranthene	µg/L	1,000*	4,100	< 10	--	--	--	--	--	--	< 10
Fluorene	µg/L	1,000*	4,100	< 10	--	--	--	--	--	--	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	--	--	--	--	--	--	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10	--	--	--	--	--	--	< 10
Naphthalene	µg/L	20*	20*	< 10	< 10	<9.4	< 10	< 10	< 10	< 10	88
Phenanthrene	µg/L	470	3,100	< 10	--	--	--	--	--	--	< 10
Phenol	µg/L	9,390	61,000	< 10	--	--	--	--	--	--	< 10
Pyrene	µg/L	1,000*	3,100	< 10	--	--	--	--	--	--	< 10
Total SVOCs	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**88**
BTEX + SVOCs	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**93**
Inorganic Constituents											
Antimony	µg/L	6.3	40	< 0.0200	--	--	--	--	--	--	< 40
Arsenic	µg/L	50*	50*	< 0.0500	--	--	--	--	--	--	< 50
Barium	µg/L	2,000	7,200	0.493	140	140	558	613	636	763	1,260
Beryllium	µg/L	31	200	< 0.0100	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 0.0050	--	--	--	--	--	--	--
Cadmium	µg/L	100	310	< 0.0100	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10
Copper	µg/L	630	4,100	< 0.0100	< 20	< 20	< 10.0	< 10.0	< 10.0	< 10	< 10
Lead	µg/L	15*	15*	< 0.0100	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10
Nickel	µg/L	100	2,000	< 0.0200	< 40	< 40	< 20.0	< 20.0	< 20.0	< 10	< 20
Zinc	µg/L	4,700	31,000	< 0.0200	--	--	--	--	--	--	147
Mercury	µg/L	2*	2*	< 0.00020	--	--	--	--	--	--	< 0.5
Total Cyanide	µg/L	310	2,000	< 0.010	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
Only those constituents that are MGP-related and HSRA-regulated are reported on this table
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents

Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-115D															
				08/06/13	02/07/13	11/08/12	08/08/12	05/14/12	02/13/12	11/16/11	08/11/11	05/05/11	02/24/11	11/09/10	11/10 DUP	08/10/10	05/11/10	02/24/10	2/10 DUP
Field Groundwater Quality Parameters																			
pH	SU	--	--	6.66	7.37	7.47	7.33	7.53	7.56	7.88	7.98	8.69	8.70	7.71		6.49	9.09	10.45	
Specific Conductance	mMhos	--	--	217	228	258	256	244	198	213	222	225	222	208		200	209	235	
Temperature	°Celsius	--	--	23.70	13.83	22.04	24.15	23.00	19.84	22.03	25.82	20.28	21.23	23.64		24.65	22.71	17.06	
Dissolved Oxygen (YSI)	mg/L	--	--	1.77	2.23	0.66	0.65	1.24	4.39	0.22	0.48	0.34	0.27	0.17		0.22	0.86	1.58	
ORP	mV	--	--	-68.6	20.1	-26	-9.5	65.7	-88.1	-169.4	119.4	-91.3	-46.1	-154.3		11.1	-57.4	-134.4	
Turbidity	NTU	--	--	1.47	2.06	1.27	2.99	0.93	2.42	4.16	9.89	1.09	5.24	0.76		0.62	1.79	0.50	
Laboratory Results - Natural Attenuation Parameters																			
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Nitrate (as N)	mg/L	--	--	--	< 0.050	--	--	--	< 0.050	--	--	--	< 0.050	--	--	--	--	0.2	< 0.050
Sulfate	mg/L	--	--	--	< 5.0	--	--	--	< 5.0	--	--	--	< 5.0	--	--	--	--	< 5.0	< 5.0
Sulfide	mg/L	--	--	--	< 1.0	--	--	--	< 1.0	--	--	--	2.1	--	--	--	--	< 1.0	< 1.0
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ferrous Iron	mg/L	--	--	--	< 0.10 HF	--	--	--	< 0.10 HF	--	--	--	< 0.010	--	--	--	--	< 0.010	< 0.010
Total Iron	mg/L	--	--	--	0.27	--	--	--	1.0	--	--	--	1.9	--	--	--	--	0.16	0.17
Carbon Dioxide	mg/L	--	--	--	7.5	--	--	--	0.052	--	--	--	< 0.050	--	--	--	--	< 0.050	< 0.050
Methane	mg/L	--	--	--	21	--	--	--	9.9	--	--	--	<0.58	--	--	--	--	<0.19	<0.19
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	--	4.7	--	--	--	4.7	--	--	--	--	3.1	3.5
Dissolved Oxygen	mg/L	--	--	--	7.6	--	--	--	1.6	--	--	--	1.6	--	--	--	--	1.2	1.3
Laboratory Results - Organic Constituents																			
Volatile Organic Compounds																			
Benzene	µg/L	5*	9	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	11	8.9	5.6	< 5.0	15	15	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	9.8	< 5.0	< 5.0	< 5.0	--	--	--	--	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	9.2	13	7.6	< 5.0	--	--	--	--	< 5.0	< 5.0
BTEX	µg/L	--	--	**bdl**	**bdl**		**bdl**	**bdl**	**bdl**	**30**	**22**	**13**	**bdl**	**15**	**15**	**bdl**	**bdl**	**bdl**	**bdl**
Semivolatile Organic Compounds																			
Acenaphthene	µg/L	2,000*	6,100	< 10	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 10	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 10	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.20	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.20	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.20	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.20	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 2.4	< 2.1	< 1.9	< 2.2	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 10	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	< 10	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.20	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 2.4	< 2.1	< 1.9	< 2.2	--	--	--	--	--	--	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 2.4	< 2.1	< 1.9	< 2.2	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	µg/L	20*	20*	< 10	0.24	< 0.21	< 0.19	< 0.22	< 5.0	14	5.2	< 5.0	< 5.0	54	57	7.7	< 5.0	< 9.7	< 9.7
Phenanthrene	µg/L	470	3,100	< 10	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 1.2	< 1.0	< 0.95	< 1.1	--	--	--	--	--	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	< 0.24	< 0.21	< 0.19	< 0.22	--		--	--	--	--	--	--	--	--	--
Total SVOCs	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**14**	**5.2**	**bdl**	**bdl**	**54**	**57**	**7.7**	**bdl**	**bdl**	**bdl**
BTEX + SVOCs	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**44**	**27**	**13**	**bdl**	**69**	**72**	**7.7**	**bdl**	**bdl**	**bdl**
Inorganic Constituents																			
Antimony	µg/L	6.3	40	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--
Barium	µg/L	2,000	7,200	1,430	1,400	1,800	1,800	1,400	1,400	1,500	1,300	1,200	1,200	--	--	--	--	930	930
Beryllium	µg/L	31	200	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	100	310	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	--	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	--	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--	--	--	< 40	< 40
Zinc	µg/L	4,700	31,000	< 20.0	< 20	22	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	--	--	--	--	17	< 10

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for the
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type
Only those constituents that are MGP-related and HSRA-regulated are reported
Values are listed with the laboratory- or equipment-reported number of significant
Exceeds Type 2 RRS (only indicated for c
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-200DR																
				8/12/2015	8/12 DUP	2/17/2015	2/17 DUP	08/07/13	02/08/13	11/07/12	08/08/12	05/17/12	02/16/12	11/18/11	08/11/11	05/04/11	04/18/11	11/09/10	08/10/10	05/11/10	02/24/10
Field Groundwater Quality Parameters																					
pH	SU	--	--	6.33		6.68		6.23	6.61	6.44	6.36	6.88	6.43	6.61	6.50	6.06	6.26	6.55	6.42	6.33	6.42
Specific Conductance	mMhos	--	--	0.529		0.488		526	452	510	576	526	535	509	515	512	558	519	506	550	534
Temperature	°Celsius	--	--	25.23		17.44		24.75	18.74	22.76	27.09	23.94	23.15	20.28	26.67	23.60	23.78	25.94	28.69	26.09	17.09
Dissolved Oxygen (YSI)	mg/L	--	--	0.12		2.38		0.21	1.10	0.06	0.66	0.71	0.28	0.59	1.38	0.05	1.04	0.10	0.24	0.73	3.66
ORP	mV	--	--	-180.4		94.7		-137.6	2.7	-89	-46.4	-75.6	-45.8	-90.7	-64.5	-113.4	-106.0	-260.1	-108.9	-110.5	-85.5
Turbidity	NTU	--	--	0.7		1.22		0.45	3.5	1.61	2.36	2.97	1.40	3.91	2.00	1.25	3.07	4.01	0.17	2.55	2.35
Laboratory Results - Natural Attenuation Parameters																					
Nitrogen, Ammonia (as N)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--	--	--	0.073 *	--	--	--	< 0.050	--	--	--	< 0.050	--	--	--	< 0.050
Sulfate	mg/L	--	--	--	--	--	--	--	< 5.0	--	--	--	< 5.0	--	--	--	< 5.0	--	--	--	5.6
Sulfide	mg/L	--	--	--	--	--	--	--	< 1.0	--	--	--	1.6	--	--	--	7.5	--	--	--	< 1.0
Dissolved Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Manganese	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ferrous Iron	mg/L	--	--	--	--	--	--	--	0.83 HF	--	--	--	0.84 HF	--	--	--	0.68	--	--	--	1.3
Total Iron	mg/L	--	--	--	--	--	--	--	6.9	--	--	--	4.3	--	--	--	4.3	--	--	--	4.8
Carbon Dioxide	mg/L	--	--	--	--	--	--	--	120	--	--	--	1.4	--	--	--	1.1	--	--	--	1.1
Methane	mg/L	--	--	--	--	--	--	--	1100	--	--	--	1400	--	--	--	460	--	--	--	770
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	--	--	--	--	--	5.5	--	--	--	4.3	--	--	--	4.1
Dissolved Oxygen	mg/L	--	--	--	--	--	--	--	4.4	--	--	--	1.8	--	--	--	1.3	--	--	--	1.3
Laboratory Results - Organic Constituents																					
Volatile Organic Compounds																					
Benzene	µg/L	5*	9	36	34	< 5.0	< 5.0	14	3.9	2.3	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	26
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	26	24	< 5.0	< 5.0	5.3	< 1.0	16	< 1.0	< 1.0	< 5.0	< 5.0	5.6	< 5.0	< 5.0	--	--	--	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	4.7	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	2.0	13	2.0	< 2.0	< 5.0	< 5.0	< 5.0	6.0	< 5.0	--	--	--	6.8
BTEX	µg/L	--	--	**62**	**58**	**bdl**	**bdl**	**19**	**5.9**	**36**	**2.0**	**bdl**	**bdl**		**5.6**	**6.0**	**bdl**	**bdl**	**bdl**	**bdl**	**32.8**
Semivolatile Organic Compounds																					
Acenaphthene	µg/L	2,000*	6,100	5.0	< 0.50	< 10	< 10	35	81	25	25	15	--	--	--	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 1.0	< 1.0	< 10	< 10	< 10	4.9	2.8	2.8	1.8	--	--	--	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	0.058	< 0.050	< 10	< 10	< 10	6.5	0.47	0.38	< 0.22	--	--	--	--	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20	< 1.9	< 0.20	< 0.20	< 0.22	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20	< 1.9	< 0.20	< 0.20	< 0.22	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 1.9	< 0.20	< 0.20	< 0.22	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 0.10	< 10	< 10	< 10	< 1.9	< 0.20	< 0.20	< 0.22	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 0.050	< 10	< 10	< 10	< 1.9	< 0.20	< 0.20	< 0.22	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 0.050	< 0.050	< 10	< 10	< 10	< 1.9	< 0.20	< 0.20	< 0.22	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 1.9	< 0.20	< 0.20	< 0.22	--	--	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	< 19	< 2.0	< 2.0	< 2.2	--	--	--	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	2.0	< 0.10	< 10	< 10	< 10	5.2	2.9	2.7	1.6	--	--	--	--	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	0.79	< 0.10	< 10	< 10	26	25	18	20	11	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20	< 1.9	< 0.20	< 0.20	< 0.22	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	< 19	< 2.0	< 2.0	< 2.2	--	--	--	--	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10	< 19	< 2.0	< 2.0	< 2.2	--	--	--	--	--	--	--	--	--
Naphthalene	µg/L	20*	20*	< 0.50	< 0.50	< 10	< 10	160	2,300	140	4.6	2.0	5.6	< 5.0	48	100	33	24	27	6.3	25
Phenanthrene	µg/L	470	3,100	0.077	< 0.050	< 10	< 10	< 10	39	1.2	< 0.20	< 0.22	--	--	--	--	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10	< 9.7	< 0.99	< 0.98	< 1.1	--	--	--	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	2.3	< 0.050	< 10	< 10	< 10	7.6	2.9	3.2	1.9	--	--	--	--	--	--	--	--	--
Total SVOCs	µg/L	--	--	**10**	**bdl**	**bdl**	**bdl**	**221**	**2,469**	**193**	**58**	**33**	**5.6**	**bdl**	**48**	**100**	**33**	**24**	**27**	**6**	**25**
BTEX + SVOCs	µg/L	--	--	**bdl**	**58**	**bdl**	**bdl**	**240**	**2,475**	**229**	**60**	**31**	**5.6**	**bdl**	**54**	**106**	**33**	**24**	**27**	**6**	**58**
Inorganic Constituents																					
Antimony	µg/L	6.3	40	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--
Barium	µg/L	2,000	7,200	1.73	1.71	0.682	0.738	1,230	3,200	900	810	690	750	810	730	810	670	--	--	--	540
Beryllium	µg/L	31	200	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	100	310	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10
Copper	µg/L	630	4,100	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	< 20
Lead	µg/L	15*	15*	< 0.0100	< 0.0100	< 0.0100	< 0.0100	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10
Nickel	µg/L	100	2,000	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 20.0	160	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--	--	< 40
Zinc	µg/L	4,700	31,000	< 0.0200	< 0.0200	0.0204	< 0.0200	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 0.010	0.043	0.034	0.034	43	< 10	61	54	24	42	--	--	--	54	--	--	--	42

Notes:
bdl - below detection limit
-- = Type 2 and Type 4 RRS are not applicable to or were not calculated for these parameters
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
Only those constituents that are MGP-related and HSRA-regulated are reported on this table
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-205D												MW-205D						
				08/12/15	02/16/15	08/06/13	08/13 DUP	02/07/13	02/13 DUP	11/07/12	11/12 DUP	08/09/12	05/17/12	05/12 DUP	02/15/12	02/12 DUP	11/18/11	11/18 DUP	08/11/11	05/05/11	02/22/11	02/11 DUP	11/10/10
Groundwater Quality Parameters																						
pH	SU	--	--	6.60	6.81	6.20		6.89		6.70		6.14	7.13		6.65		5.9		5.60	6.57	6.6		6.47
Specific Conductance	mMhos	--	--	0.740	0.755	770		625		794		801	766	766	791		372		778	615	664		679
Temperature	°Celsius	--	--	26.72	18.66	25.48		17.75		18.64		25.15	24.5		21.58	21.58	20.37		24.51	19.50	22.88		23.74
Dissolved Oxygen (YSI)	mg/L	--	--	0.28	2.01	1.38		0.47		0.53		0.31	1.93		0.63	0.63	1.19		1.36	0.88	0.31		0.17
ORP	mV	--	--	-163.5	-90.1	-184.4		-90.6		-17.8		-58.9	-96.2		-95.2	-95.2	-22		-9.5	-77.3	-91.1		-86.1
Turbidity	NTU	--	--	2.67	3.41	1.87		2.72		0.78		6.16	3.68		1.05	1.05	8.86		4.10	2.94	3.65		0.91
Results - Natural Attenuation Parameters																						
Nitrogen, Nitrate (as N)	mg/L	--	--	--	< 2.5	--	--	< 0.050	< 0.050	--	--	--	--	--	< 0.050	< 0.050	--	--	--	--	< 0.050	< 0.050	--
Sulfate	mg/L	--	--	--	< 10	--	--	< 5.0	< 5.0	--	--	--	--	--	< 5.0	< 5.0	--	--	--	--	< 5.0	< 5.0	--
Sulfide	mg/L	--	--	--	< 1.00	--	--	< 1.0	< 1.0	--	--	--	--	--	1.8	1.8	--	--	--	--	< 1.0	< 1.0	--
Ferrous Iron	mg/L	--	--	--	**0.844**	--	--	< 0.10 HF	< 0.10 HF	--	--	--	--	--	0.25 HF	0.25 HF	--	--	--	--	< 0.010	< 0.010	--
Total Iron	mg/L	--	--	--	**4.37**	--	--	4.8	4.9	--	--	--	--	--	3.7	3.7	--	--	--	--	4.4	4.5	--
Carbon Dioxide	mg/L	--	--	--	**77**	--	--	93	88	--	--	--	--	--	1.4	1.4	--	--	--	--	1.1	1.2	--
Methane	mg/L	--	--	--	**3,000**	--	--	2600	2100	--	--	--	--	--	2600	2500	--	--	--	--	2100	2200	--
Dissolved Nitrogen	mg/L	--	--	--	**20**	--	--	--	--	--	--	--	--	--	4.9	5.4	--	--	--	--	4.2	4.4	--
Dissolved Oxygen	mg/L	--	--	--	**4.7**	--	--	2.0	2.8	--	--	--	--	--	1.7	1.8	--	--	--	--	1.2	1.2	--
ory Results - Organic Constituents																						
Volatile Organic Compounds																						
Benzene	µg/L	5*	9	5,200	4,400	5,700	5,400	3,400	4,000	3,300	3,200	5,800	4,700	4,600	3,200	3,500	< 250	< 250	3,900	3,500	1,900	2,300	3,500
Carbon Disulfide	µg/L	329	1,700	< 250	< 5.0	< 250	< 250	< 100	< 100	< 100	< 40	< 100	< 100	< 100	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	1,100	990	1,400	1,200	820	890	930	890	1,400	1,100	1,000	900	1,000	< 250	< 250	970	840	390	720	--
Toluene	µg/L	1,000*	1,100	< 250	12	< 250	< 250	< 50	< 50	< 50	< 20	< 50	< 50	< 50	< 250	< 250	< 250	< 250	<250	<250	<250	<250	--
Total Xylenes	µg/L	31,000	200,000	580	560	960	820	400	460	250	240	750	660	630	410	350	< 250	< 250	450	530	<250	360	--
BTEX	µg/L	--	--	**6,880**	**5,962**	**8,060**	**7,420**	**4,620**	**5,350**	**4,480**	**4,330**	**7,950**	**6,460**	**6,230**	**4,510**	**4,850**	**bdl**	**bdl**	**5,320**	**4,870**	**2,290**	**3,380**	**3,500**
mivolatile Organic Compounds																						
Acenaphthene	µg/L	2,000*	6,100	160	130	220	200	89	95	150	170	140	150	120	--	--	--	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	1.8	< 10	< 10	< 10	< 2.0	< 2.0	< 2.3	< 0.21	< 1.9	< 2.0		--	--	--	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	5.6	< 10	< 10	< 10	2.9	3.1	4.4	4.4	0.55	4.0	2.3	--	--	--	--	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.20	< 0.20	< 2.0	< 2.0	< 2.3	< 0.21	< 1.9	< 2.0	< 0.21	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.20	< 0.20	< 2.0	< 2.0	< 2.3	< 0.21	< 1.9	< 2.0	< 0.21	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.20	< 0.20	< 2.0	< 2.0	< 2.3	< 0.21	< 1.9	< 2.0	< 0.21	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 10	< 10	< 10	< 2.0	< 2.0	< 2.3	< 0.21	< 1.9	< 2.0	< 0.21	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 10	< 10	< 10	< 2.0	< 2.0	< 2.3	< 0.21	< 1.9	< 2.0	< 0.21	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 0.050	< 10	< 10	< 10	< 2.0	< 2.0	< 2.3	< 0.21	< 1.9	< 2.0	< 0.21	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.20	< 0.20	< 2.0	< 2.0	< 2.3	< 0.21	< 1.9	< 2.0	< 0.21	--	--	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 50	< 10	< 10	< 10	< 20	< 20	< 23	< 2.1	< 19	< 20	< 2.1	--	--	--	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	1.3	< 10	< 10	< 10	< 2.0	< 2.0	< 2.3	1.1	< 1.9	< 2.0	0.35	--	--	--	--	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	34	31	43	44	24	26	34	38	38	34	26	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.20	< 0.20	< 2.0	< 2.0	< 2.3	< 0.21	< 1.9	< 2.0	< 0.21	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 50	< 10	< 10	< 10	< 20	< 20	< 23	< 2.1	< 19	< 20	< 2.1	--	--	--	--	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 50	< 10	< 10	< 10	< 20	< 20	< 23	< 2.1	< 19	< 20	< 2.1	--	--	--	--	--	--	--	--	--
Naphthalene	µg/L	20*	20*	4,600	4,200	8,100	7,500	1,500	1,700	6,400	5,700	3,900 D	2,100	35	5,500	5,300	< 250	690	7,100	6,900	3,500	5,700	10,000
Phenanthrene	µg/L	470	3,100	35	29	43	43	20	22	34	39	36	28	21	--	--	--	--	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 50	< 10	< 10	< 10	< 10	< 9.9	11	14	< 9.5	< 10	9.8	--	--	--	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	1.4	< 10	< 10	< 10	< 2.0	< 2.0	< 2.3	1.1	< 1.9	< 2.0	0.47	--	--	--	--	--	--	--	--	--
Total SVOCs	µg/L	--	--	**4,839**	**4,390**	**8,406**	**7,787**	**1,636**	**1,846**	**6,633**	**5,968**	**4,115**	**2,312**	**215**	**5,500**	**5,300**	**bdl**	**690**	**7,100**	**6,900**	**3,500**	**5,700**	**10,000**
BTEX + SVOCs	µg/L	--	--	**11,719**	**10,352**	**16,466**	**15,207**	**6,256**	**7,196**	**11,113**	**10,298**	**12,065**	**8,772**	**6,445**	**10,010**	**10,150**	**bdl**	**690**	**12,420**	**11,770**	**5,790**	**9,080**	**13,500**
Inorganic Constituents																						
Antimony	µg/L	6.3	40	< 0.0200	< 0.0200	< 20.0	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 0.0500	< 0.0500	< 50.0	< 50.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--
Barium	µg/L	2,000	7,200	3.13	3.16	3,790	3,900	3,200	3,300	3,100	3,000	3,000	2,800	2,900	2,900	2,900	130	130	3,100	2,900	3,200	3,200	--
Beryllium	µg/L	31	200	< 0.0100	< 0.0100	< 10.0	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 0.0050	< 0.0050	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 0.0100	< 0.0100	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--
Copper	µg/L	630	4,100	< 0.0100	< 0.0100	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--
Lead	µg/L	15*	15*	< 0.0100	< 0.0100	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--
Nickel	µg/L	100	2,000	< 0.0200	< 0.0200	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--
Zinc	µg/L	4,700	31,000	< 0.0200	< 0.0200	< 20.0	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.00020	< 0.00020	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 0.010	< 0.010	12	17	10	< 10	< 10	17	13	12	13	11	13	--	--	--	--	< 10	13	--

