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Response and Remediation Program
Response Development Units 1 – 3

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Date of Document:	November 21, 2016
Site Name:	Former Manufactured Gas Plant Site, Macon, GA
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November 21, 2016

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Subject: **3rd Semiannual Progress Report**
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia HSI #10511

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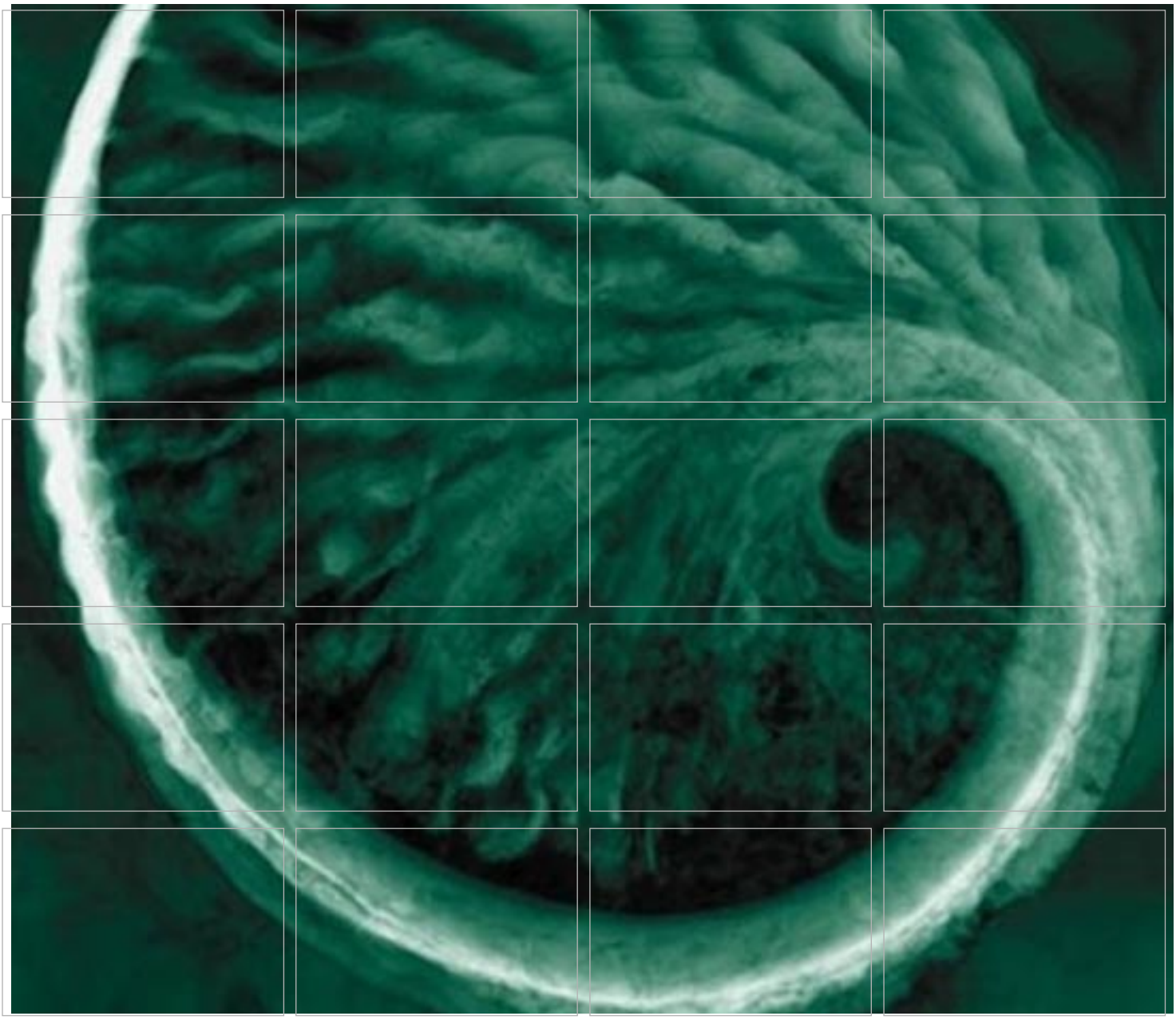
You can contact me at 678.486.2700 with any questions or comments.

Best regards,

Holly H. McDonald

Holly H. McDonald



3rd Semiannual Progress Report

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

November 21, 2016

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3rd Semiannual Progress Report

Former Manufactured Gas Plant Site
Macon, Georgia HSI #10511

November 21, 2016

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PROFESSIONAL CERTIFICATION PAGE

3RD SEMIANNUAL PROGRESS REPORT
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 me or by a subordinate working under my direction.

Adria L. Reimer, P.G. #002004

November 21, 2016

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ACRONYMS AND ABBREVIATIONS

AGLC	Atlanta Gas Light Company
BPLM	By-Product Like Material
CAP	Corrective Action Plan
CAP A	Corrective Action Plan Addendum
COI	Constituent of Interest
CSM	Conceptual Site Model
DNAPL	Dense Non-Aqueous Phase Liquid
EPD	Environmental Protection Division
ERM	Environmental Resources Management
GMWP	Groundwater Monitoring Work Plan
HSI	Hazardous Site Inventory
HSRA	Hazardous Site Response Act
ISCO	In-situ Chemical Oxidation
ISS	In-Situ Solidification
MGP	Manufactured Gas Plant
MUDA	Macon Urban Development Authority
POD	Point of Demonstration
PWR	Partially Weathered Rock
UEC	Uniform Environmental Covenant
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 *3rd Semiannual Progress Report* is being submitted on behalf of Atlanta Gas Light Company (AGLC) for the Macon former Manufactured Gas Plant (MGP) site located in Macon, Bibb County, Georgia (Figure 1-1). 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 former MGP (also referred to as the Eastern Portion MGP in previous correspondence) and also includes those parcels affected by a release from the former operations. The property where the Mulberry Street former MGP facility operations were conducted is bounded by Walnut Street, 7th Street, Mulberry Street, and 6th Street, and is currently owned by Macon Urban Development Authority (MUDA). Investigation on this portion of the former MGP began in 1986 and soil remedation was completed in 2004.

The second MGP was located northwest of 6th Street and is bounded by Terminal Avenue on the north side. Investigation of this property began in 2005. Soil and groundwater impacts requiring additional investigation were identified during the installation of injection wells for the in-situ chemical oxidation (ISCO) remedy and demolition of structures on the property. The results of investigations and additional historical research established that this location was a separate former MGP site that used different MGP production processes than the Mulberry MGP. This former MGP is referred to as the Western Portion MGP (Figure 1-2).

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.

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. 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 VRP. EPD acknowledged acceptance to the VRP in correspondence dated May 21, 2015 and provided comments on the VIRP in correspondence dated May 26, 2015.

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

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 *2nd Semiannual Progress Report* on May 21, 2016. In addition, the progress report describes upcoming planned activities. In correspondence dated May 26, 2015, EPD provided comments to the October 2014 VIRP; the comments were addressed in the *1st Semiannual Progress Report* (ERM, 2015). No additional comments have been received from EPD at the time of preparation of this report.

2.0 ACTIVITIES COMPLETED SINCE 2ND SEMIANNUAL PROGRESS REPORT SUBMITTAL

This section describes activities that have been completed since the *2nd Semiannual Progress Report* (ERM, 2016) was submitted in May 2016. These activities include:

- Completion of a vacuum enhanced fluid recovery (VEFR) event in June 2016 in attempt to recover DNAPL from bedrock wells;
- Monitoring of bedrock groundwater levels during the VEFR event and evaluation of data to assess bedrock fracture interconnectivity and response to VEFR activities;
- Post-VEFR groundwater monitoring and sampling of MW-24D; and
- Completion of the August 2016 semiannual groundwater monitoring event.

2.1 BEDROCK INVESTIGATIONS

2.1.1 DNAPL Observations and Recovery

The first VEFR event performed at the Site was completed in February 2011 to remove DNAPL observed in MW-111D. There have been subsequent events performed in September 2013 (MW-111D and MW-302D), May 2015 (MW-111D), August 2015 (MW-111D, MW-309D and SW-1), and in June 2016 (MW-111D, MW-309D and SW-1). VEFR techniques were utilized at MW-309D on June 9, 2016, and at MW-111D and SW-1 on June 10, 2016. SW-1 was installed as a sump well in 2015 adjacent to MW-305D to attempt to collect DNAPL observed during the installation of MW-305D. DNAPL has not been observed at MW-305D or SW-1 during any monitoring events; however, vacuum has been applied to SW-1 to investigate for the presence of any DNAPL in the vicinity of the sump well. No DNAPL has been observed or recovered from SW-1, indicating that the DNAPL observed during installation of MW-305D is likely isolated and limited in extent. Trace DNAPL blebs are routinely observed adhering to sediment observed on the tip of the interface probe after collecting total depth measurements at MW-302D, and were observed during both groundwater monitoring events completed in 2016.

Observations of DNAPL in MW-111D and MW-309D during this reporting period are consistent with historical data. A copy of the June 2016 VEFR report is included as Appendix A.

MW-111D

The following summarizes DNAPL monitoring and recovery efforts at MW-111D since February 2011.

MW-111D		
Date	**Event**	**Observations – DNAPL Thickness**
February 16, 2011	Pre-VEFR Monitoring	0.75 ft
February 16, 2011	Post-VEFR	0.00 ft
September 22, 2013	Pre-VEFR Monitoring	0.96 ft
September 22, 2013	Post-VEFR	0.00 ft
May 1, 2015	Pre-VEFR Monitoring	0.98 ft
May 1, 2015	Post-VEFR	0.00 ft
August 26, 2015	Pre-VEFR Monitoring	0.13 ft
August 26, 2015	Post-VEFR	0.00 ft
October 4, 2015	Interim Monitoring	0.00 ft
January 19, 2016	Interim Monitoring	0.55 ft
March 3, 2016	Interim Monitoring	0.68 ft
April 4, 2016*	Semiannual Monitoring	1.40 ft
June 10, 2016	Pre-VEFR Monitoring	0.20 ft
June 10, 2016	Post-VEFR	0.00 ft
June 24, 2016	Interim Monitoring	0.95 ft
July 8, 2016	Interim Monitoring	0.91 ft
July 26, 2016	Interim Monitoring	1.00 ft
August 22, 2016	Semiannual Monitoring	1.25 ft

***The February groundwater monitoring event was postponed until April 2016 as corrective action activities (soil excavation, ISS and Site restoration) were ongoing in February 2016.**

MW-309D

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

MW-309D		
Date	**Event**	**Observations - DNAPL Thickness [1]**
August 26, 2015	Pre-VEFR Monitoring	Estimated 10 ft of DNAPL with NAPL blebs suspended higher in the water column
August 26, 2015	Post-VEFR	0.00 ft
October 4, 2015	Interim Monitoring	Estimated 1.1 ft of DNAPL with minor NAPL blebs suspended ~ 1 ft higher in the water column
January 19, 2016	Interim Monitoring	Estimated 1.5 - 7 ft
March 3, 2016	Interim Monitoring	Estimated 1.5 - 7 ft
April 4, 2016*	Semiannual Monitoring	Estimated 1.5 - 7 ft
June 9, 2016	Pre-VEFR Monitoring	Estimated 1.5 – 7 ft
June 9, 2016	Post-VEFR	Estimated 1.5 – 5 ft
June 24, 2016	Interim Monitoring	Estimated 1.5 – 7 ft
July 8, 2016	Interim Monitoring	Estimated 1.5 – 7 ft
July 26, 2016	Interim Monitoring	Estimated 1.5 – 7 ft
August 22, 2016	Semiannual Monitoring	Estimated 1.5 – 7 ft

[1]Thickness of DNAPL estimated. Range was difficult to determine due to density, conductivity, emulsification and possible corehole collapse in the well.
***The February groundwater monitoring event was postponed until April 2016 as corrective action activities (soil excavation, ISS and Site restoration) were ongoing in February 2016.**

Observations of several conditions at MW-309D have made DNAPL monitoring at the well difficult. In late 2015, blebs of NAPL were

observed suspended in the water column above the DNAPL that had accumulated in the bottom of the well. The blebs interfered with the sensor of the interface probe, hindering the ability to accurately gauge the top of accumulated DNAPL. The reported thickness of the accumulated DNAPL was based on observations of DNAPL smeared on the tape of the interface probe. Suspended blebs of NAPL have not been observed in MW-309D since October 2015.

During well gauging events in 2016, total well depth measurements could not be completed because the interface probe was stopped by an obstruction at a depth shallower than the constructed total depth of MW-309D, typically 1 to 7 feet (ft) shallower. A bailer was then used to try to reach the bottom of the well. The bailer also stopped at a depth shallower than the total constructed depth, usually at a depth within 1 to 2 feet of the interface probe measurement. During the June 2016 VEFR event the stinger of the vacuum truck also could not be advanced below a depth of approximately 39.80 ft below the well top of casing. It is likely that a portion of the corehole below the surface casing of the well has collapsed and sediment entering the well has become solidified in the bottom of the well by the tar-like DNAPL. During corehole drilling of MW-309D, small fractures and weathered surfaces were noted in the recovered cores; however, in general the bedrock core appeared competent and the core recovery was 100%, supporting that the bedrock was not highly weathered or fractured. The vacuum applied to the corehole during the August 2015 VEFR event may have contributed to loosening the rock below the surface casing, leading to collapse. As such, an accurate assessment of the amount of DNAPL in the well is difficult.

The estimated thicknesses in the table above reflect that the total depth of the well could not be reached, and although the probe and bailer could only be advanced to within approximately 7 ft of the constructed bottom of the well, the bottom of the well is likely filled with a solidified mixture of sediment and DNAPL. As such, the actual volume or thickness of DNAPL in the well can only be estimated within a range. The inability to remove the sediment during the vacuum event is indicative of the extent to which solidification has occurred.

2.2 GROUNDWATER LEVEL RESPONSE TO VEFR

Following a release, DNAPL can penetrate into bedrock through fractures, with migration occurring through interconnected fractures and joints. The DNAPL will continue to migrate until the driving head in the DNAPL has dissipated and it essentially becomes immobile (Interstate Technology

& Regulatory Council, [ITRC] 2015). Over time, DNAPL within fractures will slowly dissolve into groundwater in the fractures, and into groundwater within the rock matrix surrounding the DNAPL-containing fracture. The dissolved-phase COI in the groundwater will diffuse into the rock matrix porosity (ITRC, 2015). As the DNAPL within a fracture dissolves (i.e., DNAPL saturation within the fracture decreases) the relatively permeability of the fracture increases, allowing dissolved-phase COI to migrate with the groundwater flowing through the fracture. The migrating groundwater eventually forms a dissolved plume that will migrate through hydraulically-connected fractures. As the plume moves through the fracture network, COI will diffuse from the groundwater in the fractures into the rock matrix surrounding the fractures.

While fractures in sedimentary rocks are predominantly along bedding planes, fractures in igneous and metamorphic rock (such as the granitic gneiss bedrock present at the Site) tend to be more chaotic as igneous and metamorphic rock is typically more competent then sedimentary rocks with fewer zones of weakness (such as bedding planes). DNAPL that migrates into fractures in rock with chaotic fracturing and limited rock matrix is more likely to be present as actual DNAPL at older sites, since the general lack of interconnected fractures limits the volume of groundwater flowing through factures, and thus reduces the potential for DNAPL dissolution.

It is necessary to define the types, sizes, orientation, frequency and distribution of fractures when assessing DNAPL occurance and dissolved phase COI distribution in fractured bedrock, as the fractures represent the primary contaminant advective flow pathways. It is important to note that not all fractures are hydraulically connected. Some fractures may connect to DNAPL/dissolved phase contaminant-bearing fractures, however may "dead end", ultimately terminating DNAPL and contaminant migration, particularly with contaminants of limited mobility. These dead end fractures can provide significant rock surface area and may be important sinks for matrix diffusion (ITRC, 2015). In this manner, understanding the interconnectivity of fractures containing DNAPL and/or containing groundwater with dissolved-phase COI is critical to assessing the potential extent of DNAPL, as well as the potential for dissolved phase plume migration away from the source area.

DNAPL is currently present in two bedrock wells at the Macon Site: MW-111D and MW-309D. The wells are located along 7th Street, approximately 300 ft apart in a northeast-southwest orientation. To assess the interconnectivity of bedrock fractures at the Site, groundwater levels at bedrock wells located near the intersection of Walnut Street and 7th Street

were monitored using pressure transducers (Solinst Leveloggers) and/or manually using an oil/water interface meter during the June 2016 VEFR event.

The following table shows the groundwater monitoring wells that were monitored and the maximum amount of groundwater level change (i.e., groundwater level decrease; therefore, displayed as a negative number) observed on June 9 and June 10, 2016, in response to the VEFR activities. Groundwater level decreases greater than 0.25 ft are shown in bold and decreases greater than 4 ft are bold and shaded:

Well	June 9, 2016 – VEFR at MW-309D Change in Groundwater Level (ft)	June 10, 2016 – VEFR at MW-111D Change in Groundwater Level (ft)	June 10, 2016 – VEFR at SW-1 Change in Groundwater Level (ft)
MW-12DRR	-0.06	-0.22	-0.10
MW-12DD	No discernible response	No discernible response	No discernible response
MW-24D	-0.12	**-0.37**	-0.04
MW-110D	No discernible response	**-0.80**	No discernible response
MW-111D	-0.07	----	Short duration between events, unable to distinguish influence of VEFR at well from event at SW-1
MW-112D	No discernible response	No discernible response	No discernible response
MW-113D	No discernible response	-0.15	No discernible response
MW-114D	No discernible response	-0.10	-0.15
MW-200DR	-0.06	**-1.15**	No discernible response
MW-204D	-0.05	**-0.82**	No discernible response
MW-205D	-0.08	**-8.91**	No discernible response
MW-205DD	No discernible response	No discernible response	No discernible response
MW-206D	-0.09	**-4.89**	No discernible response
MW-207D	No discernible response	-0.4	No discernible response

Well	June 9, 2016 – VEFR at MW-309D Change in Groundwater Level (ft)	June 10, 2016 – VEFR at MW-111D Change in Groundwater Level (ft)	June 10, 2016 – VEFR at SW-1 Change in Groundwater Level (ft)
MW-301D	No discernible response	-0.02	-0.03
MW-302D	-0.05	-0.05	-0.52
MW-302DD	No discernible response	No discernible response	No discernible response
MW-304D	-0.05	No discernible response	No discernible response
MW-305D	No discernible response	No discernible response	No discernible response
MW-306D	No discernible response	0.10	0.20
MW-307D	No discernible response	No discernible response	No discernible response
MW-309D	----	**-0.23**	-0.16
SW-1	**-0.41**	**-0.27**	----

"----" indicates no measurement as the monitoring well indicated is the one at which the VEFR event was conducted.

Evaluation of the groundwater level changes observed during application of vacuum to MW-111D, MW-309D and SW-1 indicate the complexity of the fracture network at the Site. The following observations regarding the occurence of DNAPL, the interconnectivity of fractures, and the distribution of dissolved phase COI can be made:

- Although several wells intercept fractures that are hydraulically-connected to MW-111D and MW-309D, as demonstrated by groundwater level changes, the driving head needed for DNAPL migration appears to diminish near the wells since DNAPL is only present in those two (2) wells. Residual DNAPL appears to be generally immobile and isolated in extent.

- In general, wells that are located along a northeast-southwest orientation along 7th Street show more interconnectivity than wells located in other directions, as demonstrated by groundwater level changes at MW-200DR, MW-205D, MW-206D and MW-302D. As discussed in Section 3.1.1 of the VIRP, a lineament analysis was performed to identify linear features present at the ground surface (i.e., lineaments). Lineaments commonly represent surface

expressions of bedrock structural features. By mapping the orientations of lineaments, the orientation of regional-scale bedrock features can be inferred. The predominant lineament orientations interpreted by ERM are northeast-southwest and northwest-southeast. The results of the June 2016 groundwater level monitoring support the lineament interpretation, and taken together provide valuable data for understanding and explaining the distribution of DNAPL and dissolved phase COI in bedrock.

- Wells that are located in alternate orientations may also be hydraulically connected to DNAPL-containing wells, although to a more modest extent. Examples of this include MW-12DDR, MW-24D, MW-110D, MW-204D and MW-306. As noted above, northwest-southeast lineaments were identified during the lineament analysis, and these wells are generally located along this trend. Detections of COI in these wells without the detection of DNAPL indicates that although the fractures are in hydraulic communication, the driving forces of DNAPL migration are not sufficient for DNAPL to move to these wells.The extent of the dissolved phase plume is primarily controlled by fracture interconnectivity, as wells that showed a response to the VEFR event (i.e., connectivity to wells containing DNAPL), generally also have dissolved phase COI (see Figure B3-5 and B3-6 in Appendix B.)

During this reporting period DNAPL samples were collected from MW-111D and MW-309D for characterization, and the reported viscosities at 10°C were 347 and 350 millipascal-second (mPa-s), respectively. The viscosity of water at 10°C is approximately 1.3 mPa-s , significantly lower than the viscosity of the Macon MGP site DNAPL. Consequently, the high viscosity of the DNAPL limits mobility in the subsurface, so that distribution is not only controlled by the presence, orientation and connectivity of fractures and joints, but also by the aperature of the features (i.e., DNAPL migration will stop once the viscous forces are too high for the substance to enter an opening). Once entrance pressures are exceeded, the DNAPL will become immobile.

As discussed in the Section 3.1.2 of the 2014 VIRP, previous investigations at the Macon site have shown that the presence of fractures diminishes with depth and the majority of the fractures exhibit small aperature. The observed limited extent of DNAPL at the Site is consistent with the immobile nature of the DNAPL and the geologic setting. The DNAPL characterization results will be used in the development of groundwater

models and will be utilized to support the updated conceptual site model (CSM), which will all be presented in subsequent semiannual reports.

2.3 POST-VEFR GROUNDWATER MONITORING OF MW-24D

Prior to August 2014, concentrations of dissolved phase COI were relatively stable at MW-24D, located east of 7th Street (Appendix B-7). Naphthalene had been detected at MW-24D most recently in 2004 and benzene was detected just above the detection limit (5 µg/L) in 2009; however, neither compound had been detected again until the August 2014 event. Between August 2014 and April 2016, both compounds have been detected above the Type 1 RRS (5 µg/L for benzene and 20 µg/L for naphthalene). All benzene and naphthalene concentrations detected in MW-24D since 2001 were graphed (Appendix C) in order to compare the timing of COI detections to VEFR events and bedrock drilling events (i.e., installation of bedrock wells) to determine whether disturbances to the bedrock aquifer may alter steady-state conditions, resulting in changes to COI concentrations at the well.

As shown in Appendix B-7 and Appendix C, benzene concentrations at MW-24D were generally stable prior to 2014 but have fluctuated since that time. Naphthalene concentrations at MW-24D fluctuated between the first sampling event in 2001 until 2004, showing an overall decreasing trend over that period. Naphthalene concentrations were generally stable from 2004 until 2014.

As shown in Appendix C, several wells were installed in 2013 in the vicinity of the intersection of Walnut Street and 7th Street, and a VEFR event was completed at MW-111D. In 2014, benzene and naphthalene were detected at MW-24D at higher concentrations than expected based on the previous years of data. In 2015, following a VEFR event at MW-111D and installation of MW-309D, benzene and naphthalene concentrations at MW-24D increased. Following the August 2015 VEFR event at MW-111D and MW-309D, naphthalene decreased and benzene increased at MW-24D. The contrast between the stability of COI concentrations at the wells prior to 2013 and the variability of COI concentrations in MW-24D after 2013 suggests that changes in MW-24D dissolved COI concentrations are linked to disturbances in the bedrock aquifer in the vicinity, which alter ambient flow conditions.

To further evaluate the changes, groundwater samples were collected from MW-24D approximately 2 weeks, 4 weeks, 6 weeks, and 10 weeks

after the June 2016 VEFR events. Benzene concentrations at MW-24D were lower in the first two (2) samples collected after the June 2016 event than they were during the April 2016 semiannual groundwater monitoring while naphthalene concentrations increased in the first two (2) post-VEFR monitoring samples. Benzene and naphthalene concentrations reported from the third post-VEFR monitoring event on July 26, 2016 (120 µg/L and 290 µg/L, respectively) were the highest concentrations detected at the well since sampling began in 2001. August 2016 concentrations decreased, with benzene reported at 11 µg/L (above theType 1 RRS of 5 µg/L) and naphthalene at 14 µg/L (below the Type 1 RRS of 20 µg/L). Results indicate that there may be a time lag between bedrock aquifer disturbance and changes to COI concentrations within the plume, possibly due to the limited mobility of water within the fractures, even under induced pressures.

As discussed in Section 2.3.1 of the *VIRP*, geophysical investigations demonstrate that bedrock at the Site has a relatively small number of low-yielding fractures. At static or equilibrium conditions, the ambient groundwater flow rates (which are closely related to seepage velocity) of water through fractures in the bedrock wells evaluated ranged from less than 0.0001 gallons per minute (gpm) to 0.0024 gpm. Therefore, unless groundwater in the bedrock zone is influenced by external forces (i.e., extraction from pumping, increases in hydrualic pressure from drilling or use of fluids while drilling), the rate of flow in the bedrock zone is very low, to almost none at all.

Monitoring of groundwater levels at MW-24D during the June 2016 indicate that the well is hydraulically connected to both MW-111D and MW-309D. Therefore, it is likely that any groundwater flow disturances originating at either well, or in the vicinity of the Walnut Street and 7th Street intersection, may result in changes to the COI concentrations at the well. The lack of COI fluctuations at the well prior to 2014, when VEFR and drilling activities increased in the area, suggest that prior to that time the plume was stable with static, ambient conditions consisting of very low rates of groundwater flow. The increase in activites within the bedrock may have locally changed the groundwater flow conditions and altered the shape of the plume.

2.4 SEMIANNUAL GROUNDWATER MONITORING

Groundwater sampling at the Site is typically conducted in February (annual event) and August (semiannual event). As discussed in the *2nd*

Semiannual Progress Report, in situ solidification (ISS) remediation of MGP-derived byproduct-like material (BPLM) and/or source materials below the groundwater table at the former Macon MGP site was completed in late 2015, excavation of unsaturated soil to remove BPLM and/or source material was completed in mid-April 2016, and site restoration activities were completed in late April 2016. Due to finalization of remediation activities at the Site, the February groundwater monitoring event was postponed until April 2016 and the results were reported in the *2nd Semiannual Progress Report*. The August event was completed in accordance with the regular monitoring schedule and was conducted during the week of August 22, 2016.

A groundwater monitoring report summarizing the activities and results of the August 2016 groundwater sampling event is included as Appendix B.

2.5 VAPOR INTRUSION EVALUATION

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

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

Based on the history of the investigation, remediation, and subsequent monitoring of the Ocmulgee River sediments near the Upper and Lower Outfalls, the compliance certifications previously provided, and the historical monitoring, the 1st Semiannual Progress Report recommended that sediments and surface water be excluded from further evaluation, and the *2nd Semiannual Progress Report* recommended that monitoring of

rainfall in the Macon area be discontinued. As such, no surface water investigations or corrective actions were conducted during this monitoring period.

2.7 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 Adria Reimer, P.G. (Georgia No. 002004) to the VRP participant since the previous submittal to EPD is shown in the following table:

Adria Reimer, P.G. (Georgia No. 002004)		
Month	Hours Invoiced	Work Completed
May 2016	60	Oversight of the work summarized in this report
June 2016	40.5	
July 2016	24	
August 2016	16.5	
September 2016	2.5	
October 2016	31	

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. A projected milestone schedule is included as Figure 3-1.

3.1 GROUNDWATER INVESTIGATIONS AND MONITORING

3.1.1 Semiannual Groundwater Monitoring

During the next reporting period, groundwater monitoring will be conducted in accordance with the proposed Alluvial Groundwater Monitoring Schedule shown in Table 3-1. The proposed schedule is intended to provide data regarding constituents of interest (COIs) in wells to monitor overall effectiveness of the remedy at the Site (see Appendix B for discussion of changes to the monitoring schedule).

During the next reporting period, bedrock groundwater monitoring will continue in accordance with the proposed Bedrock Groundwater Monitoring Schedule shown in Table 3-2 (see Appendix B for discussion of changes to the monitoring schedule).

The objective of the groundwater monitoring program is to collect data necessary to evaluate corrective action effectiveness, monitor stability of the dissolved phase plume and extent of DNAPL, and provide information to update the CSM as necessary. The next groundwater monitoring event is scheduled for February 2017. 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.

3.1.2 Bedrock Investigations

Previous submittals recommended that additional wells would be installed to better define the extent of DNAPL in bedrock; however, data collected in 2015 and 2016, combined with historical data, indicates that disturbances to the bedrock aquifer may cause variations to the ambient groundwater flow regime. Numerous bedrock wells have been installed near the intersection of Walnut Street and 7th Street; however, DNAPL is only detected at two (2) locations, indicating that migration of DNAPL has been limited. Based on the observed stability of the bedrock aquifer (Appendix B) and the potentially adverse impacts of bedrock drilling activities, it is recommended that the previously proposed additional

sumps and bedrock wells be removed from the remedial plan. Plume stability and contaminant migration (if any) can adequately be monitored with the existing well network and will be assessed with future groundwater modeling activities. As such, no bedrock drilling activities are planned.

3.1.3 NAPL Recovery

The evidence of high viscosity and low mobility of the DNAPL at the Site, in combination with the geologic setting and limited spatial extent of DNAPL indicates that DNAPL is not migrating under steady-state conditions. The application of vacuum to bedrock monitoring wells for the recovery of DNAPL from a single borehole appears to destabilize the COI plume, causing dissolved phase concentrations to fluctuate in areas where the plume would otherwise be stable. Therefore, it is recommended that VEFR events be discontinued, and DNAPL instead be monitored via the existing groundwater monitoring program. Futher evaluation of the presence, mobility and potential for the DNAPL to contribute to dissolved phase COI concentrations will be evaluated as part of future groundwater modeling efforts, reported in subsequent progress reports.

3.2 VI EVALUATIONS

If warranted, based upon COI concentrations and Site conditions, current and applicable VI guidance will be used to determine whether the VI pathway may be complete at the Macon MGP site. The VI pathway may be complete where a building is located or is planned and where reported COI concentrations may pose an unacceptable risk for existing buildings or future construction. Control methods (e.g., Uniform Environmental Covenants [UEC], barriers or specific construction design) may be utilized to mitigate the potential for vapors to enter indoor air in existing buildings or future construction.

The small unused building located on the corner of 6th Street and Mulberry Street (Prodigy Woodworks parcel) is planned for demolition in 2016, to be replaced by a parking lot. 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 enclosed structures on the property. The UEC will eliminate the potential for a complete VI pathway at the Prodigy Woodworks parcel.

3.3 SURFACE WATER EVALUATION

No surface water evaluations are planned.

3.4 MODELING AND POINT OF DEMONSTRATION WELLS

As discussed in Section 1.0 of this report, corrective actions for alluvial groundwater were completed in April 2016. Investigations of dissolved phase impacts will continue with semiannual groundwater monitoring events. Groundwater flow modeling and fate and transport modeling will be completed and results reported in future semiannual progress reports. The modeling will be used to assess the adequacy of the alluvial and bedrock groundwater monitoring well network to represent groundwater flow and predict COI migration. Modeling will be used to determine and validate the locations of point of demonstration (POD) wells. The results will also be used to assess the mobility and potential longevity of the residual DNAPL and its contribution to dissolved phase concentrations.

3.5 RISK ASSESSMENT AND REPRESENTATIVE EXPOSURE CONCENTRATIONS

Post-corrective action groundwater COI concentrations will continue to be evaluated during the next reporting period. If warranted based upon the results of these evaluations, additional properties may be entered into the VRP. Upon completion of the post-implementation monitoring of the effectiveness of the corrective actions and inclusion of any additional properties into the VRP, the human health exposure pathway assessment and risk evaluation outlined conceptually in the VIRP for COIs will be completed.

3.6 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, if 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.

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

ERM, 2016. *2nd Semiannual Progress Report*. Prepared by Environmental Resources Management, May 2016.

ITRC, 2015. *Integrated DNAPL Site Characterization and Tools Selection*. Interstate Technology & Regulatory Council. May 2015

Tables

Project No. 0366660
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	Previously Proposed Sampling Schedule	Wells Sampled During Expanded August 2016 Semiannual Event	Proposed 2017 Sampling Schedule	Rationale for Change
AMW-2	Alluvium	4.6 - 14.6	Annual	X	Annual	---
AMW-6	Alluvium	11 - 21	Semiannual	X	Semiannual	---
AMW-11	Alluvium	5 - 15	Annual	X	Annual	---
AMW-12	Alluvium	10 - 20	Annual	X	Annual	---
AMW-13	Alluvium	10 - 20	Annual	X	Annual	---
AMW-14	Alluvium	5 - 20	Annual	X	Annual	---
AMW-15	Alluvium	6 - 21	Annual	X	Annual	---
MW-07	Alluvium	5 - 15.5	Gauge Only	Gauged Only	Gauge Only	---
MW-08	Alluvium	9 - 19	Annual	X	Annual	---
MW-10	Alluvium	7.5 - 17.5	Gauge Only	X	Gauge Only	---
MW-11	Alluvium	5 - 12	Gauge Only	Gauged Only	Gauge Only	---
MW-12R	Alluvium	4.5 - 14.5	Annual	X	Annual	---
MW-12IR	Intermediate	11 - 21	Annual	X	Annual	---
MW-14	Alluvium	3 - 15	Annual	X	Annual	---
MW-14I	Intermediate	19 - 24	Annual	X	Annual	---
MW-15	Alluvium	3 - 14.5	Semiannual	X	Annual	No indication of migration off MUDA property
MW-21	Alluvium	3 -10	Annual	X	Annual	---
MW-23	Alluvium	5 - 20	Gauge Only	Gauged Only	Gauge Only	---
MW-26	Alluvium	5 - 20	Gauge Only	X	Gauge Only	---
MW-28	Alluvium	2 - 17	Gauge Only	X	Gauge Only	---
MW-101	Alluvium	5 - 15	Semiannual	X	Annual	COI concentrations show stable or decreasing trends; no COI above RRS
MW-102	Alluvium	5 - 10	Semiannual	X	Annual	No indication of migration off MUDA property
MW-103	Alluvium	10 - 20	Annual	X	Annual	---
MW-104	Alluvium	5 - 20	Annual	X	Annual	---
MW-104I	Intermediate	15 - 20	Gauge Only	Gauged Only	Gauge Only	---
MW-105	Alluvium	15 - 25	Gauge Only	Gauged Only	Gauge Only	---
MW-106	Alluvium	9 - 19	Gauge Only	X	Gauge Only	---
MW-107	Alluvium	8 - 18	Gauge Only	Gauged Only	Gauge Only	---
MW-108	Alluvium	10 - 20	Semiannual	X	Semiannual	---
MW-109	Alluvium	13.5 - 23.5	Annual	X	Annual	---
MW-205	Alluvium	14 - 29	Semiannual	X	Semiannual	---
MW-400	Alluvium	6 - 16	Semiannual	X	Semiannual	---
MW-401	Alluvium	6 - 16	Annual	X	Annual	---

Groundwater sampling is completed in February (Annual and Semiannual Wells) and August (Semiannual Wells 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

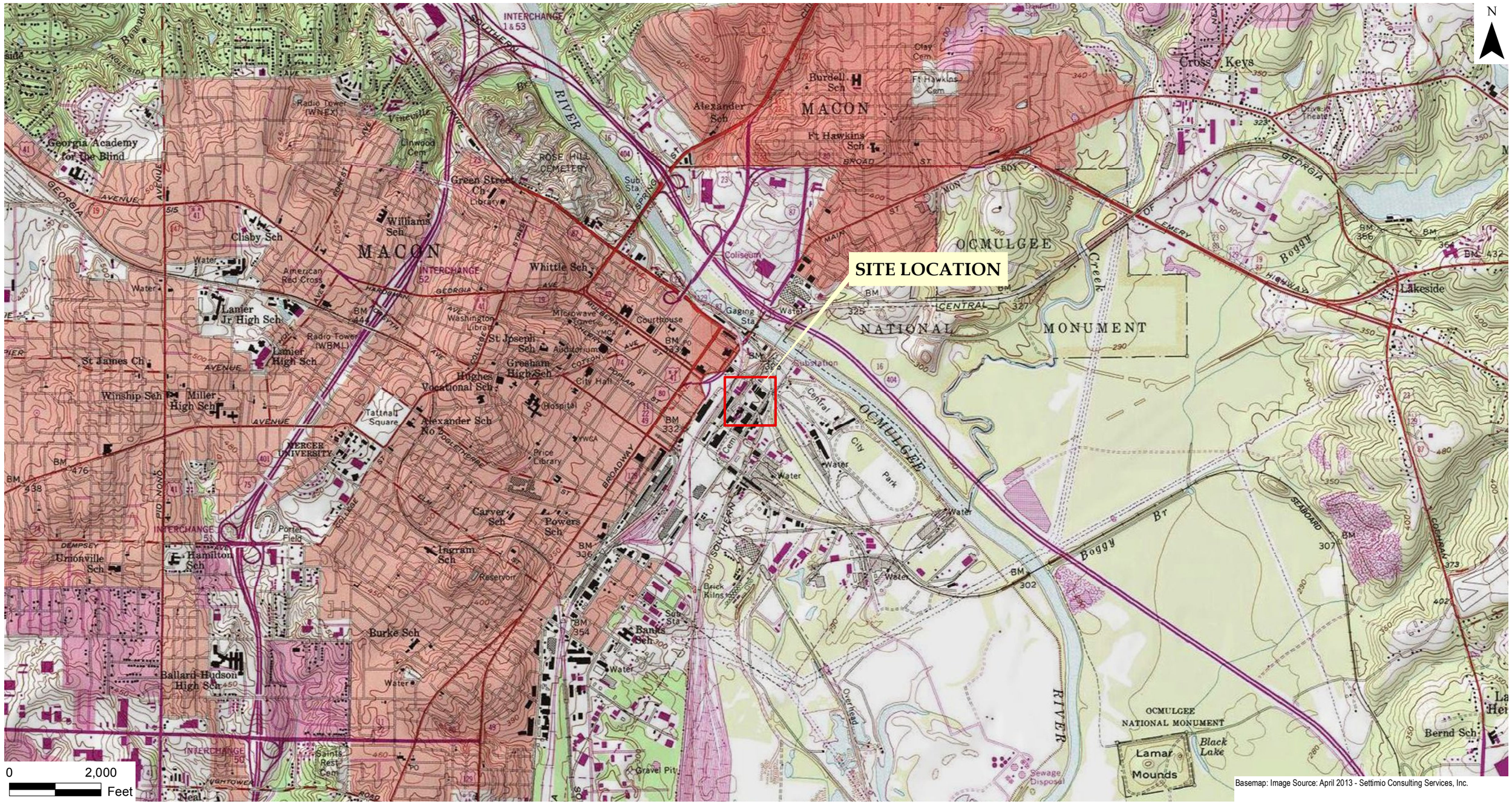
Monitoring Well I.D.	Hydrogeologic Unit	Screened Interval ft bgs	Previously Proposed Sampling Schedule	Wells Sampled During Expanded August 2016 Semiannual Event	Proposed 2017 Sampling Schedule	Rationale for Change
MW-08D	Shallow Bedrock	38 - 53.5	Gauge only	Gauged only	Gauge only	---
MW-12DRR	Shallow Bedrock	37 - 52	Semiannual	X	Semiannual	---
MW-12DD	Deep Bedrock	87 - 97	Annual	Gauged only	Annual	---
MW-22D	Shallow Bedrock	44 - 66	Annual	X	Annual	---
MW-23D	Shallow Bedrock	23 - 36	Semiannual	X	Annual	---
MW-24D	Shallow Bedrock	30.5 - 40.5	Semiannual	X	Semiannual	---
MW-26D	Shallow Bedrock	31 - 42	Annual	X	Annual	---
MW-27D	Shallow Bedrock	43.5 - 48.5	Annual	X	Annual	---
MW-27DD	Deep Bedrock	105 - 115	Gauge only	Gauged only	Gauge only	---
MW-108D	Shallow Bedrock	48.5 - 58.5	Annual	Gauged only	Annual	---
MW-110D	Shallow Bedrock	28 - 43	Semiannual	X	Annual	COI Trends Appear to be Stable or Decreasing
MW-111D	Shallow Bedrock	33 - 46.5	Semiannual	Gauged only (DNAPL)	Semiannual	---
MW-112D	Shallow Bedrock	26 - 36	Annual	Gauged only	Annual	---
MW-113D	Shallow Bedrock	29.5 - 39.5	Annual	Gauged only	Annual	---
MW-114D	Shallow Bedrock	45 - 55	Gauge only	Gauged only	Gauge only	---
MW-200DR	Shallow Bedrock	29.5 - 39.5	Semiannual	X	Semiannual	---
MW-204D	Shallow Bedrock	30.5 - 45.5	Semiannual	X	Semiannual	---
MW-205D	Shallow Bedrock	28 - 43	Semiannual	X	Semiannual	---
MW-205DD	Deep Bedrock	90 - 100	Semiannual	X	Annual	No COI detected since 2013
MW-206D	Shallow Bedrock	31 - 46	Annual	Gauged only	Annual	---
MW-207D	Shallow Bedrock	34 - 46.5	Annual	Gauged only	Annual	---
MW-300D	Shallow Bedrock	33 - 43	Annual	Gauged only	Annual	---
MW-301D	Shallow Bedrock	36 - 46	Semiannual	X	Annual	COI Trends Appear to be Stable or Decreasing
MW-302D	Shallow Bedrock	35 - 45	Semiannual	Gauged only*	Semiannual	---
MW-302DD	Deep Bedrock	70 - 100	Semiannual	X	Semiannual	---
MW-304D	Shallow Bedrock	41 - 61	Annual	Gauged only	Annual	---
MW-305D	Shallow Bedrock	34.5 - 41.5	Semiannual	X	Semiannual	---
MW-306D	Shallow Bedrock	32.5 - 51	Semiannual	X	Semiannual	---
MW-307D	Shallow Bedrock	34 - 58	Semiannual	X	Annual	COI Trends Appear to be Stable or Decreasing
MW-308D	Shallow Bedrock	72 - 110	Semiannual	X	Semiannual	---
MW-309D	Shallow Bedrock	35 - 45	Semiannual	Gauged only (DNAPL)	Semiannual	---

Groundwater sampling is completed in February (Annual and Semiannual Wells) and August (Semiannual Wells Only)
* DNAPL blebs on tip of interface probe after total depth measurement

Figures

Project No. 0366660
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.:	A Reimer
DATE:	10/14/2016	SCALE:	AS SHOWN	REVISION:	0
FILE:	S:\0366660 - AGL_Macon\Figures\AGL_Macon\MXD\2016 10 3rdVRPPrgRpt\Mcn_3VRPPrgRpt_1-1_Topo.mxd				

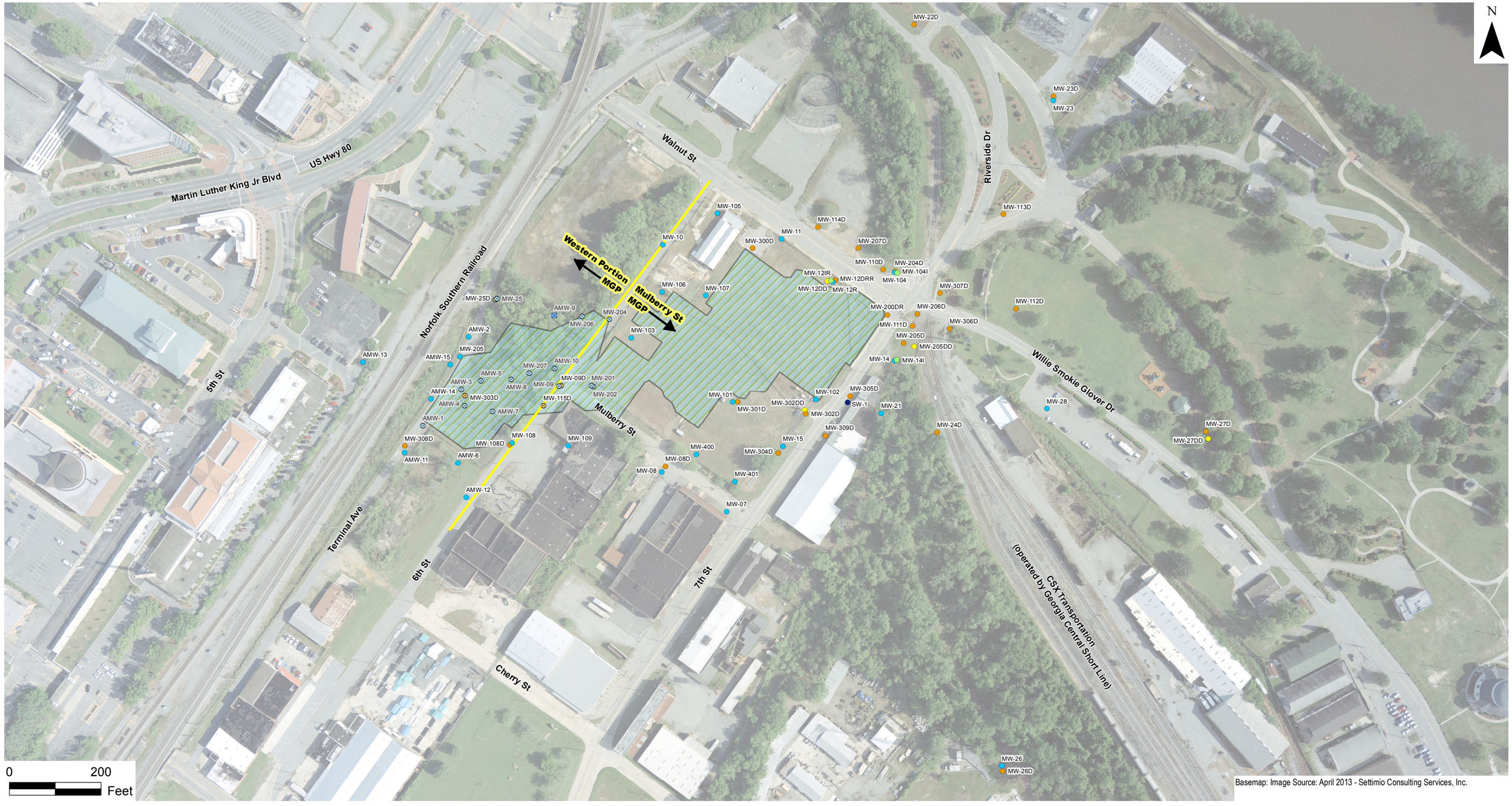
CONTOUR INTERVAL 10 FEET
DOTTED LINES REPRESENT 5-FOOT CONTOURS
NATIONAL GEODETIC VERTICAL DATUM OF 1929

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

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FILE:	D:\AGL_Macon\MXD\2016 10 3rdVRPPrgRpt\Mcn_3VRPPrgRpt_1-2_SiteMap.mxd				

- Shallow Well
- Abandoned Shallow Well
- Destroyed Shallow Well
- Intermediate Well
- Shallow Bedrock Well
- Abandoned Shallow Bedrock Well
- Deep Bedrock Well
- ISS Mass
- SW-1 Sump Well (Installed as part of DNAPL investigation)

FIGURE 1-2
SITE MAP

Atlanta Gas Light Company

Former Manufactured Gas Plant

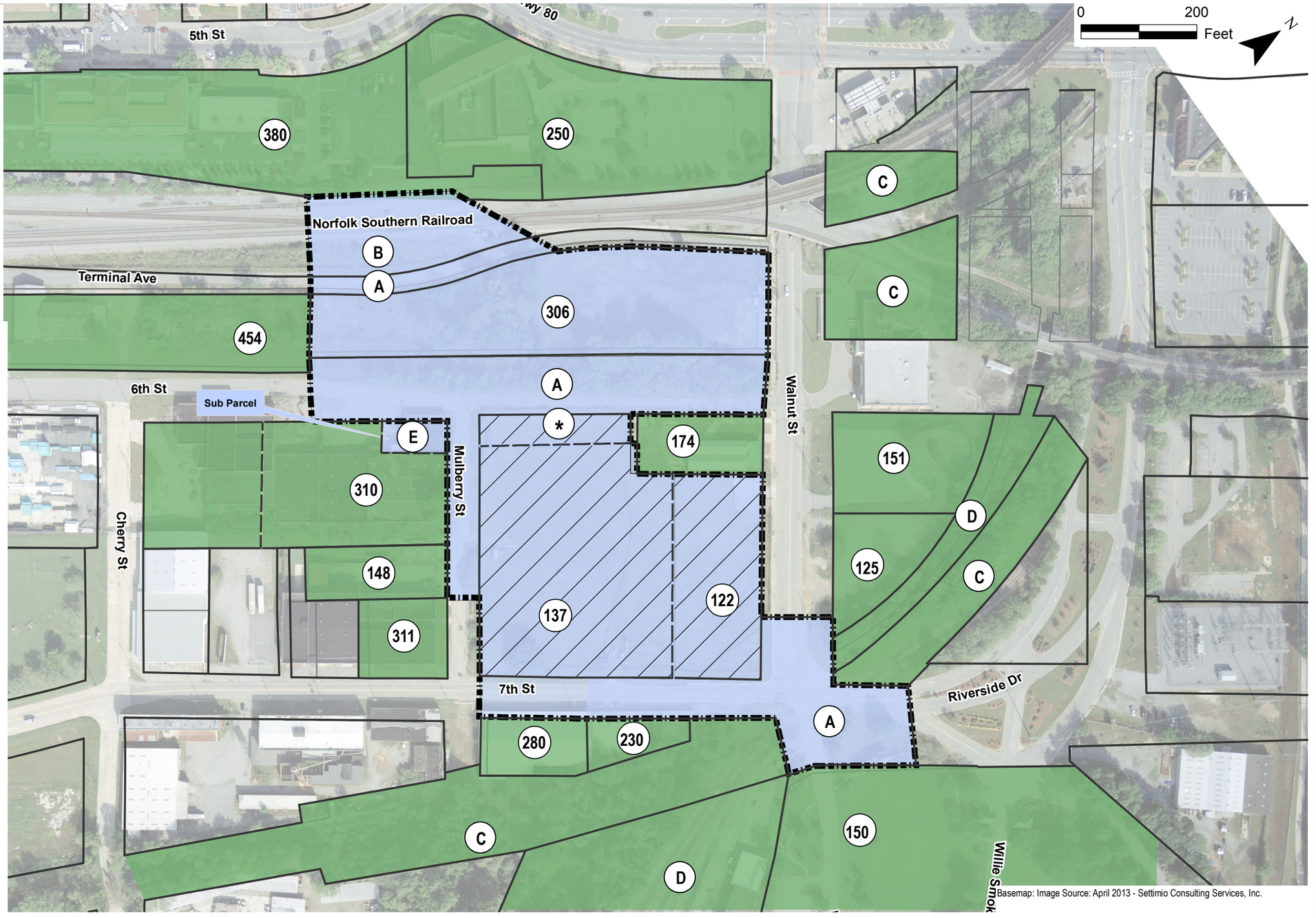
Macon, Bibb County, Georgia

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

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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

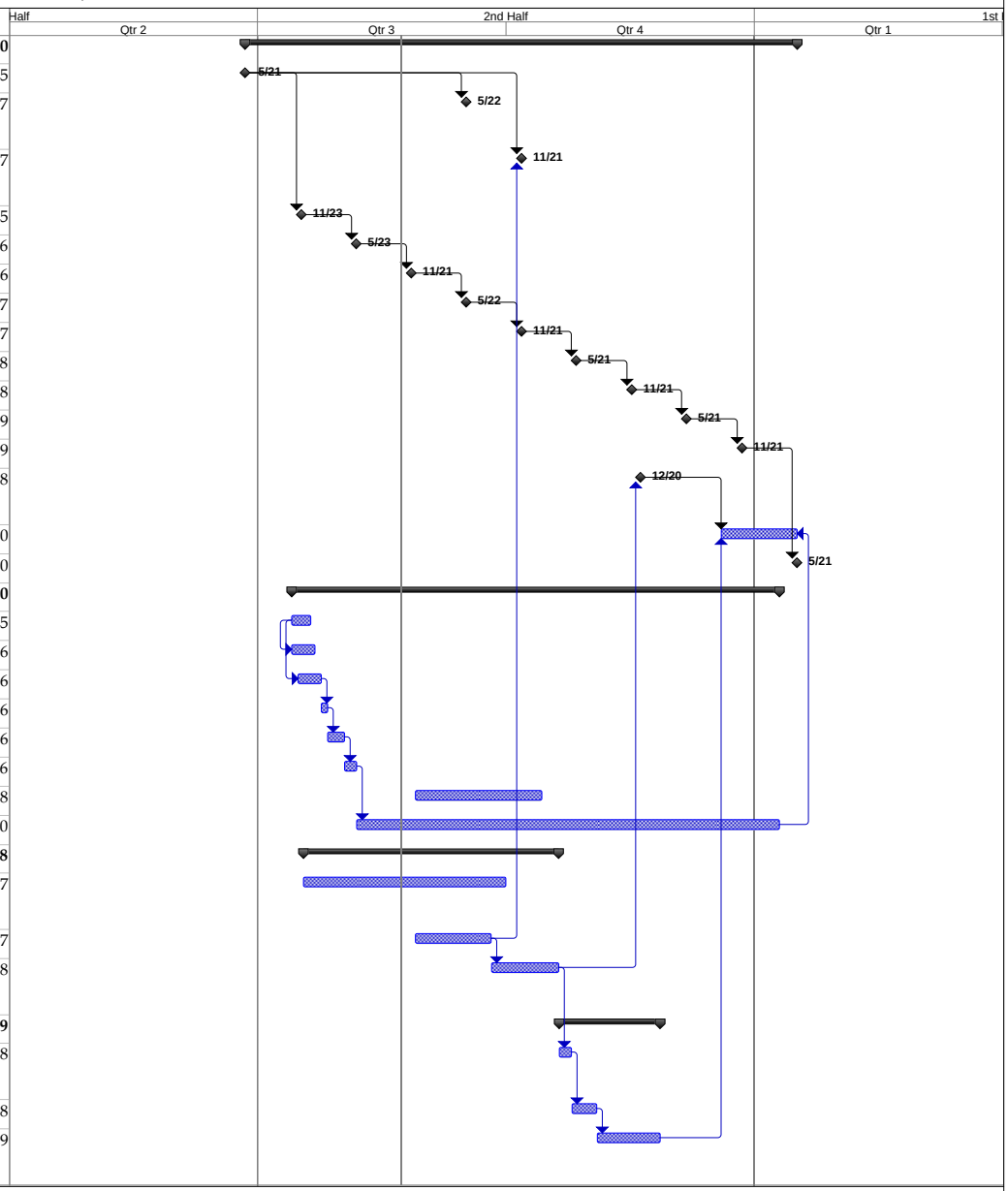
Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia

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	Complete 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	40 days	Thu 2/18/16	Wed 4/13/16
23	Corrective Action Completion Report	28 days	Thu 4/14/16	Mon 5/23/16
24	Modelling, POD Verification	300 days	Mon 12/5/16	Fri 1/26/18
25	Alluvial GW Monitoring (including POD Wells)	1000 days	Tue 5/24/16	Mon 3/23/20
26	**Bedrock Groundwater**	**605 days**	**Mon 11/30/15**	**Fri 3/23/18**
27	Bedrock Groundwater Monitoring (including POD Wells)	480 days	Mon 11/30/15	Fri 9/29/17
28	Groundwater Modelling and Risk Evaluations	180 days	Mon 12/5/16	Fri 8/11/17
29	Incorporate Additional Parcels into VRP Qualifying Properties as Required	160 days	Mon 8/14/17	Fri 3/23/18
30	**Vapor Intrusion Evaluation**	**240 days**	**Mon 3/26/18**	**Fri 2/22/19**
31	Complete VI Screening based on Investigations (as required)	30 days	Mon 3/26/18	Fri 5/4/18
32	Evaluate VI Control via UEC	60 days	Mon 5/7/18	Fri 7/27/18
33	Prepare VI Investigation and Risk Evaluation, if required	150 days	Mon 7/30/18	Fri 2/22/19



Project: Macon MGP Site VRP
Date: Thu 10/20/16

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

June 2016 VEFR Report

Appendix A

Project No. 0366660
Atlanta Gas Light Company

Environmental Resources Management
3200 Windy Hill Road SE, Suite 1500W
Atlanta, Georgia 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

June 20, 2016

Mr. Nic Vrey
Environmental Resources Management, Inc.
3200 Windy Hill Road, Suite 1500W
Atlanta, Georgia 30339

Subject: **Enhanced Fluid Recovery (EFR®) Results**
Event Nos. 7 and 8
Former AGL MGP Site
137 Mulberry Street
Macon, Georgia

Dear Mr. Vrey:

Please find attached the data summary for the seventh and eight EFR® events conducted at the subject site on June 9 and 10, 2016, respectively. Previous EFR® events have been conducted at the site from February 16, 2011 to August 26, 2015. The following summarizes the results of these EFR® events.

SUMMARY OF RESULTS

EFR Event No. 7 (June 9, 2016)

Dense non-aqueous phase liquid (DNAPL) was detected in the one gauged monitor well (MW-309D – 1.75 feet) prior to conducting this EFR® event. This EFR® event was conducted for eight hours at one extraction point, MW-309D. DNAPL was not detected at the conclusion of this event.

An estimated 52 gallons of oil-like materials (OLM) were removed during this event, including approximately 23 gallons of OLM measured in the vacuum truck upon completion of this event and approximately 29 equivalent gallon of OLM (a calculated total of 257 pounds of petroleum hydrocarbons) contained in the offgas vapor. Hydrocarbon removal rates ranged from 27 to 36 pounds per hour during the event.

Vapor concentrations ranged from 9,500 to 13,000 parts per million (PPM_V) during this EFR® event. Flow rates remained at 98 cubic feet per minute (CFM). In-well vacuums recorded at MW-309D are detailed in the EFR® Field Data Sheet and summarized below:

Extraction Well	In-Well Vacuum
MW-309D	2 to 19 inches of mercury

105 Weatherstone Drive, Suite 610 – Woodstock, Georgia 30188
(770) 592-1001 - Fax (770) 592-1801
www.ecovacservices.com

Approximately 182 gallons of liquid, including 23 gallons of OLM, were removed during this event and transported to Environmental Remedies, LLC (Atlanta, Georgia) for disposal.