Notes:
bdl - below detection limit
MGP-related and HSRA-regulated are reported on this table.
rted number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS				MW-205DD			
				08/11/10	05/11/10	02/24/10	8/11/2015	2/17/2015	2/17 DUP	8/8/2013
Groundwater Quality Parameters										
pH	SU	--	--	6.56	6.41	6.55	9.17	9.65		11.65
Specific Conductance	mMhos	--	--	701	690	733	0.246	0.229		1302
Temperature	°Celsius	--	--	23.66	21.86	11.89	24.87	14.74		22.80
Dissolved Oxygen (YSI)	mg/L	--	--	1.77	0.36	0.55	1.01	0.91		0.25
ORP	mV	--	--	-92.4	-71.0	-145.5	-101.4	-49.8		-155.1
Turbidity	NTU	--	--	0.1	1.06	0.87	2.4	29.9		7.61
esults - Natural Attenuation Parameters										
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	< 0.050	--	--	--	--
Sulfate	mg/L	--	--	--	--	< 5.0	--	--	--	--
Sulfide	mg/L	--	--	--	--	< 1.0	--	--	--	--
Ferrous Iron	mg/L	--	--	--	--	1.1	--	--	--	--
Total Iron	mg/L	--	--	--	--	3.6	--	--	--	--
Carbon Dioxide	mg/L	--	--	--	--	1.1	--	--	--	--
Methane	mg/L	--	--	--	--	1700	--	--	--	--
Dissolved Nitrogen	mg/L	--	--	--	--	3.9	--	--	--	--
Dissolved Oxygen	mg/L	--	--	--	--	1.2	--	--	--	--
ory Results - Organic Constituents										
Volatile Organic Compounds										
Benzene	µg/L	5*	9	3,700	3,800	4,000	< 5.0	< 5.0	< 5.0	84
Carbon Disulfide	µg/L	329	1,700	--	--	--	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/L	700*	2,300	--	--	1,500	< 5.0	< 5.0	< 5.0	6.0
Toluene	µg/L	1,000*	1,100	--	--	280	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	--	--	1300	< 5.0	< 5.0	< 5.0	< 5.0
BTEX	µg/L	--	--	**3,700**	**3,800**	**7,080**	**bdl**	**bdl**	**bdl**	**90**
mivolatile Organic Compounds										
Acenaphthene	µg/L	2,000*	6,100	--	--	--	< 0.50	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	--	--	--	< 1.0	< 10	< 10	< 10
Anthracene	µg/L	4,700	31,000	--	--	--	< 0.050	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	--	--	--	< 0.050	< 0.050	< 0.050	< 0.20
Benzo[a]pyrene	µg/L	0.2*	0.39	--	--	--	< 0.050	< 0.050	< 0.050	< 0.20
Benzo[b]fluoranthene	µg/L	1.17	3.92	--	--	--	< 0.10	< 0.10	< 0.10	< 0.20
Benzo[g,h,i]perylene	µg/L	10	10	--	--	--	< 0.10	< 10	< 10	< 10
Benzo[k]fluoranthene	µg/L	11.7	39.2	--	--	--	< 0.050	< 10	< 10	< 10
Chrysene	µg/L	117	392	--	--	--	< 0.050	< 10	< 10	< 10
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	--	--	--	< 0.10	< 0.10	< 0.10	< 0.20
2,4-Dimehylphenol	µg/L	700*	700*	--	--	--	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	--	--	--	< 0.10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	--	--	--	< 0.10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	--	--	--	< 0.050	< 0.050	< 0.050	< 0.20
2-Methylphenol	µg/L	780	5,100	--	--	--	< 10	< 10	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	--	--	--	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	7,900	4,800	5,600	< 0.50	< 10	< 10	< 10
Phenanthrene	µg/L	470	3,100	--	--	--	< 0.050	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	--	--	--	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	--	--	--	< 0.050	< 10	< 10	< 10
Total SVOCs	µg/L	--	--	**7,900**	**4,800**	**5,600**	**bdl**	**bdl**	**bdl**	**bdl**
BTEX + SVOCs	µg/L	--	--	**11,600**	**8,600**	**12,680**	**bdl**	**bdl**	**bdl**	**90**
Inorganic Constituents										
Antimony	µg/L	6.3	40	--	--	--	< 0.0200	< 0.0200	< 0.0200	44.2
Arsenic	µg/L	50*	50*	--	--	--	< 0.0500	< 0.0500	< 0.0500	< 50.0
Barium	µg/L	2,000	7,200	--	--	2,900	0.0247	0.0331	0.0298	103
Beryllium	µg/L	31	200	--	--	--	< 0.0100	< 0.0100	< 0.0100	< 10.0
Cadmium	µg/L	7.8	51	--	--	--	< 0.0050	< 0.0050	< 0.0050	< 5.0
Chromium	µg/L	100	310	--	--	< 10	< 0.0100	< 0.0100	< 0.0100	14.6
Copper	µg/L	630	4,100	--	--	< 20	0.0120	< 0.0100	< 0.0100	11.4
Lead	µg/L	15*	15*	--	--	< 10	< 0.0100	< 0.0100	< 0.0100	< 10.0
Nickel	µg/L	100	2,000	--	--	< 40	< 0.0200	< 0.0200	< 0.0200	23.3
Zinc	µg/L	4,700	31,000	--	--	--	< 0.0200	0.0433	0.0293	26.5
Mercury	µg/L	2*	2*	--	--	--	< 0.00020	< 0.00020	< 0.00020	< 0.20
Total Cyanide	µg/L	310	2,000	--	--	12	< 0.010	< 0.010	< 0.010	< 10

Notes:

bdl - below detection limit

MGP-related and HSRA-regulated are reported on this table.

ted number of significant digits, which varies between different sets of c

Exceeds Type 2 RRS (only indicated for off-

Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-206D											
				02/17/15	08/08/13	02/08/13	11/08/12	08/09/12	08/12 DUP	05/15/12	02/14/12	11/18/11	08/11/11	05/05/11	02/23/11
Field Groundwater Quality Parameters															
pH	SU	--	--	6.10	5.94	6.11	6.00	5.99		6.18	6.25	6.33	5.95	6.08	6.05
Specific Conductance	mMhos	--	--	0.560	463	441	456	665		477	500	473	328	368	440
Temperature	°Celsius	--	--	13.62	26.53	21.19	21.75	29.12		24.98	20.30	21.99	27.97	20.45	21.61
Dissolved Oxygen (YSI)	mg/L	--	--	0.77	1.42	0.27	0.25	0.2		0.22	0.22	0.31	0.93	0.58	0.19
ORP	mV	--	--	17.5	-196.8	10.6	-6.8	-65.6		-74.4	-75.7	-69.8	22.1	-19.2	-15.4
Turbidity	NTU	--	--	55.7	3.22	22.8	4.83	5.42		1.42	36.9	9.82	57.3	9.9	15.9
Laboratory Results - Natural Attenuation Parameters															
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	< 0.050	--	--	--	--	< 0.050	--	--	--	< 0.050
Sulfate	mg/L	--	--	--	--	99	--	--	--	--	5.6	--	--	--	78
Sulfide	mg/L	--	--	--	--	< 1.0	--	--	--	--	8.8	--	--	--	< 1.0
Ferrous Iron	mg/L	--	--	--	--	15 HF	--	--	--	--	4.3 HF	--	--	--	12
Total Iron	mg/L	--	--	--	--	< 0.10	--	--	--	--	7.5	--	--	--	22
Carbon Dioxide	mg/L	--	--	--	--	70	--	--	--	--	2.3	--	--	--	1.3
Methane	mg/L	--	--	--	--	100	--	--	--	--	690	--	--	--	100
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	--	--	--	4.3	--	--	--	4.5
Dissolved Oxygen	mg/L	--	--	--	--	8.0	--	--	--	--	1.4	--	--	--	1.5
Laboratory Results - Organic Constituents															
Volatile Organic Compounds															
Benzene	µg/L	5*	9	< 5.0	< 5.0	1.6	< 1.0	2.7	2.7	19	60	50	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	3.3	< 1.0	1.1	1.1	43	120	100	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 50	21	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	3.8	< 50	34	< 5.0	< 5.0	< 5.0
BTEX	µg/L	--	--	**bdl**	**bdl**	**4.9**	**bdl**	**3.8**	**3.8**	**66**	**180**	**205**	**bdl**	**bdl**	**bdl**
Semivolatile Organic Compounds															
Acenaphthene	µg/L	2,000*	6,100	< 10	< 10	< 0.20	13	22	34	18	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 10	< 10	< 0.20	18	1.4	2.1	2.9	--	--	--		--
Anthracene	µg/L	4,700	31,000	< 10	< 10	< 0.20	< 0.20	0.55	1.1	0.52	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	0.10	< 0.20	< 0.20	0.23	< 0.19	< 0.20	< 0.21	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.20	< 0.20	< 0.20	< 0.19	< 0.20	< 0.21	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.20	< 0.20	< 0.20	< 0.19	< 0.20	< 0.21	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 10	< 0.20	< 0.20	< 0.19	< 0.20	< 0.21	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 10	< 0.20	< 0.20	< 0.19	< 0.20	< 0.21	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 10	< 0.20	< 0.20	< 0.19	< 0.20	< 0.21	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.20	< 0.20	< 0.20	< 0.19	< 0.20	< 0.21	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 2.0	< 2.0	< 1.9	< 2.0	< 2.1	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	< 0.20	1.0	1.3	1.8	1.1	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	< 10	< 10	< 0.20	8.3	8.0	13	5.3	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.20	< 0.20	< 0.20	< 0.19	< 0.20	< 0.21	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 2.0	< 2.0	< 1.9	< 2.0	< 2.1	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 2.0	< 2.0	< 1.9	< 2.0	< 2.1	--	--	--	--	--
Naphthalene	µg/L	20*	20*	< 10	< 10	< 0.20	3.4	28	170 D	180	1,300	990	< 5.0	54	< 5.0
Phenanthrene	µg/L	470	3,100	< 10	< 10	< 0.20	1.1	0.52	2.9	1.8	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 10	< 0.98	< 1.0	< 0.96	< 0.99	< 1.1	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	< 10	< 0.20	4.2	1.9	2.4	3.3	--	--	--	--	--
Total SVOCs	µg/L	--	--	**bdl**	**bdl**	**bdl**	**49**	**64**	**227**	**213**	**1,300**	**990**	**bdl**	**54**	**bdl**
BTEX + SVOCs	µg/L	--	--	**bdl**	**bdl**	**4.9**	**49**	**67**	**231**	**279**	**1,480**	**1,195**	**bdl**	**54**	**bdl**
Inorganic Constituents															
Antimony	µg/L	6.3	40	< 0.0200	< 20.0	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 0.0500	< 50.0	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--
Barium	µg/L	2,000	7,200	0.120	86.0	< 89	62	1,900	1,900	470	2,700	1,900	55	250	170
Beryllium	µg/L	31	200	< 0.0100	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 0.0050	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--
Chromium	µg/L	100	310	< 0.0100	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 0.0100	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Lead	µg/L	15*	15*	< 0.0100	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	0.0208	< 20.0	< 40	< 40	110	110	52	130	110	< 40	44	< 40
Zinc	µg/L	4,700	31,000	< 0.0200	< 20.0	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.00020	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 0.010	< 10	< 10	< 10	23	18	15	42	--	--	--	15

Notes:
bdl - below detection limit
Naphthalene
Phenanthrene
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-207D														
				02/17/15	08/08/13	02/11/13	11/06/12	08/09/12	05/17/12	02/15/12	11/17/11	08/10/11	05/05/11	02/23/11	02/11 DUP	11/09/11	08/10/10	05/11/10	03/17/10
Field Groundwater Quality Parameters																			
pH	SU	--	--	6.85	6.31	6.57	10.62	5.91	6.92	6.63	6.54	6.37	6.65	6.48	6.48	9.74	6.50	6.24	6.51
Specific Conductance	mMhos	--	--	0.499	506	526	326	529	469	473	452	494	473	394	394	231	482	467	485
Temperature	°Celsius	--	--	18.85	24.43	22.17	22.25	26.91	24.10	20.66	21.49	26.36	19.18	18.29	18.29	26.91	28.31	23.02	17.29
Dissolved Oxygen (YSI)	mg/L	--	--	1.67	1.28	0.83	0.11	0.25	0.34	3.96	0.35	0.54	0.71	0.45	0.45	1.02	2.82	0.29	0.5
ORP	mV	--	--	-58.5	-212.1	-94.9	-46.7	-81.2	-77.3	-83.4	-83.3	-77.2	-112.4	-81.6	-81.6	-14.8	-74.6	-58.7	-75.4
Turbidity	NTU	--	--	45.9	1.32	8.71	25	32.0	50.1	9.17	7.83	9.41	7.49	9.41	9.41	5.4	2.3	0.65	22.6
Laboratory Results - Natural Attenuation Parameters																			
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	< 0.050	--	--	--	< 0.050	--	--	--	< 0.050	< 0.050	--	--	--	< 0.050
Sulfate	mg/L	--	--	--	--	< 5.0	--	--	--	< 5.0	--	--	--	< 5.0	< 5.0	--	--	--	< 5.0
Sulfide	mg/L	--	--	--	--	< 1.0	--	--	--	2.2	--	--	--	< 1.0	1.3	--	--	--	< 1.0
Ferrous Iron	mg/L	--	--	--	--	2.5 HF	--	--	--	1.1 HF	--	--	--	0.96	0.55	--	--	--	1.1
Total Iron	mg/L	--	--	--	--	8.8	--	--	--	5.4	--	--	--	4.1	4.5	--	--	--	5.4
Carbon Dioxide	mg/L	--	--	--	--	59	--	--	--	1.1	--	--	--	0.79	0.88	--	--	--	0.67
Methane	mg/L	--	--	--	--	2000	--	--	--	1200	--	--	--	470	530	--	--	--	58
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	--	--	4.9	--	--	--	4.9	4.3	--	--	--	4.0
Dissolved Oxygen	mg/L	--	--	--	--	7.4	--	--	--	1.7	--	--	--	1.6	1.4	--	--	--	1.3
Laboratory Results - Organic Constituents																			
Volatile Organic Compounds																			
Benzene	µg/L	5*	9	< 5.0	< 5.0	2.9	< 1.0	1.8	1.2	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	18
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	1.8	< 1.0	1.8	1.8	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0
BTEX	µg/L	--	--	**bdl**	**bdl**	**4.7**	**bdl**	**3.6**	**3.0**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**18**
Semivolatile Organic Compounds																			
Acenaphthene	µg/L	2,000*	6,100	< 10	14	8.0	2.7	7.0	9.3	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 10	< 10	0.69	0.50	0.76	1.5	--	--	--	--	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 10	< 10	0.24	< 0.20	0.24	0.25	--	--	--	--	--	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.20	< 0.20	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.20	< 0.20	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.20	< 0.20	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 10	< 0.20	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 10	< 0.20	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 10	< 0.20	< 0.20	< 0.19	0.22	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.20	< 0.20	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 2.0	< 2.0	< 1.9	< 2.2	--	--	--	--	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	2.0	1.4	2.0	1.7	--	--	--	--	--	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	< 10	11	6.5	2.0	5.4	3.1	--	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.20	< 0.20	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 2.0	< 2.0	< 1.9	< 2.2	--	--	--	--	--	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 2.0	< 2.0	< 1.9	< 2.2	--	--	--	--	--	--	--	--	--	--
Naphthalene	µg/L	20*	20*	< 10	< 10	7.8	2.7	8.4	3.3	21	15	< 5.0	8.8	61	64	< 5.0	< 5.0	< 5.0	22
Phenanthrene	µg/L	470	3,100	< 10	< 10	< 0.20	< 0.20	0.22	0.28	--	--	--	--	--	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 10	< 0.99	< 0.99	< 0.97	< 1.1	--	--	--	--	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	< 10	2.9	1.9	2.6	2.9	--	--	--	--	--	--	--	--	--	--
Total SVOCs	µg/L	--	--	**bdl**	**25**	**28.1**	**11.2**	**26.6**	**22.6**	**21**	**15**	**bdl**	**8.8**	**61**	**64**	**bdl**	**bdl**	**bdl**	**22**
BTEX + SVOCs	µg/L	--	--	**bdl**	**25**	**32.8**	**11.2**	**30.2**	**25.6**	**21**	**15**	**bdl**	**8.8**	**61**	**64**	**bdl**	**bdl**	**bdl**	**40**
Inorganic Constituents																			
Antimony	µg/L	6.3	40	< 0.0200	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 0.0500	< 50.0	40	41	< 20	< 20	--	--	--	--	--	--	--	--	--	--
Barium	µg/L	2,000	7,200	2.89	2,920	3,300	230	2,600	2,200	2,400	2,400	2,400	2,300	2,300	2,100	--	--	--	2,300
Beryllium	µg/L	31	200	< 0.0100	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 0.0050	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 0.0100	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10
Copper	µg/L	630	4,100	0.0108	< 10.0	< 20	37	27	44	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	< 20
Lead	µg/L	15*	15*	0.0173	< 10.0	12	19	25	36	< 10	19	< 10	< 10	< 10	< 10	--	--	--	< 10
Nickel	µg/L	100	2,000	< 0.0200	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--	--	< 40
Zinc	µg/L	4,700	31,000	0.0288	< 20.0	31	62	57	98	--	--	--	--	--	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.00020	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	0.036	23	22	< 10	29	24	14	--	--	--	19	19	--	--	--	53

Notes:
bdl - below detection limit
Naphthalene
Phenanthrene
Only those constituents that are MGP-related and HSRA-regulated are
Values are listed with the laboratory- or equipment-reported number of
Exceeds Type 2 RRS (only indicated for off-
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-300D									
				02/17/15	02/05/13	11/06/12	08/07/12	05/15/12	02/09/12	11/18/11	08/11/11	05/04/11	02/22/11
Field Groundwater Quality Parameters													
pH	SU	--	--	6.05	6.04	5.98	5.46	6.66	6.53	6.2	6.16	6.13	6.23
Specific Conductance	mMhos	--	--	0.384	399	396	420	431	518	390	453	419	421
Temperature	°Celsius	--	--	16.29	20.37	20.90	22.72	23.84	16.90	19.76	25.76	21.39	21.81
Dissolved Oxygen (YSI)	mg/L	--	--	0.88	1.00	2.41	1.12	0.13	1.11	0.32	0.33	0.24	0.16
ORP	mV	--	--	21.6	23.6	-18.6	16.3	-78.8	-55.7	-63.6	150.5	-90.6	-32.6
Turbidity	NTU	--	--	0.44	2.48	3.12	0.90	0.21	9.72	5.06	9.12	4.20	0.79
Laboratory Results - Natural Attenuation Parameters													
Nitrogen, Nitrate (as N)	mg/L	--	--	--	< 0.050	--	--	--	< 0.050	--	--	--	< 0.050
Sulfate	mg/L	--	--	--	< 5.0	--	--	--	< 5.0	--	--	--	5.1
Sulfide	mg/L	--	--	--	< 1.0	--	--	--	1.4	--	--	--	< 1.0
Ferrous Iron	mg/L	--	--	--	6.8 HF	--	--	--	9.1 HF	--	--	--	3.8
Total Iron	mg/L	--	--	--	6.3	--	--	--	9.5	--	--	--	4.6
Carbon Dioxide	mg/L	--	--	--	55	--	--	--	0.98	--	--	--	0.63
Methane	mg/L	--	--	--	32	--	--	--	650	--	--	--	1.2
Dissolved Nitrogen	mg/L	--	--	--	23	--	--	--	5.7	--	--	--	4.2
Dissolved Oxygen	mg/L	--	--	--	7.4	--	--	--	1.7	--	--	--	1.4
Laboratory Results - Organic Constituents													
Volatile Organic Compounds													
Benzene	µg/L	5*	9	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
BTEX	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Semivolatile Organic Compounds													
Acenaphthene	µg/L	2,000*	6,100	< 10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 1.9	< 2.0	< 2.0	< 2.2	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	< 10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 1.9	< 2.0	< 2.0	< 2.2	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 1.9	< 2.0	< 2.0	< 2.2	--	--	--	--	--
Naphthalene	µg/L	20*	20*	< 10	< 0.19	< 0.20	< 0.20	< 0.22	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Phenanthrene	µg/L	470	3,100	< 10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 0.97	< 1.0	< 1.0	< 1.1	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Total SVOCs	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
BTEX + SVOCs	µg/L	--	--	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**	**bdl**
Inorganic Constituents													
Antimony	µg/L	6.3	40	< 0.0200	< 20	< 20	< 20	< 20	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 0.0500	< 20	< 20	< 20	< 20	--	--	--	--	--
Barium	µg/L	2,000	7,200	1.55	1,500	1,600	1,700	1,500	1,700	1,600	1,600	1,700	1,500
Beryllium	µg/L	31	200	0.0151	18	19	19	17	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 0.0050	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--
Chromium	µg/L	100	310	< 0.0100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 0.0100	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Lead	µg/L	15*	15*	< 0.0100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	0.0253	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Zinc	µg/L	4,700	31,000	0.0522	28	22	27	25	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.00020	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 0.010	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10

Notes:
bdl - below detection limit
Naphthalene
Phenanthrene
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-301D														
				08/13/15	02/17/15	08/07/13	02/07/13	02/13 DUP	11/07/12	11/12 DUP	08/09/12	05/16/12	05/12 DUP	02/16/12	02/12 DUP	11/15/11	08/10/11	05/04/11	02/24/11
Field Groundwater Quality Parameters																			
pH	SU	--	--	6.13	6.10	5.62	6.33		6.12		5.82	6.38		5.96		6.07	6.07	5.99	6.29
Specific Conductance	mMhos	--	--	0.586	0.747	572	526		566		619	637		547		529	478	459	402
Temperature	°Celsius	--	--	22.07	13.45	22.03	16.68		18.79		24.00	24.49		20.44		23.5	24.18	20.40	21.09
Dissolved Oxygen (YSI)	mg/L	--	--	0.05	3.51	0.41	0.64		0.21		1.27	0.25		1.98		0.37	1.31	0.54	0.29
ORP	mV	--	--	-104.9	-98.3	-190.8	-82.6		-167.4		3.0	-65.8		-65.9		-128.9	-98.1	-71.8	-25.7
Turbidity	NTU	--	--	0.86	1.41	0.4	0.68		0.91		4.32	5.56		3.23		7.68	4.96	4.38	9.27
Laboratory Results - Natural Attenuation Parameters																			
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--	< 0.050	< 0.050	--	--	--	--	--	< 0.050	< 0.050	--	--	--	< 0.050
Sulfate	mg/L	--	--	--	--	--	32	55	--	--	--	--	--	27	23	--	--	--	26
Sulfide	mg/L	--	--	--	--	--	2.0	2.4	--	--	--	--	--	12	12	--	--	--	< 1.0
Ferrous Iron	mg/L	--	--	--	--	--	7.0 HF	7.1 HF	--	--	--	--	--	5.7 HF	4.9 HF	--	--	--	2.8
Total Iron	mg/L	--	--	--	--	--	7.3	7.0	--	--	--	--	--	5.9	5.8	--	--	--	3.5
Carbon Dioxide	mg/L	--	--	--	--	--	58	56	--	--	--	--	--	1.3	1.2	--	--	--	0.51
Methane	mg/L	--	--	--	--	--	26	24	--	--	--	--	--	47	44	--	--	--	4.7
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	6.0	5.8	--	--	--	4.6
Dissolved Oxygen	mg/L	--	--	--	--	--	5.4	3.8	--	--	--	--	--	1.9	1.9	--	--	--	1.6
Laboratory Results - Organic Constituents																			
Volatile Organic Compounds																			
Benzene	µg/L	5*	9	< 5.0	9.2	< 5.0	2.3	2.3	2.7	< 5.0	2.2	< 10	< 5.0	< 50	< 50	< 10	12	270	84
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 10	< 2.0	< 10	< 5.0	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	17	24	24	43	49	13	36	37	< 50	< 50	22	18	<25	< 10
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	1.2	< 5.0	< 1.0	< 10	< 5.0	< 50	< 50	< 10	< 10	<25	58
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 10	< 2.0	< 10	< 5.0	< 50	< 50	< 10	< 10	130	51
BTEX	µg/L	--	--	**bdl**	**9.2**	**17**	**26**	**26**	**47**	**49**	**15**	**36**	**37**	**bdl**	**bdl**	**22**	**30**	**400**	**193**
Semivolatile Organic Compounds																			
Acenaphthene	µg/L	2,000*	6,100	0.51	< 10	< 10	< 2.0	< 2.0	0.26	0.24	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100		< 10	< 10	< 2.0	< 2.0	< 0.20	< 0.20	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	0.13	< 10	< 10	< 2.0	< 2.0	< 0.20	< 0.20	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.20	< 2.0	< 2.0	< 0.20	< 0.20	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.20	< 2.0	< 2.0	< 0.20	< 0.20	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.20	< 2.0	< 2.0	< 0.20	< 0.20	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 10	< 10	< 2.0	< 2.0	< 0.20	< 0.20	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 10	< 10	< 2.0	< 2.0	< 0.20	< 0.20	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 0.050	< 10	< 10	< 2.0	< 2.0	< 0.20	< 0.20	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.20	< 2.0	< 2.0	< 0.20	< 0.20	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 20	< 20	< 2.0	< 2.1	< 1.9	< 22	< 22	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 0.10	< 10	< 10	< 2.0	< 2.0	< 0.20	< 0.21	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	2.3	< 10	< 10	< 2.0	< 2.0	1.3	1.8	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.20	< 2.0	< 2.0	< 0.20	< 0.21	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 20	< 20	< 2.0	< 2.0	< 1.9	< 22	< 22	--	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 20	< 20	< 2.0	< 2.0	< 1.9	< 22	< 22	--	--	--	--	--	--
Naphthalene	µg/L	20*	20*	< 0.50	< 10	< 10	410	460	1,400	< 0.20	1,300 D	3,500	1,400	1,400	1,200	1,100	720 *	900	390
Phenanthrene	µg/L	470	3,100	0.23	< 10	< 10	< 2.0	< 2.0	1.0	1.2	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10	< 0.99	< 0.99	< 0.97	< 11	< 11	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	0.080	< 10	< 10	< 2.0	< 2.0	< 0.20	< 0.20	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
Total SVOCs	µg/L	--	--	**3.25**	**bdl**	**bdl**	**410**	**460**	**1,403**	**3.2**	**1,300**	**3,500**	**1,400**	**1,400**	**1,200**	**1,100**	**720**	**900**	**390**
BTEX + SVOCs	µg/L	--	--	**3.00**	**9.2**	**17**	**436**	**486**	**1,449**	**52**	**1,315**	**3,536**	**1,437**	**1,400**	**1,200**	**1,122**	**750**	**1,300**	**583**
Inorganic Constituents																			
Antimony	µg/L	6.3	40	< 0.0200	< 0.0200	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 0.0500	< 0.0500	< 50.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	--
Barium	µg/L	2,000	7,200	0.771	0.713	2,100	1,700	1,600	2,500	2,200	2,400	2,400	2,400	2,500	2,600	2,500	2,100	2,300	1,400
Beryllium	µg/L	31	200	< 0.0100	< 0.0100	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 0.0050	< 0.0050	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--
Chromium	µg/L	100	310	< 0.0100	< 0.0100	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 0.0100	< 0.0100	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Lead	µg/L	15*	15*	< 0.0100	< 0.0100	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 0.0200	< 0.0200	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Zinc	µg/L	4,700	31,000	< 0.0200	< 0.0200	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.00020	< 0.00020	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	0.043	0.087	83	84	81	93	96	< 10	85	91	96	86	--	--	--	97

Notes:
bdl - below detection limit
Naphthalene
Phenanthrene
Only those constituents that are MGP-related and HSRA-regulated are reporte
Values are listed with the laboratory- or equipment-reported number of significa
Exceeds Type 2 RRS (only indicated for off-site v
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-302D							MW-302DD			
				08/12/15	02/18/15	08/08/13	02/08/13	11/07/12	11/15/11	02/24/11	08/12/15	02/17/15	08/08/13	08/13 DUP
Field Groundwater Quality Parameters														
pH	SU	--	--	5.67	5.67	5.73	5.91	5.83	6.11	6.51	7.47	7.77	7.31	
Specific Conductance	mMhos	--	--	1.068	1.173	1690	1502	1862	1432	1069	0.616	0.665	677	
Temperature	°Celsius	--	--	26.87	15.17	24.19	13.32	20.79	21.39	21.05	26.20	14.48	23.24	
Dissolved Oxygen (YSI)	mg/L	--	--	0.18	0.58	0.45	0.94	0.17	0.22	0.09	0.26	1.18	0.87	
ORP	mV	--	--	-64.0	-45.4	-32.5	-8.3	-77.1	-89	-74	-215.9	-169.5	-202.9	
Turbidity	NTU	--	--	4.07	4.33	9.42	9.2	2.25	6.67	8.62	31.9	4.42	4.82	
Laboratory Results - Natural Attenuation Parameters														
Nitrogen, Nitrate (as N)	mg/L	--	--	--	--	--	< 0.050	--	--	< 0.050	--	--	--	--
Sulfate	mg/L	--	--	--	--	--	1.0	--	--	400	--	--	--	--
Sulfide	mg/L	--	--	--	--	--	< 1.0	--	--	< 1.0	--	--	--	--
Ferrous Iron	mg/L	--	--	--	--	--	31 HF	--	--	9.3	--	--	--	--
Total Iron	mg/L	--	--	--	--	--	< 0.10	--	--	15	--	--	--	--
Carbon Dioxide	mg/L	--	--	--	--	--	30	--	--	0.99	--	--	--	--
Methane	mg/L	--	--	--	--	--	44	--	--	24	--	--	--	--
Dissolved Nitrogen	mg/L	--	--	--	--	--	--	--	--	4.2	--	--	--	--
Dissolved Oxygen	mg/L	--	--	--	--	--	10	--	--	1.4	--	--	--	--
Laboratory Results - Organic Constituents														
Volatile Organic Compounds														
Benzene	µg/L	5*	9	15	12	< 5.0	15	5.9	34	25	**11**	13	810	780
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	--	--	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/L	700*	2,300	5.8	< 5.0	11	12	5.4	< 5.0	< 5.0	**30**	45	55	55
Toluene	µg/L	1,000*	1,100	19	12	49	1.4	16	36	< 5.0	< 5.0	< 5.0	17	16
Total Xylenes	µg/L	31,000	200,000	16	13	39	10	15	21	< 5.0	< 5.0	< 5.0	61	63
BTEX	µg/L	--	--	**56**	**37**	**99**	**38**	**42**	**91**	**25**	**41**	**58**	**943**	**914**
Semivolatile Organic Compounds														
Acenaphthene	µg/L	2,000*	6,100	4.6	< 10	< 10	< 0.24	7.0	--	--	1.0	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	21	17	42	< 0.24	29	--	--	1.8	< 10	< 10	
Anthracene	µg/L	4,700	31,000	4.1	< 10	< 10	< 0.24	3.5	--	--	0.083	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	0.053	0.26	0.31	< 0.24	0.21	--	--	< 0.050	< 0.050	< 0.20	< 0.20
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	0.28	0.27	< 0.24	< 0.20	--	--	< 0.050	< 0.050	< 0.20	< 0.20
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	0.22	< 0.20	< 0.24	< 0.20	--	--	< 0.10	< 0.10	< 0.20	< 0.20
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 10	< 10	< 0.24	< 0.20	--	--	< 0.10	< 10	< 10	< 10
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 10	< 10	< 0.24	< 0.20	--	--	< 0.050	< 10	< 10	< 10
Chrysene	µg/L	117	392	< 0.050	< 10	< 10	< 0.24	0.21	--	--	< 0.050	< 10	< 10	< 10
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.20	< 0.24	< 0.20	--	--	< 0.10	< 0.10	< 0.20	< 0.20
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 2.4	< 2.0	--	--	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	2.2	< 10	< 10	< 0.24	2.1	--	--	< 0.10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	9.0	12	15	< 0.24	18	--	--	0.68	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	0.087	< 0.20	< 0.24	< 0.20	--	--	< 0.050	< 0.050	< 0.20	< 0.20
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 2.4	< 2.0	--	--	< 10	< 10	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 2.4	< 2.0	--	--	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	170	120	200	< 0.24	250	170	13	< 0.050	< 10	180	140
Phenanthrene	µg/L	470	3,100	21	15	21	< 0.24	26	--	--	0.17	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 1.2	< 0.99	--	--	< 10	< 10	19	28
Pyrene	µg/L	1,000*	3,100	2.7	< 10	< 10	< 0.24	2.6	--	--	0.058	< 10	< 10	< 10
Total SVOCs	µg/L	--	--	**235**	**165**	**279**	**bdl**	**339**	**170**	**13**	**3.79**	**0**	**199**	**168**
BTEX + SVOCs	µg/L	--	--	**290**	**202**	**378**	**38**	**381**	**261**	**38**	**44.79**	**58**	**1,142**	**1,082**
Inorganic Constituents														
Antimony	µg/L	6.3	40	< 0.0200	< 0.0200	< 20.0	< 20	< 20	--	--	< 0.0200	< 0.0200	< 20.0	< 20.0
Arsenic	µg/L	50*	50*	< 0.0500	< 0.0500	< 50.0	< 20	< 20	--	--	< 0.0500	< 0.0500	< 50.0	< 50.0
Barium	µg/L	2,000	7,200	0.0606	0.0687	26.3	24	26	130	210	0.819	0.757	601	613
Beryllium	µg/L	31	200	< 0.0100	< 0.0100	< 10.0	< 4.0	< 4.0	--	--	< 0.0100	< 0.0100	< 10.0	< 10.0
Cadmium	µg/L	7.8	51	< 0.0050	< 0.0050	< 5.0	< 5.0	< 5.0	--	--	< 0.0050	< 0.0050	< 5.0	< 5.0
Chromium	µg/L	100	310	< 0.0100	< 0.0100	< 10.0	< 10	< 10	< 10	< 10	< 0.0100	< 0.0100	< 10.0	< 10.0
Copper	µg/L	630	4,100	< 0.0100	< 0.0100	< 10.0	< 20	< 20	< 20	< 20	< 0.0100	< 0.0100	< 10.0	< 10.0
Lead	µg/L	15*	15*	< 0.0100	< 0.0100	< 10.0	< 10	< 10	< 10	< 10	< 0.0100	< 0.0100	< 10.0	< 10.0
Nickel	µg/L	100	2,000	< 0.0200	< 0.0200	< 20.0	< 40	< 40	< 40	< 40	< 0.0200	< 0.0200	< 20.0	< 20.0
Zinc	µg/L	4,700	31,000	0.0350	0.124	43.3	< 20	< 20	--	--	0.0686	< 0.0200	< 20.0	< 20.0
Mercury	µg/L	2*	2*	< 0.00020	< 0.00020	< 0.20	< 0.20	< 0.20	--	--	< 0.00020	< 0.00020	< 0.20	< 0.20
Total Cyanide	µg/L	310	2,000	< 0.010	0.017	382	< 10	< 10	--	32	0.042	0.024	70	63

Notes:
bdl - below detection limit
Naphthalene
Phenanthrene
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-303D									
				08/07/13	03/13/13	11/08/12	08/09/12	05/17/12	02/16/12	11/16/11	08/09/11	05/03/11	03/14/11
Field Groundwater Quality Parameters													
pH	SU	--	--	6.61	6.94	6.45	6.44	7.01	6.94	6.81	6.43	6.42	5.64
Specific Conductance	mMhos	--	--	147	133	125	176	170	152	183	172	156	194
Temperature	°Celsius	--	--	26.22	19.19	18.9	25.32	25.72	20.25	23.04	23.71	20.77	21.97
Dissolved Oxygen (YSI)	mg/L	--	--	0.12	2.72	0.71	0.48	3.49	3.17	0.18	0.11	0.07	0.08
ORP	mV	--	--	-75.6	-104.1	-65.1	-85.4	72.5	-88.1	-120.3	158.5	-87.2	13.0
Turbidity	NTU	--	--	2.32	9.97	0.72	1.79	2.36	9.85	9.8	6.52	20.1	21.4
Laboratory Results - Natural Attenuation Parameters													
Nitrogen, Nitrate (as N)	mg/L	--	--	--	< 0.050	--	--	--	< 0.050	--	--	--	< 0.050
Sulfate	mg/L	--	--	--	5.0	--	--	--	< 5.0	--	--	--	< 5.0
Sulfide	mg/L	--	--	--	1.2	--	--	--	1.9	--	--	--	< 1.0
Ferrous Iron	mg/L	--	--	--	< 0.10 HF	--	--	--	0.90 HF	--	--	--	0.38
Total Iron	mg/L	--	--	--	1.6	--	--	--	2.6	--	--	--	1.7
Carbon Dioxide	mg/L	--	--	--	10	--	--	--	0.33	--	--	--	0.18
Methane	mg/L	--	--	--	130	--	--	--	680	--	--	--	6.9
Dissolved Nitrogen	mg/L	--	--	--	18	--	--	--	6000	--	--	--	4.8
Dissolved Oxygen	mg/L	--	--	--	8.5	--	--	--	1.8	--	--	--	1.5
Laboratory Results - Organic Constituents													
Volatile Organic Compounds													
Benzene	µg/L	5*	9	31	5.0	30	3.1	< 1.0	16	20	34	40	56
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	6.0	1.2	6.3	< 1.0	< 1.0	< 5.0	< 5.0	6.2	8.6	10
Toluene	µg/L	1,000*	1,100	< 5.0	< 1.0	3.0	< 1.0	< 1.0	< 5.0	< 5.0	< 5.0	5.2	9.1
Total Xylenes	µg/L	31,000	200,000	14	< 2.0	14	< 2.0	< 2.0	8.8	15	30	49	54
BTEX	µg/L	--	--	**51**	**6.2**	**53**	**3.1**	**bdl**	**25**	**35**	**70**	**103**	**129**
Semivolatile Organic Compounds													
Acenaphthene	µg/L	2,000*	6,100	< 10	0.33	1.8	< 0.19	< 0.23	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 10	< 0.19	< 0.19	< 0.19	< 0.23	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 10	< 0.19	< 0.19	< 0.19	< 0.23	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.20	< 0.19	< 0.19	< 0.19	< 0.23	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.20	< 0.19	< 0.19	< 0.19	< 0.23	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.20	< 0.19	< 0.19	< 0.19	< 0.23	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 0.19	< 0.19	< 0.19	< 0.23	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 0.19	< 0.19	< 0.19	< 0.23	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 0.19	< 0.19	< 0.19	< 0.23	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.20	< 0.19	< 0.19	< 0.19	< 0.23	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 1.9	3.2	< 1.9	< 2.3	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 10	< 0.19	< 0.19	< 0.19	< 0.23	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	< 10	< 0.19	0.3	< 0.19	< 0.23	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.20	< 0.19	< 0.19	< 0.19	< 0.23	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 1.9	< 1.9	< 1.9	< 2.3	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 1.9	< 1.9	< 1.9	< 2.3	--	--	--	--	--
Naphthalene	µg/L	20*	20*	31	< 0.19	43	< 0.19	< 0.23	28	42	110 *	170	140
Phenanthrene	µg/L	470	3,100	< 10	< 0.19	1.8	< 0.19	< 0.23	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 0.97	< 0.97	< 0.97	< 1.1	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	< 0.19	< 0.19	< 0.19	< 0.23	--	--	--	--	--
Total SVOCs	µg/L	--	--	**31**	**0.33**	**50**	**bdl**	**bdl**	**28**	**42**	**110**	**170**	**140**
BTEX + SVOCs	µg/L	--	--	**82**	**6.5**	**103**	**3.1**	**bdl**	**53**	**77**	**180**	**273**	**269**
Inorganic Constituents													
Antimony	µg/L	6.3	40	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--
Barium	µg/L	2,000	7,200	649	630	610	760	640	730	830	760	830	850
Beryllium	µg/L	31	200	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	11	< 10
Copper	µg/L	630	4,100	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Zinc	µg/L	4,700	31,000	32.5	< 20	< 20	< 20	< 20	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 10	66	< 10	< 10	< 10	< 10	--	--	--	< 10