EFR Event No. 8 (June 10, 2016)

DNAPL was detected in one of the gauged monitor wells (MW-111D – 0.20 feet) prior to conducting this EFR® event. This EFR® event was conducted for approximately 6.5 hours at two extraction points, consisting of the initial four hours of extraction at MW-111D and the final two hours of this event at SW-1. Although DNAPL was visually detected on the interface probe when gauging MW-111D at the end of the event, an accurate thickness could not be obtained due to the DNAPL viscosity and possible presence of silt.

An estimated total of 17 pounds of hydrocarbons (approximately 1.9 equivalent gallons of OLM) was recovered during this event. Hydrocarbon removal rates ranged from 2.0 to 4.3 pounds per hour during the event.

Vapor concentrations ranged from 660 to 1,400 PPM_V during this EFR® event. Flow rates remained at 108 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	2 inches of mercury
SW-1	1 inch of mercury

Approximately 799 gallons of liquid were removed during this event and transported to Environmental Remedies, LLC (Atlanta, Georgia) for disposal. NAPL 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 #: 7
Facility Address: 137 Mullberry Street, Macon, GA	Technician: K. Free	Date: 6/9/16

Extraction Well(s)	Time hh:mm	Extraction Well-head Vacuum (in. Hg)									Vacuum Truck Exhaust				
		Inlet	MW-309D								Concentration PPM	Offgas Velocity FT/MIN	Flow Rate CFM	Removal Rate LBS/HR	Interval Removal LBS
Start Time:	8:00														
MW-309D	8:15	25	2								12,000	2,000	98	34	8
"	8:30	25	2								12,000	2,000	98	34	8
"	8:45	25	2								11,000	2,000	98	31	8
"	9:00	25	2								11,000	2,000	98	31	8
"	9:30	25	2								10,000	2,000	98	28	14
"	10:00	25	8								9,500	2,000	98	27	13
"	10:30	25	18								9,800	2,000	98	27	14
"	11:00	27	19								10,000	2,000	98	28	14
"	12:00	27	19								11,000	2,000	98	31	31
"	13:00	27	19								12,000	2,000	98	34	34
"	14:00	27	19								13,000	2,000	98	36	36
"	15:00	27	19								13,000	2,000	98	36	36
"	16:00	27	19								12,000	2,000	98	34	34

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-309D	6"	39	37.25	10.01	1.75	-	32.05	0.00	-22.04

Vacuum Truck Information		Well ID	Breather Port	Stinger Depth
Subcontractor:	AllVac	MW-309D	2	39 feet
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			

Recovery/Disposal Information		
Hydrocarbons Removed (vapor):	257	pounds
Hydrocarbons Removed (liquid):	23	gallons
Total Hydrocarbons Removed:	52	equiv. gal.
Molecular Weight Utilized:	180	g/mole
Disposal Facility:	ERL	
Manifest Number:	171638	
Total Liquids Removed:	182	gallons*

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Time:	8:00 to 16:00
# Pumps:	2
RPMs:	900
Time:	
# Pumps:	
RPMs:	

Notes: *Includes ~23 gallons of NAPL measured in the vacuum truck tank at the conclusion of this event.

EFR® FIELD DATA SHEET

Client: ERM	Facility Name: Former AGL MGP Site	Event #: 8
Facility Address: 137 Mullberry Street, Macon, GA	Technician: K. Free	Date: 6/10/16

Extraction Well(s)	Time hh:mm	Extraction Well-head Vacuum (in. Hg)									Vacuum Truck Exhaust				
Start Time:	7:15	Inlet	MW-111D	SW-1							Concentration PPM	Offgas Velocity FT/MIN	Flow Rate CFM	Removal Rate LBS/HR	Interval Removal LBS
MW-111D	7:30	24	2	-							1,000	2,200	108	3.1	0.8
"	7:45	24	2	-							940	2,200	108	2.9	0.7
"	8:00	24	2	-							800	2,200	108	2.5	0.6
"	8:15	24	2	-							720	2,200	108	2.2	0.6
"	8:45	24	2	-							720	2,200	108	2.2	1.1
"	9:15	24	2	-							700	2,200	108	2.2	1.1
"	9:45	24	2	-							680	2,200	108	2.1	1.0
"	10:15	24	2	-							680	2,200	108	2.1	1.0
"	11:15	24	2	-							660	2,200	108	2.0	2.0
SW-1	12:15	23	-	1							1,400	2,200	108	4.3	4.3
"	13:15	23	-	1							1,100	2,200	108	3.4	3.4

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	45.80	7.26	0.20	46.36	15.75	-	-8.49
SW-1	4"	40	-	9.82	0.00	-	19.82	0.00	-10.00

Vacuum Truck Information		Well ID	Breather Port	Stinger Depth
Subcontractor:	AllVac	MW-111D	1	35',40'@10:30
Truck Operator:	K. Free	SW-1	2	30 feet
Truck No.:	148			
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):	17	pounds
Hydrocarbons Removed (liquid):	0	gallons
Total Hydrocarbons Removed:	1.9	equiv. gal.
Molecular Weight Utilized:	180	g/mole
Disposal Facility:	ERL	
Manifest Number:	171638	
Total Liquids Removed:	799	gallons

ECOVAC SERVICES ENVIRONMENTAL REMEDIATION

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Time:	7:15 to 13:15
# Pumps:	2
RPMs:	900
Time:	
# Pumps:	
RPMs:	

Notes: Extraction was terminated at 13:45 per ERM.

Although DNAPL was detected at the bottom of MW-111D at the end of the event, an accurate depth to the bottom of the well could not be obtained due to the DNAPL viscosity and possible presence of silt.

171638

Environmental Remedies, LLC

NON-HAZARDOUS WASTE MANIFEST / CERTIFICATE OF DISPOSAL

Work Order # 49076

GENERATOR INFORMATION:

Name: A6L (ERM) | Contact:

Address: 3200 Windy Hill Rd. Suite 1500W | Contact Phone: 678-486-2746

City, State: Atlanta, GA | Zip: 30339 | County:

TRANSPORTER INFORMATION:

Transporter: Ecovac Services

Address: 105 Westharstone Dr. Suite 610

City, State: Woodstock, GA

Contact Name: Nick Athens

Contact Phone: 770-592-1001

DESIGNATED FACILITY:

Facility Name: ERL

Address: 460 Sawtell Ave SE

City, State: Atlanta, GA | Zip: 30315

Emergency Contact:

Emergency Phone:

1st Trip Departure: | 2nd Trip Departure:

Arrival: | Arrival:

Start: | Start:

Departure: | Departure:

Arrival: | Arrival:

Comments (Driver / Customer):

DO NOT WRITE IN THIS SECTION

Date : 06/10/16 16:21
Ticket : 79211

Gross 41500 lb
Tare 33320 lb
Net 8180 lb

Waste Description / DOT Shipping Name /	Profile Number	Quantity	Units
Corrective Action Ground Water	Non-Reg Non-Haz 20002-20006-5301	980.82	Gallons *

Discrepancy Section:

* 1000 Gallons Required Minimum

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) | Signature | Date

Adric Reimer-ERM agent for Verizon | | 6/10/16

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) | Signature | Date

Kevin Free (Ecovac Services) | | 6/10/16

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) | Signature | Date

| | | 6/10/16

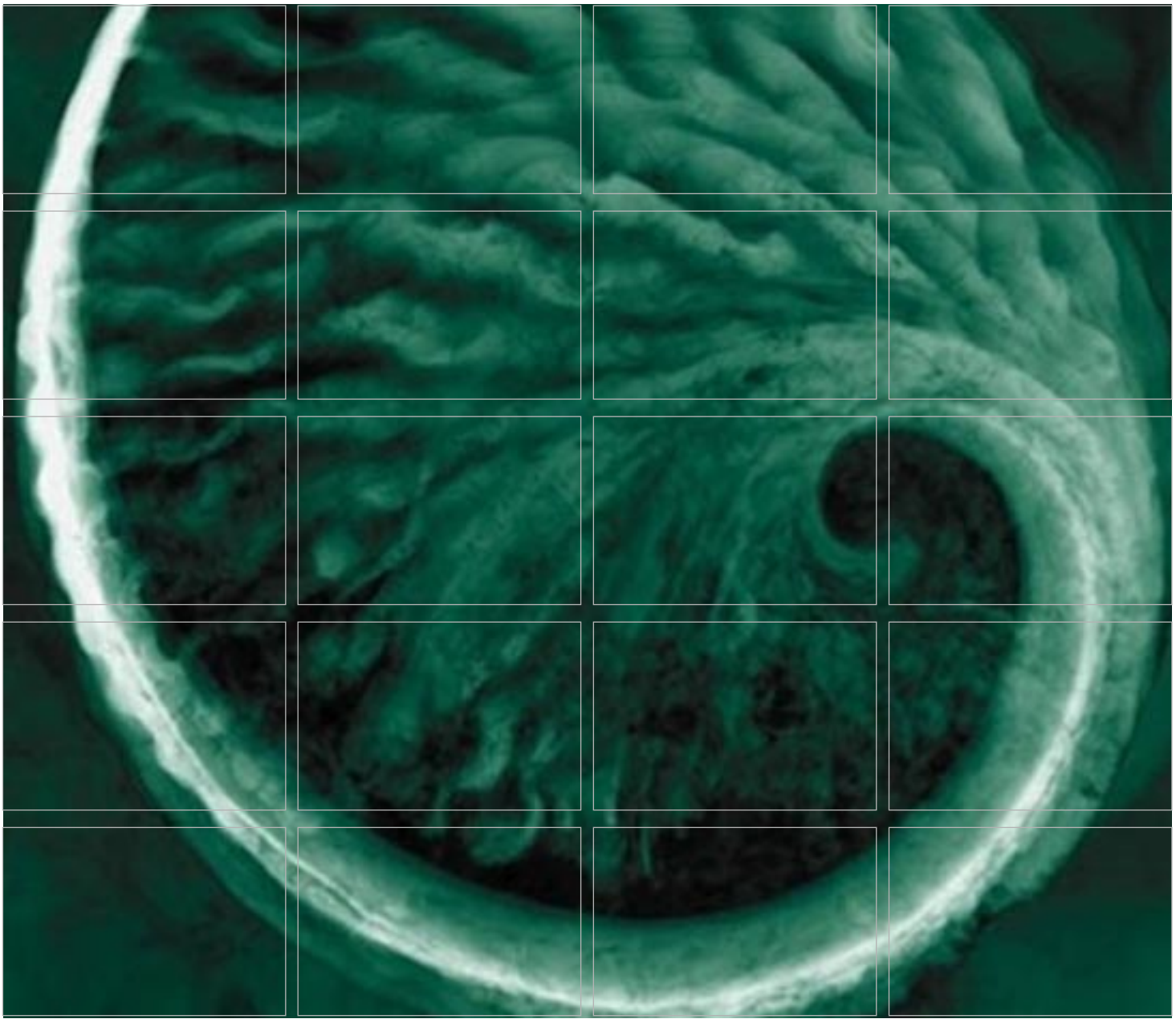
WHITE-T/S/D/F COPY PINK-T/S/D/F COPY GOLD-INVOICE COPY GREEN-TRANSPORTER BLUE-GENERATOR

Groundwater Monitoring Report: August 2016 Event

Appendix B

Project No. 0366660
Atlanta Gas Light Company

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



Groundwater Monitoring Report: August 2016 Sampling Event

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

November 21, 2016

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ERM

PROFESSIONAL CERTIFICATION PAGE

GROUNDWATER MONITORING REPORT:
AUGUST 2016 SAMPLING EVENT
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 me or by a subordinate working under my direction.

Adria L. Reimer, P.G. #002004

November 21, 2016

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ACRONYMS AND ABBREVIATIONS

AGLC	Atlanta Gas Light Company
AGMWP	Alluvial Groundwater Monitoring Work Plan
BGMP	Bedrock Groundwater Monitoring Plan
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
CAP	Corrective Action Plan
CAP Addendum	Corrective Action Plan Addendum
COI	Constituents of Interest
CSM	Conceptual Site Model
CSR	Compliance Status Report
DNAPL	Dense Non-Aqueous Phase Liquid
EPD	Environmental Protection Division
ERM	Environmental Resources Management
ft	Feet or Foot
ft/day	Feet per Day
ISS	In-Situ Stabilization
K	Hydraulic Conductivity
MGP	Manufactured Gas Plant
MUDA	Macon Urban Development Authority
NAPL	Non-Aqueous Phase Liquid
NTU	Nephelometric Turbidity Units
RRS	Risk Reduction Standards.
ROW	Right-of-Way
SVOCs	Semivolatile Organic Compounds
USEPA	United States Environmental Protection Agency
VIRP	Voluntary Investigation and Remediation Plan
VEFR	Vacuum Enhanced Fluid Recovery
VOCs	Volatile Organic Compounds
VRP	Voluntary Remediation Program
µg/L	Micrograms per Liter

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 groundwater monitoring event for bedrock and alluvium wells conducted in August 2016 at the former manufactured gas plant (MGP) site in Macon, Georgia (Site). The Site includes property formerly owned by AGLC and previously used for MGP operations, property formerly owned by AGLC but 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 historical MGP operations were located and "off-site" areas for properties that were not part of the former MGP operations. The Site location map (Figure B1-1) shows the setting of the AGLC property within the City of Macon, Bibb County, Georgia and the Site layout map (Figure B1-2) shows the locations of groundwater monitoring wells and other Site features.

The volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs) on the Constituents of Interest (COI) list (Table B1-1) 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 to be used until COI delineation to background and certification of the Western Portion to the applicable risk-reduction standard (RRS) is completed and documented by submittal of an updated CSR, at which time a revised COI list may be established.

The August 2016 semiannual monitoring event for alluvial groundwater represents the first site-wide alluvial sampling event since the completion of Site remedial activities in April 2016. Sampling activities were conducted in accordance with *Alluvial Groundwater Monitoring Work Plan* (AGMWP) [Appendix H of the *Western Portion and MW-101 Area Groundwater Corrective Action Plan Addendum*] submitted to EPD on October 14, 2014 as Appendix C of the VIRP. The network of alluvium groundwater monitoring wells sampled in August 2016 was expanded beyond the semiannual list provided in the AGMWP to support post-remedy groundwater assessment activities (Table B1-2).

The August 2016 monitoring event for bedrock groundwater (Table B1-3) was 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 and the schedule included as Table 3-1 in the *1st Semiannual Progress Report* submitted to EPD in November 2015. Groundwater samples were collected from several additional wells not scheduled to be sampled in August 2016 (Table B1-3) in order to collect supplementary data for evaluation of Site conditions and to support future groundwater modeling efforts.

2.0 GROUNDWATER MONITORING WELL ABANDONMENT

As noted in the *2nd Semiannual Progress Report* (submitted in May 2016), AMW-9, MW-25 and MW-25D could not be located during the February 2016 groundwater elevation gauging and April 2016 groundwater monitoring and sampling events. MW-25 and MW-25D were located near the northwestern extent of the soil excavation activities completed in early 2016 and in an area that was restored in April 2016 after completion of corrective actions. Monitoring well AMW-9, located on the northern side of the recently installed ISS mass and east of the MW-25/MW-25D, was also damaged during excavation as part of corrective actions. All three wells were located in July 2016 and after evaluation it was determined that the wells were damaged during Site remediation efforts completed in early 2016, and could not be adequately repaired to the extent suitable for groundwater monitoring purposes. Abandonment of the wells was completed on July 27, 2016. Abandonment records are included in Appendix B-1.

Groundwater flow conditions will be evaluated during upcoming modeling activities and semiannual groundwater monitoring events. AGLC will review the results to determine if one or more replacement wells are required.

3.0 GROUNDWATER MONITORING ACTIVITIES

The semiannual groundwater monitoring event was conducted in August 2016 in general accordance with the 2014 BGMP and the 2014 AGMWP. 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 low-flow method with a peristaltic pump.

3.1 SCOPE OF WORK

The August 2016 semiannual monitoring event included the following tasks:

3.1.1 Field Tasks

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

3.1.2 Reporting Tasks

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

3.2 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 B1-2, the bedrock groundwater-monitoring network is

included as Table B1-3, and locations of existing monitoring wells are shown on Figure B1-2. The network of alluvium and bedrock groundwater monitoring wells sampled in August 2016 was expanded beyond the semiannual list provided in the AGMWP and the BGMP to support post-remedy groundwater assessment activities.

3.3 GROUNDWATER SAMPLING AND ANALYSIS

During the initial groundwater gauging task, 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 noted and replaced during this reporting period. All wells were gauged with an oil-water interface meter to assess whether NAPL was present. Measurable DNAPL was detected in monitoring wells MW-111D and MW-309D, while small DNAPL blebs were observed in sediment attached to the probe tip in MW-302D in August 2016. Monitoring wells with detections of DNAPL and blebs are consistent with historic results. A summary of DNAPL monitoring activities is included in Section 4.1 of this report.

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. Low-flow methods are used for purging and sampling to avoid unnecessary disturbance to the well and formation surrounding the well, to reduce mixing within the well screen and well itself which may potentially lead to sample dilution, and to reduce the potential for sample aeration.

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 August 2016 sampling event are included in Appendix B-2.

Groundwater samples from the August 2016 event were analyzed for all COI (Table B1-1). Analytical Environmental Services, Inc. (AES; Georgia Certification ID 800) performed the analyses.

3.4 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. Two alluvium well field duplicates (AMW-12 and MW-400) and two bedrock well field duplicates (MW-110D and MW-205D) were collected during the August 2016 sampling event. 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-14 (alluvium) and MW-301D (bedrock) during the August 2016 sampling event, as part of the laboratory analytical batch QC.

3.5 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 high-density polyethylene (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. Approximately 650 gallons of liquid waste was transported off-site by Clean Harbors, Inc. on August 25, 2016 for disposal at the Clean Harbors facility in Chattanooga, TN. A copy of the waste manifest is included as Appendix B-3 (bulk transport off-site using a tanker truck).

3.6 GROUNDWATER MONITORING RESULTS

This section summarizes results from the August 2016 sampling event, including alluvium and bedrock groundwater elevations and flow conditions, groundwater analytical results, quality control/quality assurance, and data validation. Results are summarized below.

3.6.1 GROUNDWATER ELEVATIONS AND FLOW

Groundwater elevation data derived from water level measurements collected on August 22, 2016 for the alluvium and bedrock wells are presented in Tables B3-1 and B3-2, respectively. The alluvium groundwater elevation map for August 22, 2016 is presented on Figure B3-1. Figure B3-2 shows the hydraulic potential in shallow bedrock map for August 22, 2016.

During the August 22, 2016 sampling event, all alluvium and bedrock groundwater wells were inspected and the groundwater levels and total depths were gauged and recorded, with the exception of MW-23 (located in an unpaved area and was covered by gravel at the time of the event), and MW-108 (inaccessible due to debris from construction activities in the area). On August 24, 2016, additional efforts were made to locate both wells. MW-23 was not located; however, MW-108 was located, gauged and sampled.

Groundwater elevation data derived from water level measurements collected on August 22, 2016 for the alluvium wells is presented in Table B3-1. No NAPL was detected in any of the alluvium wells during this event.

Prior to soil remediation and ISS, groundwater flow in the alluvial aquifer was generally in an easterly direction. Based on the August 2016 data, alluvium groundwater continues to flow in an easterly direction toward the Ocmulgee River, but around the ISS mass (Figure B3-1). Seepage velocity in the alluvial aquifer was estimated from the product of hydraulic conductivity and horizontal hydraulic gradient (Table B3-3 and Appendix B-4) divided by effective porosity. The hydraulic conductivity and effective porosity from the GW CAP-A were used to estimate the seepage velocity. Based on these parameters, the alluvial seepage velocity is approximately 1.0 ft/day in August 2016 in the Western Portion and approximately 0.24 ft/day in August 2016 in the Eastern Portion (see Table B3-3 for calculations).

Groundwater elevation data derived from water level measurements collected on August 22, 2016 for the bedrock wells is presented in Table

B3-2. Trace DNAPL blebs were noted on the tip of the interface probe after gauging the total depth of MW-302D. Blebs on the end of the probe after total depth measurement at MW-302D have been observed during previous events. DNAPL was detected at MW-111D and MW-309D, which is also consistent with previous events.

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 (or apparent) bedrock groundwater flow directions for data collected in August 2016 are presented on Figure B3-2. The hydraulic potential measured in shallow bedrock wells decreases toward the east and southeast, as shown on Figure B3-2. Groundwater gradients calculated based on the hydraulic potential indicate groundwater movement 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 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 B3-3. The calculated range of seepage velocities in the bedrock aquifer at the Western Portion of the Site was between 0.05 and 3.79 ft/day, and between 0.051 and 3.99 ft/day in August 2016 in the Eastern Portion of the Site (see Table B3-3 for seepage velocity calculations and Appendix B-4 for gradient calculations).

3.6.2 GROUNDWATER ANALYTICAL RESULTS

Analytical results for alluvium and bedrock monitoring wells sampled in August 2016 are summarized in Tables B3-4 and B3-5, respectively. 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 located off-site and/or in a residential use area. Concentrations from monitoring wells MW-21, MW-28, MW-24D and MW-26D are compared to Type 2 RRS. Note that Type 2 RRS also apply to MW-112D; however, the well is part of the annual monitoring schedule and therefore was not sampled during the semiannual August 2016 event. Detected concentrations of benzene and naphthalene exceeding the Type 4 RRS are shaded in Tables B3-4 and B3-5.

The spatial distribution of benzene and naphthalene are shown in Figures B3-3 and B3-4 respectively, for alluvium wells sampled in August 2016. The spatial distribution of benzene and naphthalene in bedrock in April 2016 is depicted on Figures 3-5 and 3-6, respectively.

Groundwater purge logs are included as Appendix B-2, bedrock hydraulic potential calculation figures are included as Appendix B-4, laboratory analytical reports are provided in Appendix B-5, and data validation reports are attached as Appendix B-6. A complete summary of historical analytical data collected for the groundwater-monitoring program (since 2001) is provided as Appendix B-7. Benzene and naphthalene concentration and groundwater elevation trend graphs for bedrock monitoring wells are provided in Appendix B-8.

3.6.2.1 Alluvium Groundwater Analytical Results

Analytical results for groundwater samples collected in August 2016 from alluvium monitoring wells were compared to the Type 2 or 4 RRS, and are presented in Table B3-4. The semiannual groundwater sampling event was expanded beyond the semiannual list of seven (7) alluvium wells provided in the 2014 AGMWP to support post-remedy groundwater assessment activities.

Volatile Organic Compound Results

Benzene was the only VOC detected above the Type 2 or 4 RRS in alluvium wells during the August sampling event. The distribution of benzene in alluvial monitoring wells in August 2016 is displayed on Figure B3-3. Benzene was detected at concentrations above the Type 4 RRS (9 µg/L) in groundwater samples collected from only two (2) alluvium monitoring wells: AMW-14 (63 µg/L) and AMW-15 (120 µg/L), both located within the City ROW, east of the Norfolk Southern rail line. Ethylbenzene, toluene and xylenes were detected in AMW-14 and AMW-15 at concentrations below the Type 4 RRS.

No VOCs were detected above the laboratory detection limit (5 µg/L) in any other alluvium monitoring well sampled in August 2016, with the exception of ethylbenzene at MW-205 (located approximately 50 feet from AMW-15 just east of the Norfolk Southern rail line). The ethylbenzene detection of 7µg/L is significantly below both the Type 2 RRS (700 µg/L) and the Type 4 RRS (2,300 µg/L).

Semivolatile Organic Compound Results

Naphthalene was the only SVOC detected above 20 µg/L (Type 2 and Type 4 RRS) in alluvium wells in August 2016. As shown on Figure B3-4,

the exceedances for naphthalene, like benzene, were in samples collected from AMW-14 (40 µg/L) and AMW-15 (28 µg/L).

Inorganic Compound Results

Unfiltered alluvial groundwater samples were analyzed for inorganic COI (Table B1-1). No inorganic COI concentrations were detected in excess of the Type 2 RRS or Type 4 RRS in samples collected during the August 2016 groundwater sampling event (Table B3-4). Due to the historical and current lack of detections of inorganic compounds in alluvial monitoring wells above applicable RRS (Appendix B-7), it is recommended the laboratory analysis for inorganic compounds be discontinued. If warranted, sampling for inorganic compounds may be reinitiated prior to submittal of the CSR.

3.6.2.2 Bedrock Groundwater Analytical Results

Analytical results for groundwater samples collected from bedrock monitoring wells were compared to Type 2 and 4 RRS, and are presented in Table B3-5.

Seventeen (17) bedrock monitoring wells were sampled during the semiannual August 2016 sampling event to meet the objectives outlined in the BGMP. MW-111D and MW-309D were not sampled due to the presence of DNAPL in the wells. A summary of DNAPL monitoring and recovery efforts at MW-111D and MW-309D completed during this reporting period are included in Section 3.2 of the *3rd Semiannual Progress Report*. MW-302D was not sampled due to the presence of trace DNAPL blebs adhering to sediment stuck to the tip of the interface probe after measuring the total depth of the well.

Volatile Organic Compound Results

During the August 2016 sampling event benzene was detected in groundwater above the Type 2 RRS (for monitoring wells located off-site and/or in a residential use area) or Type 4 RRS (for monitoring wells in the City ROW, on-site, or in an industrial use area) in samples collected from ten (10) bedrock monitoring wells:

Type 2 RRS (5 µg/L)
- MW-24D

Type 4 RRS (9 µg/L)

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

Benzene concentrations reported above laboratory detection limits ranged from 11 µg/L (MW-24D) to 22,000 µg/L (MW-305D) in August 2016. The distribution of benzene in bedrock wells sampled in August 2016 is shown on Figure B3-5. Benzene was the only BTEX analyte detected above its respective RRS in bedrock groundwater samples collected during the August 2016 sampling event, with the exception of toluene, which was detected at MW-305D (12,000 µg/L) above the Type 4 RRS (1,100 µg/L).

Semivolatile Organic Compound Results

The Type 2 and 4 RRS for naphthalene is 20 µg/L; therefore, the same RRS value is applied regardless of well location. Naphthalene was detected above 20 µg/L in samples collected from six (6) bedrock monitoring wells during the August 2016 sampling event:

- MW-110D
- MW-200DR
- MW-204D
- MW-205D
- MW-302DD
- MW-305D

Naphthalene was detected in MW-12DRR, MW-24D, MW-306D, and MW-307D at concentrations below 20 µg/L. Naphthalene concentrations ranged from 1.1 µg/L (MW-306D) to 9,600 µg/L (MW-305D) in August 2016. The distribution of naphthalene in bedrock wells sampled in August 2016 is shown on Figure B3-6. No other SVOCs were detected above their respective RRS in bedrock groundwater samples collected during the August 2016 sampling event.

Inorganic Compound Results

Unfiltered bedrock groundwater samples were analyzed for inorganic COI (Table B1-1). All inorganic COI were below Type 2 or Type 4 RRS during the August 2016 sampling event. (Table B3-5). Due to the historical and current lack of detections of inorganic compounds in bedrock monitoring wells above applicable RRS (Appendix B-7), it is recommended the laboratory analysis for inorganic compounds be discontinued. If warranted, sampling for inorganic compounds may be reinitiated prior to submittal of the CSR.

3.7 *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 B-5, and the data validation reports for VOC, SVOC, and inorganic data are included in Appendix B-6. 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 B-6, ERM performed a data validation review of sample order numbers 1608K90 and 1608M11 for the August 2016 event, which included the following parent and duplicate samples:

DUP-01-20160823-01	AMW-12-20160823-01
DUP-04-20160824-01	MW-400-20160824-01

ERM performed a data validation review of sample order numbers 1608K91 and 1608M11 for the August 2016 bedrock sampling event, which included the following parent and duplicate samples:

DUP-02-20160824-01	MW-110D-20160824-01
DUP-03-20160824-01	MW-205D-20160824-01

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

Two (2) alluvium and two (2) bedrock field duplicate samples were collected during the August 2016 sampling event (see above) to determine the precision of the groundwater sample analysis and collection. As shown in Appendix B-6, the duplicate sample results received from the laboratory correlated well with those from parent samples with the following exception:

- MW-400: cyanide

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

MS/MSD sample sets were collected in August 2016 as part of the laboratory analytical batch QC. MS/MSD samples are used to assess matrix interference and reliability of the analytical processes and equipment. The samples were collected from MW-14 and MW-301D. 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 four 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. Type 4 RRS apply to these wells.

- MW-101 is located adjacent former ISS mass on the MUDA property and historically has had impacts. All detected COI were significantly below Type 4 RRS. No COI have been detected above the Type 4 RRS in MW-101 since August 2015.

- MW-15 and MW-102 are located hydraulically downgradient of MW-101 along the property boundary. Both wells have historically had concentrations below detection limits for organic COI. No COI were detected in either well during the August 2016 sampling event above Type 4 RRS. No COI have been detected above the Type 4 RRS in MW-15 since sampling of the well began in 2001. No COI have been detected above the Type 4 RRS at MW-102 since 2002.

Results from August 2016 sampling event do not indicate that the alluvium groundwater plume on the MUDA property is currently migrating off the Type 5 property.

4.1.2 Collect Data Downgradient of the Footprint of Corrective Actions at the Western Portion MGP to Monitor Changes

Results from monitoring wells MW-08, MW-101, and MW-400 sampled in August 2016 were used to assess groundwater concentrations in wells downgradient of the newly completed ISS footprint. Type 4 RRS apply to these wells. No VOCs were detected in these wells in August 2016. No SVOCs were detected above Type 4 RRS in any of the three wells in August 2016.