Notes:
bdl - below detection limit
Naphthalene
Phenanthrene
Only those constituents that are MGP-related and HSRA-regulated are reporte
Values are listed with the laboratory- or equipment-reported number of significa
Exceeds Type 2 RRS (only indicated for off-site v
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-305D 08/13/15	MW-305D 02/18/15
Field Groundwater Quality Parameters					
pH	SU	--	--	12.28	12.56
Specific Conductance	mMhos	--	--	2.966	3.696
Temperature	°Celsius	--	--	26.30	11.21
Dissolved Oxygen (YSI)	mg/L	--	--	0.34	3.06
ORP	mV	--	--	-183.3	13.1
Turbidity	NTU	--	--	2.3	2.48
Laboratory Results - Natural Attenuation Parameters					
Nitrogen, Nitrate (as N)	mg/L	--	--	**--**	**--**
Sulfate	mg/L	--	--	**--**	**--**
Sulfide	mg/L	--	--	**--**	**--**
Ferrous Iron	mg/L	--	--	**--**	**--**
Total Iron	mg/L	--	--	**--**	**--**
Carbon Dioxide	mg/L	--	--	**--**	**--**
Methane	mg/L	--	--	**--**	**--**
Dissolved Nitrogen	mg/L	--	--	**--**	**--**
Dissolved Oxygen	mg/L	--	--	**--**	**--**
Laboratory Results - Organic Constituents					
Volatile Organic Compounds					
Benzene	µg/L	5*	9	3,700	11,000
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 500
Ethylbenzene	µg/L	700*	2,300	49	< 500
Toluene	µg/L	1,000*	1,100	1,600	4,500
Total Xylenes	µg/L	31,000	200,000	270	< 500
BTEX	µg/L	--	--	**5,619**	**15,500**
Semivolatile Organic Compounds					
Acenaphthene	µg/L	2,000*	6,100	2.7	< 10
Acenaphthylene	µg/L	470	3,100	12	73
Anthracene	µg/L	4,700	31,000	3.4	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	1.3	0.64
Benzo[a]pyrene	µg/L	0.2*	0.39	0.91	0.49
Benzo[b]fluoranthene	µg/L	1.17	3.92	1.1	0.45
Benzo[g,h,i]perylene	µg/L	10	10	0.36	< 10
Benzo[k]fluoranthene	µg/L	11.7	39.2	0.24	< 10
Chrysene	µg/L	117	392	1.0	< 10
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	0.32	< 0.10
2,4-Dimehylphenol	µg/L	700*	700*	< 50	< 10
Fluoranthene	µg/L	1,000*	4,100	4.3	< 10
Fluorene	µg/L	1,000*	4,100	7.8	21
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	0.32	0.13
2-Methylphenol	µg/L	780	5,100	< 50	< 10
3 & 4 Methylphenol	µg/L	78	510	< 50	< 10
Naphthalene	µg/L	20*	20*	220	1,300
Phenanthrene	µg/L	470	3,100	16	33
Phenol	µg/L	9,390	61,000	< 50	< 10
Pyrene	µg/L	1,000*	3,100	5.7	< 10
Total SVOCs	µg/L	--	--	**277**	**1,429**
BTEX + SVOCs	µg/L	--	--	**5,896**	**16,929**
Inorganic Constituents					
Antimony	µg/L	6.3	40	< 0.0200	< 0.0200
Arsenic	µg/L	50*	50*	< 0.0500	< 0.0500
Barium	µg/L	2,000	7,200	0.140	0.236
Beryllium	µg/L	31	200	< 0.0100	< 0.0100
Cadmium	µg/L	7.8	51	< 0.0050	< 0.0050
Chromium	µg/L	100	310	0.0169	0.0107
Copper	µg/L	630	4,100	0.0139	< 0.0100
Lead	µg/L	15*	15*	< 0.0100	< 0.0100
Nickel	µg/L	100	2,000	< 0.0200	< 0.0200
Zinc	µg/L	4,700	31,000	< 0.0200	< 0.0200
Mercury	µg/L	2*	2*	< 0.00020	< 0.00020
Total Cyanide	µg/L	310	2,000	0.050	< 0.010

Notes:
bdl - below detection limit
Naphthalene
Phenanthrene
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-306D 08/14/15	MW-306D 02/18/15
Field Groundwater Quality Parameters					
pH	SU	--	--	12.01	12.23
Specific Conductance	mMhos	--	--	3.275	2.321
Temperature	°Celsius	--	--	24.76	16.24
Dissolved Oxygen (YSI)	mg/L	--	--	3.40	7.05
ORP	mV	--	--	-114.5	41.8
Turbidity	NTU	--	--	1.75	4.17
Laboratory Results - Natural Attenuation Parameters					
Nitrogen, Nitrate (as N)	mg/L	--	--	**--**	< 2.5
Sulfate	mg/L	--	--	**--**	< 10
Sulfide	mg/L	--	--	**--**	< 1.0
Ferrous Iron	mg/L	--	--	**--**	< 0.100
Total Iron	mg/L	--	--	**--**	< 0.100
Carbon Dioxide	mg/L	--	--	**--**	< 5.0
Methane	mg/L	--	--	**--**	**96**
Dissolved Nitrogen	mg/L	--	--	**--**	**22**
Dissolved Oxygen	mg/L	--	--	**--**	**9.7**
Laboratory Results - Organic Constituents					
Volatile Organic Compounds					
Benzene	µg/L	5*	9	570	790
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0
Ethylbenzene	µg/L	700*	2,300	110	130
Toluene	µg/L	1,000*	1,100	32	37
Total Xylenes	µg/L	31,000	200,000	79	130
BTEX	µg/L	--	--	**791**	**1,087**
Semivolatile Organic Compounds					
Acenaphthene	µg/L	2,000*	6,100	23	29
Acenaphthylene	µg/L	470	3,100	< 1.0	< 10
Anthracene	µg/L	4,700	31,000	0.51	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 10
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 10
Chrysene	µg/L	117	392	< 0.050	< 10
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	0.32	< 10
Fluorene	µg/L	1,000*	4,100	5.5	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050
2-Methylphenol	µg/L	780	5,100	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10
Naphthalene	µg/L	20*	20*	6.5	31
Phenanthrene	µg/L	470	3,100	5.0	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10
Pyrene	µg/L	1,000*	3,100	0.39	< 10
Total SVOCs	µg/L	--	--	**41**	**60**
BTEX + SVOCs	µg/L	--	--	**832**	**1,147**
Inorganic Constituents					
Antimony	µg/L	6.3	40	< 0.0200	< 0.0200
Arsenic	µg/L	50*	50*	< 0.0500	< 0.0500
Barium	µg/L	2,000	7,200	0.349	0.229
Beryllium	µg/L	31	200	< 0.0100	< 0.0100
Cadmium	µg/L	7.8	51	< 0.0050	< 0.0050
Chromium	µg/L	100	310	0.0296	0.0270
Copper	µg/L	630	4,100	0.0263	0.0168
Lead	µg/L	15*	15*	< 0.0100	< 0.0100
Nickel	µg/L	100	2,000	< 0.0200	< 0.0200
Zinc	µg/L	4,700	31,000	< 0.0200	< 0.0200
Mercury	µg/L	2*	2*	< 0.00020	< 0.00020
Total Cyanide	µg/L	310	2,000	< 0.010	< 0.010

Notes:
bdl - below detection limit
Naphthalene
Phenanthrene
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-307D 08/14/15	MW-307D 02/18/15
Field Groundwater Quality Parameters					
pH	SU	--	--	12.39	13.85
Specific Conductance	mMhos	--	--	7.857	9.568
Temperature	°Celsius	--	--	23.76	15.28
Dissolved Oxygen (YSI)	mg/L	--	--	5.24	1.08
ORP	mV	--	--	-110.9	-80.7
Turbidity	NTU	--	--	4.18	2.46
Laboratory Results - Natural Attenuation Parameters					
Nitrogen, Nitrate (as N)	mg/L	--	--	--	< 2.5
Sulfate	mg/L	--	--	--	< 10
Sulfide	mg/L	--	--	--	< 1.00
Ferrous Iron	mg/L	--	--	--	< 0.100
Total Iron	mg/L	--	--	--	< 0.100
Carbon Dioxide	mg/L	--	--	--	< 5.0
Methane	mg/L	--	--	--	**79**
Dissolved Nitrogen	mg/L	--	--	--	**24**
Dissolved Oxygen	mg/L	--	--	--	**8.2**
Laboratory Results - Organic Constituents					
Volatile Organic Compounds					
Benzene	µg/L	5*	9	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0
BTEX	µg/L	--	--	**0**	**0**
Semivolatile Organic Compounds					
Acenaphthene	µg/L	2,000*	6,100	2.2	< 10
Acenaphthylene	µg/L	470	3,100	< 1.0	< 10
Anthracene	µg/L	4,700	31,000	0.25	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 10
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 10
Chrysene	µg/L	117	392	< 0.050	< 10
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	0.24	< 10
Fluorene	µg/L	1,000*	4,100	0.78	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050
2-Methylphenol	µg/L	780	5,100	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10
Naphthalene	µg/L	20*	20*	5.7	< 10
Phenanthrene	µg/L	470	3,100	3.0	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10
Pyrene	µg/L	1,000*	3,100	0.29	< 10
Total SVOCs	µg/L	--	--	**12**	**0**
BTEX + SVOCs	µg/L	--	--	**12**	**0**
Inorganic Constituents					
Antimony	µg/L	6.3	40	< 0.0200	< 0.0200
Arsenic	µg/L	50*	50*	< 0.0500	< 0.0500
Barium	µg/L	2,000	7,200	1.36	0.124
Beryllium	µg/L	31	200	< 0.0100	< 0.0100
Cadmium	µg/L	7.8	51	< 0.0050	< 0.0050
Chromium	µg/L	100	310	0.0654	0.0339
Copper	µg/L	630	4,100	0.0147	< 0.0100
Lead	µg/L	15*	15*	< 0.0100	< 0.0100
Nickel	µg/L	100	2,000	< 0.0200	< 0.0200
Zinc	µg/L	4,700	31,000	< 0.0200	< 0.0200
Mercury	µg/L	2*	2*	< 0.00020	< 0.00020
Total Cyanide	µg/L	310	2,000	< 0.010	< 0.010

Notes:
bdl - below detection limit
Naphthalene
Phenanthrene
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

Appendix E-5
Summary of Groundwater Analytical Data
November 2001 through August 2015
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-308D	
				08/12/15	02/16/15
Field Groundwater Quality Parameters					
pH	SU	--	--	12.40	13.35
Specific Conductance	mMhos	--	--	2.905	2.920
Temperature	°Celsius	--	--	25.43	17.87
Dissolved Oxygen (YSI)	mg/L	--	--	3.17	3.50
ORP	mV	--	--	-88.4	-12.7
Turbidity	NTU	--	--	0.49	3.42
Laboratory Results - Natural Attenuation Parameters					
Nitrogen, Nitrate (as N)	mg/L	--	--	--	< 2.5
Sulfate	mg/L	--	--	--	**19**
Sulfide	mg/L	--	--	--	< 1.00
Ferrous Iron	mg/L	--	--	--	< 0.100
Total Iron	mg/L	--	--	--	< 0.100
Carbon Dioxide	mg/L	--	--	--	< 5.0
Methane	mg/L	--	--	--	**47**
Dissolved Nitrogen	mg/L	--	--	--	**17**
Dissolved Oxygen	mg/L	--	--	--	**5.6**
Laboratory Results - Organic Constituents					
Volatile Organic Compounds					
Benzene	µg/L	5*	9	23	8.2
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0
BTEX	µg/L	--	--	**23**	8.2
Semivolatile Organic Compounds					
Acenaphthene	µg/L	2,000*	6,100	< 0.50	< 10
Acenaphthylene	µg/L	470	3,100	< 1.0	< 10
Anthracene	µg/L	4,700	31,000	< 0.050	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 10
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 10
Chrysene	µg/L	117	392	< 0.050	< 10
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 0.10	< 10
Fluorene	µg/L	1,000*	4,100	< 0.10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050
2-Methylphenol	µg/L	780	5,100	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10
Naphthalene	µg/L	20*	20*	< 0.50	< 10
Phenanthrene	µg/L	470	3,100	0.086	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 0.050	< 10
Total SVOCs	µg/L	--	--	**0**	**0**
BTEX + SVOCs	µg/L	--	--	**23.086**	**8.2**
Inorganic Constituents					
Antimony	µg/L	6.3	40	< 0.0200	< 0.0200
Arsenic	µg/L	50*	50*	< 0.0500	< 0.0500
Barium	µg/L	2,000	7,200	0.115	0.124
Beryllium	µg/L	31	200	< 0.0100	< 0.0100
Cadmium	µg/L	7.8	51	< 0.0050	< 0.0050
Chromium	µg/L	100	310	0.0307	0.0339
Copper	µg/L	630	4,100	< 0.0100	< 0.0100
Lead	µg/L	15*	15*	< 0.0100	< 0.0100
Nickel	µg/L	100	2,000	< 0.0200	< 0.0200
Zinc	µg/L	4,700	31,000	< 0.0200	< 0.0200
Mercury	µg/L	2*	2*	< 0.00020	< 0.00020
Total Cyanide	µg/L	310	2,000	< 0.010	< 0.010

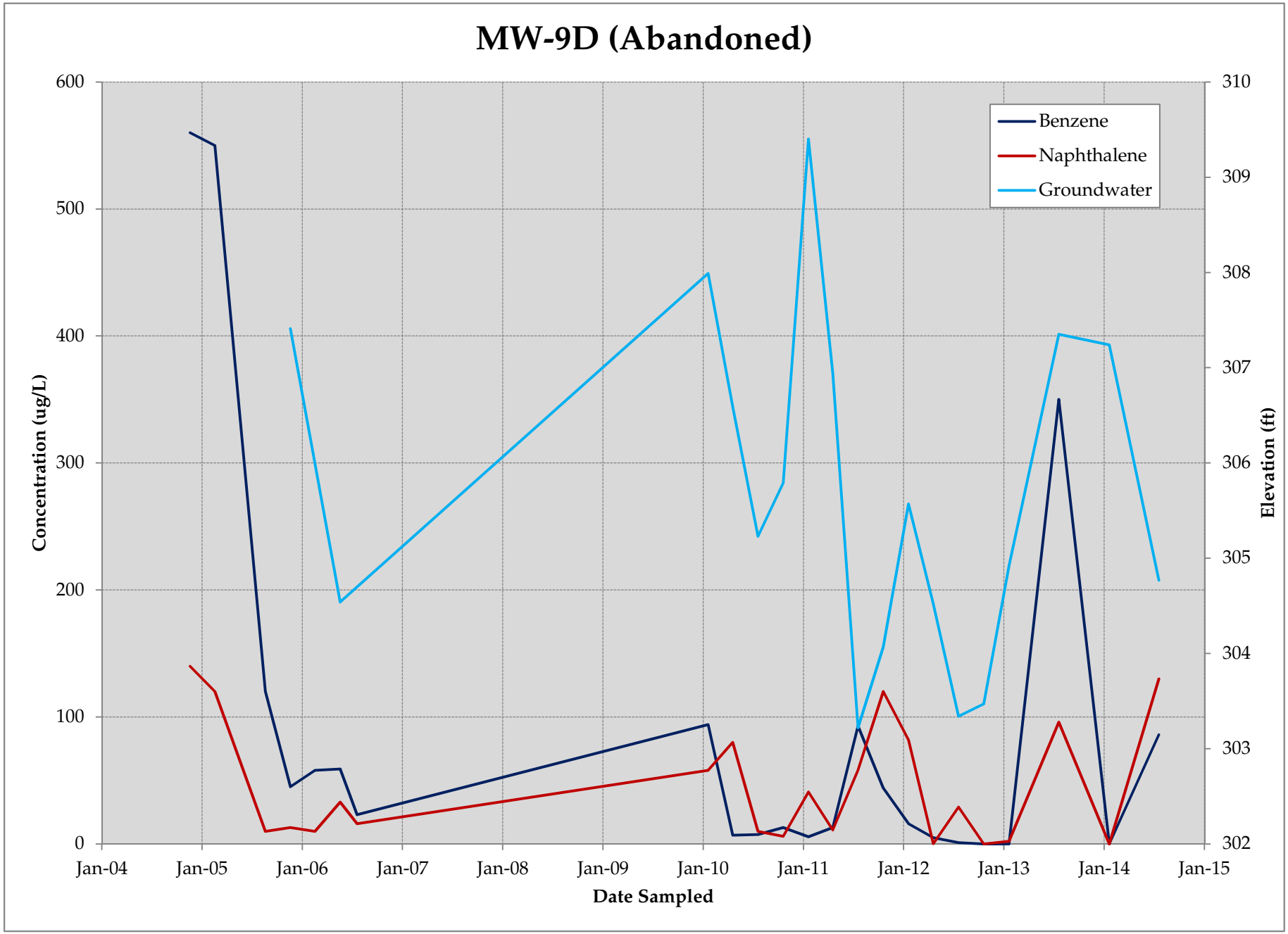
Notes:
bdl - below detection limit
Naphthalene
Phenanthrene
Only those constituents that are MGP-related and HSRA-regulated are reported on this table.
Values are listed with the laboratory- or equipment-reported number of significant digits, which varies between different sets of constituents.
Exceeds Type 2 RRS (only indicated for off-site wells)
Exceeds Type 4 RRS

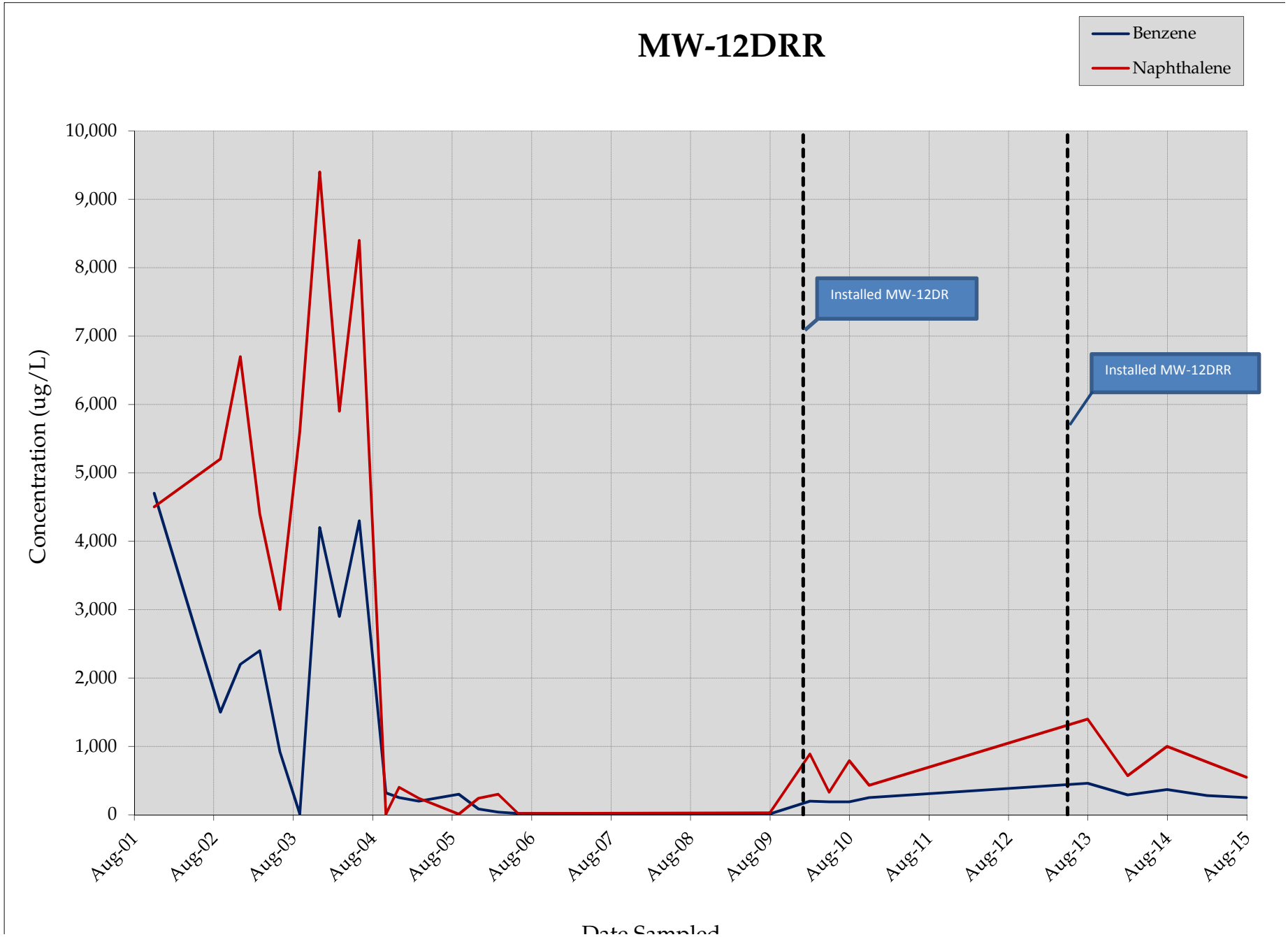
Bedrock Monitoring Wells: Concentration and Groundwater Elevation Trend Graphs

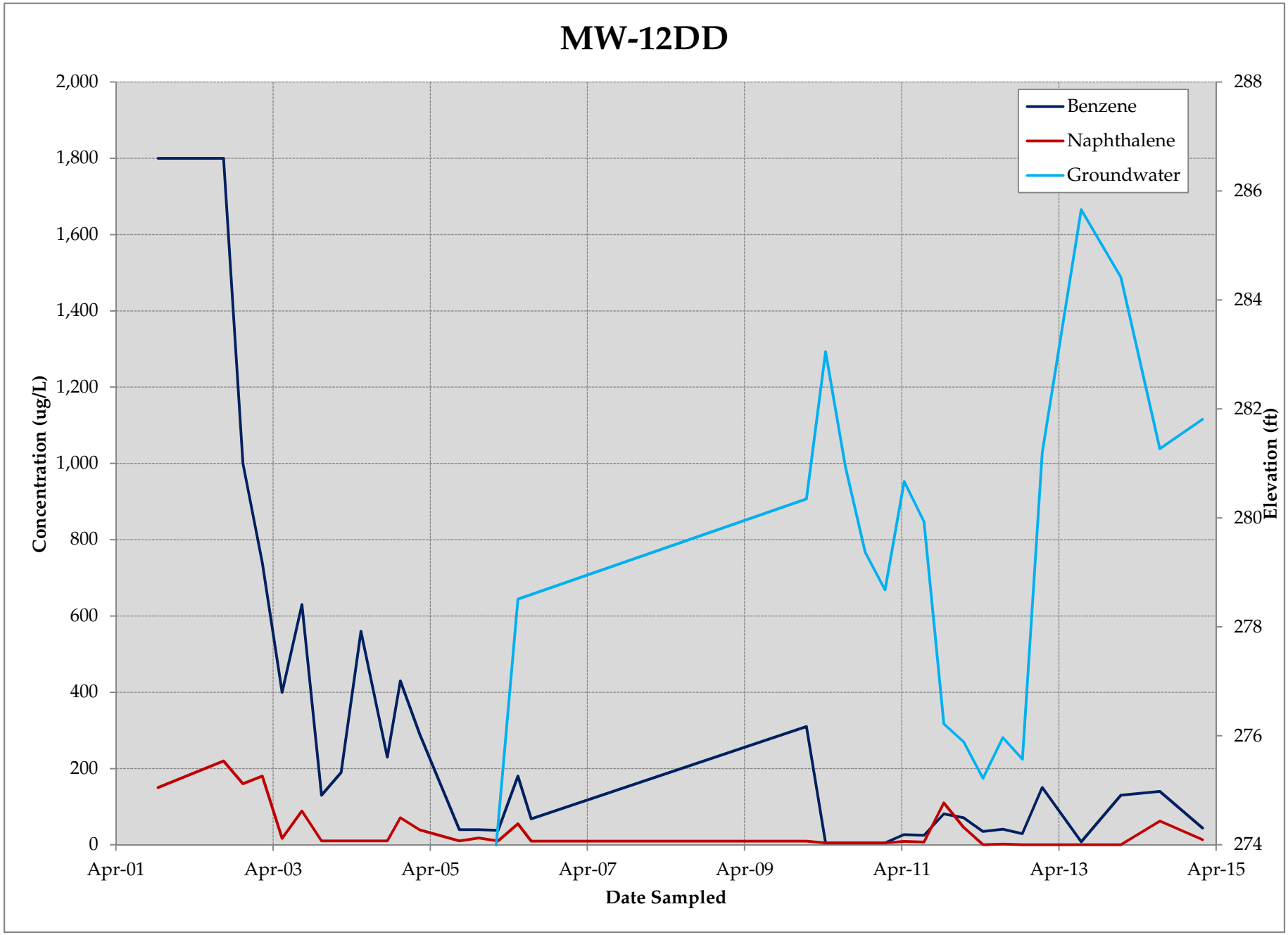
Appendix E-6

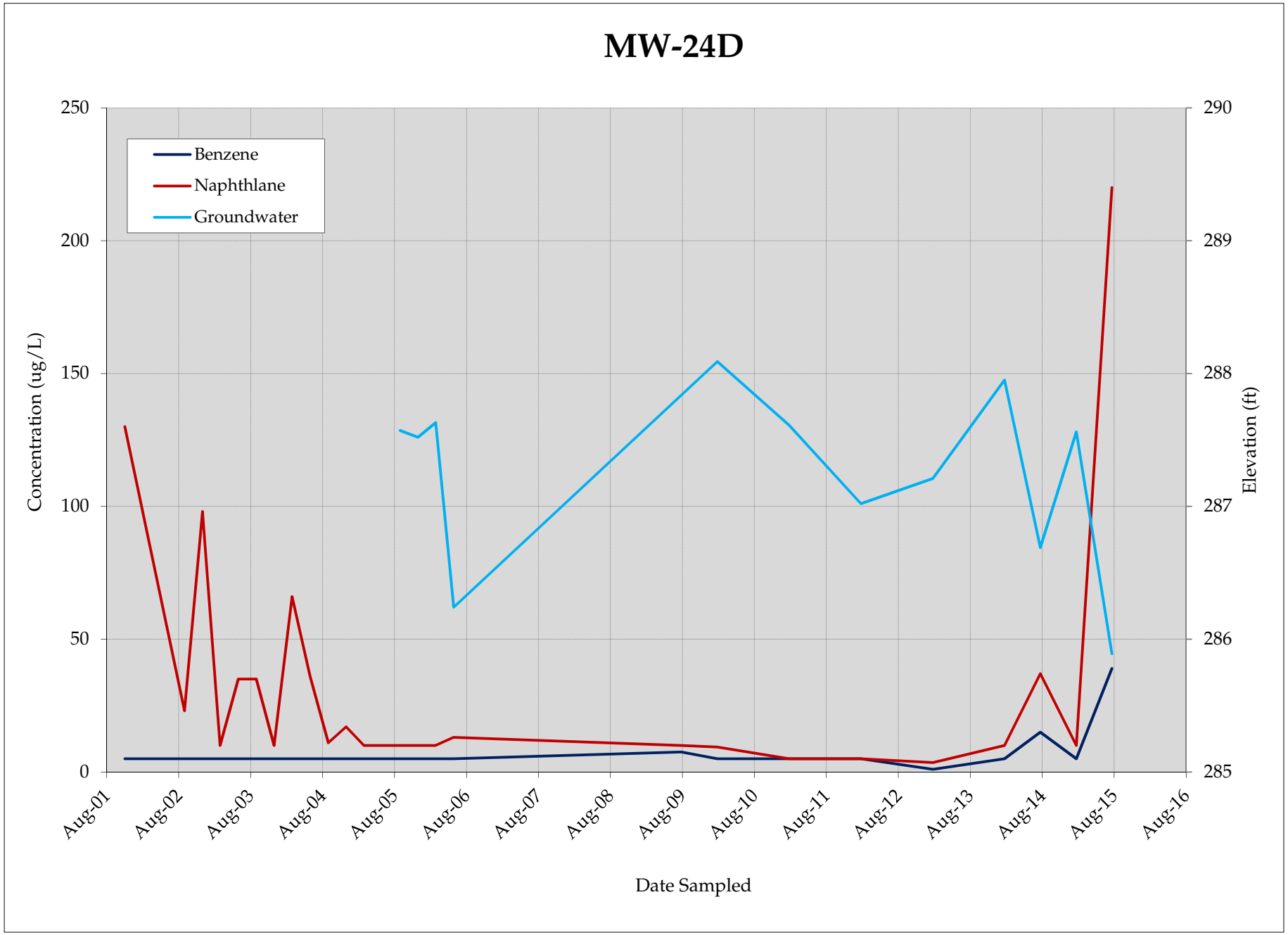
November 21, 2015
Project No. 0176740
Atlanta Gas Light Company

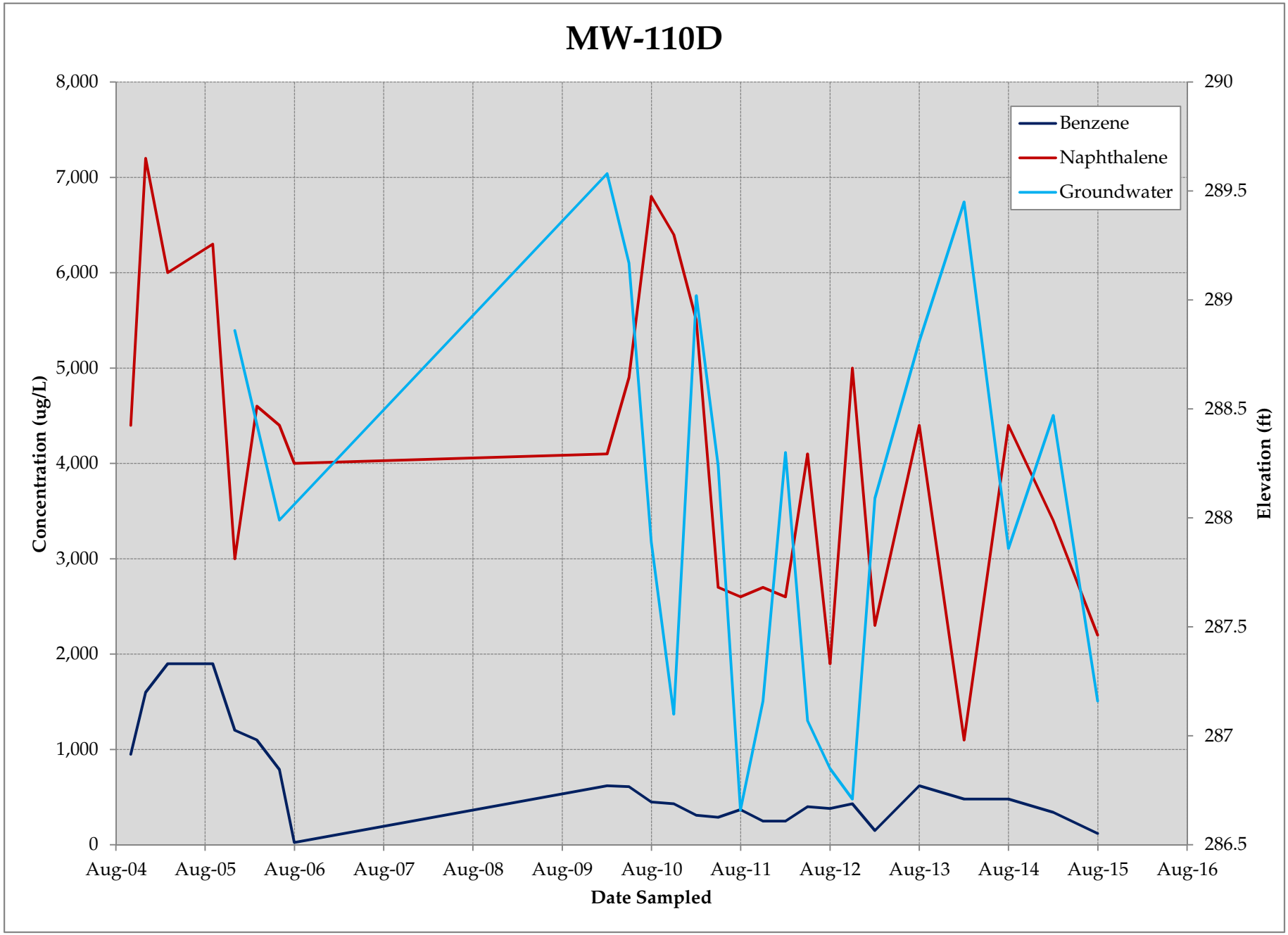
Environmental Resources Management Southeast, Inc.
3200 Windy Hill Rd. Suite 1500W
Atlanta, GA 30339
(678) 486-2700

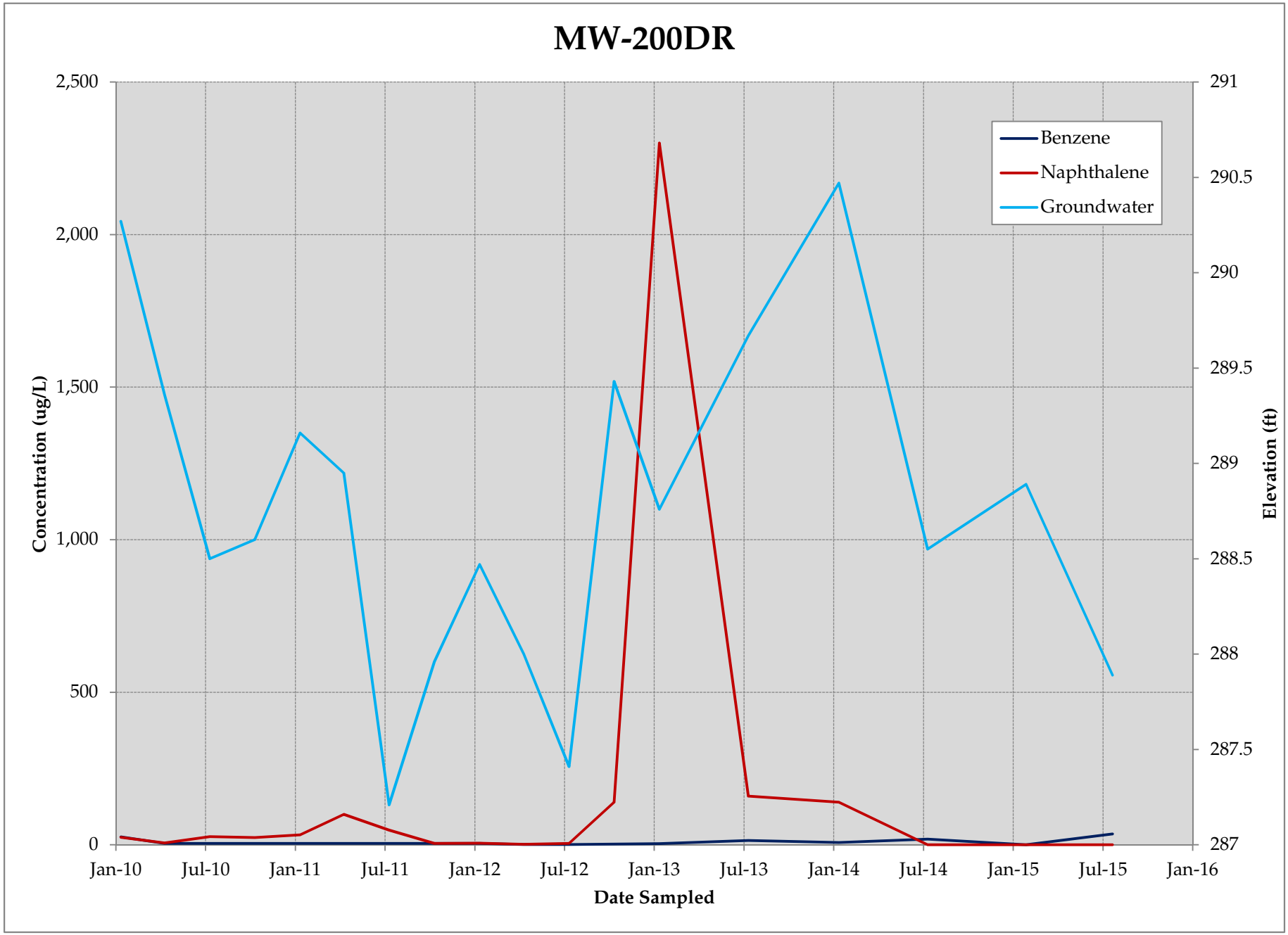

MW-9D (Abandoned)
Benzene
Naphthalene
Groundwater
Concentration (ug/L)
Elevation (ft)
Date Sampled
600
500
400
300
200
100
0
310
309
308
307
306
305
304
303
302
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15