4.1.3 *Monitor Alluvium Groundwater Data Hydraulically Downgradient of the Eastern Portion ISS Mass to Assess Whether Concentrations Remain Below RRS*

MW-12R, MW-14I, MW-21, MW-28 and MW-104 were sampled during the August 2016 sampling event to assess whether alluvium groundwater downgradient of the Eastern Portion ISS mass remains below Type 2 RRS (for MW-21 and MW-28) or Type 4 RRS (MW-12R, MW-14I and MW-104). No COI were detected at concentrations exceeding their respective RRS during the August 2016 sampling event at these wells. Furthermore, no organic COI have exceeded Type 2 or 4 RRS (as applicable based on well location) in any of the above alluvium monitoring wells since naphthalene was detected at a concentration MW-12R above the Type 4 RRS in February 2010.

4.1.4 *Detect Changes in Environmental Conditions*

The groundwater flow directions and seepage velocities for the August 2016 monitoring event were compared with previous results to identify any changes. The flow direction in the alluvium aquifer has historically been to the east. Alluvium groundwater flow during the August 2016 events were predominantly towards the east. The calculated horizontal hydraulic gradient for the alluvium was 0.0570 ft/ft at the Western Portion of the Site and 0.0124 ft/ft at the Eastern Portion of the Site during the August 2016 gauging event (Appendix B-4).

During the April 2016 sampling event, the calculated horizontal hydraulic gradient for the alluvium was between 0.0289 and 0.0388 ft/ft at the Western Portion of the Site and 0.0130 to 0.0146 ft/ft at the Eastern Portion of the Site. The alluvium groundwater gradients in the Eastern and Western portion of the site in August 2016 were consistent with those in April 2016. Compared to previous events, no significant variations in groundwater flow direction or calculated gradient are noted.

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

4.2 *BEDROCK GROUNDWATER*

4.2.1 *Perimeter Well Monitoring*

Data from perimeters wells (including MW-22D, MW-23D, MW-24D, MW-26D, and MW-27D) were evaluated to assess any changes in the nature and extent of the bedrock groundwater quality. Results from these wells do not indicate any changes to the bedrock aquifer, with the exception of MW-24D. As discussed in Section 2.3 of the *3rd Semiannual*

Progress Report, during this reporting period COI concentrations at MW-24D were monitored to evaluate whether COI concentration detections and fluctuations occurring since 2014 may be the result of bedrock aquifer disturbances (i.e., drilling and/or DNAPL recovery activities). The post-VEFR groundwater monitoring results from MW-24D indicate the potential for such disturbances occurring near the intersection of Walnut Street and 7th Street to destabilize the groundwater plume.

4.2.2 Monitor for DNAPL accumulation and DNAPL Recovery

The first vacuum enhanced fluid recovery (VEFR) event was performed in February 2011 to remove DNAPL in MW-111D. There have been subsequent events performed in September 2013 (MW-111D and MW-302D), May 2015 (MW-111D), August 2015 (MW-111D, MW-309D and SW-1), June 2016 (MW-111D, MW-309D and SW-1).DNAPL accumulation of greater than 0.5 feet (as stated in the VIRP) in any well will trigger a VEFR event. Each well is checked for DNAPL as part of the groundwater level gauging activities during groundwater sampling events. Results of monitoring activities at MW-111D, MW-302D and MW-309D, locations where DNAPL has primarily been observed (November 22, 2015 through August 22, 2016) are summarized below.

MW-302D

No DNAPL was observed during the February 2016 groundwater gauging event, nor during the April 2016 monitoring event; therefore, the well was not included in the June 2016 VEFR event. Trace DNAPL blebs were detected in sediments adhering to the tip of the interface probe after collecting the well total depth measurement in August 2016. Observations of minor blebs have been reported previously.

MW-111D

During the April 2016 event DNAPL was measured at a thickness of approximately 1.4 ft. The day of the June 2016 VEFR event DNAPL thickness was measured at 0.20 ft immediately prior to the event. DNAPL was not measured in the well immediately following the event. Approximately 1.25 ft of DNAPL was measured in MW-111D in August 2016.

MW-309D

During the April 2016 event, DNAPL was detected at MW-309D. Due to the density, conductivity and tarry nature of the DNAPL, thickness of the substance is difficult to measure. Immediately prior to the June 2016 VEFR event DNAPL was detected at a depth below top of well casing of approximately 38 feet, similar to the April 2016 measurement. Upon completion of the VEFR event, DNAPL was still detected at MW-309D at a depth of approximately 40 feet, indicating a potential thickness of up to 5

ft. Although the well was completed to a total depth of 45 ft below ground surface (ft bgs), the accumulation of DNAPL makes it difficult to reach the true bottom of the well. It is possible that repeated VEFR events conducted at MW-309D have caused the material surrounding the open corehole to collapse into the corehole, and that the material has become bridged or solidified by the tar-like DNAPL. In this manner, an accurate reading of the actual accumulation of DNAPL is unachievable. In addition, it appears the DNAPL/sediment has solidified, making recovery difficult.

4.2.3 *Detect Changes in Environmental Conditions*

The groundwater flow directions and seepage velocities for the August 2016 gauging event were compared with previous results to identify any changes. The flow direction in the bedrock aquifer has historically been to the east. Bedrock groundwater flow during the August 2016 event was predominantly towards the east. The calculated horizontal hydraulic gradient for the bedrock was 0.0209 ft/ft at the Western Portion of the Site and 0.0220 ft/ft at the Eastern Portion of the Site during the August 2016 gauging event (Appendix B-4).

During the August 2015 event, the calculated hydraulic gradient in the bedrock aquifer at the Western and Eastern Portions of the Site was 0.0352 ft/ft and 0.0211 ft/ft, respectively. The bedrock groundwater gradients in the Western portion of the Site in August 2016 were slightly lower than the during the August 2015 event while those in the Eastern portion were slightly higher. Compared to the 2015 event and other previous events, no significant variations in groundwater flow direction or calculated gradient are noted in the Eastern Portion or Western Portion.

COI concentrations in bedrock groundwater for the August 2016 event were compared with historical concentrations for consistency. 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*

Background monitoring well MW-26D continued to have no detections of organic COI. Background monitoring well MW-22D had no detections of organic COI except for phenanthrene (0.063 µg/L, just slightly above the detection limit of 0.050 µg/L and significantly below the Type 2 RRS of 470 µg/L). Perimeter monitoring well MW-27D had no detections of organic COI except for pyrene, which was detected at 0.17 µg/L, just

above the detection limit of 0.050 µg/L and significantly below the Type 2 RRS of 1,000 µg/L (which is also the Type 1 RRS). The low-level detections of phenanthrene at MW-22D and pyrene at MW-27D are not considered to be indicative of a new release or other source of contaminants to the environment as they are more likely due to increased precision in laboratory testing methods rather than representing a change in groundwater conditions.

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 for all potential qualifying properties, a visual inspection was performed during the August 2016 sampling event 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 is not expanding. COI impacts detected in monitoring wells are summarized below. Historical groundwater monitoring results are summarized in Appendix B-7 and concentration trend graphs for the bedrock wells with COI impacts are included in Appendix B-8.

Well	COI	Observations
MW-12DRR	Benzene, naphthalene	Benzene concentrations decreased from 460 µg/L in August 2013, to 340 µg/L in August 2014, to 250 µg/L in August 2015, to 96 µg/L in April 2016. Benzene was reported at a concentration of 220 µg/L in the August 2016 sample, which is slightly less than the concentration observed in August 2015. Overall, benzene concentrations demonstrate a decreasing trend. Naphthalene concentrations have steadily decreased from 1,400 µg/L in August 2013 to 8.9 µg/L in August 2016. The naphthalene reduction from 2013 to 2016 concentrations represents a reduction of 99%.
MW-12DD	Benzene, naphthalene	Monitor well MW-12DD is part of the annual sampling network and was not sampled in August 2016. Benzene from the April 2016 sampling event (15 µg/L) decreased from the February 2015 sampling event (44 µg/L). Benzene concentrations remain well below the historic high (1,800 µg/L, September 2002). The naphthalene concentration during the sampling event was below detection limits. Overall concentration trends for benzene and naphthalene appear to be decreasing.
MW-22D		Phenanthrene was detected in MW-22D at 0.063 µg/L, slightly above the laboratory detection limit of 0.050 µg/L. Historically, laboratory detection limits for phenanthrene have ranged from 0.050 µg/L to 10 µg/L, and phenanthrene has not been detected. The low concentration detected during the August 2016 event is an anomaly and likely a reflection of the precision of the laboratory analysis rather than a change in the plume extent, as the detection is very low, and no other COIs have been detected in the well. The well is located in a Type 4 area, where the phenanthrene RRS is 3,100 µg/L. The Type 2 RRS is 470 µg/L, so the detected concentration is also significantly below residential RRS.

Well	COI	Observations
MW-24D	Benzene, naphthalene	Prior to August 2014, benzene and naphthalene concentrations at MW-24D were predominantly non-detect, with occasional detections below the Type 2 RRS. Detections observed since August 2014 appear to be related to bedrock disturbances rather than resulting from groundwater flow under steady-state conditions. In this way, monitoring of MW-24D for the purpose of documenting attainment of remedial objectives is not appropriate. Monitoring of conditions at MW-24D will continue during the next reporting period in order to evaluate the duration of elevated COI concentrations following the June 2016 disturbance.
MW-27D		Pyrene was detected at MW-27D (located in a Type 4 area) at a concentration of 0.17 µg/L, compared to the laboratory detection limit of 0.050 µg/L and the Type 4 RRS of 3,100 µg/L. The low concentration detected during the August 2016 event is an anomaly and likely a reflection of the precision of the laboratory analysis rather than a change in the plume extent, as the detection is very low, and no other COIs have been detected in the well.
MW-110D	Benzene, naphthalene	Benzene concentrations in August 2016 (88 µg/L) were below the April 2016 concentration (96 µg/L) and are the lowest reported since well installation. Naphthalene concentrations have generally been decreasing. Although the August 2016 naphthalene concentration of 3,400 µg/L (duplicate sample) was an increase from the April 2016 concentration (1,600 µg/L), it represents a 50% reduction from the highest concentration of 6,800 µg/L (August 2010). MW-110D will be sampled during the February 2017 annual event and the concentration trends will continue to be evaluated.
MW-200DR	Benzene, naphthalene	Benzene concentrations in August 2106 (85 µg/L) increased compared to those in April 2016 (29 µg/L) and August 2015 (36 µg/L). Naphthalene concentrations in August 2016 (390 µg/L) increased compared to the previous four events when naphthalene was not detected, but remain well below the February 2013 concentration (2,300 µg/L). MW-200DR will be sampled during the February 2017 annual event as scheduled, and the concentration trends will continue to be evaluated.
MW-205D	Benzene, naphthalene	No observable trends. August 2016 COI concentrations are consistent with historical detections.

Well	COI	Observations
MW-206D, MW-207D	Benzene, naphthalene	Concentrations have been below detection limits since 2013 at MW-206D and MW-207D (five consecutive events). MW-206D and MW-207D were not sampled in August 2016 but will be sampled during the February 2017 annual event.
MW-301D	Benzene, naphthalene	Benzene was not detected in the sample collected in August 2016. Benzene concentrations show an overall decreasing trend from the historical high of 270 µg/L in April 2011. Naphthalene was not detected in the sample collected in August 2016. Although naphthalene concentrations increased in April 2016 (81 µg/L) compared to the 2015 events (below detection limits), the overall trend appears to be decreasing from the historical high in April 2012 (3,500 µg/L)
MW-302D	Benzene, naphthalene	MW-302D was not sampled in August 2016 due to the presence of sediment in the bottom of the well containing DNAPL blebs. Benzene and naphthalene concentrations during the April 2016 event were below detection limits and well below the benzene and naphthalene concentration highs of 550 µg/L and 300 µg/L, respectively in February 2014
MW-305D	Benzene, naphthalene	Benzene and naphthalene concentrations at MW-305D have fluctuated since installation in 2014, ranging from 3,700 µg/L (August 2015) to 22,000 µg/L (August 2016). The effects of bedrock groundwater disturbances in the vicinity of MW-305D are not known at this time.
MW-306D	Benzene, naphthalene	Benzene and naphthalene concentrations at MW-306D have decreased since well installation. The benzene concentration has decreased by approximately 80%, while naphthalene was not detected above the Type 4 RRS in the August 2016 sample.
MW-307D	Naphthalene	Benzene has not been detected at MW-307D since February 2014. Several COI are routinely detected (including naphthalene), however all detections are significantly less than the Type 4 RRS and none show an increasing trend.
MW-308D	Benzene	MW-308D is located in the western portion of the Site adjacent to the new ISS footprint. Benzene concentrations have been above the Type 4 RRS during the last three events. Additional data is needed to determine a trend for benzene. Naphthalene has only been detected at the well once (April 2016), at a concentration of 0.87 µg/L which is significantly below the RRS of 20 µg/L.

Monitoring of alluvium and bedrock groundwater monitoring wells at the Site will continue during the next reporting period. Based on the August 2016, revisions to the groundwater monitoring schedule are proposed for 2017 (Tables B1-2 and B1-3, respectively).

5.0 CONCLUSIONS AND RECOMMENDATIONS

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

5.1 ALLUVIUM

- The alluvium groundwater impacts on the MUDA property are not migrating off-site, and concentrations appears to be stable or decreasing.
- No VOCs were detected in any alluvium wells located upgradient, cross-gradient, or downgradient of the new ISS mass or the existing ISS mass, with the exception of AMW-14 and AMW-15. These wells are located in the City ROW, in an area that could not be addressed during the 2015-2016 excavation/ISS activities due to proximity to the Norfolk Southern rail line.

5.2 BEDROCK

- DNAPL was observed in MW-111D and MW-309D in April 2016 (during the previous reporting period). Subsequently, a VEFR event was conducted in June 2016 to recover DNAPL from those areas.
- No organic COI were detected in bedrock wells located at the hydraulically-downgradient periphery of the bedrock groundwater monitoring network during the August 2016 sampling event with the exception of a low concentration of pyrene at MW-27D. Pyrene was detected at a concentration of 0.17 µg/L, compared to the laboratory detection limit of 0.050 µg/L and the Type 1 RRS ([3,100 µg/L], which will be used to demonstrate compliance with VRP delineation requirements) of 1,000 µg/L. The well is located in a Type 4 area. .
- Bedrock groundwater concentration trends appear to be stable or decreasing in bedrock wells, with the exception of MW-24D, where concentrations have recently fluctuated. Evaluation of COI concentrations at MW-24D following the June 2016 VEFR and previous VEFR events indicates that the fluctuations may be caused by disturbances to steady-state, ambient flow conditions. Additional discussions of the observed fluctuations of COI concentrations observed at MW-24D since 2013, when numerous drilling and VEFR events were initiated near the intersection of

Walnut Street and 7th Street, are included in Section 2.3 of the *3rd Semiannual Progress Report*, to which this report is attached.

- Periphery monitoring wells MW-22D, MW-26D and MW-27D continue to have no detections for organic COI. The only exceptions are trace detections of phenanthrene (MW-22D) and pyrene (MW-27D), but they do not exceed any residential or non-residential RRS.

5.3 GENERAL SITE CONDITIONS

- The bedrock groundwater gradients in the Western portion of the site in August 2016 were slightly lower than the during the August 2015 event while those in the Eastern portion were slightly higher. The hydraulic gradient will continue to be monitored to assess whether corrective actions (ISS and regrading of the Site) have had any effect on the hydraulic gradient. No other 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 August 2016. Detections were consistent with historical results at the Site.
- 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 August 2016 sampling event for the existence of private wells. No evidence of private wells or shallow groundwater use were observed on these properties.

5.4 RECOMMENDATIONS

- Due to the observed bedrock disturbances disrupting steady-state conditions in the bedrock aquifer, no VEFR events or bedrock monitoring well installation activities are proposed.
- The next sampling event will include the alluvium and bedrock groundwater well network as proposed in Table B1-2 and Table B1-3. A reduction in sampling frequency is proposed for three (3) alluvium and four (4) bedrock wells. The reductions are proposed because the existing data set for each well is considered sufficiently robust to identify changes to groundwater quality at the Site by collecting samples annually instead of semiannually.

- Due to the historical and current lack of detections of inorganic compounds in alluvial and bedrock monitoring wells above applicable RRS (Appendix B-7), it is recommended the laboratory analysis for inorganic compounds be discontinued. If warranted, sampling for inorganic compounds may be reinitiated prior to submittal of the CSR.

The next sampling event is scheduled for February 2017 (annual groundwater event). At a minimum, samples will be collected from the wells indicated as part of the annual schedule in Tables B1-2 and B1-3; if warranted based on the annual groundwater results, groundwater monitoring wells proposed for annual sampling only (i.e., only February events) may be sampled again in August 2017. Further, groundwater flow modeling and fate and transport modeling will begin in late 2016/early 2017. Additional groundwater quality data may be collected during the next reporting period as needed to satisfy model requirements.

EPD will be contacted prior to implementation of the February 2017 (annual) groundwater sampling event to verify that the proposed changes to the groundwater monitoring schedule are acceptable.

6.0 REFERENCES

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Tables

Project No. 0366660
Atlanta Gas Light Company

Environmental Resources Management Southeast, Inc.
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Table B1-1
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 Ethylbenzene Toluene Total Xylenes Carbon Disulfide	Acenaphthene Acenaphthylene Anthracene Benzo[a]anthracene Benzo[a]pyrene Benzo[b]fluoranthene Benzo[g,h,i]perylene Benzo[k]fluoranthene Chrysene Dibenz(a,h)anthracene 2,4-Dimehylphenol Fluoranthene Fluorene Indeno[1,2,3-cd]pyrene 2-Methylphenol 3 & 4 Methylphenol Naphthalene Phenanthrene Phenol Pyrene	Antimony Arsenic Barium Beryllium Cadmium Chromium Copper Lead Nickel Zinc **EPA-9012A** Cyanide (Total) **EPA-7470A** Mercury

Table B1-2
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	Previously Proposed Sampling Schedule	Wells Sampled During Expanded August 2016 Semiannual Event	Proposed 2017 Sampling Schedule	Rationale for Change
AMW-2	Alluvium	4.6 - 14.6	Annual	X	Annual	---
AMW-6	Alluvium	11 - 21	Semiannual	X	Semiannual	---
AMW-11	Alluvium	5 - 15	Annual	X	Annual	---
AMW-12	Alluvium	10 - 20	Annual	X	Annual	---
AMW-13	Alluvium	10 - 20	Annual	X	Annual	---
AMW-14	Alluvium	5 - 20	Annual	X	Annual	---
AMW-15	Alluvium	6 - 21	Annual	X	Annual	---
MW-07	Alluvium	5 - 15.5	Gauge Only	Gauged Only	Gauge Only	---
MW-08	Alluvium	9 - 19	Annual	X	Annual	---
MW-10	Alluvium	7.5 - 17.5	Gauge Only	X	Gauge Only	---
MW-11	Alluvium	5 - 12	Gauge Only	Gauged Only	Gauge Only	---
MW-12R	Alluvium	4.5 - 14.5	Annual	X	Annual	---
MW-12IR	Intermediate	11 - 21	Annual	X	Annual	---
MW-14	Alluvium	3 - 15	Annual	X	Annual	---
MW-14I	Intermediate	19 - 24	Annual	X	Annual	---
MW-15	Alluvium	3 - 14.5	Semiannual	X	Annual	No indication of migration off MUDA property
MW-21	Alluvium	3 -10	Annual	X	Annual	---
MW-23	Alluvium	5 - 20	Gauge Only	Gauged Only	Gauge Only	---
MW-26	Alluvium	5 - 20	Gauge Only	X	Gauge Only	---
MW-28	Alluvium	2 - 17	Gauge Only	X	Gauge Only	---
MW-101	Alluvium	5 - 15	Semiannual	X	Annual	COI concentrations show stable or decreasing trends; no COI above RRS
MW-102	Alluvium	5 - 10	Semiannual	X	Annual	No indication of migration off MUDA property
MW-103	Alluvium	10 - 20	Annual	X	Annual	---
MW-104	Alluvium	5 - 20	Annual	X	Annual	---
MW-104I	Intermediate	15 - 20	Gauge Only	Gauged Only	Gauge Only	---
MW-105	Alluvium	15 - 25	Gauge Only	Gauged Only	Gauge Only	---
MW-106	Alluvium	9 - 19	Gauge Only	X	Gauge Only	---
MW-107	Alluvium	8 - 18	Gauge Only	Gauged Only	Gauge Only	---
MW-108	Alluvium	10 - 20	Semiannual	X	Semiannual	---
MW-109	Alluvium	13.5 - 23.5	Annual	X	Annual	---
MW-205	Alluvium	14 - 29	Semiannual	X	Semiannual	---
MW-400	Alluvium	6 - 16	Semiannual	X	Semiannual	---
MW-401	Alluvium	6 - 16	Annual	X	Annual	---

Groundwater sampling is completed in February (Annual and Semiannual Wells) and August (Semiannual Wells 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 B1-3
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	Previously Proposed Sampling Schedule	Wells Sampled During Expanded August 2016 Semiannual Event	Proposed 2017 Sampling Schedule	Rationale for Change
MW-08D	Shallow Bedrock	38 - 53.5	Gauge only	Gauged only	Gauge only	---
MW-12DRR	Shallow Bedrock	37 - 52	Semiannual	X	Semiannual	---
MW-12DD	Deep Bedrock	87 - 97	Annual	Gauged only	Annual	---
MW-22D	Shallow Bedrock	44 - 66	Annual	X	Annual	---
MW-23D	Shallow Bedrock	23 - 36	Semiannual	X	Annual	---
MW-24D	Shallow Bedrock	30.5 - 40.5	Semiannual	X	Semiannual	---
MW-26D	Shallow Bedrock	31 - 42	Annual	X	Annual	---
MW-27D	Shallow Bedrock	43.5 - 48.5	Annual	X	Annual	---
MW-27DD	Deep Bedrock	105 - 115	Gauge only	Gauged only	Gauge only	---
MW-108D	Shallow Bedrock	48.5 - 58.5	Annual	Gauged only	Annual	---
MW-110D	Shallow Bedrock	28 - 43	Semiannual	X	Annual	COI Trends Appear to be Stable or Decreasing
MW-111D	Shallow Bedrock	33 - 46.5	Semiannual	Gauged only (DNAPL)	Semiannual	---
MW-112D	Shallow Bedrock	26 - 36	Annual	Gauged only	Annual	---
MW-113D	Shallow Bedrock	29.5 - 39.5	Annual	Gauged only	Annual	---
MW-114D	Shallow Bedrock	45 - 55	Gauge only	Gauged only	Gauge only	---
MW-200DR	Shallow Bedrock	29.5 - 39.5	Semiannual	X	Semiannual	---
MW-204D	Shallow Bedrock	30.5 - 45.5	Semiannual	X	Semiannual	---
MW-205D	Shallow Bedrock	28 - 43	Semiannual	X	Semiannual	---
MW-205DD	Deep Bedrock	90 - 100	Semiannual	X	Annual	No COI detected since 2013
MW-206D	Shallow Bedrock	31 - 46	Annual	Gauged only	Annual	---
MW-207D	Shallow Bedrock	34 - 46.5	Annual	Gauged only	Annual	---
MW-300D	Shallow Bedrock	33 - 43	Annual	Gauged only	Annual	---
MW-301D	Shallow Bedrock	36 - 46	Semiannual	X	Annual	COI Trends Appear to be Stable or Decreasing
MW-302D	Shallow Bedrock	35 - 45	Semiannual	Gauged only*	Semiannual	---
MW-302DD	Deep Bedrock	70 - 100	Semiannual	X	Semiannual	---
MW-304D	Shallow Bedrock	41 - 61	Annual	Gauged only	Annual	---
MW-305D	Shallow Bedrock	34.5 - 41.5	Semiannual	X	Semiannual	---
MW-306D	Shallow Bedrock	32.5 - 51	Semiannual	X	Semiannual	---
MW-307D	Shallow Bedrock	34 - 58	Semiannual	X	Annual	COI Trends Appear to be Stable or Decreasing
MW-308D	Shallow Bedrock	72 - 110	Semiannual	X	Semiannual	---
MW-309D	Shallow Bedrock	35 - 45	Semiannual	Gauged only (DNAPL)	Semiannual	---

Groundwater sampling is completed in February (Annual and Semiannual Wells) and August (Semiannual Wells Only)
* Minor DNAPL blebs adhering to sediment observed on tip of interface probe after total depth measurement

Table B3-1
Depths to Water and Groundwater Elevations
Alluvium Monitoring Wells
August 22, 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Monitoring Well	Top of Casing Elevation (ft AMSL)	Depth to Water, August 22, 2016 (ft BTOC)	Groundwater Elevation August 22, 2016 (ft AMSL)	NAPL Thickness (Description) (ft)
AMW-2	320.80	7.80	313.00	--
AMW-6	326.42	13.95	312.47	--
AMW-11	324.10	10.79	313.31	--
AMW-12	322.56	12.32	310.24	--
AMW-13	328.65	14.40	314.25	--
AMW-14	326.28	12.02	314.26	--
AMW-15	325.42	11.89	313.53	--
MW-07	303.22	10.31	292.91	--
MW-08	307.43	14.19	293.24	--
MW-10	306.57	9.64	296.93	--
MW-11	299.45	4.03	295.42	--
MW-12R	297.11	5.27	291.84	--
MW-12IR	297.08	9.40	287.68	--
MW-14	295.28	7.08	288.20	--
MW-14I	295.04	8.01	287.03	--
MW-15	300.31	7.82	292.49	--
MW-21	293.79	8.25	285.54	--
MW-23	292.54	CNL	NM	--
MW-26	287.53	1.68	285.85	--
MW-28	288.07	3.19	284.88	--
MW-101	307.10	13.72	293.38	--
MW-102	301.52	10.52	291.00	--
MW-103	312.91	15.81	297.10	--
MW-104	295.78	7.72	288.06	--
MW-104I	295.72	8.33	287.39	--
MW-105	302.73	6.19	296.54	--
MW-106	310.95	13.95	297.00	--
MW-107	307.16	10.35	296.81	--
MW-108*	318.25	8.51	309.74	--
MW-109	314.07	8.75	305.32	--
MW-205	321.32	7.78	313.54	--
MW-400	307.99	14.86	293.13	--
MW-401	306.48	13.58	292.90	--

Notes:

ft AMSL - feet Above Mean Sea Level

ft BTOC - feet Below Top of Casing

All depths to water are listed in feet below top of casing (ft BTOC).

All casing and groundwater elevations are listed in feet above mean sea level (ft AMSL).

CNL - Could not locate

NM - Not Measured

* MW-108 covered by debris and could not be located on August 22, 2016. Groundwater level collected on August 24, 2016 after second attempt to locate well was successful

Table B3-2
Depths to Water and Groundwater Elevations
Bedrock Monitoring Wells
August 22, 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Monitoring Well	Top of Casing Elevation (ft AMSL)	Depth to Water August 22, 2016 (ft BTOC)	Groundwater Elevation August 22, 2016 (ft AMSL)	DNAPL Thickness / Description (ft)
MW-08D	307.52	13.31	294.21	--
MW-12DRR	299.71	11.16	288.55	--
MW-12DD	297.02	16.90	280.12	--
MW-22D	296.74	13.20	283.54	--
MW-23D	292.13	11.27	280.86	--
MW-24D	292.30	6.50	285.80	--
MW-26D	287.57	2.18	285.39	--
MW-27D	288.48	10.79	277.69	--
MW-27DD	288.65	10.95	277.70	--
MW-108D	318.30	13.86	304.44	--
MW-110D	295.97	8.65	287.32	--
MW-111D	295.78	8.39	287.39	1.25
MW-112D	289.70	6.38	283.32	--
MW-113D	293.80	9.37	284.43	--
MW-114D	298.10	9.45	288.65	--
MW-200DR	295.27	7.45	287.82	--
MW-204D	296.30	8.89	287.41	--
MW-205D	295.40	8.08	287.32	--
MW-205DD	294.58	16.96	277.62	--
MW-206D	295.70	8.20	287.50	--
MW-207D	296.10	8.12	287.98	--
MW-300D	301.02	5.25	295.77	--
MW-301D	305.76	10.40	295.36	--
MW-302D	301.93	15.15	286.78	Trace DNAPL blebs on probe tip
MW-302DD	301.79	24.57	277.22	--
MW-304D	303.55	17.78	285.77	--
MW-305D	297.22	16.70	280.52	--
MW-306D	293.93	7.44	286.49	--
MW-307D	295.15	9.31	285.84	--
MW-308D	324.70	20.17	304.53	--
MW-309D	298.04	11.09	286.95	1.5 - 7

Notes:

ft AMSL - feet Above Mean Sea Level

ft BTOC - feet Below Top of Casing

All depths to water are listed in feet below top of casing (ft BTOC).

All casing and groundwater elevations are listed in feet above mean sea level (ft AMSL).