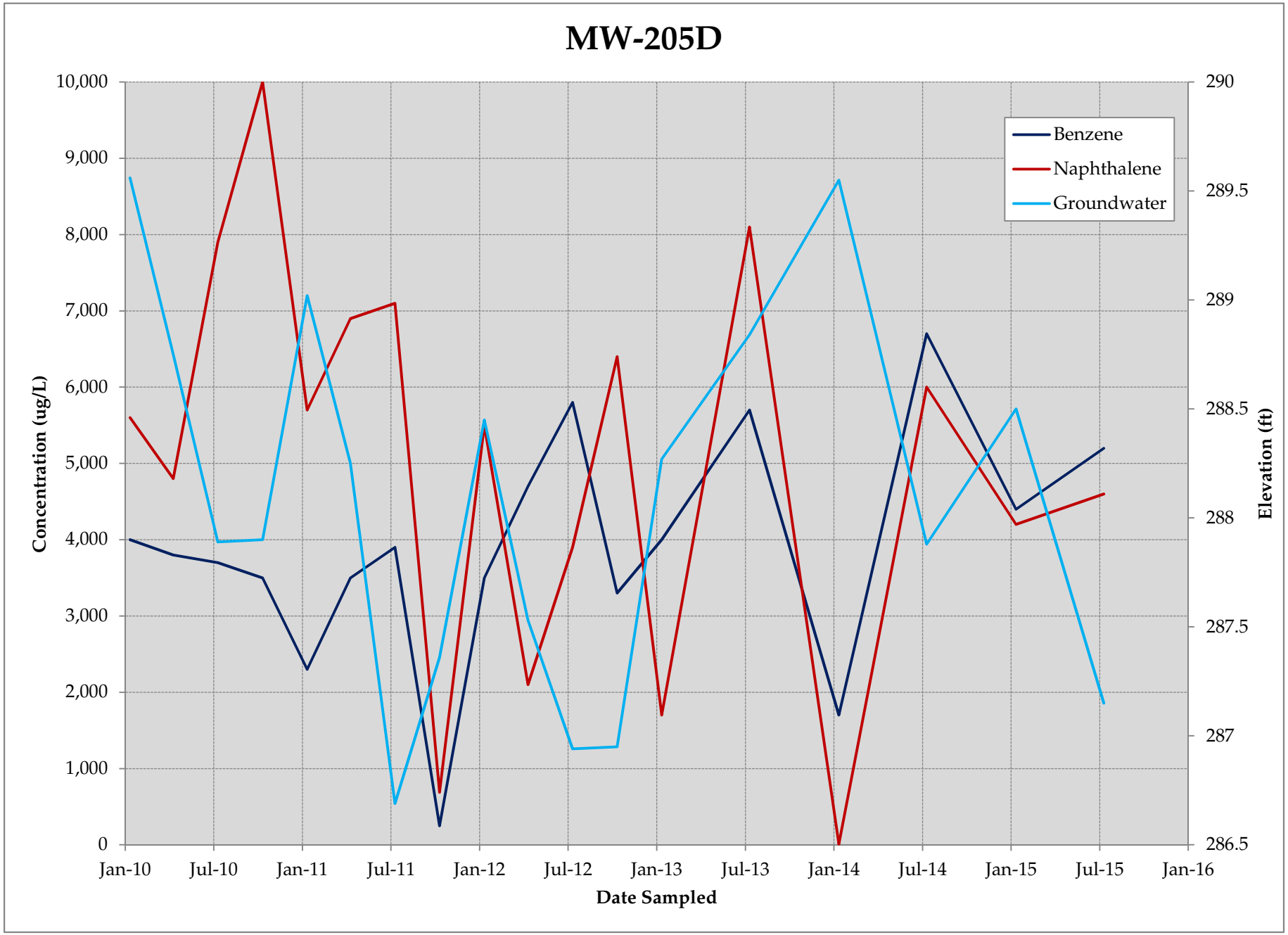

MW-12DRR
Benzene
Naphthalene
Concentration (ug/L)
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
Installed MW-12DR
Installed MW-12DRR
Aug-01
Aug-02
Aug-03
Aug-04
Aug-05
Aug-06
Aug-07
Aug-08
Aug-09
Aug-10
Aug-11
Aug-12
Aug-13
Aug-14
Aug-15
Date Sampled

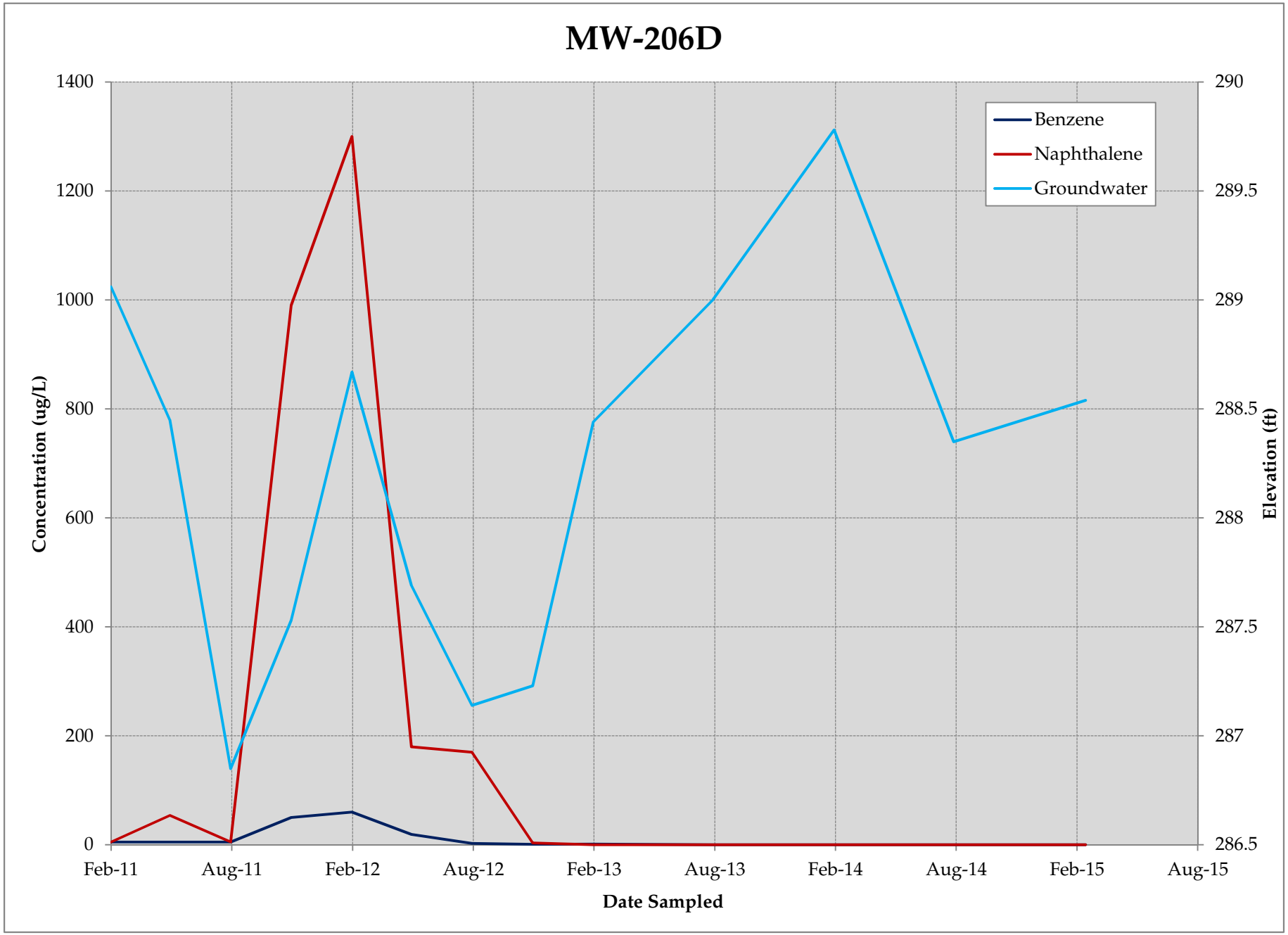

MW-12DD
Benzene
Naphthalene
Groundwater
Concentration (ug/L)
Elevation (ft)
Date Sampled
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0
288
286
284
282
280
278
276
274
Apr-01
Apr-03
Apr-05
Apr-07
Apr-09
Apr-11
Apr-13
Apr-15

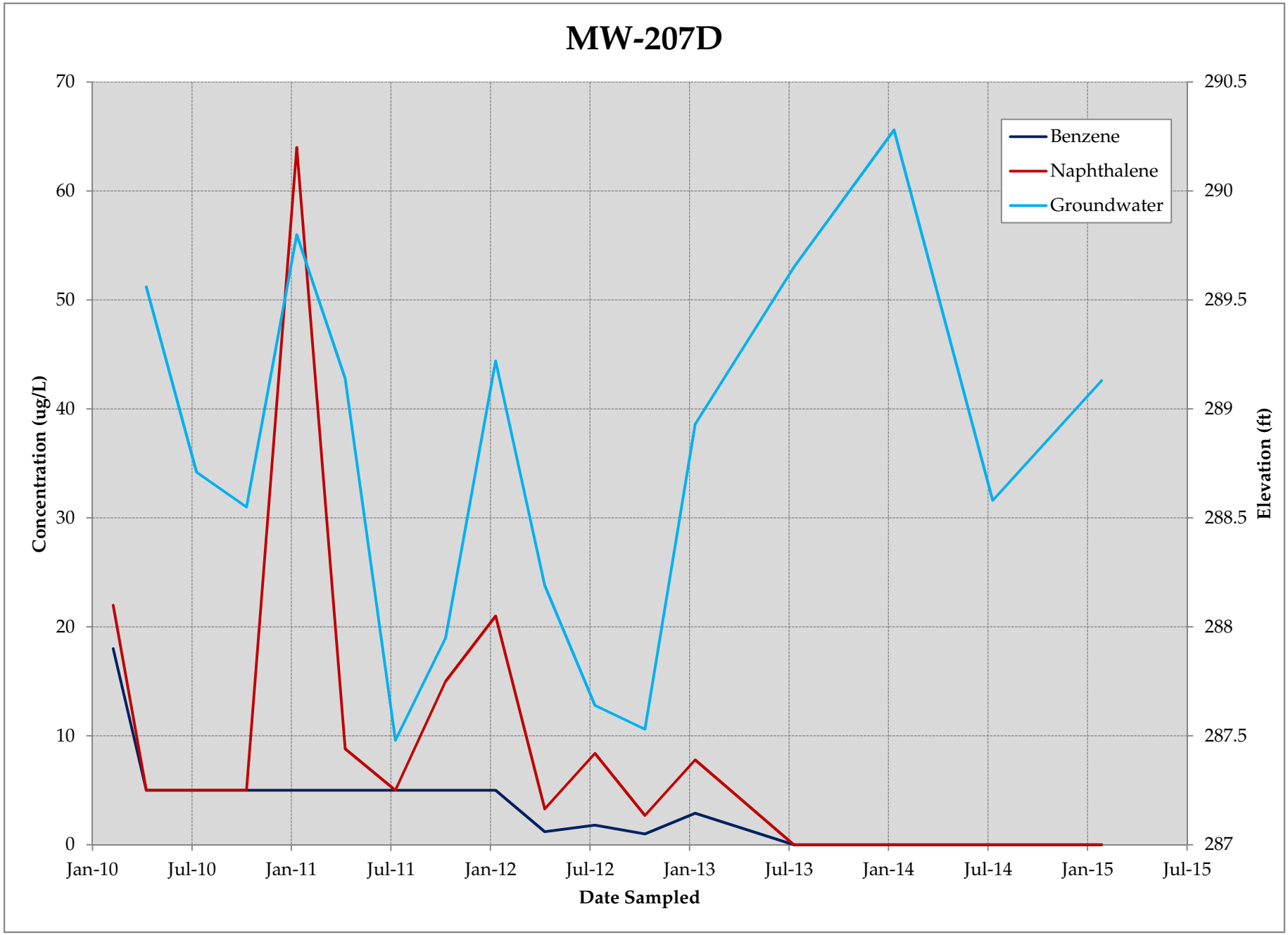

MW-24D
Benzene
Naphthlane
Groundwater
Concentration (ug/L)
Elevation (ft)
250
200
150
100
50
0
290
289
288
287
286
285
Aug-01
Aug-02
Aug-03
Aug-04
Aug-05
Aug-06
Aug-07
Aug-08
Aug-09
Aug-10
Aug-11
Aug-12
Aug-13
Aug-14
Aug-15
Aug-16
Date Sampled

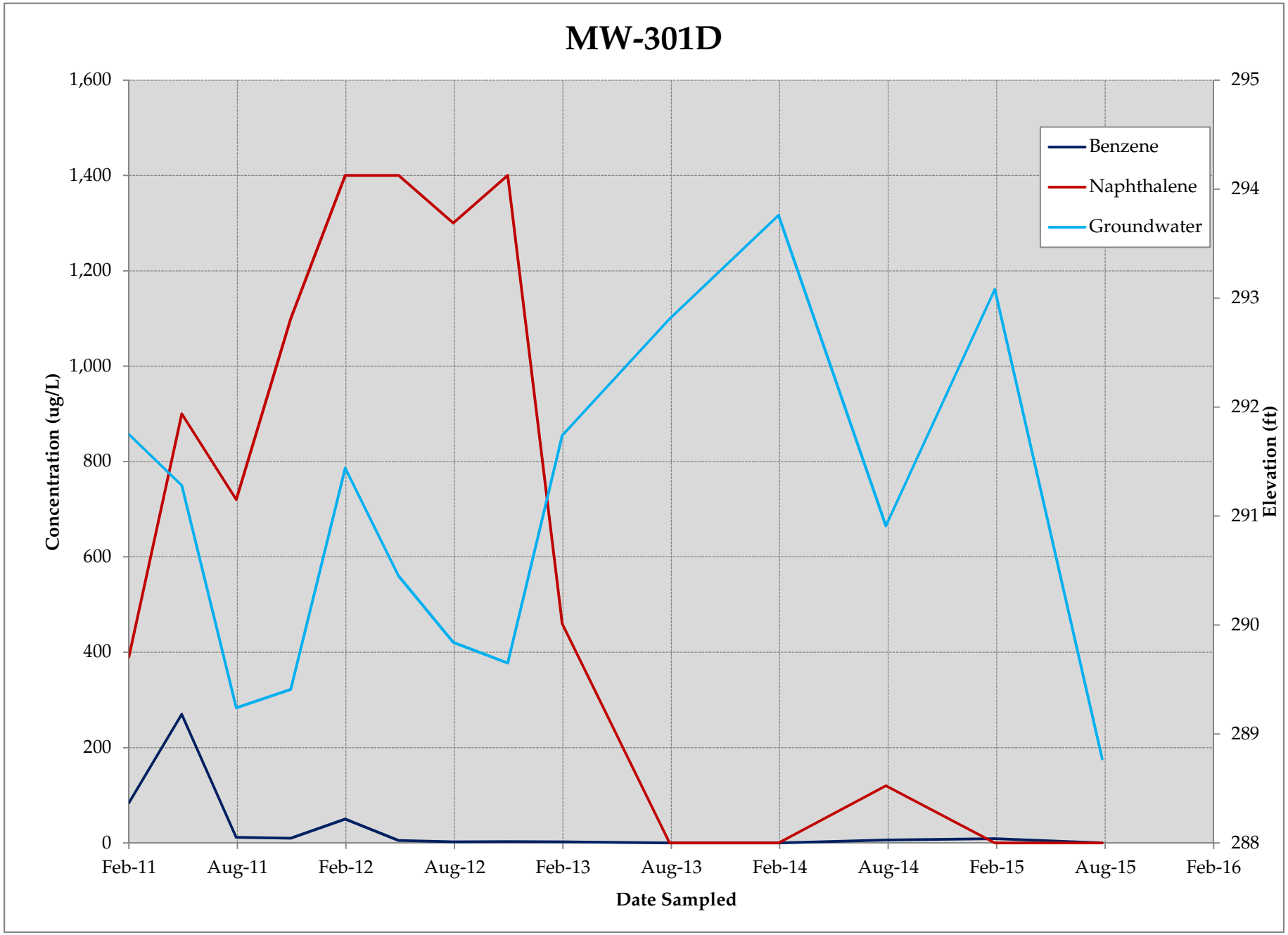

MW-110D
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
Concentration (ug/L)
290
289.5
289
288.5
288
287.5
287
286.5
Elevation (ft)
Benzene
Naphthalene
Groundwater
Aug-04
Aug-05
Aug-06
Aug-07
Aug-08
Aug-09
Aug-10
Aug-11
Aug-12
Aug-13
Aug-14
Aug-15
Aug-16
Date Sampled

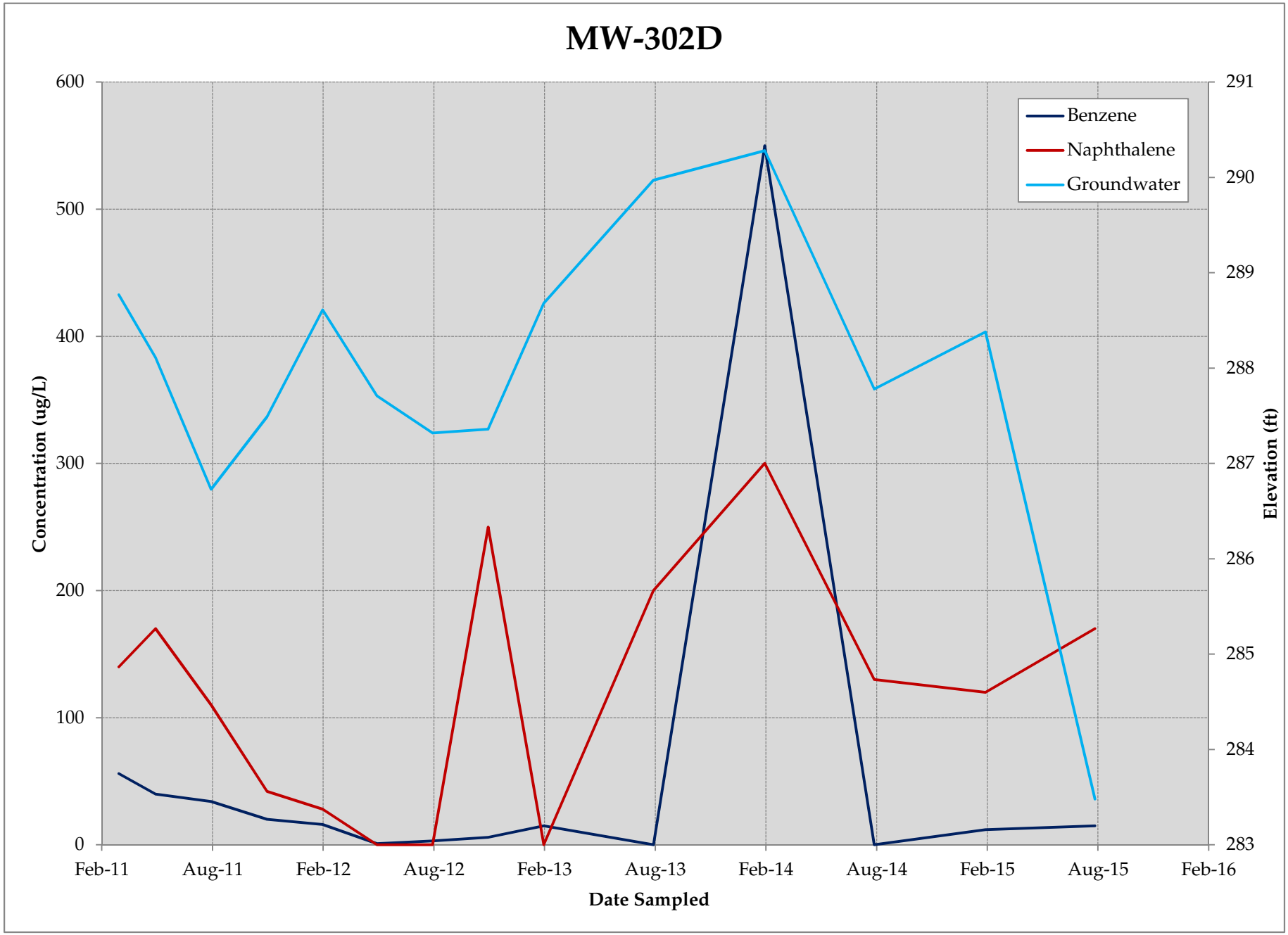

MW-200DR
2,500
2,000
1,500
1,000
500
0
Concentration (ug/L)
291
290.5
290
289.5
289
288.5
288
287.5
287
Elevation (ft)
Benzene
Naphthalene
Groundwater
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Jul-14
Jan-15
Jul-15
Jan-16
Date Sampled