DNAPL - Dense Non-Aqueous Phase Liquid

Table B3-3
Seepage Velocity Calculations - Alluvium
Atlanta Gas Light Company
Former Manufactured Gas Plant Site

Hydrogeologic Unit	Portion of Site	Hydraulic Conductivity (ft/day)	Porosity (unitless)	August 22, 2016		Monitoring wells used for gradient calculation
				Gradient	Velocity (ft/day)	
Alluvium*	Western	4.75	2.50E-01	5.70E-02	1.08E+00	MW-109 and MW-08
Alluvium*	Eastern	4.75	2.50E-01	1.24E-02	2.36E-01	MW-101 and MW-28

i=horizontal hydraulic gradient (Gradient)
n=porosity

Vs=Ki/n
where:
Vs=seepage velocity (Velocity)
K=hydraulic conductivity
i=horizontal hydraulic gradient (Gradient)
n=porosity

Table B3-3
Seepage Velocity Calculations - Bedrock
Atlanta Gas Light Company
Former Manufactured Gas Plant Site

Hydrogeologic Unit	Portion of Site	Hydraulic Conductivity (ft/day)	Porosity (unitless)	August 2016		Monitoring wells used for gradient calculation
				Gradient	Velocity (ft/day)	
Bedrock*	Western	1.37	1.42E-02	2.09E-02	2.02E+00	MW-08D; MW-300D; and MW-308D
Bedrock*	Western	1.37	6.00E-01	2.09E-02	4.79E-02	MW-08D; MW-300D; and MW-308D
Bedrock*	Western	2.58	1.42E-02	2.09E-02	3.79E+00	MW-08D; MW-300D; and MW-308D
Bedrock*	Western	2.58	6.00E-01	2.09E-02	8.97E-02	MW-08D; MW-300D; and MW-308D
Bedrock*	Eastern	1.37	1.42E-02	2.20E-02	2.13E+00	MW-08D; MW-112D; MW-300D
Bedrock*	Eastern	1.37	6.00E-01	2.20E-02	5.04E-02	MW-08D; MW-112D; MW-300D
Bedrock*	Eastern	2.58	1.42E-02	2.20E-02	3.99E+00	MW-08D; MW-112D; MW-300D
Bedrock*	Eastern	2.58	6.00E-01	2.20E-02	9.44E-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 B3-4
Alluvium Groundwater Analytical Results
August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	AMW-2	AMW-6	AMW-11	AMW-12		AMW-13	AMW-14	AMW-15	MW-08	MW-10	MW-12R	MW-12IR	MW-14	MW-14I	MW-15	MW-21	MW-26	MW-28	MW-101	MW-102	MW-103	MW-104	MW-106	MW-108	MW-109	MW-205	MW-400		MW-401
		Applicable RRS		08/23/16	08/22/16	08/22/16	08/23/16	DUP-01	08/23/16	08/23/16	08/24/16	08/25/16	08/24/16	08/24/16	08/24/16	08/24/16	08/25/16	08/25/16	08/25/16	08/23/16	08/24/16	08/25/16	08/25/16	08/24/16	08/25/16	08/24/16	08/24/16	08/24/16	08/24/16	08/24/16	DUP-04	08/24/16
				Type 4	Type 4	Type 4	Type 4		Type 4	Type 4	Type 4	Type 4	Type 4	Type 4	Type 4	Type 2	Type 2	Type 4	Type 2	Type 2	Type 2	Type 4	Type 4	Type 4	Type 4	Type 4	Type 4	Type 4	Type 4	Type 4		Type 4
Groundwater Elevation	ft. AMSL	N/A	N/A	313.00	312.47	313.31	310.24		314.25	314.26	313.53	293.24	296.93	291.84	287.68	288.20	287.03	292.49	285.54	285.85	284.88	293.38	291.00	297.10	288.06	297.00	309.74*	305.32	313.54	293.13		292.90
Field Groundwater Quality Parameters																															
pH	SU	N/A	N/A	6.24	5.66	6.04	5.60		5.53	6.01	5.70	5.73	5.83	4.03	5.60	6.13	6.24	5.68	5.96	6.01	6.07	5.94	5.72	5.03	5.40	5.69	6.11	5.08	5.80	5.53		5.73
Specific Conductance	mS/cm	N/A	N/A	258.2	527.5	625.1	373.4		341.9	318.4	185.5	240.2	325.9	674.6	613.2	236.8	514.8	811.3	160.2	283.7	257.5	370.8	876.0	83.2	181.8	450.2	469.0	172.5	65.3	817.2		201.2
Temperature	°Celsius	N/A	N/A	31.28	28.57	30.86	25.53		26.88	28.35	26.88	25.60	26.56	24.29	22.28	24.99	24.83	26.16	23.20	22.81	33.48	26.25	25.40	25.60	28.60	24.40	23.55	29.53	31.13	30.62		25.01
Dissolved Oxygen (YSI)	mg/L	N/A	N/A	0.43	0.21	0.23	1.94		0.70	0.31	0.61	0.79	0.09	0.14	0.10	0.74	0.19	0.24	3.06	0.18	0.14	0.38	0.42	1.12	0.43	0.83	0.28	0.21	0.14	3.81		0.27
Oxidation-Reduction Potential (ORP)	mV	N/A	N/A	-22.0	176.7	99.1	189.5		435.7	-13.7	29.9	29.0	20.7	228.3	59.2	64.8	-27.7	24.1	-12.0	21.0	-61.6	21.4	94.1	263.3	171.1	419.6	-36.6	134.4	5.8	151.5		48.4
Turbidity	NTU	N/A	N/A	4.45	1.51	3.01	7.80		9.85	7.70	41.30	0.76	1.44	2.15	7.50	4.01	2.89	3.40	9.90	5.25	1.31	6.43	1.60	2.11	8.27	1.27	7.15	0.66	12.70	1.38		8.19
Organic Constituents																															
Volatile Organic Compounds																															
Benzene	µg/L	5*	9	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**63**	**120**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<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	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	<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	**110**	**28**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**7.0**	<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	**11**	**7**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<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	<5.0	<5.0	**100**	**27**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<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	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**2.4**	**15**	<0.50	<0.50	<0.50	**6.8**	<0.50	**4.1**	<0.50	<0.50	<0.50	<0.50	**4.1**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**9.1**	<0.50	0.52	<0.50
Acenaphthylene	µg/L	470	3,100	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**2.5**	**4.2**	<1.0	<1.0	<1.0	**4.4**	<1.0	**4.0**	<1.0	<1.0	<1.0	<1.0	**1.4**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	µg/L	4,700	31,000	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**2.6**	**0.81**	<0.050	<0.050	**0.16**	**0.43**	<0.050	**0.12**	**0.14**	<0.050	<0.050	<0.050	**0.43**	<0.050	<0.050	<0.050	**0.062**	**0.23**	<0.050	**0.62**	**0.14**	**0.17**	0.093
Benzo[a]anthracene	µg/L	1.17	3.92	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.07**	<0.050	<0.050	<0.050	<0.050	**0.60**	<0.050	<0.050	**0.13**	<0.050	<0.050	<0.050	<0.050	0.069	<0.050	<0.050	<0.050	<0.050	<0.050	**0.12**	<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	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.072**	<0.050	**0.14**	**0.14**	<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	**0.12**	<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	<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	**0.16**	<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[k]fluoranthene	µg/L	11.7	39.2	<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	**0.14**	<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
Chrysene	µg/L	117	392	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.41**	<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	**0.11**	<0.050	<0.050	<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	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<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	**0.13**	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Fluoranthene	µg/L	1,000*	4,100	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**0.98**	**0.44**	<0.10	<0.10	<0.10	**7.5**	<0.10	**0.38**	<0.10	<0.10	<0.10	<0.10	**0.73**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**1.1**	<0.10	<0.10	<0.10
Fluorene	µg/L	1,000*	4,100	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**1.1**	**5.4**	<0.10	<0.10	<0.10	**9.5**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	**2.1**	<0.10	<0.10	<0.10	<0.10	**0.11**	<0.10	**4.6**	**0.19**	**0.21**	<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	**1.9**	**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
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	<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	<10	<10	<10	<10	<10	<10	<10
Naphthalene	µg/L	20*	20*	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**40**	**28**	<0.50	<0.50	**1.1**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**4.1**	<0.50	**10**	<0.50	<0.50	<0.50
Phenanthrene	µg/L	470	3,100	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**2.8**	**8.0**	<0.050	<0.050	<0.050	**0.36**	<0.050	**0.051**	<0.050	<0.050	<0.050	**0.053**	**0.062**	<0.050	<0.050	<0.050	<0.050	**0.064**	<0.050	**2.1**	<0.050	<0.050	<0.050
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	<10	<10	<10	<10	<10	<10	<10
Pyrene	µg/L	1,000*	3,100	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.99**	**0.39**	**0.16**	<0.050	**1.2**	**8.7**	<0.050	**0.84**	**0.055**	<0.050	<0.050	<0.050	**0.51**	<0.050	<0.050	<0.050	**0.47**	**0.30**	<0.050	**1.2**	**0.13**	**0.13**	**1.0**
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	<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	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500
Barium	mg/L	2	7.2	**0.104**	**0.0393**	**0.0474**	**0.0388**	**0.0397**	**0.045**	**0.201**	**0.164**	**0.0595**	**0.0608**	<0.0200	<0.0200	**0.159**	**0.112**	**0.0317**	**0.158**	**0.0487**	**0.0807**	**0.0394**	**0.129**	**0.0383**	**0.0361**	**0.0349**	**0.0393**	**0.0823**	**0.0219**	**0.068**	**0.0676**	**0.122**
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	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
Cadmium	mg/L	0.0078	0.051	0.0053	<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	0.0055	<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	0.232	0.0384	0.0392	<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	<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	0.0143	<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	<0.0100	<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	<0.0200	<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	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200
Zinc	mg/L	4.7	31	0.0663	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	0.0432	<0.0200	0.0239	0.134	<0.0200	<0.0200	<0.0200	0.304	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	0.0323	0.145	0.147	0.166
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	<0.00020	<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	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.088	0.035	<0.010	<0.010	0.141	<0.010	<0.010	<0.010	0.066	0.247	<0.010	<0.010	0.072	<0.010	<0.010	<0.010	0.288	0.167	<0.010

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 2 RRS
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
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
* MW-108 was covered by debris and could not be located during the intial groundwater level gauging event on August 22, 2016. The well was located on August 24, 2016, and the groundlevel level was collected at that time.
SU - Stamdard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Table B3-5
Bedrock Groundwater Analytical Results
August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

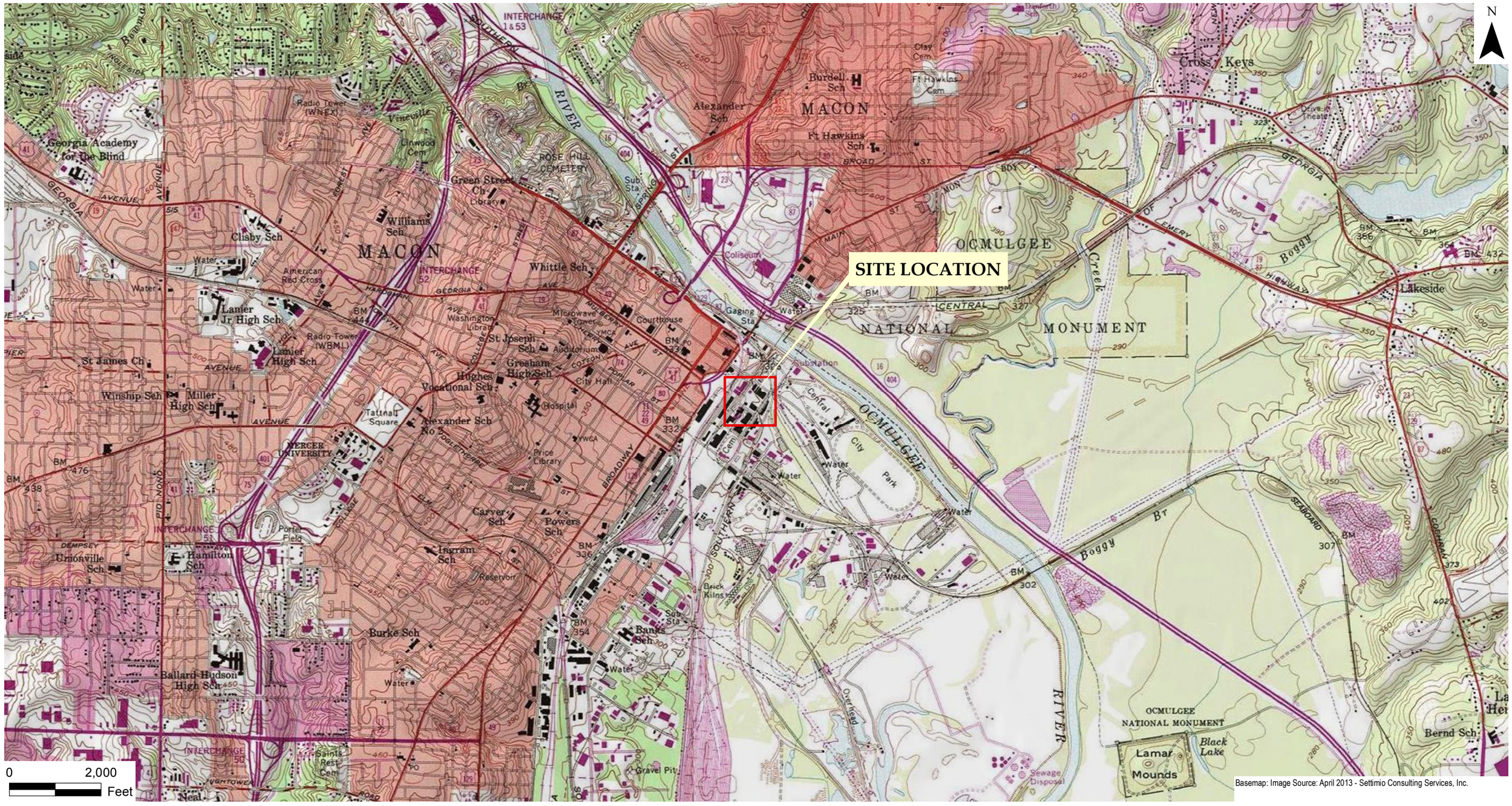
Parameter	Units	Type 2 RRS	Type 4 RRS	MW-12DRR	MW-22D	MW-23D	MW-24D	MW-26D	MW-27D	MW-110D		MW-200DR	MW-204D	MW-205D		MW-205DD	MW-301D	MW-302DD	MW-305D	MW-306D	MW-307D	MW-308D
		Applicable RRS		08/22/16	08/23/16	08/22/16	08/22/16	08/23/16	08/23/16	08/24/16	DUP-02	08/23/16	08/24/16	08/24/16	DUP03	08/24/16	08/23/16	08/24/16	08/25/16	08/23/16	08/23/16	08/23/16
				Type 4	Type 4	Type 4	Type 2	Type 2	Type 4	Type 4		Type 4	Type 4	Type 4		Type 4	Type 4	Type 4	Type 4	Type 4	Type 4	Type 4
Groundwater Elevation	ft. AMSL	N/A	N/A	288.55	283.54	280.86	285.80	285.39	277.69	287.32		287.82	287.41	287.32		277.62	295.36	277.22	280.52	286.49	285.84	304.53
Field Groundwater Quality Parameters																						
pH	SU	N/A	N/A	6.34	6.74	6.04	6.43	11.70	6.26	6.22		6.49	6.38	6.54		9.29	6.12	7.49	12.13	11.57	12.22	4.01
Specific Conductance	Ms/CM	N/A	N/A	399.0	372.2	381.1	137.7	1903.9	209.8	0.6		536.3	502.0	727.0		296.9	352.7	677.3	648.7	2094.7	835.6	416.2
Temperature	°Celsius	N/A	N/A	26.70	27.00	29.10	23.80	25.40	22.00	25.20		26.51	26.28	26.10		28.17	27.77	23.42	26.70	30.70	28.70	29.66
Dissolved Oxygen (YSI)	mg/L	N/A	N/A	0.16	0.73	0.70	0.20	0.40	1.00	0.44		0.24	0.41	0.53		2.83	0.20	0.29	0.76	5.70	2.74	4.01
Oxidation-Reduction Potential (ORP)	mV	N/A	N/A	-107.9	-81.5	-7.1	-109.6	-70.6	38.6	-69.1		-114.4	-52.3	-75.3		55.6	-47.9	-296.3	-105.2	10.7	-96.7	-32.5
Turbidity	NTU	N/A	N/A	0.5	8.3	7.0	1.5	1.6	4.2	9.4		1.4	0.5	0.9		1.0	3.6	6.8	5.4	0.9	3.4	3.7
Organic Constituents																						
Volatile Organic Compounds																						
Benzene	µg/L	5*	9	**220**	<5.0	<5.0	**11**	<5.0	<5.0	**86**	**88**	**85**	**460**	**5,200**	**5,400**	<5.0	<5.0	**24**	**22,000**	**190**	<5.0	**13**
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	<250	<5.0	<5.0	<5.0	<5.0	<250	<5.0	<5.0	<5.0
Ethylbenzene	µg/L	700*	2,300	**76**	<5.0	<5.0	**5.2**	<5.0	<5.0	**280**	**240**	**40**	**310**	**930**	**930**	<5.0	<5.0	**33**	**770**	**23**	<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	<250	**7.6**	<5.0	<5.0	<5.0	**12,000**	**7.2**	<5.0	<5.0
Total Xylenes	µg/L	31,000	200,000	**48**	<5.0	<5.0	<5.0	<5.0	<5.0	**5.2**	<5.0	**8.0**	**19**	**410**	**430**	<5.0	<5.0	**6.8**	**3,000**	**18**	<5.0	<5.0
Semivolatile Organic Compounds																						
Acenaphthene	µg/L	2,000*	6,100	**10**	<0.50	<0.50	**1.7**	<0.50	<0.50	**80**	**80**	**24**	**57**	**150**	**130**	<0.50	**0.97**	**1.4**	**13**	**7.2**	**1.3**	<0.50
Acenaphthylene	µg/L	470	3,100	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**2.7**	**3.0**	**26**	**2.6**	**1.7**	**1.7**	<1.0	<1.0	**1.2**	**200**	<1.0	<1.0	<1.0
Anthracene	µg/L	4,700	31,000	**0.65**	<0.050	<0.050	**0.19**	<0.050	<0.050	**8.3**	**8.9**	**3.6**	**3.5**	**6.1**	**5.9**	**0.055**	**0.16**	**0.066**	**7.9**	**0.21**	**0.29**	<0.050
Benzo[a]anthracene	µg/L	1.17	3.92	**0.16**	<0.050	<0.050	<0.050	<0.050	<0.050	**0.30**	**0.31**	**0.080**	**0.14**	**<0.050**	**<0.050**	<0.050	<0.050	<0.050	**0.21**	<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	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.092**	<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
Benzo[g,h,i]perylene	µg/L	10	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	**0.15**	<0.10	<0.10	<0.10
Benzo[k]fluoranthene	µg/L	11.7	39.2	<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
Chrysene	µg/L	117	392	**0.13**	<0.050	<0.050	<0.050	<0.050	<0.050	**0.25**	**0.27**	**0.056**	**0.11**	<0.050	<0.050	<0.050	<0.050	<0.050	**0.16**	<0.050	<0.050	<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	**0.18**	<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
Fluoranthene	µg/L	1,000*	4,100	**3.6**	<0.10	<0.10	<0.10	<0.10	<0.10	**6.3**	**6.6**	**1.3**	**3.8**	**1.5**	**1.6**	<0.10	<0.10	<0.10	**4.1**	**0.16**	**0.30**	<0.10
Fluorene	µg/L	1,000*	4,100	**14**	<0.10	<0.10	**0.27**	<0.10	<0.10	**28**	**26**	**12**	**21**	**39**	**33**	<0.10	**0.77**	**0.77**	**46**	**1.8**	**0.53**	<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	**0.12**	<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
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
Naphthalene	µg/L	20*	20*	**8.9**	<0.50	<0.50	**14**	<0.50	<0.50	**3,100**	**3,400**	**390**	**2,300**	**6,400**	**6,200**	<0.50	<0.50	**22**	**9,600**	**1.1**	**3.2**	<0.50
Phenanthrene	µg/L	470	3,100	**0.66**	**0.063**	<0.050	**0.21**	<0.050	<0.050	**50**	**48**	**27**	**22**	**39**	**34**	<0.050	<0.050	**0.13**	**52**	**1.5**	**2.7**	<0.050
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
Pyrene	µg/L	1,000*	3,100	**3.7**	<0.050	<0.050	<0.050	<0.050	**0.17**	**7.9**	**8.2**	**1.3**	**4.2**	**1.6**	**1.7**	<0.050	**0.91**	**0.12**	**5.1**	**0.19**	**0.35**	<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	**1.10**	**1.12**	**0.0655**	**1.10**	**1.34**	**0.934**	**3.51**	**2.90**	**1.27**	**4.70**	**3.15**	**3.08**	**0.0309**	**0.0502**	**0.808**	**0.606**	**0.109**	**1.21**	**0.22**
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	**0.0197**	**0.0285**	**0.0722**	**0.0365**
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	**0.0144**	<0.0100	<0.0100	**0.0176**	**0.0300**	**0.0106**	<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	<0.0100	<0.0100
Nickel	mg/L	0.1	2	<0.0200	**0.0454**	<0.0200	<0.0200	<0.0200	**0.0375**	**0.122**	**0.120**	**0.0616**	**0.0830**	**0.0731**	**0.0684**	<0.0200	<0.0200	**0.0361**	<0.0200	**0.0288**	<0.0200	<0.0200
Zinc	mg/L	4.7	31	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<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	<0.00020
Total Cyanide	mg/L	0.31	2	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	**0.014**	**0.012**	<0.010	**0.029**	**0.026**	**0.027**	<0.010	<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 2 RRS
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
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Stamdard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Figures

Project No. 0366660
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

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DATE:	10/14/2016	SCALE:	AS SHOWN	REVISION:	0
FILE:	S:\0366660 - AGL_Macon\Figures\AGL_Macon\MXD\2016 10 3rdVRPPrgRpt\ApxB_GWRptAug2016\Mcn_ApxB_1-1Topo.mxd				

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

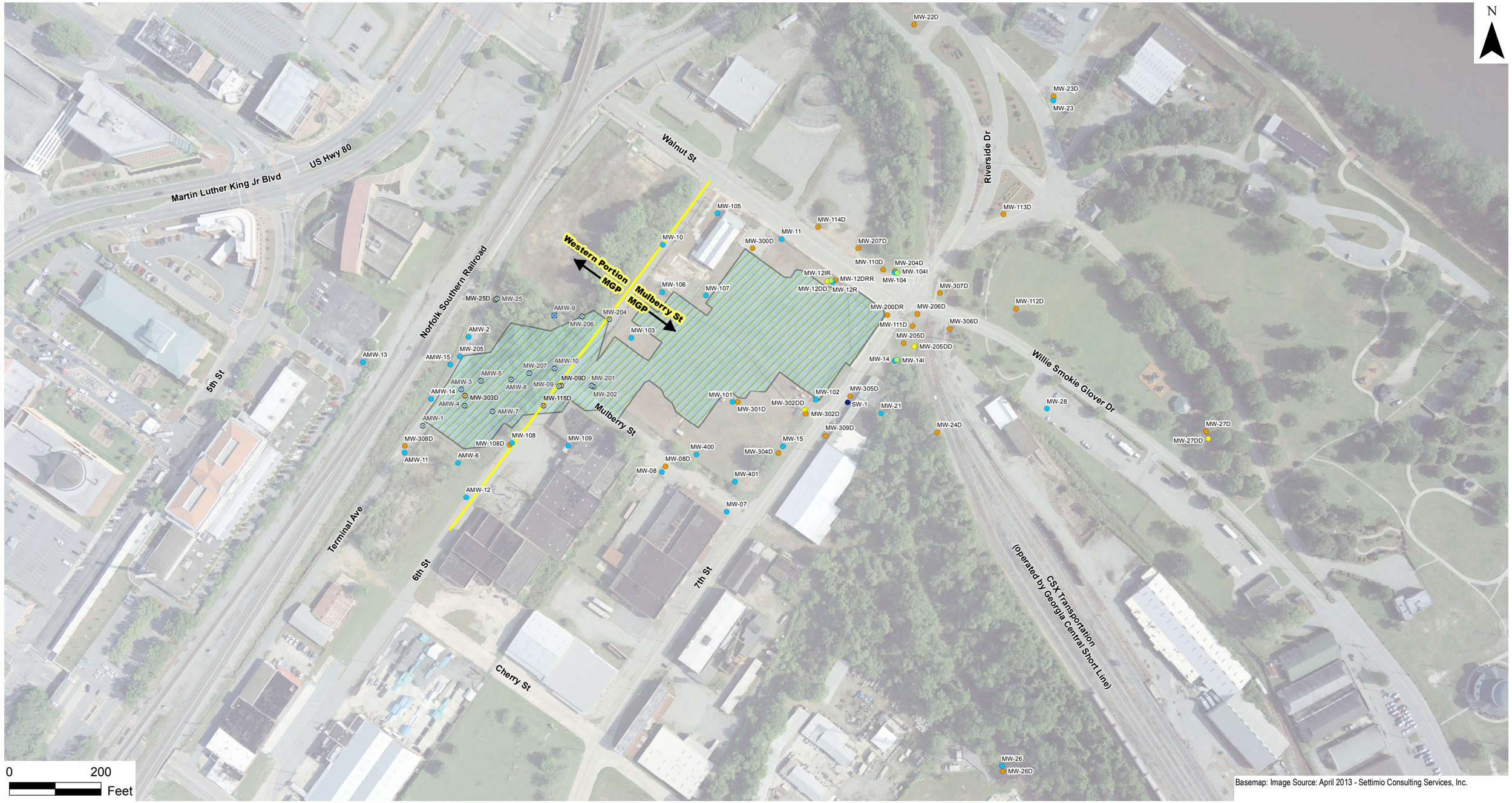
QUADRANGLE LOCATION

FIGURE B1-1 - TOPOGRAPHIC SITE LOCATION MAP

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



ERM

Environmental Resources Management

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DATE:	11/18/2016	SCALE:	AS SHOWN	REVISION:	0
FILE:	D:\AGL_Macon\MXD\2016 10 3rdVRPPrgRpt\ApxB_GWRptAug2016\Mcn_ApxB_1-2Site&WellMap.mxd				

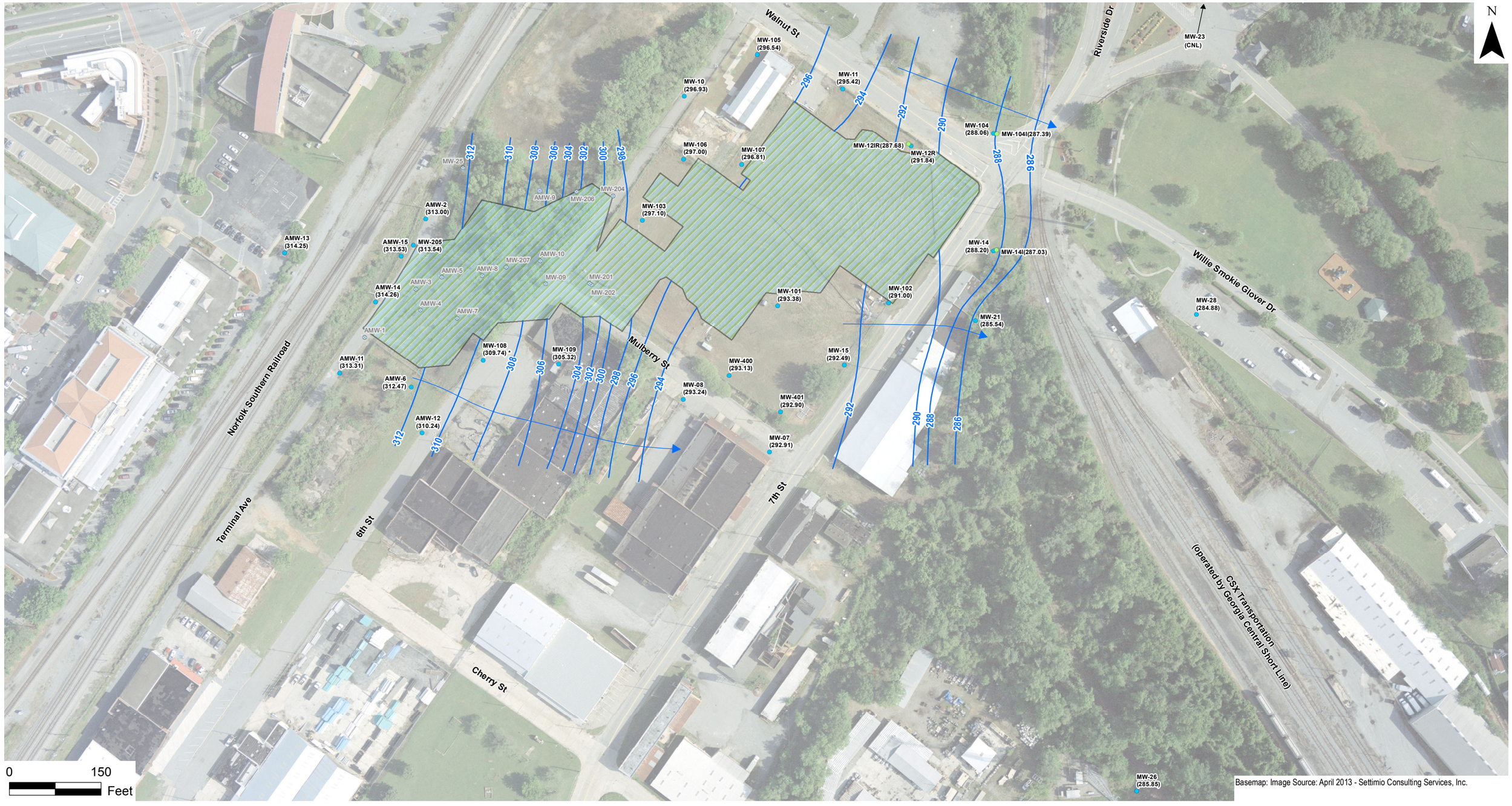
- Shallow Well
- Abandoned Shallow Well
- Destroyed Shallow Well
- Intermediate Well
- Shallow Bedrock Well
- Abandoned Shallow Bedrock Well
- Deep Bedrock Well
- ISS Mass
- SW-1 Sump Well (Installed as part of DNAPL investigation)

FIGURE B1-2 - SITE LAYOUT & GROUNDWATER MONITORING WELL NETWORK

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.:	A Reimer
DATE:	11/18/2016	SCALE:	AS SHOWN	REVISION:	0
FILE:	D:\AGL_Macon\MXD\2016.10 3rdVRPPrgRpt\ApxB_GWRptAug2016\Mcn_ApxB_3-1AlluvGWElev082216.mxd				

- Shallow Well
- Abandoned Shallow Well
- Destroyed Shallow Well
- Intermediate Well
- Groundwater Elevation Contour (ft AMSL)
- Groundwater Flow Direction
- ISS Mass

NOTES:

(285.85) = GW Elevation (ft AMSL)

(NM) = Not Measured

(CNL) = Could Not Locate

* = Groundwater level collected 8/24/16.