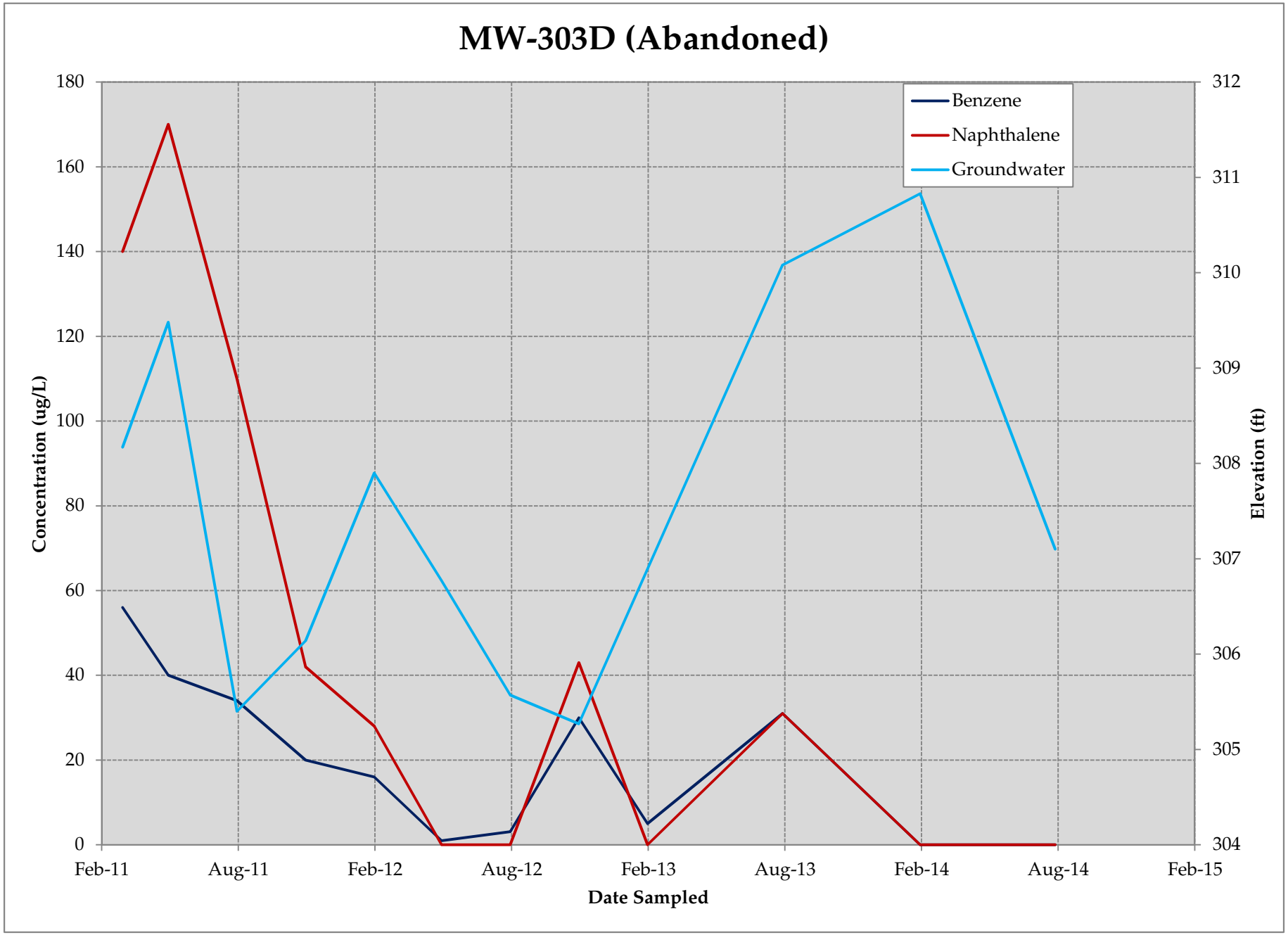

MW-205D
Benzene
Naphthalene
Groundwater
Concentration (ug/L)
Elevation (ft)
Date Sampled
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
290
289.5
289
288.5
288
287.5
287
286.5
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Jul-14
Jan-15
Jul-15
Jan-16


MW-206D
1400
1200
1000
800
600
400
200
0
290
289.5
289
288.5
288
287.5
287
286.5
Concentration (ug/L)
Elevation (ft)
Benzene
Naphthalene
Groundwater
Feb-11
Aug-11
Feb-12
Aug-12
Feb-13
Aug-13
Feb-14
Aug-14
Feb-15
Aug-15
Date Sampled


MW-207D
Concentration (ug/L)
Elevation (ft)
Date Sampled
Benzene
Naphthalene
Groundwater
70
60
50
40
30
20
10
0
290.5
290
289.5
289
288.5
288
287.5
287
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Jul-14
Jan-15
Jul-15


MW-301D
1,600
1,400
1,200
1,000
800
600
400
200
0
Concentration (ug/L)
295
294
293
292
291
290
289
288
Elevation (ft)
Benzene
Naphthalene
Groundwater
Feb-11
Aug-11
Feb-12
Aug-12
Feb-13
Aug-13
Feb-14
Aug-14
Feb-15
Aug-15
Feb-16
Date Sampled


MW-302D
Benzene
Naphthalene
Groundwater
Concentration (ug/L)
Elevation (ft)
Date Sampled
600
500
400
300
200
100
0
291
290
289
288
287
286
285
284
283
Feb-11
Aug-11
Feb-12
Aug-12
Feb-13
Aug-13
Feb-14
Aug-14
Feb-15
Aug-15
Feb-16


MW-303D (Abandoned)
Benzene
Naphthalene
Groundwater
Concentration (ug/L)
Elevation (ft)
Date Sampled
180
160
140
120
100
80
60
40
20
0
312
311
310
309
308
307
306
305
304
Feb-11
Aug-11
Feb-12
Aug-12
Feb-13
Aug-13
Feb-14
Aug-14
Feb-15

Boring Logs and Well Construction Diagrams

Appendix F

Project No. 0176740
Atlanta Gas Light Company

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

Environmental Resources Management	**SOIL BORING #:** DIB-1
	PROJECT NAME: AGLC Macon **PROJECT NUMBER:** 0176740 **LOCATION:** Macon, Georgia
DATE DRILLED: 7/9/2015 **DATE COMPLETED:** 7/9/2015 **START TIME:** 15:55 **STOP TIME:** 17:30 **COMPLETION DEPTH (ft):** 33.0 bgs **GROUNDWATER LEVEL (ft)** 15 bgs **BORING DIAMETER (in):** 10.00 **GROUND SURFACE ELEVATION (ft):** NM	**DRILLING COMPANY:** Cascade Drilling **DRILLERS NAME(S):** **DRILL RIG/METHOD:** miniSonic **SAMPLING METHOD:** Continuous - Plastic Liner **FIELD SCREENING EQUIPMENT:** PID **LOGGED BY:** J. Mullooly **Page** 1 **of** 2

Sample Interval (ft)	Depth (ft)	Recovery (%)	Blow Counts	PID (ppm)	DESCRIPTION/ SOIL CLASSIFICATION
0-5	1 2 3 4 5	--	--	--	Hand Cleared
5-10	6 7 8 9 10	100.0	--	--	Clayey SAND, brown/black changing to grey/tan
10-15	11 12 13 14 15	100.0	--	--	SAA changing to red/black @ 13 - 14 feet bgs, black mottling, slight hydrocarbon-like odor (HCLO)
15-20	16 17 18 19 20	100.0	--	--	Sandy CLAY brown/tan/grey, wet, very slight HCLO
20-25	21 22 23 24 25	100.0	--	--	Clayey SAND, light brown/tan, wet, very slight HCLO
25-30	26 27 28 29 30	100.0	--	--	SAA, coarse sand lense, wet, slight HCLO. Grout 28.5 - 30'
30-33	31 32 33	100.0	--	--	Mostly GROUT, some brown/tan SAND, HCLO Refusal @ 33'

Environmental Resources Management

SOIL BORING #: DIB-2

PROJECT NAME: AGLC Macon
PROJECT NUMBER: 0176740
LOCATION: Macon, Georgia

DATE DRILLED: 7/10/2015
DATE COMPLETED: 7/10/2015
START TIME: 7:30 **STOP TIME:** 9:15
COMPLETION DEPTH (ft): 29.0 bgs
GROUNDWATER LEVEL (ft) 15 bgs
BORING DIAMETER (in): 10.00
GROUND SURFACE ELEVATION (ft): NM

DRILLING COMPANY: Cascade Drilling
DRILLERS NAME(S):
DRILL RIG/METHOD: miniSonic
SAMPLING METHOD: Continuous - Plastic Liner
FIELD SCREENING EQUIPMENT: PID
LOGGED BY: J. Mullooly
Page 1 **of** 2

Sample Interval (ft)	Depth (ft)	Recovery (%)	Blow Counts	PID (ppm)	DESCRIPTION/ SOIL CLASSIFICATION
0-5	1 2 3 4 5	--	--	--	Hand Cleared
5-10	6 7 8 9 10	100.0	--	--	Clayey SAND, brown/grey
10-15	11 12 13 14 15	100.0	--	--	SAA, coarser SAND, slight hydrocarbon-like odor (HCLO)
15-20	16 17 18 19 20	100.0	--	--	Sandy CLAY brown/tan/grey, wet, slight HCLO
20-25	21 22 23 24 25	100.0	--	--	Clayey SAND, mottled gray/brown, wet, slight HCLO
25-29	26 27 28 29	100.0	--	--	SAA, Saprolite @ 27', oily sheen in saprolite, slight HCLO Refusal on bedrock @ 29'

Environmental Resources Management

SOIL BORING #: SW-1 / DIB-3

PROJECT NAME: AGLC Macon
PROJECT NUMBER: 0176740
LOCATION: Macon, Georgia

DATE DRILLED: 7/10/2015
DATE COMPLETED: 7/10/2015
START TIME: 7:30 **STOP TIME:** 10:50
COMPLETION DEPTH (ft): 35.0 bgs
GROUNDWATER LEVEL (ft) 15 bgs
BORING DIAMETER (in): 10.00
GROUND SURFACE ELEVATION (ft): NM

DRILLING COMPANY: Cascade Drilling
DRILLERS NAME(S):
DRILL RIG/METHOD: miniSonic
SAMPLING METHOD: Continuous - Plastic Liner
FIELD SCREENING EQUIPMENT: PID
LOGGED BY: J. Mullooly
Page 1 **of** 2

Sample Interval (ft)	Depth (ft)	Recovery (%)	Blow Counts	PID (ppm)	DESCRIPTION/ SOIL CLASSIFICATION
0-5	1 2 3 4 5	--	--	--	Hand Cleared
5-10	6 7 8 9 10	100	--	--	Clayey SAND, brown/grey
10-15	11 12 13 14 15	100	--	--	SAA with coarser sand, slight hydrocarbon-like odor (HCLO)
15-20	16 17 18 19 20	100	--	--	Sandy CLAY brown/tan/grey, wet, slight HCLO
20-25	21 22 23 24 25	100	--	--	Clayey SAND, mottled grey/brown, slight HCLO
25-30	26 27 28 29 30	100	--	--	SAA but changing to clay/silt with saprolite from around 27.0', Slight HCLO
30-32	31 32	100	--	--	Saprolite, HCLO and dark coloration in soil and saprolite, slight oily sheen on saprolite. No NAPL.
32-35	33 34 35	100	--	--	Bedrock

Environmental Resources Management

SOIL BORING #: DIB-4

PROJECT NAME: AGLC Macon
PROJECT NUMBER: 0176740
LOCATION: Macon, Georgia

DATE DRILLED: 7/10/2015
DATE COMPLETED: 7/10/2015
START TIME: 15:35 **STOP TIME:** 15:45
COMPLETION DEPTH (ft): 34.0 bgs
GROUNDWATER LEVEL (ft) 15 bgs
BORING DIAMETER (in): 10.00
GROUND SURFACE ELEVATION (ft): NM

DRILLING COMPANY: Cascade Drilling
DRILLERS NAME(S):
DRILL RIG/METHOD: miniSonic
SAMPLING METHOD: Continuous - Plastic Liner
FIELD SCREENING EQUIPMENT: PID
LOGGED BY: J. Mullooly

Sample Interval (ft)	Depth (ft)	Recovery (%)	Blow Counts	PID (ppm)	DESCRIPTION/ SOIL CLASSIFICATION
0-5	1 2 3 4 5	--	--	--	Hand Cleared
5-10	6 7 8 9 10	100.0	--	--	Clayey SAND, brown/black changing to grey/tan
10-15	11 12 13 14 15	100.0	--	--	SAA
15-20	16 17 18 19 20	100.0	--	--	Sandy CLAY brown/tan/grey, wet
20-25	21 22 23 24 25	100.0	--	--	Clayey SAND, light brown/tan, wet
25-30	26 27 28 29 30	100.0	--	--	SAA, coarse sand lense, wet. Saprolite @ 27'
30-34	31 32 33	100.0	--	--	Saprolite Refusal @ 34'

Environmental Resources Management

SOIL BORING #: DIB-5

PROJECT NAME: AGLC Macon
PROJECT NUMBER: 0176740
LOCATION: Macon, Georgia

DATE DRILLED: 7/10/2015
DATE COMPLETED: 7/10/2015
START TIME: 15:50 **STOP TIME:** 18:00
COMPLETION DEPTH (ft): 34.0 bgs
GROUNDWATER LEVEL (ft) 15 bgs
BORING DIAMETER (in): 10.00
GROUND SURFACE ELEVATION (ft): NM

DRILLING COMPANY: Cascade Drilling
DRILLERS NAME(S):
DRILL RIG/METHOD: miniSonic
SAMPLING METHOD: Continuous - Plastic Liner
FIELD SCREENING EQUIPMENT: PID
LOGGED BY: J. Mullooly
Page 1 **of** 2

Sample Interval (ft)	Depth (ft)	Recovery (%)	Blow Counts	PID (ppm)	DESCRIPTION/ SOIL CLASSIFICATION
0-5	1 2 3 4 5	--	--	--	Hand Cleared
5-10	6 7 8 9 10	100.0	--	--	Clayey SAND, brown/black changing to grey/tan
10-15	11 12 13 14 15	100.0	--	--	SAA
15-20	16 17 18 19 20	100.0	--	--	Sandy CLAY brown/tan/grey, wet
20-25	21 22 23 24 25	100.0	--	--	Clayey SAND, light brown/tan, wet
25-30	26 27 28 29 30	100.0	--	--	SAA, coarse sand lense, wet. Saprolite @ 27'
30-34	31 32 33	100.0	--	--	Saprolite Refusal @ 34'

Environmental Resources Management

SOIL BORING #: MW-309D / DIB-6

PROJECT NAME: AGLC Macon
PROJECT NUMBER: 0176740
LOCATION: 7th Street Right-of-Way

DATE DRILLED: 7/8/2015
DATE COMPLETED: 7/9/2015
START TIME: 8:05 **STOP TIME:** 12:20
COMPLETION DEPTH (ft): 45.0 bgs
GROUNDWATER LEVEL (ft): 8.5 bgs
BORING DIAMETER (in): 10"
GROUND SURFACE ELEVATION (ft): NM

DRILLING COMPANY: Cascade Drilling
DRILLERS NAME(S):
DRILL RIG/METHOD: mini-Sonic
SAMPLING METHOD: Continuous in Plastic Liner
FIELD SCREENING EQUIPMENT: PID
LOGGED BY: J. Mullooly
Page 1 **of** 2

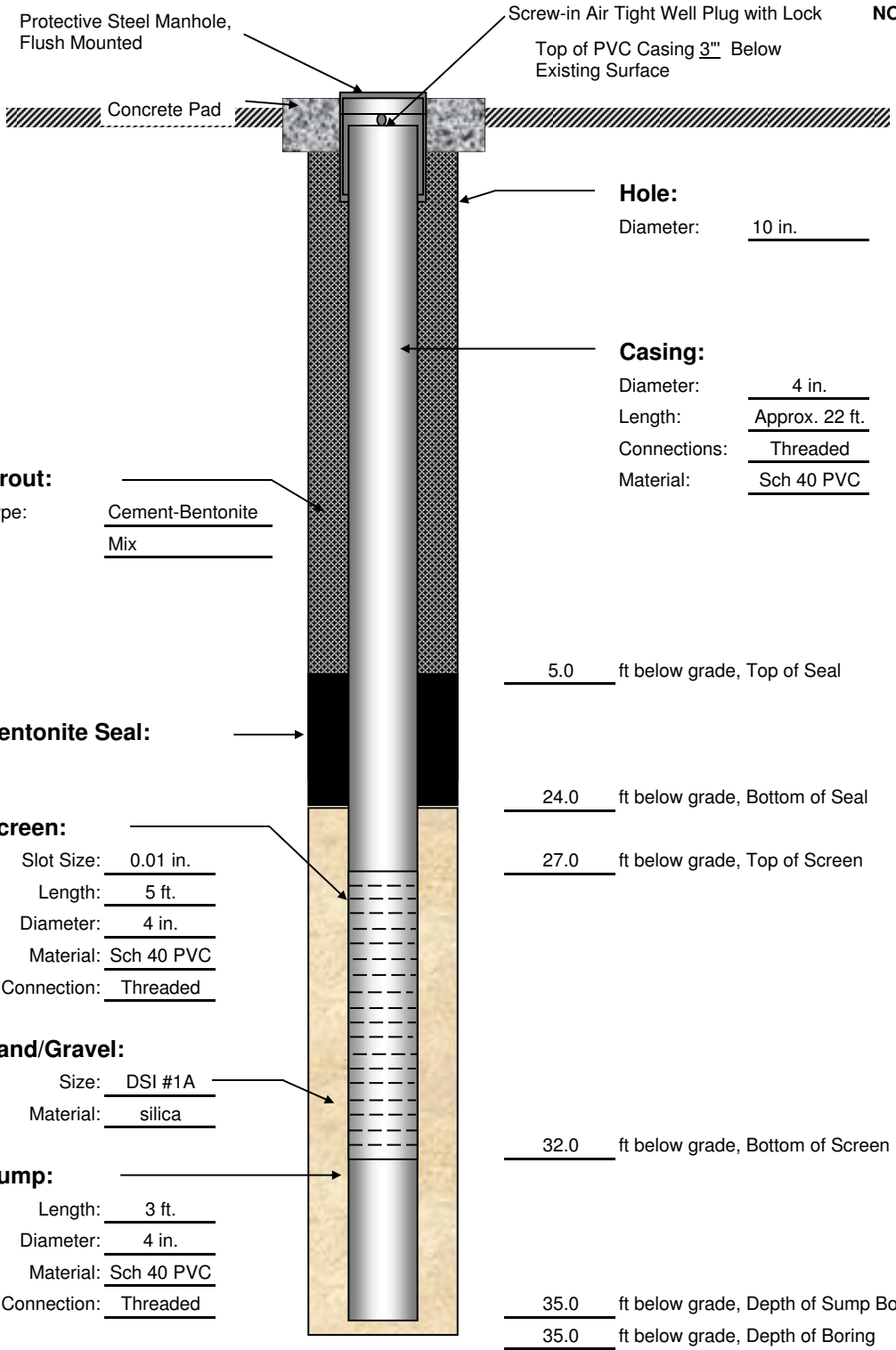
Sample Interval (ft)	Depth (ft)	Recovery (%)	Blow Counts	PID (ppm)	DESCRIPTION/ SOIL CLASSIFICATION
0-5	1 2 3 4 5	100	--	--	Hand cleared. Black, brown, Clayey SAND, damp, no odor.
5-10	6 7 8 9 10	100	--	--	SAA, wet at ~7.0'-8.0', changing to brown/tan Clayey SAND at ~8.5'-9.0'.
10-15	11 12 13 14 15	100	--	--	~1.0' brown/tan Clayey SAND changing to light gray Sandy CLAY, damp. Some brown/grey mottling at ~14.0'-15.0'.
15-20	16 17 18 19 20	100	--	--	Mottled brown/tan/grey Sandy CLAY, medium-densely compact, damp-wet, no odor.
20-25	21 22 23 24 25	100	--	--	CLAY changing to Clayey SAND at ~20.0'. Sand lense, grey coarse at ~23.0'-24.0'. Saprolite at ~24.0', wet.
25-30	26 27 28 29 30	100	--	--	Saprolite
30-35	31 32 33 34 35	100	--	--	Saprolite Bedrock @ 32'
35-40	36 37 38 39 40	100	--	--	Bedrock, mechanical fractures in several places. Fractures and weathered surfaces noted at ~37.0'-40.0'.
40-45	41 42 43 44 45	100	--	--	Bedrock, fractures and weathered surfaces noted at ~43.0'.

ERM **Sump Well Schematic**

Project: AGL-Macon
Project No.: 176740
Project Location: Macon, GA
Drilling Method: Sonic Rotary

Well/Boring No.: SW-1
ERM Field Supervisor: James Mullooly
Date(s): 10-Jul-15
Drilling Contractor: Cascade Drilling

NOT TO SCALE



Hole:
Diameter: 10 in.