AMSL = Above Mean Sea Level

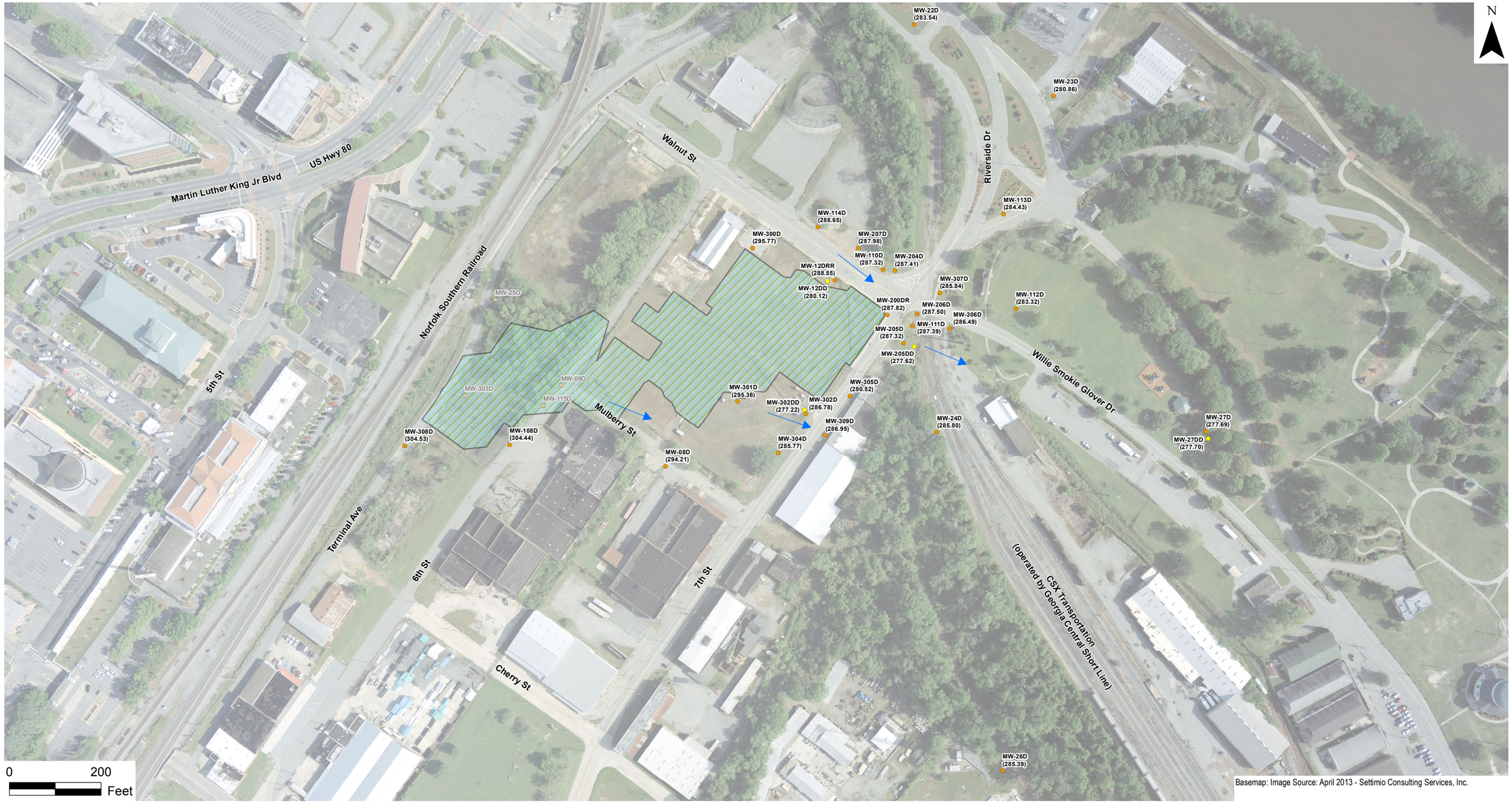
Intermediate wells MW-14I and MW-12IR not used in contouring.

FIGURE B3-1 - ALLUVIUM GROUNDWATER ELEVATION MAP - AUGUST 22, 2016

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia



ERM

Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	A Reimer
DATE:	10/14/2016	SCALE:	AS SHOWN	REVISION:	0
FILE:	S:\0366660 - AGL_Macon\Figures\AGL_Macon\MXD\2016 10 3rdVRPPrgRpt\ApxB_GWRptAug2016\Mcn_ApxB_3-2BdrkGWElev082216.mxd				

- Shallow Bedrock Well
- Abandoned Shallow Bedrock Well
- Destroyed Shallow Bedrock Well
- Deep Bedrock Well
- Apparent Groundwater Flow Direction
- ISS Mass

NOTES:

(283.23) = Groundwater Elevation (Ft AMSL)

(NM) = Not Measured

Deep bedrock wells MW-12DD, MW-27DD, MW-205DD and MW-302DD not used in flow direction calculations.

FIGURE B3-2 - HYDRAULIC POTENTIAL IN SHALLOW BEDROCK WELLS - AUGUST 22, 2016

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia

N

MW-23 (NS)
MW-105 (NS)
MW-10 (ND)
MW-11 (NS)
Walnut St
MW-104 (ND)
MW-104I (NS)
MW-12IR (ND)
MW-12R (ND)
MW-106 (ND)
MW-107 (NS)
MW-25
AMW-9
MW-206
MW-204
AMW-2 (ND)
MW-103 (ND)
MW-205 (ND)
AMW-13 (ND)
AMW-15 (120)
MW-14 (ND)
MW-14I (ND)
9 (Type 4 RRS)
100
AMW-14 (63)
MW-207
AMW-10
AMW-5
AMW-8
AMW-3
MW-09
MW-201
MW-202
MW-101 (ND)
MW-102 (ND)
MW-28 (ND)
MW-21 (ND)
Norfolk Southern Railroad
AMW-4
AMW-7
AMW-1
MW-108 (ND)
MW-109 (ND)
Mulberry St
MW-15 (ND)
AMW-11 (ND)
MW-400 (ND)
AMW-6 (ND)
MW-08 (ND)
MW-401 (ND)
Terminal Ave
AMW-12 (ND)
7th St
MW-07 (NS)
6th St
MW-26 (NS)

0 100 Feet

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

ERM

Environmental Resources Management

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	N Vrey
DATE:	11/18/2016	SCALE:	AS SHOWN	REVISION:	0
FILE:	D:\AGL_Macon\MXD\2016 10 3rdVRPPrgRpt\ApxB_GWRptAug2016\Mcn_ApxB_3-3AlluvBenz082016.mxd				

- Shallow Well
- Abandoned Shallow Well
- Destroyed Shallow Well
- Intermediate Well

Benzene Concentration Contour

- >9 µg/L (Type 4 RRS), <100 µg/L
- >100 µg/L
- ISS Mass

(63) Benzene Concentration
(ND) Non Detect
(NS) Not Sampled

FIGURE B3-3 - BENZENE IN ALLUVIAL GROUNDWATER AUGUST 2016

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:	11/18/2016	SCALE:	AS SHOWN	REVISION:	0
FILE:	D:\AGL_Macon\MXD\2016 10 3rdVRPPrgRpt\ApxB_GWRptAug2016\Mcn_ApxB_3-4AlluvNaph082016.mxd				

- Shallow Well
- Abandoned Shallow Well
- Destroyed Shallow Well
- Intermediate Well

Naphthalene Concentration Contour

- >20 µg/L (Type 4 RRS), <100 µg/L
- ISS Mass

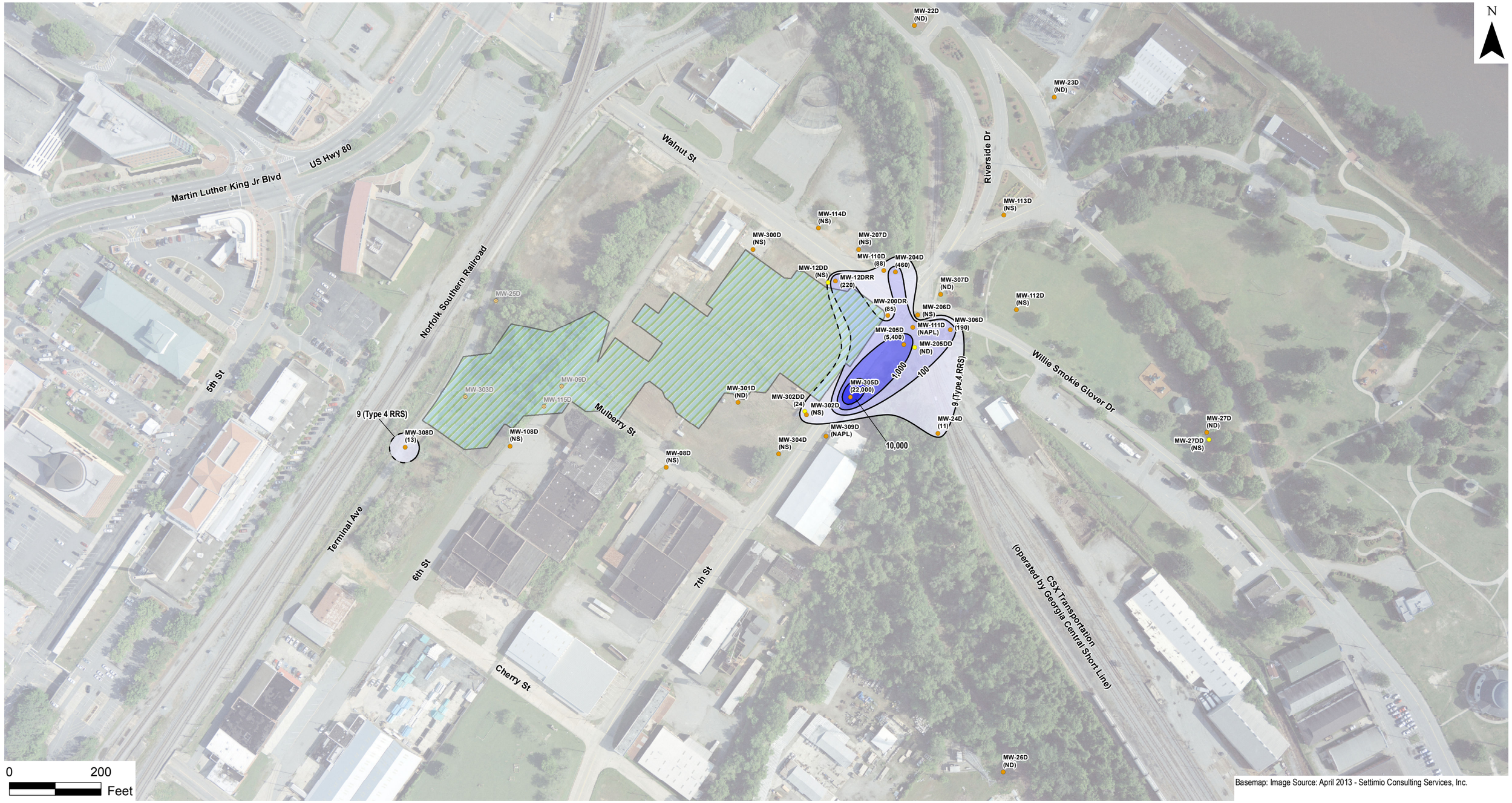
(40) Naphthalene Concentration
(ND) Non Detect
(NS) Not Sampled

FIGURE B3-4 - NAPHTHALENE IN ALLUVIAL GROUNDWATER AUGUST 2016

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:	11/18/2016	SCALE:	AS SHOWN	REVISION:	0
FILE:	D:\AGL_Macon\MXD\2016 10 3rdVRPPrgRpt\ApxB_GWRptAug2016\Mcn_ApxB_3-5BdrkBenz082016.mxd				

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

Benzene Concentration Contours

- >9 µg/L (Type 4 RRS), <100 µg/L
- >100 µg/L, <1,000 µg/L
- >1,000 µg/L, <10,000 µg/L
- >10,000 µg/L

(63) Benzene Concentration
(ND) Non Detect
(NS) Not Sampled

Notes: Deep bedrock wells not used in contouring.
MW-309D & MW-111D were not sampled due to the presence of DNAPL.

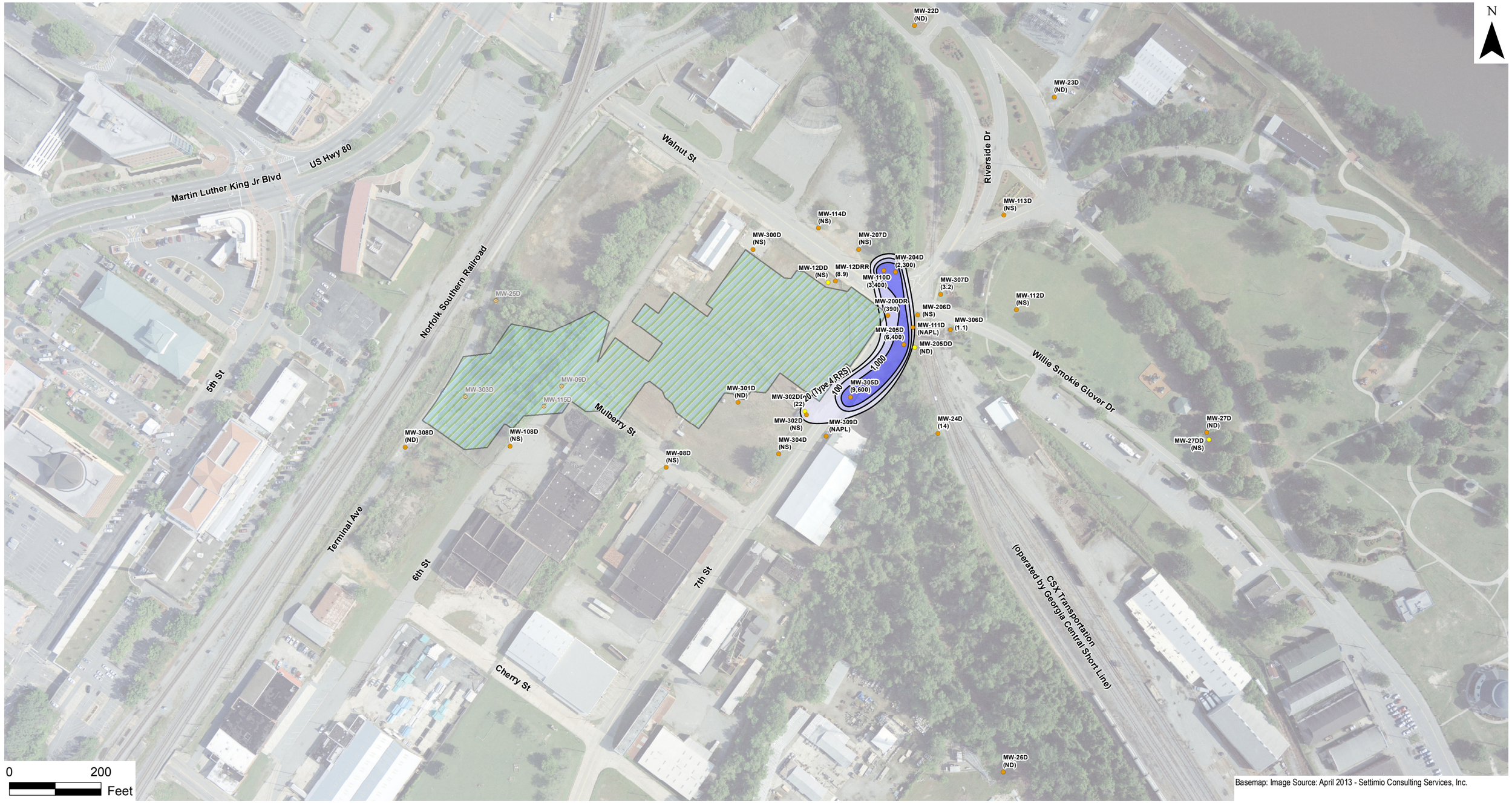
Isoconcentration contours are dashed where inferred.

FIGURE B3-5 - BENZENE IN BEDROCK GROUNDWATER AUGUST 2016

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:	11/18/2016	SCALE:	AS SHOWN	REVISION:	0
FILE:	D:\AGL_Macon\MXD\2016 10 3rdVRPPrgRpt\ApxB_GWRptAug2016\Mcn_ApxB_3-6BdrkNaph082016.mxd				

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

Naphthalene Concentration Contours

- >20 µg/L (Type 4 RRS), <100 µg/L
- >100 µg/L, <1,000 µg/L
- >1,000 µg/L, <10,000 µg/L

(22) Naphthalene Concentration
(ND) Non Detect
(NS) Not Sampled

Notes: Deep bedrock wells not used in contouring.
MW-309D & MW-111D were not sampled due to the presence of DNAPL.
Isoconcentration contours are dashed where inferred.

FIGURE B3-6 - NAPHTHALENE IN BEDROCK GROUNDWATER AUGUST 2016

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia

Groundwater Monitoring Well Abandonment Logs
(CD ONLY)

Appendix B-1

Project No. 0366660
Atlanta Gas Light Company

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

Monitoring Well Abandonment Form

General Information

Monitoring Well Number: AMW-9

Date: 7/26/16

Project Name: AGLC - Macon

Oversight By: Nic Vrey

Abandoned By: Betts Environmental

Well Details (Check one per section)

Casing Diameter

X	2"
	4"
	6"
	Other/NA

Well Type

X	Permanent
	Temporary
	Geoprobe Screen Point (GSB) or Equiv.

Casing Material

X	PVC
	Steel
	Other/NA

Abandonment Details (Check one per section)

Abandonment Method

	Overdrill and Grout
X	Well Extraction
	Grout in Place

Materials and Quantity Used

X	Type 1 Portland Cement mixed with 3-5% bentonite
	Other 1 bag

Overdrilled Well Cuttings and Debris

	Staged Onsite for Disposal (covered top and bottom with poly-sheeting)
X	Drummed for Disposal Drum Quantity:

Reviewed By: _____ 7/28/16

Signature Date/Time

Adria Reimer

Print Name

Monitoring Well Abandonment Form

General Information

Monitoring Well Number: MW-25

Date: 7/26/16

Project Name: AGLC - Macon

Oversight By: Nic Vrey

Abandoned By: Betts Environmental

Well Details (Check one per section)

Casing Diameter

X	2"
	4"
	6"
	Other/NA

Well Type

X	Permanent
	Temporary
	Geoprobe Screen Point (GSB) or Equiv.

Casing Material

X	PVC
	Steel
	Other/NA

Abandonment Details (Check one per section)

Abandonment Method

	Overdrill and Grout
	Well Extraction
X	Grout in Place Pull

Materials and Quantity Used

X	Type 1 Portland Cement mixed with 3-5% bentonite
	Other ~~2 bags~~ 169 lbs

Overdrilled Well Cuttings and Debris

	Staged Onsite for Disposal (covered top and bottom with poly-sheeting)
X	Drummed for Disposal Drum Quantity:

Reviewed By: [signature] 7/28/16

Signature Date/Time

Adria Reimer

Print Name

Monitoring Well Abandonment Form

General Information

Monitoring Well Number: MW-25D

Date: 7/26/16

Project Name: AGLC - Macon

Oversight By: Nic Vrey

Abandoned By: Betts Environmental

Well Details (Check one per section)

Casing Diameter

	2"
X	4"
	6"
	Other/NA

Well Type

X	Permanent
	Temporary
	Geoprobe Screen Point (GSB) or Equiv.

Casing Material

X	PVC
	Steel
	Other/NA

Abandonment Details (Check one per section)

Abandonment Method

	Overdrill and Grout
	Well Extraction
X	Grout in Place

Materials and Quantity Used

X	Type 1 Portland Cement mixed with 3-5% bentonite
	Other 2 bags

Overdrilled Well Cuttings and Debris

	Staged Onsite for Disposal (covered top and bottom with poly-sheeting)
X	Drummed for Disposal

Drum Quantity:

Reviewed By: [signature] 7/28/16

Signature Date/Time

Adria Reimer

Print Name

Groundwater Sampling Log Sheets (CD ONLY)

Appendix B-2

Project No. 0366660
Atlanta Gas Light Company

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

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0366660 | Sampling Date: 8/31/16

Site/Location: Malad | Sampler's Name: T. Pyne

Well ID: RMW-18R | Pump Type/Model: Alexis | Sample Collection Time: 1530

Total Depth (ft)[a]: 14.74 | Tubing Material: polyethylene | Sample Purge Rate (L/min)[c]: 50 mL/min

Depth to Water (ft): 8.69 | Pump Intake Depth (ft): 9.74 | Sample ID: RMW-18-20160823-01

Well Diameter (in): 2 | Purge Method: low flow | QA/QC Collected?

*Well Volume (gal) = 0.041d²h: 0.99 gal | Start/Stop Purge Time: 1500 | QA/QC I.D.

Purge Rate (L/min)[b]: 1.5 | Total Purge Volume (L): | Laboratory Analyses:

Well Type: Flush / Stick Up | Sampling Method: ☐ soda straw

Well Cap Condition: Good / Replace / Other | (check all that apply) ☑ pump head discharge

Well Lock: Yes / No | Well Bolted: Yes / No | Bolts Needed: Yes / No | ☐ Bailer (only used if necessary)

Time[d]	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.)
1505	29.48	253.1	0.42	6.23	-31.8	5.92	1.75	8.89	
1510	31.06	259.7	.52	6.24	-34.5	5.67	1.5	8.9	purge rate decreased to 50 mL/min
1515	31.76	256.4	0.47	6.24	-31	6.71	2.0	8.94	
1520	31.53	256.4	0.47	6.24	-15.4	7.36	2.5	8.95	
1525	31.38	258.2	0.43	6.24	-22	4.40	3.0	8.95	sample @ 1530 ORP not collected
Stabilizing Criteria[e]	+/- 1°C	+/- 3%	+/- 10% (see note below)[g]	+/- 0.1 unit	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10%	(see note below)[d]	(see note below)[f]	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since ititial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

0.164

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0366660 | Sampling Date: 2016/08/22

Site/Location: 8/22 AGP Macon | Sampler's Name: Keith Prine

Well ID: AMW-6 | Pump Type/Model: Peristaltic / Alexis | Sample Collection Time: 16:10

Total Depth (ft)[a]: 21.01 | Tubing Material: Poly | Sample Purge Rate (L/min)[c]: .125 L/min

Depth to Water (ft): 13.95 | Pump Intake Depth (ft): 16 | Sample ID: AMW-6-20160822-01

Well Diameter (in): 2 | Purge Method: Low Flow | QA/QC Collected? N/A

*Well Volume (gal) = 0.041d²h: 1.157 L | Start/Stop Purge Time: ~~Pumpstello~~ 15:25 / | QA/QC I.D. N/A

Purge Rate (L/min)[b]: .125 | Total Purge Volume (L): | Laboratory Analyses: VOC, SVOC, CN, Metals, HG

Well Type: Flush / (Stick Up)

Well Cap Condition: (Good) / Replace / Other

Well Lock: (Yes) / No | Well Bolted: Yes / (No) | Bolts Needed: Yes / (No)

Sampling Method: (check all that apply) ☒ soda straw ☒ pump head discharge ☐ Bailer (only used if necessary)

Time[d]	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.)
15:30	28.97	538.30	0.61	5.66	147.60	4.55	.750	14.43	
15:35	29.23	542.30	0.56	5.66	161.10	3.06	1.375	14.35	Changed Purge rate 125ml/min .625 .5 min
15:40	28.78	532.30	0.45	5.65	187.40	1.80	2.000	14.36	
15:45	28.30	536.40	0.38	5.64	207.40	1.67	2.625	14.36	
15:50	27.81	529.90	0.29	5.64	211.20	1.13	3.250	14.43	
15:55	28.27	532.80	0.25	5.65	196.70	1.25	3.875	14.44	
16:00	28.57	527.50	0.21	5.66	176.70	1.51	4.500	14.44	
Stabilizing Criteria[e]	+/- 1°C	+/- 3%	+/- 10% (see note below)[g]	+/- 0.1 unit	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10%	(see note below)[d]	(see note below)[f]	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since itiitial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0366660 | Sampling Date: 8/22/11

Site/Location: Macon, GA | Sampler's Name: T. Payne

Well ID: AMW-11 | Pump Type/Model: Alexis / peri | Sample Collection Time: 1740

Total Depth (ft)[a]: (19.01 19.23 | Tubing Material: polyethylene | Sample Purge Rate (L/min)[c]: ~~0.200~~ 0.2

Depth to Water (ft): 10.79 | Pump Intake Depth (ft): 14.0L | Sample ID: AMW11-10/08 22-0)

Well Diameter (in): 2 in | Purge Method: low flow | QA/QC Collected? NA

*Well Volume (gal) = 0.041d²h: 1.35 | Start/Stop Purge Time: 1710 / | QA/QC I.D. NA

Purge Rate (L/min)[b]: 0.200 | Total Purge Volume (L): | Laboratory Analyses: VOCs < SVOCs, metals, Cyn

Well Type: (Flush) / Stick Up | Sampling Method: ☑ soda straw

Well Cap Condition: Good / Replace / Other | (check all that apply) ☑ pump head discharge

Well Lock: Yes / (No) | Well Bolted: Yes / No | Bolts Needed: Yes / No | ☐ Bailer (only used if necessary)

Time[d]	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.)
1715	31.91	598.3	0.37	6.05	194.5	8.26	1	10.81	sample @ 1740
1720	29.95	623.3	.30	6.05	138.1	2.84	2	10.90	
1725	30.72	615	0.24	6.04	105.2	3.03	3	10.93	
1730	30.86	625.1	0.23	6.04	94.1	3.01	4	10.95	
Stabilizing Criteria[e]	+/- 1°C	+/- 3%	+/- 10% (see note below)[g]	+/- 0.1 unit	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10%	(see note below)[d]	(see note below)[f]	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since ititial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0366660 | Sampling Date: 8/23/16

Site/Location: MAGAZINE MGP - GW SAMPLING | Sampler's Name: JIM MORRISON

Well ID: AMW-12 | Pump Type/Model: PERISTALTIC - ALEXIS | Sample Collection Time: 1400

Total Depth (ft)[a]: 19.96 | Tubing Material: POLYETHYLENE | Sample Purge Rate (L/min)[c]: 0.25

Depth to Water (ft): 12.32 | Pump Intake Depth (ft): 16' | Sample ID: AMW12-20160823-01

Well Diameter (in): 2" | Purge Method: LOW FLOW | QA/QC Collected? YES

*Well Volume (gal) = 0.041d²h: 1.21 | Start/Stop Purge Time: 1330 / 1350 | QA/QC I.D. FD-1-20160823-01

Purge Rate (L/min)[b]: 0.25 | Total Purge Volume (L): 5.00 | Laboratory Analyses: VOC, SVOC, METALS, Hg, CN

Well Type: Flush / Stick Up | Sampling Method: ☑ soda straw

Well Cap Condition: Good / Replace / Other | (check all that apply) ☑ pump head discharge

Well Lock: Yes / No | Well Bolted: Yes / No | Bolts Needed: Yes / No | ☐ Bailer (only used if necessary)

Time[d]	Temp. (°C)	Spec. Cond. (µS/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.)
1335	26.26	365.2	1.71	5.58	204.60	20.4	1.25	12.53	
1340	25.64	372.8	1.99	5.61	196.50	23.8	2.5	12.58	
1345	25.51	372.5	1.96	5.61	192.0	49.7	3.75	12.60	
1350	25.53	373.4	1.94	5.60	189.5		5.00	12.61	STABLE - STOP PURGING
1355									
Stabilizing Criteria[e]	+/- 1°C	+/- 3%	+/- 10% (see note below)[g]	+/- 0.1 unit	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10%	(see note below)[d]	(see note below)[f]	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since ititial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0366660 | Sampling Date: 9/23/16

Site/Location: MACon - MGP | Sampler's Name: J. Morrison

Well ID: AMW-13 | Pump Type/Model: Peristaltic / Alexis | Sample Collection Time: 0930

Total Depth (ft)[a]: 19.99 | Tubing Material: Polyethylene | Sample Purge Rate (L/min)[c]: 0.2

Depth to Water (ft): 14.40 | Pump Intake Depth (ft): 17 | Sample ID: AMW13-20160923

Well Diameter (in): 5.59 | Purge Method: Low Flow | QA/QC Collected? NO

*Well Volume (gal) = 0.041d²h: 0.99 | Start/Stop Purge Time: 0856 / | QA/QC I.D. NA

Purge Rate (L/min)[b]: 0.2 | Total Purge Volume (L): 4.0 | Laboratory Analyses: VOCs, SVOCs, METALS, Hg, CN

Well Type: (Flush) / Stick Up | Sampling Method: ☑ soda straw

Well Cap Condition: (Good) / Replace / Other | (check all that apply) ☑ pump head discharge

Well Lock: Yes / (No) | Well Bolted: (Yes) / No | Bolts Needed: Yes / (No) | ☐ Bailer (only used if necessary)

Time[d]	Temp. (°C)	Spec. Cond. (µS/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.)
0900	26.90	337.4	0.81	5.53	449.5	8.10	1.0	14.68	
0905	26.94	339.60	0.91	5.54	421.4	17.5	2.0	14.75	
0910	26.92	341.50	0.81	5.53	427.6	11.1	3.0	14.78	
0915	26.99	341.90	0.70	5.53	435.7	9.85	4.0	14.82	PURGING COMPLETE - PARAMETERS STABILIZED
0920									
Stabilizing Criteria[e]	+/- 1°C	+/- 3%	+/- 10% (see note below)[g]	+/- 0.1 unit	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10%	(see note below)[d]	(see note below)[f]	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since ititial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0366660 | Sampling Date: 8/23/16

Site/Location: MACon Gw Sampling | Sampler's Name: Jim McPherson

Well ID: AMW-14 | Pump Type/Model: PERISTALTIC / ALEXIS | Sample Collection Time:

Total Depth (ft)[a]: 23.05 | Tubing Material: Polyethylene | Sample Purge Rate (L/min)[c]: 0.25

Depth to Water (ft): 12.02 | Pump Intake Depth (ft): 15 | Sample ID: AMW-14-20160823-01

Well Diameter (in): 2" | Purge Method: Low Flow | QA/QC Collected? NO

*Well Volume (gal) = 0.041d²h: 1.76 | Start/Stop Purge Time: 0933 / | QA/QC I.D. N/A

Purge Rate (L/min)[b]: 0.25 | Total Purge Volume (L): | Laboratory Analyses: VOCs, SVOCs, Metals, Hg, CN

Well Type: Flush / (Stick Up)

Well Cap Condition: (Good) / Replace / Other

Well Lock: Yes / (No) | Well Bolted: Yes / (No) N/A | Bolts Needed: Yes / (No) N/A

Sampling Method (check all that apply): ☐ soda straw ☑ pump head discharge ☐ Bailer (only used if necessary)

Time[d]	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.)
1040	29.27	333.7	0.23	6.01	38.3	11.1	0.25	12.96	
1045	29.31	332.9	0.62	6.10	45.9	8.08	0.5	14.30	Begin Low Flow To 200 mL/min with DO) well Volumes
1050	29.33	339.7	0.50	6.07	43.0	7.95	0.7	14.65	3 Volumes = 6.05 Liters
1055	29.45	359.0	0.77	6.13	59.7	9.15	0.9	15.13	STOP Pump - Move To AMW make Tubing To
1100							1.1		CHASE Under Column
1105							1.3		
1120		See	AMW-	14			1.5		
1130							1.7		
1140							1.9		
1150		Re-	START	Sheet			2.1		
1200							2.3		
1210							2.5		
1220							2.7		
1230							2.9		
1240							3.1		
1250							3.3		
1300							3.5		
1310							3.7		
1320							3.9		
1330							4.1		
1340							4.3		
1350							4.5		
Stabilizing Criteria[e]	+/- 1°C	+/- 3%	+/- 10% (see note below)[g]	+/- 0.1 unit	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10%	(see note below)[d]	(see note below)[f]	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
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(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since ititial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0366660 | Sampling Date: 9/23/16

Site/Location: MACUA - MGP GW SAMPLING | Sampler's Name: Jim MORRISON

Well ID: AMW14-RESAMP | Pump Type/Model: PERISTALTIC / AEXIS | Sample Collection Time: 1510

Total Depth (ft)[a]: 23.05 | Tubing Material: POLYETHYLENE | Sample Purge Rate (L/min)[c]: 0.100

Depth to Water (ft): 12.02 | Pump Intake Depth (ft): START AT 15, END @ | Sample ID: AMW14-Z16 0823-01

Well Diameter (in): 2 | Purge Method: Low Flow (3 well volumes) | QA/QC Collected? NO

*Well Volume (gal) = 0.041d²h: 1.76 = 66 x 3 | Start/Stop Purge Time: 1040 / 1205 | QA/QC I.D. N/A

19.9

Purge Rate (L/min)[b]: 0.10 | Total Purge Volume (L): ~~6.7~~ 19.9 | Laboratory Analyses: VOCs, SVOCs, 2M-METALS, Hg, CN

3 Volumes | 3 well Volumes

Well Type: Flush / Stick Up | Sampling Method: ☐ soda straw

Well Cap Condition: Good / Replace / Other | (check all that apply) ☑ pump head discharge

Well Lock: Yes / No | Well Bolted: Yes / No N/A | Bolts Needed: Yes / No N/A | ☐ Bailer (only used if necessary)

Time[d]	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.)
1110	28.31	323.9	0.~~48~~	6.03	39.3	10.9	1.2	16.01	Reduce Flow to 100 mL/min Lower Tubing
1115	27.76	329.9	0.20	6.01	33.5	9.15	1.~~5~~ 4	16.93	
1120	29.09	330.9	0.22	6.01	31.5	10.2	2.2	17.25	
1125	29.50	333.2	0.25	6.01	28.40	11.8	2.7	17.61	
1130	29.72	331.7	0.26	6.02	22.40	10.8	3.2	17.74	
1135	29.06	329.7	0.27	6.02	17.10	11.5	3.7	18.20	
1140	29.07	330.1	0.29	6.01	15.10	10.8	4.2	19.69	
1145	29.11	327.9	0.29	6.01	9.70	10.4	4.7	19.35	
1150	29.11	326.3	0.32	6.01	1.30	10.2	5.2	19.72	
1155	29.35	324.5	0.33	6.01	-6.20	9.6	5.7	20.75	
1200	29.47	322.8	0.~~38~~	6.00	-10.4	9.8	~~6.2~~	21.24	
1205	29.35	318.40	0.31	6.01	-13.60	7.7	~~6.7~~	22.60	Increase Flow to 0.5 L/m AMW-14 DRY.
1210							~~9.2~~		
1215							~~11.7~~		
1220						14.2	~~8.2~~		
1230						16.7	~~10.7~~		
1240						19.2	~~13.2~~		
1250						21.7	~~15.7~~		
1300							~~18.2~~		
1310							~~18.7~~		
1320							~~19.2~~		
1330							~~19.7~~		
Stabilizing Criteria[e]	**+/- 1°C**	**+/- 3%**	**+/- 10% (see note below)[g]**	**+/- 0.1 unit**	**+/- 10 mV (see note below)[h]**	**<10 NTUs OR +/- 10%**	**(see note below)[d]**	**(see note below)[f]**	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since ititial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0366660 | Sampling Date: 8/23/16

Site/Location: Macon | Sampler's Name: T. Pugni

Well ID: AMW-15 | Pump Type/Model: ~~peristaltic~~ | Sample Collection Time:

Total Depth (ft)[a]: (24.59) | Tubing Material: polyethylene | Sample Purge Rate (L/min)[c]:

Depth to Water (ft): 13.92 | Pump Intake Depth (ft): 19.59 | Sample ID:

Well Diameter (in): 2 in | Purge Method: low flow | QA/QC Collected?

*Well Volume (gal) = 0.041d²h: 1.91388 gal / 7.245 L | Start/Stop Purge Time: 1148 / | QA/QC I.D.

Purge Rate (L/min)[b]: 200 | Total Purge Volume (L): | Laboratory Analyses:

Well Type: Flush / Stick Up | Sampling Method: ☑ soda straw

Well Cap Condition: Good / Replace / Other | (check all that apply) ☐ pump head discharge

Well Lock: Yes / No | Well Bolted: Yes / No | Bolts Needed: Yes / No | ☐ Bailer (only used if necessary)

Time[d]	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.)
1139	28	176.5	.33	5.59	135.4	10.5	1L	13.50	drawdown exceeded 0.3ft
1142	29.98	180.8	.44	5.59	138.7	10.1	2L	13.98	switched to 3 well vol
1149	30.19	175.8	.23	5.6	144	6.7	3L	14.42	~~purge rate decreased to~~
1154	30.43	184.7	.42	5.6	144.9	5.58	4L	14.8	
11:59	31.15	185.20	0.46	5.60	146.70	4.72	4,250	15.35	@ 1154 purge rate
12:04	31.15	182.60	0.46	5.62	146.70	5.07	5,500	15.97	reduced to 150ml/min
12:09	30.05	187.30	0.42	5.62	141.50	4.60	6,750	16.44	Increased to 250 ml/min
12:14	30.16	181.60	0.39	5.61	103.00	3.24	8,000	17.26	
12:19	29.85	176.50	0.38	5.55	67.20	3.14	9,250	17.78	
12:24	29.15	173.50	0.45	5.56	61.50	4.56	10,500	18.66	
12:29	26.82	172.40	0.35	5.59	143.20	17.30	11,750	19.30	
12:34	29.00	176.40	3.70	5.65	133.80	14.9	13,00	19.96	
12:39	29.06	175.30	1.24	5.59	150.50	8.54	14,250	20.66	
1244	27.94	171.30	1.33	5.59	132.90	10.10	15,500	21.45	
12:49	27.44	171.40	1.10	5.59	89.90	41.90	16,750	22.74	
12:54	26.88	185.50	0.61	5.70	29.90	41.30	18,000	24.29	
Stabilizing Criteria[e]	+/- 1°C	+/- 3%	+/- 10% (see note below)[g]	+/- 0.1 unit	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10%	(see note below)[d]	(see note below)[f]	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since ititial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0366660 | Sampling Date: 8/25/11

Site/Location: Mwaa, GA | Sampler's Name: T. Young

Well ID: MW-08 | Pump Type/Model: Alexis / Bel | Sample Collection Time: 0915

Total Depth (ft)[a]: (19) 19.09 | Tubing Material: Polyethylene | Sample Purge Rate (L/min)[c]: 0.2

Depth to Water (ft): 14.15 | Pump Intake Depth (ft): 14 | Sample ID: MW-08-20110825-01

Well Diameter (in): 2 | Purge Method: low flow | QA/QC Collected? NA

*Well Volume (gal) = 0.041d²h: 0.795 | Start/Stop Purge Time: 0833 / 0913 | QA/QC I.D. NA

Purge Rate (L/min)[b]: 0.2 | Total Purge Volume (L): | Laboratory Analyses: metals, cyn, VOC, SVOC

Well Type: Flush / Stick Up

Well Cap Condition: Good / Replace / Other

Well Lock: Yes / No | Well Bolted: Yes / No | Bolts Needed: Yes / No

Sampling Method (check all that apply): ☐ soda straw ☑ pump head discharge ☐ Bailer (only used if necessary)

Time[d]	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.)
838	24.88	197.5	0.37	5.7	96.5	8.96	1	14.50	
843	25.03	236.8	0.31	5.71	9.0	7.82	2	14.51	
848	25.15	261.9	0.43	5.74	0.1	2.48	3	14.51	
853	25.14	272.5	0.44	5.75	-3.1	2.22	4	14.52	
858	25.28	251.6	0.53	5.73	13.8	1.69	5	14.52	
903	25.39	243.6	0.63	5.73	22.3	1.14	6	14.52	
908	25.46	238.9	0.77	5.73	26.6	0.91	7	14.51	
913	25.6	240.2	0.79	5.73	29	0.76	8	14.51	sample @ 0910
									ORP not collected
Stabilizing Criteria[e]	+/- 1°C	+/- 3%	+/- 10% (see note below)[g]	+/- 0.1 unit	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10%	(see note below)[d]	(see note below)[f]	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since ititial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

GROUND WATER SAMPLING LOG SHEET

ERM

Client: DTE | Project No.: 0366660 | Sampling Date: 8/24/16

Site/Location: Mayo | Sampler's Name: T. Rynn

Well ID: MW-10 | Pump Type/Model: Alexis / per | Sample Collection Time: 1720

Total Depth (ft)[a]: (17.5) 16.94 | Tubing Material: polyethylene | Sample Purge Rate (L/min)[c]: 0.2 L/min

Depth to Water (ft): 9.61 | Pump Intake Depth (ft): 15.5 | Sample ID: MW-10-10168824-01

Well Diameter (in): 2 | Purge Method: low flow | QA/QC Collected? NA

*Well Volume (gal) = 0.041d²h: 1.19 | Start/Stop Purge Time: 1640S / 1714 | QA/QC I.D. NA

Purge Rate (L/min)[b]: 0.2 | Total Purge Volume (L): 6 | Laboratory Analyses: Ra 226, ~~Ra~~ cyanide, VOC, SVOC

Well Type: Flush / Stick Up | Sampling Method: ☑ tubing straw

Well Cap Condition: Good / Replace / Other | (check all that apply) ☑ pump head discharge

Well Lock: Yes / No | Well Bolted: Yes / No | Bolts Needed: Yes / No | ☐ Bailer (only used if necessary)

Time[d]	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.)
1650	27.05	288.3	~~4.9~~	5.82	-4.9	5.43	1	9.67	
1655	26.87	300.4	0.09	5.82	1.0	3.3	2	9.66	
1700	26.81	313.9	0.08	5.85	8.9	2.46	3	9.68	
1705	26.96	315.9	0.09	5.83	14.7	2.01	4	9.68	
1710	26.88	310.9	0.08	5.84	17.9	1.52	5	9.68	
1715	26.86	315.9	0.09	5.83	20.7	1.44	6	9.68	sample @ 1720
Stabilizing Criteria[e]	+/- 1°C	+/- 3%	+/- 10% (see note below)[g]	+/- 0.1 unit	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10%	(see note below)[d]	(see note below)[f]	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since ititial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGLC | Project No.: 0366660 0176260 | Sampling Date: 8/22/16

Site/Location: Macon, GA | Sampler's Name: M. Rogers, C. Hurdle

Well ID: MW-12DRR | Pump Type/Model: Alexis Peristaltic | Sample Collection Time: 16:55

Total Depth (ft)[a]: 52 | Tubing Material: LDPE | Sample Purge Rate (L/min)[c]: 0.2

Depth to Water (ft): 11.19 | Pump Intake Depth (ft): 45 | Sample ID: MW-12DRR-20160822

Well Diameter (in): 2 | Purge Method: low-flow | QA/QC Collected? No

*Well Volume (gal) = 0.041d²h: 6.6 gal / 25L | Start/Stop Purge Time: 1617 - | QA/QC I.D. –

Purge Rate (L/min)[b]: 0.2 L/min | Total Purge Volume (L): 7. | Laboratory Analyses: VOC, SVOC, Metals, Cyanide

Well Type: Flush / Stick Up | Sampling Method: ☒ soda straw

Well Cap Condition: Good / Replace / Other | (check all that apply) ☒ pump head discharge

Well Lock: Yes / No | Well Bolted: Yes / No | Bolts Needed: Yes / No | ☐ Bailer (only used if necessary)

Time[d]	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.)
1622	29.58	425.8	0.51	6.35	-74.8	1.64	1	11.17	odor
1627	28.34	424.7	0.29	6.33	-86.8	1.2	2	11.19	
1632	28.00	420.9	0.23	6.33	-94.4	0.5	3	11.19	
1637	27.23	411.1	0.21	6.34	-98.6	0.63	4	11.19	
1642	26.7	467.7	0.19	6.34	-102.2	0.47	5	11.19	
1647	26.33	409.	0.19	6.33	-105.7	.45	6	11.19	
1652	26.7	999	0.16	6.34	-107.9	0.53	7	11.20	
	Parameters			Stable					
						Sampling @			TD: 52.52
Stabilizing Criteria[e]	+/- 1°C	+/- 3%	+/- 10% (see note below)[g]	+/- 0.1 unit	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10%	(see note below)[d]	(see note below)[f]	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since ititial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0566660 | Sampling Date: 8/24/16

Site/Location: MAGAZINE MGP - GW SAMPLING | Sampler's Name: Jim Morrison

Well ID: MW-12IR | Pump Type/Model: PERISTALTIC / APEX | Sample Collection Time: 1045

Total Depth (ft)[a]: 21.04 | Tubing Material: POLYETHYLENE | Sample Purge Rate (L/min)[c]: 0.25

Depth to Water (ft): 9.40 | Pump Intake Depth (ft): 16 | Sample ID: MW12IR-20160824-01

Well Diameter (in): 2 | Purge Method: Low Flow | QA/QC Collected? NO

*Well Volume (gal) = 0.041d²h: 1.96 | Start/Stop Purge Time: 1005 / 1035 | QA/QC I.D. N/A

Purge Rate (L/min)[b]: 0.25 | Total Purge Volume (L): 7.5 | Laboratory Analyses: VOC, SVOC, METALS, Hg, CN

Well Type: (Flush) / Stick Up

Well Cap Condition: (Good) / Replace / Other

Well Lock: Yes / (No) | Well Bolted: (Yes) / No | Bolts Needed: Yes / (No)

Sampling Method: ☒ soda straw (check all that apply) ☑ pump head discharge ☐ Bailer (only used if necessary)

Time[d]	Temp. (°C)	Spec. Cond. (µS/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.)
1010	23.60	599.90	0.25	5.42	87.00	21.4	1.25	9.19	
1015	22.89	617.10	0.17	5.49	70.30	17.5	2.5	9.19	
1020	22.63	619.70	0.14	5.52	69.30	11.9	3.75	9.20	
1025	22.49	615.00	0.12	5.56	62.70	11.9	5	9.20	
1030	22.35	613.90	0.11	5.59	60.30	12.90	6.25	9.20	Clear Vials for Turbidity meter
1035	22.26	613.20	0.10	5.60	59.20	4.63	7.5	9.20	
Stabilizing Criteria[e]	+/- 1°C	+/- 3%	+/- 10% (see note below)[g]	+/- 0.1 unit	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10%	(see note below)[d]	(see note below)[f]	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since ititial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL | Project No.: 0366660 | Sampling Date: 9/24/16

Site/Location: MAGnus MGP Cross Sounding | Sampler's Name: Jim MURRISON

Well ID: MW-12R | Pump Type/Model: PERISTALTIC / ALEXIS | Sample Collection Time: 0920

Total Depth (ft)[a]: 15.10 | Tubing Material: Polyethylene | Sample Purge Rate (L/min)[c]: .20

Depth to Water (ft): 5.27 | Pump Intake Depth (ft): 10 | Sample ID: MW-12R-20160924-01

Well Diameter (in): 2 | Purge Method: Low Flow | QA/QC Collected? NO

*Well Volume (gal) = 0.041d²h: 1.57 | Start/Stop Purge Time: 0845 / 0910 | QA/QC I.D. N/A

Purge Rate (L/min)[b]: 0.2 | Total Purge Volume (L): 5 | Laboratory Analyses: VOCs, SVOCs, METALS, Hg, CN

Well Type: Flush / Stick Up | Sampling Method: ☑ soda straw

Well Cap Condition: Good / Replace / Other | (check all that apply) ☐ pump head discharge

Well Lock: Yes / No | Well Bolted: Yes / No | Bolts Needed: Yes / No | ☐ Bailer (only used if necessary)

Time[d]	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.)
0850	24.55	673.2	0.24	4.04	217.40	3.73	1	5.29	
0855	24.19	673.9	0.15	4.02	220.10	2.53	2	5.37	
0900	24.24	675.1	0.14	4.01	222.7	2.45	3	5.42	
0905	24.29	676.1	0.14	4.03	223.9	1.69	4	5.44	
0910	24.29	674.63	0.14	4.03	229.31	2.15	5	5.45	
Stabilizing Criteria[e]	+/- 1°C	+/- 3%	+/- 10% (see note below)[g]	+/- 0.1 unit	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10%	(see note below)[d]	(see note below)[f]	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since ititial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGLC | Project No.: 0316616160 | Sampling Date: 8-25-16

Site/Location: MACON, GA | Sampler's Name: C. Hurdle

Well ID: MW-14 | Pump Type/Model: Alexis Perimetric | Sample Collection Time: 0920

Total Depth (ft)[a]: 15 | Tubing Material: LDPE | Sample Purge Rate (L/min)[c]: 0.05

Depth to Water (ft): 6.38 | Pump Intake Depth (ft): 9 | Sample ID: MW-14 20160825_01

Well Diameter (in): 2 | Purge Method: LOW FLOW | QA/QC Collected? yes

*Well Volume (gal) = 0.041d²h: 1.41 gal / 5.35L | Start/Stop Purge Time: 0850 / 1203 | QA/QC I.D. MS/MSD

Purge Rate (L/min)[b]: 50 | Total Purge Volume (L): 1.75+samples | Laboratory Analyses:

Well Type: (Flush) / Stick Up | Sampling Method: ☑ soda straw

Well Cap Condition: (Good) / Replace / Other | (check all that apply) ☐ pump head discharge

Well Lock: Yes (No) | Well Bolted: (Yes) / No | Bolts Needed: Yes (No) | ☐ Bailer (only used if necessary)

Time[d]	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.)
0850	24.49	233.3	0.77	6.09	104.8	3.64	0.5	7.32	100 mL/min
0855	24.59	233.4	0.76	6.09	81.9	4.97	1.0	7.42	- Slow purge rate to 50 mL/min
0900	24.72	234.6	0.78	6.11	68.7	3.89	1.25	7.49	
0905	24.87	235.3	0.81	6.12	67.0	3.70	1.50	7.48	
0910	24.99	236.8	0.74	6.13	64.8	4.01	1.75	7.52	
									lost digital data when finishing template.
Stabilizing Criteria[e]	+/- 1°C	+/- 3%	+/- 10% (see note below)[g]	+/- 0.1 unit	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10%	(see note below)[d]	(see note below)[f]	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since ititial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGLC | Project No.: 0316666660 | Sampling Date: 8-25-16

Site/Location: Macon, GA | Sampler's Name: C. Hurdle

Well ID: MW-14I | Pump Type/Model: Alexis peristaltic | Sample Collection Time: 1330

Total Depth (ft)[a]: 24 | Tubing Material: LDPE | Sample Purge Rate (L/min)[c]: 0.75

Depth to Water (ft): 7.65 | Pump Intake Depth (ft): 21.5 | Sample ID: MW-14I 20160825-01

Well Diameter (in): 2 | Purge Method: low-flow | QA/QC Collected? no

*Well Volume (gal) = 0.041d²h: 2.68 gal / 10.15 L | Start/Stop Purge Time: 1257 / | QA/QC I.D.:

Purge Rate (L/min)[b]: .75 | Total Purge Volume (L): 3.5 | Laboratory Analyses:

Well Type: (Flush) / Stick Up | Sampling Method: ☑ soda straw

Well Cap Condition: (Good) / Replace / Other | (check all that apply) ☐ pump head discharge

Well Lock: Yes / (No) | Well Bolted: ~~(Yes)~~ / (No) Bolts 3/4" short | Bolts Needed: (Yes) / No | ☐ Bailer (only used if necessary)

Time[d]	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.)
1302	25.42	515.3	0.53	6.30	-38.4	9.32	0.5	7.75	
1307	25.52	519.2	0.45	6.29	-35.5	10.4	1.0	7.75	
1312	25.28	518.9	0.29	6.26	-32.5	5.83	1.5	7.77	
1317	25.27	516.8	0.24	6.26	-31.6	3.58	2.0	7.75	- turned purge rate up to
1322	24.91	515.0	0.21	6.25	-29.4	4.24	2.75	7.79	~~1.5 L/min~~ 150 mL/min
1327	24.83	514.8	0.19	6.24	-27.7	2.89	3.50	7.79	
Stabilizing Criteria[e]	+/- 1°C	+/- 3%	+/- 10% (see note below)[g]	+/- 0.1 unit	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10%	(see note below)[d]	(see note below)[f]	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since ititial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

6.93

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0366660 | Sampling Date: 8/25/2016

Site/Location: Macon | Sampler's Name: K. Prine

Well ID: MW-15 | Pump Type/Model: Peristaltic / Alexis | Sample Collection Time: 11:40

Total Depth (ft)[a]: 14.68/14.67 | Tubing Material: Poly | Sample Purge Rate (L/min)[c]: .100 L/min

Depth to Water (ft): 7.75 | Pump Intake Depth (ft): 8.18 | Sample ID: MW152016**0825-01

Well Diameter (in): 2" | Purge Method: Low Flow | QA/QC Collected? N/A

*Well Volume (gal) = 0.041d²h: 1.1365 0.164 | Start/Stop Purge Time: 10:55 / 11:30 | QA/QC I.D. N/A

Purge Rate (L/min)[b]: .100 | Total Purge Volume (L): 3.5 | Laboratory Analyses:

Well Type: Flush / Stick Up | Sampling Method: ☒ soda straw

Well Cap Condition: Good / Replace / Other | (check all that apply) ☐ pump head discharge

Well Lock: Yes / No | Well Bolted: Yes / No | Bolts Needed: Yes / No | ☐ Bailer (only used if necessary)

Time[d]	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.)
11:00	27.42	779.60	0.52	5.53	59.10	6.43	.500	7.95	.100 L/min = .500 every 5min
11:05	26.10	796.60	0.35	5.58	49.60	6.95	1.000	7.98	
11:10	25.69	803.80	0.30	5.64	38.20	5.19	1.500	8.01	
11:15	25.64	807.50	0.27	5.66	32.60	3.83	2.000	8.01	
11:20	25.64	809.10	0.26	5.68	27.70	3.84	2.500	8.04	
11:25	25.87	811.40	0.24	5.68	25.40	3.24	3.000	8.04	
11:30	26.16	811.30	0.24	5.68	24.10	3.40	3.500	8.06	
Stabilizing Criteria[e]	+/- 1°C	+/- 3%	+/- 10% (see note below)[g]	+/- 0.1 unit	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10%	(see note below)[d]	(see note below)[f]	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since ititial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

GROUND WATER SAMPLING LOG SHEET

ERM

0366660

Client: AGL | Project No.: ~~460740~~ | Sampling Date: 8-23-2016

Site/Location: MACON, GA | Sampler's Name: A. SHOREDITS

Well ID: MW-22D | Pump Type/Model: ALEXIS PERISTALTIC | Sample Collection Time: 16:50

Total Depth (ft)[a]: 45.73* btoc | Tubing Material: LDPE, Silicone | Sample Purge Rate (L/min)[c]: 0.1

Depth to Water (ft): 13.20 | Pump Intake Depth (ft): 45.50 | Sample ID: MW-22D-20160823-01

Well Diameter (in): 4.00 / 2.00 | Purge Method: LOW FLOW / VOLUME | QA/QC Collected? NO

*Well Volume (gal) = 0.041d²h: 21.3 (80.7L) | Start/Stop Purge Time: 15:00 / 15:45 | QA/QC I.D. NA

Purge Rate (L/min)[b]: 0.1 | Total Purge Volume (L): 4.5 | Laboratory Analyses: SEE COC

Well Type: (Flush) / Stick Up | Sampling Method: ☒ soda straw

Well Cap Condition: Good / (Replace) / Other | (check all that apply) ☒ pump head discharge

Well Lock: (Yes) / No | Well Bolted: Yes (No) | Bolts Needed: (Yes) / No | ☐ Bailer (only used if necessary)

Time[d]	Temp. (°C)	Spec. Cond. (mS/cm) ~~µS/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.)
15:05	26.7	357.4	1.42	8.09	-118.1	39.2	0.5	13.27	Turbid brown.
15:10	26.6	361.2	0.67	7.49	-105.0	20.9	1.0	13.32	
15:15	26.4	365.4	0.56	7.12	-100.9	15.9	1.5	13.34	
15:20	26.1	366.6	0.62	6.91	-97.7	14.6	2.0	13.38	
15:25	26.7	366.2	0.73	6.88	-90.3	13.2	2.5	13.39	
15:30	27.0	369.1	0.75	6.80	-86.6	10.7	3.0	13.41	
15:35	27.2	368.6	0.75	6.78	-84.8	10.1	3.5	13.42	
15:40	26.9	371.1	0.76	6.76	-82.4	8.59	4.0	13.43	
15:45	27.0	372.2	0.73	6.74	-81.5	8.31	4.5	13.44	
PARAMETERS ARE STABLE, WELL CAN BE SAMPLED									
Stabilizing Criteria[e]	+/- 1°C ✓	12.0 +/- 3% ✓	+/- 10% (see note below)[g]	+/- 0.1 unit ✓	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10% ✓	(see note below)[d]	(see note below)[f] ✗	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since ititial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

* obstruction in well.