Casing:
Diameter: 4 in.
Length: Approx. 22 ft.
Connections: Threaded
Material: Sch 40 PVC

Grout:
Type: Cement-Bentonite Mix

5.0 ft below grade, Top of Seal

Bentonite Seal:

24.0 ft below grade, Bottom of Seal

Screen:
Slot Size: 0.01 in.
Length: 5 ft.
Diameter: 4 in.
Material: Sch 40 PVC
Connection: Threaded

27.0 ft below grade, Top of Screen

Sand/Gravel:
Size: DSI #1A
Material: silica

32.0 ft below grade, Bottom of Screen

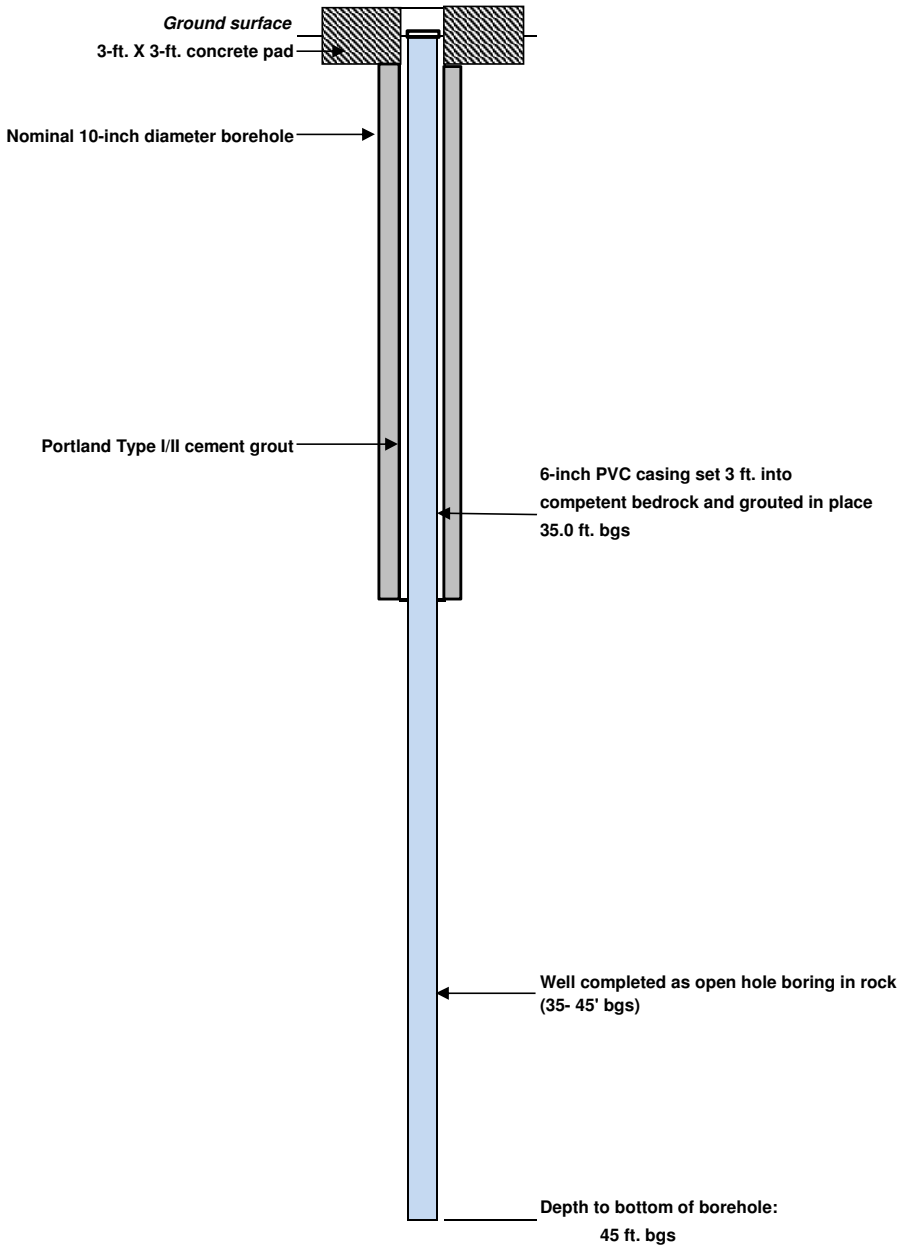
Sump:
Length: 3 ft.
Diameter: 4 in.
Material: Sch 40 PVC
Connection: Threaded

35.0 ft below grade, Depth of Sump Bottom

35.0 ft below grade, Depth of Boring

MONITORING WELL MW-309D CONSTRUCTION

Drilling Method: mini-Sonic
Completion Depth: 45 ft. bgs
Installation Date: 7/8/15 - 7/9/15



NOT TO SCALE

ENVIRONMENTAL RESOURCES MANAGEMENT
3200 Windy Hill Road SE
Suite 1500W
Atlanta, GA 30339

www.erm.com
Phone: (678) 486-2700 Fax: (404) 745-0103

Geologist: JIM
Log Created by: NGV
Checked by: AR

DNAPL Recovery Reports

Appendix G

Project No. 0176740
Atlanta Gas Light Company

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

ECOVAC SERVICES
The World Leader in Mobile Dual-Phase/Multi-Phase Extraction and
Patented SURFAC®/ISCO-EFR®/COSOLV® Technologies
Treatability Studies / Research & Development

May 11, 2015

Mr. Nic Vrey
Environmental Resources Management, Inc.
3200 Windy Hill Road, Suite 1500W
Atlanta, Georgia 30339

Subject: **Enhanced Fluid Recovery (EFR®) Results**
Event No. 5
Former AGL MGP Site
137 Mulberry Street
Macon, Georgia

Dear Mr. Morrison:

Please find attached the data summary for the fifth EFR® event conducted at the subject site on May 1, 2015. Two multiday EFR® events were previously conducted at the subject site on September 23 - 25, 2013 (Event Nos. 3 and 4) and February 16 - 17, 2011 (Event Nos. 1 and 2). The following summarizes the results of these EFR® events.

SUMMARY OF RESULTS

Dense non-aqueous phase liquids (DNAPL) were detected in one of the gauged monitor wells (MW-111D – 0.98 feet) prior to conducting this EFR® event. This EFR® event was conducted for 7.5 hours at one extraction point, consisting of monitor well MW-111D. DNAPL was not detected in the extraction well upon completion of this event.

An estimated total of 4.3 pounds of hydrocarbons was removed during this event, including approximately 0.5 equivalent gallon of oil-like materials (OLM). Hydrocarbon removal rates ranged from 0.3 to 1.2 pounds per hour.

Offgas concentrations ranged from 340 to 1,200 parts per million (PPM_V) during this EFR® event. Flow rates remained at 34 cubic feet per minute (CFM). In-well vacuum data recorded at the extraction wellhead are detailed in the EFR® Field Data Sheet and summarized below:

Extraction Well	In-Well Vacuum
MW-111D	7 inches of mercury

Differential pressure data were measured to assess the vacuum influence generated by EFR® in the vadose zone. These data are detailed in the attached table and summarized below:

Monitor Well	Maximum Change	Approximate Distance to MW-111D
MW-206D	0.00 inches of water	40 feet
MW-205D	-0.02 inches of water	50 feet

Groundwater levels were also measured during the event to determine drawdown of the aquifer. These data are detailed in the attached table and summarized below:

Monitor Well	Maximum Change	Approximate Distance to MW-111D
MW-206D	-5.38 feet	40 feet
MW-205D	-9.60 feet	50 feet

Approximately 1,149 gallons of liquid were removed during this event and transported to Environmental Remedies (Atlanta, Georgia) for disposal. DNAPL was not detected in the vacuum truck tank upon completion of this event.

Thank you for the opportunity to team with ERM in serving the environmental needs of your clients. We look forward to working with you again in the future to provide innovative and cost effective environmental solutions at this and other sites.
Sincerely,

EcoVac Services

David M. Goodrich

David M. Goodrich, P.G.
President

EFR® FIELD DATA SHEET

Client: ERM	Facility Name: Former AGL MGP Site	Event #: 5
Facility Address: 137 Mullberry Street, Macon, GA	Technician: Vitovic	Date: 5/1/15

Extraction Well(s)	Time hh:mm	Extraction Well-head Vacuum (in. Hg)								Vacuum Truck Exhaust				
Start Time:	7:00	Inlet	MW-111D							Concentration PPM	Offgas Velocity FT/MIN	Flow Rate CFM	Removal Rate LBS/HR	Interval Removal LBS
MW-111D	7:15	22	7							1,200	700	34	1.2	0.3
"	7:30	22	7							1,200	700	34	1.2	0.3
"	7:45	22	7							1,000	700	34	1.0	0.2
"	8:00	22	7							1,000	700	34	1.0	0.2
"	8:30	22	7							820	700	34	0.8	0.4
"	9:00	22	7							720	700	34	0.7	0.4
"	9:30	22	7							600	700	34	0.6	0.3
"	10:00	22	7							560	700	34	0.5	0.3
"	11:00	22	7							500	700	34	0.5	0.5
"	12:00	22	7							460	700	34	0.4	0.4
"	13:00	22	7							420	700	34	0.4	0.4
"	14:00	22	7							380	700	34	0.4	0.4
"	14:30	22	7							340	700	34	0.3	0.2

Well Gauging Data:			Before EFR® Event			After EFR® Event			Corr. DTW
Well No.	Diam.	TD (ft)	DTN (ft)	DTW (ft)	NAPL (ft)	DTN (ft)	DTW (ft)	NAPL (ft)	Change (ft)
MW-111D	6"	46.3	45.32	6.95	0.98	-	12.71	0.00	-6.50
MW-205D	4"		-	6.20	0.00	-	15.80	0.00	-9.60
MW-206D	4"		-	6.30	0.00	-	11.68	0.00	-5.38

Vacuum Truck Information		Well ID	Breather Port	Stinger Depth
Subcontractor:	AllVac	MW-111D	0 (closed)	46 feet
Truck Operator:	Vitovic			
Truck No.:	152			
Vacuum Pumps:	Becker			
Pump Type:	Twin LC-44s			
Tank Capacity (gal.):	2,894			
Stack I.D. (inches)	3.0			

Recovery/Disposal Information		
Hydrocarbons Removed (vapor):	4.3	pounds
Hydrocarbons Removed (liquid):	0	gallons
Total Hydrocarbons Removed:	0.5	equiv. gal.
Molecular Weight Utilized:	180	g/mole
Disposal Facility:	ERL	
Manifest Number:	156522	
Total Liquids Removed:	1,149	gallons

ECOVAC SERVICES
ENVIRONMENTAL REMEDIATION

www.ecovacservices.com
888-4ECOVAC

Time:	7:00 to 14:30
# Pumps:	2
RPMs:	900
Time:	
# Pumps:	
RPMs:	
Time:	
# Pumps:	
RPMs:	

Notes:
- Terminated event after 7.5 hours in order to limit time on site to 8 hours total (per client).

Differential Pressure and Groundwater Drawdown Data Recorded During EFR®
Facility Name: Former AGL MGP Site
Event #: 5 Date: May 1, 2015
Facility Address: 137 Mullberry Street, Macon, GA

DIFFERENTIAL PRESSURE DATA

		Well Designation:	
		MW-206D	MW-205D
Nearest Extraction Well:		MW-111D	MW-111D
Approximate Distance:		40 feet	50 feet
Time	Elapsed Time	Differential Pressure Readings (inches of water):	
8:00	1 hr.	0.00	0.00
9:00	2 hrs.	0.00	0.00
10:00	3 hrs.	0.00	-0.02
11:00	4 hrs.	0.00	0.00
12:00	5 hrs.	0.00	0.00
13:00	6 hrs.	0.00	0.00
Maximum Change:		0.00	-0.02

GROUNDWATER DRAWDOWN DATA

		Well Designation:	
		MW-206D	MW-205D
Nearest Extraction Well:		MW-111D	MW-111D
Approximate Distance:		40 feet	50 feet
Time	Elapsed Time	Depth to Liquid (feet below top of casing):	
Prior to EFR®		6.30	6.20
14:00	7 hrs.	11.68	15.80
Maximum Change:		-5.38	-9.60

156522

Environmental Remedies, LLC

NON-HAZARDOUS WASTE MANIFEST / CERTIFICATE OF DISPOSAL

Work Order #

GENERATOR INFORMATION:

Name: AGL - MACON
Address: 137 Mulberry St.
City, State: MACON, GA.
Zip:
Contact:
Contact Phone:
County:

TRANSPORTER INFORMATION:

Transporter: Ecovac Services
Address: 105 Weatherstone Drive
City, State: Woodstock, GA 30180
Contact Name: Nick Athens
Contact Phone: 770-592-1001

1st Trip Departure:
Arrival:
Start:
Departure:
Arrival:

2nd Trip Departure:
Arrival:
Start:
Departure:
Arrival:

Comments (Driver / Customer):

DESIGNATED FACILITY:

Facility Name: Environmental Remedies, LLC
Address: 460 Sawtell Avenue, SE
City, State: Atlanta, GA
Zip: 30315
Emergency Contact: Paul Powers
Emergency Phone: 800-399-2783 x 304

DO NOT WRITE IN THIS SECTION

Date : 05/01/15 17:01
Ticket : 67653

Gross 43260 lb
Tare 33680 lb
Net 9580 lb

Waste Description / DOT Shipping Name /	Profile Number	Quantity	Units
Non Haz; Non-Reg. Petroleum Impacted Groundwater		1149	Gallons
	S.G. = 5301-20002 : 20006		

Discrepancy Section:

Generators Certification: This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

GENERATOR (Print or Type) James Mullooly as agent for Atlanta Gas Light — Signature — Date 1/5/15

Transporter Certification: I hereby acknowledge the receipt of the above listed waste(s) and agree to trasport to the designated facility unless directed to do so by the generator.

TRANSPORTER (Print or Type) Ecovac Services — Signature — Date 1 May 15

Receiving Facility Certification: The above waste (s) were received by this facility, and will be processed, disposed of, or recycled in accordance with applicable regulations.

FACILITY (Print or Type) Environmental Remedies, LLC — Signature — Date 5/1/15

WHITE-T/S/D/F COPY PINK-T/S/D/F COPY GOLD-INVOICE COPY GREEN-TRANSPORTER BLUE-GENERATOR

ECOVAC SERVICES
The World Leader in Mobile Dual-Phase/Multi-Phase Extraction and
Patented SURFAC®/ISCO-EFR®/COSOLV® Technologies
Treatability Studies / Research & Development

September 8, 2015

Mr. Nic Vrey
Environmental Resources Management, Inc.
3200 Windy Hill Road, Suite 1500W
Atlanta, Georgia 30339

Subject: **Enhanced Fluid Recovery (EFR®) Results**
Event No. 6
Former AGL MGP Site
137 Mulberry Street
Macon, Georgia

Dear Mr. Vrey:

Please find attached the data summary for the sixth EFR® event conducted at the subject site on August 26, 2015. Previous EFR® events have been conducted at from February 16, 2011 to May 1, 2015. The following summarizes the results of these EFR® events.

SUMMARY OF RESULTS

Dense non-aqueous phase liquids (DNAPL) were detected in one of the gauged monitor wells (MW-309D – 14.83 feet) prior to conducting this EFR® event. This EFR® event was conducted for eight hours at three extraction points, consisting of the initial five hours of extraction at SW-1 and MW-309D and the final three hours of this event at MW-111D. DNAPL was not detected at the conclusion of this event.

An estimated total of 28 pounds of hydrocarbons was removed during this event, including approximately 3.2 equivalent gallons of oil-like materials (OLM). Hydrocarbon removal rates ranged from 2.9 to 5.0 pounds per hour during the event. Removal rates decreased from 5.0 to 3.1 pounds per hour during the initial five hours of extraction from SW-1 and MW-309D and increased from 2.9 to 3.3 pounds per hour during the final three hours of this event at MW-111D.

Offgas concentrations ranged from 1,000 to 2,100 parts per million (PPM_V) during this EFR® event. Flow rates ranged from 74 to 108 cubic feet per minute (CFM). In-well vacuum data recorded at the extraction wellhead are detailed in the EFR® Field Data Sheet and summarized below:

Extraction Well	In-Well Vacuum
MW-111D	7 inches of mercury
MW-309D	12 inches of mercury
SW-1	10 inches of mercury

Approximately 691 gallons of liquid were removed during this event and transported to AquaTerra (Oxford, Georgia) for disposal. DNAPL was not detected in the vacuum truck tank upon completion of this event.

Thank you for the opportunity to team with ERM in serving the environmental needs of your clients. We look forward to working with you again in the future to provide innovative and cost effective environmental solutions at this and other sites.
Sincerely,

EcoVac Services



David M. Goodrich, P.G.
President

EFR® FIELD DATA SHEET

Client: ERM	Facility Name: Former AGL MGP Site	Event #: 6
Facility Address: 137 Mullberry Street, Macon, GA	Technician: K. Free	Date: 8/26/15

Extraction Well(s)	Time hh:mm	Extraction Well-head Vacuum (in. Hg)									Vacuum Truck Exhaust				
		Inlet	SW-1	MW-309D	MW-111D						Concentration PPM	Offgas Velocity FT/MIN	Flow Rate CFM	Removal Rate LBS/HR	Interval Removal LBS
Start Time:	7:15														
SW-1;MW-309D	7:30	23	10	12	-						2,100	1,700	83	5.0	1.2
"	7:45	23	10	12	-						2,000	1,700	83	4.7	1.2
"	8:00	23	10	12	-						2,000	1,700	83	4.7	1.2
"	8:15	23	10	12	-						1,800	1,700	83	4.3	1.1
"	8:45	25	10	12	-						1,500	2,000	98	4.2	2.1
"	9:15	25	10	12	-						1,500	2,000	98	4.2	2.1
"	9:45	25	10	12	-						1,400	1,900	93	3.7	1.9
"	10:15	23	10	12	-						1,200	1,900	93	3.2	1.6
"	11:15	23	10	12	-						1,200	1,900	93	3.2	3.2
"	12:15	23	10	12	-						1,000	2,200	108	3.1	3.1
MW-111D	13:15	21	-	-	7						1,400	1,500	74	2.9	2.9
"	14:15	21	-	-	7						1,400	1,500	74	2.9	2.9
"	15:15	21	-	-	7						1,400	1,700	83	3.3	3.3

Well Gauging Data:			Before EFR® Event			After EFR® Event			Corr. DTW
Well No.	Diam.	TD (ft)	DTN (ft)	DTW (ft)	NAPL (ft)	DTN (ft)	DTW (ft)	NAPL (ft)	Change (ft)
MW-111D	4"	45	-	8.57	0.00	-	18.97	0.00	-10.40
MW-309D	4"	45	30.17	11.32	14.83	-	31.78	0.00	-20.46
SW-1	4"	37	-	9.51	0.00	-	21.30	0.00	-11.79

Vacuum Truck Information	
Subcontractor:	AllVac
Truck Operator:	K. Free
Truck No.:	148
Vacuum Pumps:	Becker
Pump Type:	Twin LC-44s
Tank Capacity (gal.):	2,894
Stack I.D. (inches)	3.0

Well ID	Breather Port	Stinger Depth
SW-1	2	35 feet
MW-111D	4	40 feet
MW-309D	0	39 feet

Recovery/Disposal Information		
Hydrocarbons Removed (vapor):	28	pounds
Hydrocarbons Removed (liquid):	0	gallons
Total Hydrocarbons Removed:	3.2	equiv. gal.
Molecular Weight Utilized:	180	g/mole
Disposal Facility:	AquaTerra	
Manifest Number:		
Total Liquids Removed:	691	gallons

www.ecovacservices.com

888-4ECOVAC

Time:	7:15 to 15:15
# Pumps:	2
RPMs:	900
Time:	
# Pumps:	
RPMs:	

Notes:

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

GENERATOR

5. Generator's Name and Mailing Address: ERM
3300 Windy Hill Rd. Suite 1500
Atlanta, GA 30339
Generator's Phone: 678-486-2746

Generator's Site Address (if different than mailing address): 137 Mulberry St.
Macon, GA

6. Transporter 1 Company Name: Eco Vac Services — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address: Aqua Terra
710 Moore St.
Oxford, GA
Facility's Phone: 770 787-2562 — U.S. EPA ID Number:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Corrective Action Groundwater Non-Rec Non-Haz	1	TT	691	Gals	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Kevin Free on behalf of AGL — Signature: on behalf of AGL — Month: 8 — Day: 26 — Year: 15

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. — Port of entry/exit: — Date leaving U.S.:
Transporter Signature (for exports only):

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Kevin Free — Signature — Month: 8 — Day: 26 — Year: 15

Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number:
Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month — Day — Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Jerry Neal — Signature — Month: 8 — Day: 28 — Year: 15

169-BLS-C 5 11979 (Rev. 9/09)

TRANSPORTER #1