ERM

GROUND WATER SAMPLING LOG SHEET

0366660

Client: AGL | Project No.: ~~0176740~~ | Sampling Date: 8-22-2016

Site/Location: MACON, GA | Sampler's Name: A. SHOREDITS

Well ID: MW-23D | Pump Type/Model: ALEXIS PERISTALTIC | Sample Collection Time: 18:25

Total Depth (ft)[a]: 34.27 (36.0) | Tubing Material: LDPE, Silicone | Sample Purge Rate (L/min)[c]: 0.1

Depth to Water (ft): 11.25 btoc | Pump Intake Depth (ft): 30.0 | Sample ID: MW-23D-20160822-01

Well Diameter (in): 2.00 | Purge Method: LOW FLOW/VOLUME | QA/QC Collected? NO

*Well Volume (gal) = 0.041d²h: 4.03 (15.2L) | Start/Stop Purge Time: 17:15/18:19 | QA/QC I.D. NA

Purge Rate (L/min)[b]: 0.1 | Total Purge Volume (L): | Laboratory Analyses: SEE COC.

Well Type: (Flush) Stick Up | Sampling Method: [X] soda straw (VOCs)

Well Cap Condition: (Good) / Replace / Other replaced. | (check all that apply) [X] pump head discharge

Well Lock: (Yes) No | Well Bolted: Yes / No | Bolts Needed: Yes / No | ☐ Bailer (only used if necessary)

Time[d]	Temp. (°C)	Spec. Cond. ~~(mS/cm)~~ µS/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.)
17:19	30.3	380.3	1.32	6.22	2.8	36.8	0.5	11.28	
17:24	29.1	384.7	2.11	6.04	13.4	22.2	1.0	11.29	purge rate ~110ml/min; turbid.
17:29	29.0	384.0	1.17	6.03	9.1	21.9	1.6	11.29	
17:34	29.2	382.8	0.96	6.05	4.5	23.1	2.2	11.30	
17:39	29.1	382.7	0.85	6.05	1.7	21.7	2.8	11.30	
17:44	29.1	382.6	0.78	6.05	-2.2	16.5	3.4	11.30	Turbidity slowly dropping.
17:49	29.1	382.8	0.77	6.04	-3.0	15.2	4.0	11.30	Lower purge rate slightly to 0.1L/min
17:54	29.0	382.9	0.72	6.04	-3.7	15.1	4.5	11.30	
17:59	29.0	382.1	0.68	6.04	-5.2	13.9	5.0	11.30	
18:04	29.1	381.8	0.72	6.05	-7.0	11.0	5.5	11.30	
18:09	29.1	381.2	0.71	6.05	-6.8	11.0	6.0	11.30	
18:14	29.0	383.0	0.72	6.04	-7.2	8.06	6.5	11.30	
18:19	29.1	381.1	0.70	6.04	-7.1	9.05	7.0	11.30	
PARAMETERS ARE STABLE, WELL CAN BE SAMPLED.									
Stabilizing Criteria[e]	+/- 1°C ✓	~~3~~ +/- 3% ✓	+/- 10% (see note below)[g] ✓	+/- 0.1 unit ✓	+/- 10 mV (see note below)[h] ✓	<10 NTUs OR +/- 10% ✓	(see note below)[d]	(see note below)[f] ✓	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since ititial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0366660 | Sampling Date: 8-22-16

Site/Location: Macon | Sampler's Name: MR

Well ID: MW-24D | Pump Type/Model: Alexis Peri | Sample Collection Time: 1040

Total Depth (ft)[a]: 40.5 | Tubing Material: LDPE | Sample Purge Rate (L/min)[c]: .1L/min

Depth to Water (ft): 6.5 | Pump Intake Depth (ft): 35 | Sample ID: MW-24D-20160822-01

Well Diameter (in): 4 | Purge Method: Low flow | QA/QC Collected? No

*Well Volume (gal) = 0.041d²h: 22.3gal / 84.4 | Start/Stop Purge Time: 1006 | QA/QC I.D. —

Purge Rate (L/min)[b]: 200L | Total Purge Volume (L): | Laboratory Analyses: VOC's, SVOC, Metals, Cyanide

Well Type: (Flush) / Stick Up

Well Cap Condition: (Good) / Replace / Other

Well Lock: Yes / No | Well Bolted: (Yes) / No | Bolts Needed: Yes / (No)

Sampling Method: ☐ soda straw
(check all that apply) ☑ pump head discharge
☐ Bailer (only used if necessary)

Time[d]	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.)
1011	25.46	124.9	0.43	6.43	-107.4	1.95	1	6.81	Odor
1016	24.01	117.4	0.29	6.41	-102.1	1.90	2	6.93	Lower PR to .100 L/min
1021	23.9	106.2	0.27	6.39	-93.1	1.83	2.5	6.99	
1026	24.07	127.2	0.25	6.39	-102.7	1.86	3.0	7.08	
1031	23.8	136.7	0.22	6.43	-109.7	2.16	3.5	7.14	
1036	23.8	137	0.20	6.43	-109.6	1.51	4.0	~~1.13~~ 7	.19
		not							
	within 3%								
Parameters			Stable						
			Sample @ 1040						
Stabilizing Criteria[e]	+/- 1°C	+/- 3%	+/- 10% (see note below)[g]	+/- 0.1 unit	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10%	(see note below)[d]	(see note below)[f]	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since ititial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches);
h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

18,28

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL | Project No.: 0366660 | Sampling Date: 8/23/2016

Site/Location: Macom | Sampler's Name: Keith Prine

Well ID: X MW-26 | Pump Type/Model: Peristalic / Alexis | Sample Collection Time: 09:45

Total Depth (ft)[a]: 20.08 | Tubing Material: Poly | Sample Purge Rate (L/min)[c]: ~~MW26 20160823-01~~ KMP 8/23/2016 0.150 L/min

Depth to Water (ft): 1.80 | Pump Intake Depth (ft): 15.08 | Sample ID: X MW26 20160823-01

Well Diameter (in): 2 | Purge Method: Low flow | QA/QC Collected? N/A

*Well Volume (gal) = 0.041d²h: 2.997 | Start/Stop Purge Time: 09:00 / 09:40 | QA/QC I.D. N/A

Purge Rate (L/min)[b]: 150 | Total Purge Volume (L): | Laboratory Analyses:

Well Type: Flush / Stick Up

Well Cap Condition: Good / Replace / Other

Well Lock: Yes / No | Well Bolted: Yes / No | Bolts Needed: Yes / No

Sampling Method: (check all that apply) X soda straw; X pump head discharge; ☐ Bailer (only used if necessary)

Time[d]	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.)
09:10	26.63	0.00	7.99	8.12	46.00	2.27	.750	1.90	Hose kink for first reading
09:15	24.60	311.10	1.01	6.20	8.80	4.00	1.500	1.90	
09:20	22.80	299.40	0.26	6.06	13.70	2.94	2.250	1.91	
09:25	22.80	291.40	0.23	6.03	16.80	2.48	3.000	1.91	
09:30	22.87	287.4	0.20	6.02	18.5	1.89	3.750	1.91	
09:35	22.82	284.90	0.19	6.01	20.10	3.27	4.500	1.91	
09:40	22.81	283.70	0.18	6.01	21.00	2.44	5.250	1.91	
Stabilizing Criteria[e]	+/- 1°C	+/- 3%	+/- 10% (see note below)[g]	+/- 0.1 unit	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10%	(see note below)[d]	(see note below)[f]	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since ititial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

0.164

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGLC | Project No.: 0366660 ~~0176740~~ | Sampling Date: 8/23/16

Site/Location: Macon, GA | Sampler's Name: C. Hurdle

Well ID: MW-26D | Pump Type/Model: alexis peristaltic | Sample Collection Time: 1020

Total Depth (ft)[a]: 42 | Tubing Material: LDPE | Sample Purge Rate (L/min)[c]: ~~0.05~~ 0.050

Depth to Water (ft): 2.28 | Pump Intake Depth (ft): 36.5 | Sample ID: MW-26D_20160823-01

Well Diameter (in): 2 in | Purge Method: Low-flow | QA/QC Collected? NO

*Well Volume (gal) = 0.041d²h: 6.5 gal / 24.66 L | Start/Stop Purge Time: 0930/1200 | QA/QC I.D. NA

Purge Rate (L/min)[b]: 0.05 | Total Purge Volume (L): 3 | Laboratory Analyses: SEE COC

Well Type: (Flush) / Stick Up

Well Cap Condition: (Good) / Replace / Other

Well Lock: Yes / (No) | Well Bolted: (Yes) / No | Bolts Needed: Yes / (No)

Sampling Method: (check all that apply) ☑ soda straw ☐ pump head discharge ☐ Bailer (only used if necessary)

Time[d]	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.)
0949	24.47	1905.6	0.35	11.76	-76.00	5.5	~~1050~~ 500	2.83	
0954	24.51	1905.6	0.35	11.76	-76.00	2.86	1000	3.00	Slowed purge rate to accomodate drawdown before Sampling
0959 ~~1014~~	24.51	1917.3	0.36	11.73	-74.20	2.76	1500	3.26	
1004	24.96	1908.4	0.34	11.70	-73.00	3.18	2000	3.33	
1009	24.91	1896.90	0.32	11.71	-71.30	1.79	~~2300~~ 2500	3.49	
1014	25.40	1903.90	0.40	11.70	-70.60	1.57	~~2500~~ 2500	3.51	
Stabilizing Criteria[e]	+/- 1°C	+/- 3%	+/- 10% (see note below)[g]	+/- 0.1 unit	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10%	(see note below)[d]	(see note below)[f]	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since ititial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

GROUND WATER SAMPLING LOG SHEET

ERM

0366660

Client: AGL | Project No.: ~~0176740~~ | Sampling Date: 8-23-2016

Site/Location: MACON, GA | Sampler's Name: A. SHORFFITS

Well ID: MW-27D | Pump Type/Model: ALEXIS PERISTALTIC | Sample Collection Time: 09:40

Total Depth (ft)[a]: 48.10 (48.5) | Tubing Material: LDPE | Sample Purge Rate (L/min)[c]: 0.15

Depth to Water (ft): 10.73 Stoc | Pump Intake Depth (ft): 45.0 Stoc | Sample ID: MW-27D-20160823-01

Well Diameter (in): 2.00 | Purge Method: LOW FLOW/VOLUME | QA/QC Collected? NO

*Well Volume (gal) = 0.041d²h: 6.16 (23.3L) | Start/Stop Purge Time: 09:06/09:34 | QA/QC I.D. NA

Purge Rate (L/min)[b]: 0.1/0.15 | Total Purge Volume (L): 3.60 | Laboratory Analyses: SEE COC

Well Type: (Flush) / Stick Up | Sampling Method: (X) soda straw

Well Cap Condition: Good / (Replace) / Other | (check all that apply) (X) pump head discharge

Well Lock: Yes / (No) | Well Bolted: (Yes) / No | Bolts Needed: (Yes) / No longer ones | ☐ Bailer (only used if necessary)

Time[d]	Temp. (°C)	Spec. Cond. ~~(µS/cm)~~ 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.)
09:09	23.3	238.2	4.41	6.84	153.2	2.41	0.5	10.81	
09:14	22.8	206.9	2.33	6.40	78.3	4.79	1.0	10.83	
09:19	22.3	212.9	1.82	6.30	58.2	1.64	1.5	10.84	increased purge rate. to 120ml/min
09:24	22.1	213.1	1.13	6.26	49.4	6.90	2.1	10.85	increased purge rate to 150ml/min
09:29	21.9	210.8	0.97	6.26	41.3	8.21	2.85	10.88	Red flakes in sample.
09:34	22.0	209.8	1.00	6.26	38.6	4.21	3.60	10.88	
PARAMETERS ARE STABLE, WELL CAN BE SAMPLED									
Stabilizing Criteria[e]	+/- ✓ 1°C	7.0 +/- 3% ✓	+/- 10% (see note below)[g]	+/- ✓ 0.1 unit	+/- 10 mV (see note below)[h]	<10 NTUs OR ✓ +/- 10%	(see note below)[d]	(see note below)[f] ✓	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since itiial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0366660 | Sampling Date: 9/24/16

Site/Location: MACON MGP - GW SAMPLING | Sampler's Name: JIM MORRISON

Well ID: MW-24 | Pump Type/Model: PERISTALTIC / ATEKS | Sample Collection Time: 1325

Total Depth (ft)[a]: 16.85 | Tubing Material: POLYETHYLENE | Sample Purge Rate (L/min)[c]: 0.25

Depth to Water (ft): 3.19 | Pump Intake Depth (ft): 9 | Sample ID: MW-24-20160924-01

Well Diameter (in): 2 | Purge Method: LOW FLOW | QA/QC Collected? NO

*Well Volume (gal) = 0.041d²h: 2.19 | Start/Stop Purge Time: 1225 / 1315 | QA/QC I.D. N/A

Purge Rate (L/min)[b]: 0.25 | Total Purge Volume (L): 12.5 | Laboratory Analyses: VOCs, SVOC, CN, Hg, METALS

Well Type: Flush / Stick Up

Well Cap Condition: Good / Replace / Other

Well Lock: Yes / No | Well Bolted: Yes / No | Bolts Needed: Yes / No

Sampling Method: (check all that apply)
- ☑ soda straw
- ☑ pump head discharge
- ☐ Bailer (only used if necessary)

Time[d]	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.)
1230	32.15	220.90	0.17	5.75	52.20	19.3	1.25	3.08	
1235	32.41	219.30	0.11	5.76	50.60	12.3	2.5	3.12	
1240	32.51	212.10	0.11	5.82	37.90	12.0	3.75	3.12	
1245	32.73	197.7	0.15	5.80	3.90	14.6	5	3.13	clear TURBIDITY METER UNAV
1250	32.95	207.3	0.22	5.95	-27.20	12.7	6.25	3.13	
1255	33.17	224.1	0.20	6.01	-43.40	9.61	7.5	3.13	
1300	33.42	239.6	0.21	6.08	-65.70	6.19	8.75	3.11	
1305	33.49	250.0	0.19	6.07	-60.7	2.31	10	3.11	
1310	33.48	255.9	0.16	6.07	-60.9	1.58	11.25	3.12	
1315	33.48	257.5	0.14	6.07	-61.6	1.31	12.5	3.12	STABLE - STOP PURGING
Stabilizing Criteria[e]	+/- 1°C	+/- 3%	+/- 10% (see note below)[g]	+/- 0.1 unit	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10%	(see note below)[d]	(see note below)[f]	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since ititial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

5.35

10 foot Screen

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0366660 | Sampling Date: 8/25/2016

Site/Location: Macon | Sampler's Name: K. Pine

Well ID: MW-101 | Pump Type/Model: Peristaltic / Alexis | Sample Collection Time: 09:45

Total Depth (ft)[a]: 19.10 (19.35) Final | Tubing Material: Poly | Sample Purge Rate (L/min)[c]: .100

Depth to Water (ft): 13.75 | Pump Intake Depth (ft): 16.4 | Sample ID: MW101201608 25-01

Well Diameter (in): 2" | Purge Method: Low Flow | QA/QC Collected? N/A

*Well Volume (gal) = 0.041d²h: 0.8774 | Start/Stop Purge Time: 0845 / 0930 | QA/QC I.D. N/A

0.164

Purge Rate (L/min)[b]: .100 | Total Purge Volume (L): 4.5 | Laboratory Analyses:

Well Type: Flush / Stick Up | Sampling Method: ☒ soda straw

Well Cap Condition: Good / Replace / Other | (check all that apply) ☐ pump head discharge

Well Lock: Yes / No | Well Bolted: Yes / No | Bolts Needed: Yes / No | ☐ Bailer (only used if necessary)

Time[d]	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.)
0850	24.05	440.60	0.66	6.14	-5.50	46.7	.500	13.89	100 ml/min = 500 ml per 5 min
08:55	24.69	431.90	0.53	6.11	-0.40	43.0	1.000	13.94	
09:00	24.65	410.00	0.40	6.02	12.80	31.9	1.500	14.00	
09:05	25.01	392.90	0.44	5.93	21.90	22.9	2.000	13.97	
09:10	25.24	382.60	0.39	5.90	26.30	17.1	2.500	13.99	
09:15	25.48	380.20	0.39	5.90	26.10	10.9	3.000	13.99	
09:20	25.74	378.40	0.40	5.91	24.80	8.26	3.500	13.99	
09.25	25.97	378.70	0.37	5.93	23.80	6.45	4.000	14.00	
09.30	26.25	370.80	0.38	5.94	21.40	6.43	4.500	14.00	
Stabilizing Criteria[e]	+/- 1°C	+/- 3%	+/- 10% (see note below)[g]	+/- 0.1 unit	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10%	(see note below)[d]	(see note below)[f]	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since ititial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL | Project No.: 0366660.01 | Sampling Date: 8-25-2016

Site/Location: MACON, GA | Sampler's Name: A. SHOREDITS

Well ID: MW-102 | Pump Type/Model: ALEXIS PERISTALTIC | Sample Collection Time: 1400

Total Depth (ft)[a]: 13.78 (13) | Tubing Material: LDPE, Silicone | Sample Purge Rate (L/min)[c]: 0.15

Depth to Water (ft): 10.5 | Pump Intake Depth (ft): 11.0 | Sample ID: MW-102-20160824-01

Well Diameter (in): 2.00 | Purge Method: LF/LV → evacuation. | QA/QC Collected? NO

*Well Volume (gal) = 0.041d²h: 0.41 (1.54L) | Start/Stop Purge Time: 08:28 / | QA/QC I.D. NA

Purge Rate (L/min)[b]: 0.1 | Total Purge Volume (L): | Laboratory Analyses: SEE COC

Well Type: Flush / (Stick Up)

Well Cap Condition: (Good) / Replace / Other

Well Lock: (Yes) / No | Well Bolted: Yes / No | Bolts Needed: Yes / No

Sampling Method: (check all that apply) ☒ soda straw ☒ pump head discharge ☐ Bailer (only used if necessary)

Time[d]	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.)
08:32	24.8	868	3.45	5.70	187.8	5.03	0.5	10.78	Draw down.
08:37	24.9	859	0.73	5.71	140.7	4.59	1.0	10.91	Lowering purge rate to 0.06L/min.
08:42	25.3	871	0.47	5.72	98.4	2.30	1.3	11.05	
08:47	25.4	~~847~~ 876	0.42	5.72	94.1	2.02	1.6	11.12	Purge well dry due to significant draw down >0.3' Increase purge rate
09:15									Well is dry.
1430	23.29	752.2	1.8	5.86	119	3.14			
Stabilizing Criteria[e]	+/- 1°C	+/- 3%	+/- 10% (see note below)[g]	+/- 0.1 unit	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10%	(see note below)[d]	(see note below)[f]	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since itiial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

ERM

GROUND WATER SAMPLING LOG SHEET

0366660

Client: AGL. Project No: ~~0176740~~

Site/Location: MACON, GA

Well ID: MW-103

Total Depth (ft)[a]: ~~15.75~~ (24.08)

Depth to Water (ft): 15.75 24.03

Well Diameter (in): 2.00

*Well Volume (gal) = 0.041d²h: 1.36 (5.15L)

Pump Type/Model: ALEXIS PERISTALTIC

Tubing Material: LDPE, Silicone

Pump Intake Depth (ft): 18.0

Purge Method: LOWFLOW / VOLUME

Start/Stop Purge Time: 17:30 / 18:09

Purge Rate (L/min)[b]: 0.16 / 0.2

Total Purge Volume (L): 7.8

Sampling Date: 8-24-2016

Sampler's Name: A. SHOREDITS

Sample Collection Time: 18:15

Sample Purge Rate (L/min)[c]: 0.2

Sample ID: MW-103-20160824-01

QA/QC Collected? NO

QA/QC I.D. NA

Laboratory Analyses: SEE COC

Well Type: Flush / (Stick Up)

Well Cap Condition: (Good) / Replace / Other

Well Lock: (Yes) / No replaced

Well Bolted: Yes / No

Bolts Needed: Yes / No

Sampling Method: (check all that apply) ☒ soda straw ☒ pump head discharge ☐ Bailer (only used if necessary)

Time[d]	Temp. (°C)	Spec. Cond. ~~(mS/cm)~~ uS/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.)
17:34	27.3	86.4	2.20	6.13	268.8	9.79	0.8	15.80	Increased purge rate to 0.18L/min.
17:39	25.3	78.7	1.81	6.00	295.8	10.8	4.8	15.81	Increased purge rate to 0.2L/min.
17:44	25.2	76.1	7.00	5.00	294.6	7.61	2.8	15.82	
17:49	25.6	77.5	1.67	6.02	279.6	3.79	3.8	15.82	Spec. Cond. is climbing.
17:54	25.3	79.1	1.18	5.01	286.0	3.83	4.8	15.83	
17:59	25.4	81.5	1.09	5.01	274.9	2.29	5.8	15.82	
18:04	25.6	82.4	1.14	5.03	268.3	2.34	6.8	15.82	
18:09	25.6	83.2	1.12	5.03	263.3	2.11	7.8	15.82	
PARAMETERS ARE STABLE, WELL CAN BE SAMPLED.									
Stabilizing Criteria[e]	+/- 1°C ✓	2.8 +/- 3% ✓	+/- 10% (see note below)[g]	+/- 0.1 unit ✓	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10% ✓	(see note below)[d]	(see note below)[f] ✓	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since initial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0366660 | Sampling Date: 8-25-2016

Site/Location: MACON, GA | Sampler's Name: A. SHOREDITS

Well ID: MW-104 | Pump Type/Model: ALDERS PERISTALTIC | Sample Collection Time: 11:25

Total Depth (ft)[a]: 11.59 (20) | Tubing Material: LDPE, Silicone | Sample Purge Rate (L/min)[c]: 0.09

Depth to Water (ft): 7.17 | Pump Intake Depth (ft): 12.0 | Sample ID: MW-104-20160824-01

Well Diameter (in): 2.00 | Purge Method: LOW FLOW/VOLUME | QA/QC Collected? NO

*Well Volume (gal) = 0.041d²h: 0.72 (2.73L) | Start/Stop Purge Time: 10:10/11:18 | QA/QC I.D. NA

Purge Rate (L/min)[b]: 0.1/0.06 | Total Purge Volume (L): 4.4 | Laboratory Analyses: SEE COC.

Well Type: (Flush) / Stick Up | Sampling Method: ☒ soda straw

Well Cap Condition: Good (Replace) / Other | (check all that apply) ☒ pump head discharge

Well Lock: Yes / (No) replace | Well Bolted: (Yes) / No | Bolts Needed: Yes / No | ☐ Bailer (only used if necessary)

Time[d]	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.) L/min
10:13	28.3	173.0	2.90	5.48	160.7	80.2	0.8	7.48	Lowering purge rate to 0.09 L/min.
10:18	28.1	165.5	1.03	5.46	176.3	46.7	0.8	7.51	Lowest purge rate to 0.06 L/min.
10:23	28.3	158.6	1.10	5.45	178.5	39.6	1.1	7.53	Drawdown has decreased.
10:28	28.3	165.4	1.24	5.45	181.3	27.5	1.4	7.54	
10:33	28.3	169.4	1.18	5.44	182.7	26.2	1.7	7.55	Turbidity is dropping.
10:38	28.3	171.0	1.18	5.44	183.0	21.6	2.0	7.55	
10:43	28.6	175.5	1.08	5.44	182.3	15.0	2.3	7.55	Air is getting into flow cell, valve issue.
10:48	28.6	176.2	1.09	5.44	181.8	14.0	2.6	7.56	
10:53	28.5	177.2	1.08	5.43	181.4	14.2	2.9	7.56	
10:58	28.7	177.8	0.86	5.43	180.0	13.2	3.2	7.56	
11:03	28.5	178.8	0.69	5.41	179.6	12.3	3.5	7.56	
11:08	28.5	180.4	0.56	5.41	176.4	9.52	3.8	7.56	
11:13	28.5	181.1	0.54	5.40	174.6	9.82	4.1	7.56	
11:18	28.6	181.8	0.43	5.40	171.1	8.27	4.4	7.56	
PARAMETERS ARE STABLE, WELL CAN BE SAMPLED									
Stabilizing Criteria[e]	+/- 1°C	5 +/- 3% ✓	+/- 10% (see note below)[g]	+/- 0.1 unit ✓	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10%	(see note below)[d]	(see note below)[f] ✓	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since ititial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

GROUND WATER SAMPLING LOG SHEET

0366660

Client: AGL. Project No.: ~~0176740~~ Sampling Date: 8-24-2016

Site/Location: MACON, GA Sampler's Name: A. STOREDITS.

Well ID: MW-106 Pump Type/Model: ALEXIS PERISTALTIC Sample Collection Time: 16:45

Total Depth (ft)[a]: 21.73 (19) Tubing Material: LDPE, Silicone. Sample Purge Rate (L/min)[c]: 0.2

Depth to Water (ft): 13.86 Pump Intake Depth (ft): 16.0 Sample ID: MW-106-20160824-01

Well Diameter (in): 2.00 Purge Method: LOW FLOW/VOLUME QA/QC Collected? NO

*Well Volume (gal) = 0.041d²h: 1.28 (4.85L) Start/Stop Purge Time: 16:14 / 16:38 QA/QC I.D. NA

Purge Rate (L/min)[b]: 0.15/0.2 Total Purge Volume (L): 4.4. Laboratory Analyses: SRE COC.

Well Type: Flush / (Stick Up) Sampling Method: [X] soda straw

Well Cap Condition: (Good) / Replace / Other (check all that apply) [X] pump head discharge

Well Lock: ~~Yes~~ / No replaced Well Bolted: Yes / No Bolts Needed: Yes / No ☐ Bailer (only used if necessary)

Time[d]	Temp. (°C)	Spec. Cond. ~~(mS/cm)~~ µS/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.)
16:18	26.9	438.7	1.55	5.77	214.8	1.29	0.75	13.86	
16:23	25.5	438.5	1.73	5.71	239.5	1.09	1.5	13.87	Increased purge rate to 0.18L/min.
16:28	24.6	448.5	1.00	5.69	276.6	1.18	2.4	13.87	increased purge rate to 0.2L/min
16:33	24.4	453.4	0.79	5.69	369.4	0.91	3.4	13.87	
16:38	24.4	450.2	0.83	5.69	419.6	1.27	4.4	13.88	
PARAMETERS ARE STABLE, WELL CAN BE SAMPLED.									
Stabilizing Criteria[e]	+/- 1°C ✓	15.0 +/- 3% ✓	+/- 10% (see note below)[g]	+/- 0.1 unit ✓	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10% ✓	(see note below)[d]	(see note below)[f] ✓	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since ititial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0366660 | Sampling Date: 8/24/12

Site/Location: Malon | Sampler's Name: T. Payne

Well ID: MW-108 | Pump Type/Model: Alexis / per | Sample Collection Time: 1000

Total Depth (ft)[a]: 20.02 (70ft) | Tubing Material: polyethylene | Sample Purge Rate (L/min)[c]: 0.15 L/min

Depth to Water (ft): 8.51 | Pump Intake Depth (ft): 15 ft | Sample ID: MW-108-20120824-0

Well Diameter (in): 2 in | Purge Method: low flow | QA/QC Collected? NA

*Well Volume (gal) = 0.041d²h: | Start/Stop Purge Time: 0933 / 955 | QA/QC I.D. NA

Purge Rate (L/min)[b]: <1 | Total Purge Volume (L): | Laboratory Analyses: metals, cyn., VOC, sVOC

Well Type: Flush / Stick Up

Well Cap Condition: Good / Replace / Other

Well Lock: Yes / No | Well Bolted: Yes / No | Bolts Needed: Yes / No

Sampling Method: (check all that apply) ☑ soda straw ☑ pump head discharge ☐ Bailer (only used if necessary)

Time[d]	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.)
938	27.18	468.5	0.35	6.11	-47.4	15.1	.5	8.88	
943	27.18	457.2	0.44	6.11	-35.6	14.2	1	8.88	purge rate inc. to .15L/min
948	27.06	466.1	0.37	6.11	-36.9	9.09	1.75	9.01	
953	27.11	469	0.28	6.11	-36.6	7.15	2.5	9.01	sample @ 1000
									ORP not calibrated
Stabilizing Criteria[e]	+/- 1°C	+/- 3%	+/- 10% (see note below)[g]	+/- 0.1 unit	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10%	(see note below)[d]	(see note below)[f]	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since ititial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0366660 | Sampling Date: 8/24/16

Site/Location: Malvern | Sampler's Name: T. Pempe

Well ID: MW 109 | Pump Type/Model: Alexis / per | Sample Collection Time: 1345

Total Depth (ft)[a]: 23.71 23.98 | Tubing Material: polyethylene | Sample Purge Rate (L/min)[c]: 0.15 L/min

Depth to Water (ft): 8.51 | Pump Intake Depth (ft): 18.5 | Sample ID: MW-109-20160824-0

Well Diameter (in): 2 in | Purge Method: low flow | QA/QC Collected? NA

*Well Volume (gal) = 0.041d²h: 2.46 gal / 9.31 L | Start/Stop Purge Time: 1108 / 1340 | QA/QC I.D. NA

Purge Rate (L/min)[b]: < 2 | Total Purge Volume (L): | Laboratory Analyses: metals, VOC, rVOC, cyn

Well Type: Flush / Stick Up

Well Cap Condition: Good / Replace / Other

Well Lock: Yes / No | Well Bolted: Yes / No | Bolts Needed: Yes / No

Sampling Method (check all that apply): ☐ soda straw ☑ pump head discharge ☐ Bailer (only used if necessary)

Time[d]	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.)
1113	26.69	1539	.15	4.68	236.9	3.84	1	9.45	
1118	26.74	1494	.15	4.67	24.4	4.17	2	9.93	switch to 3 pt/1 vol due to drawdown
~~1139~~								~~9.5~~	@ 1 well vol
1159	27.59	163.8	0.21	4.79	208.2	1.05	9.3	11.96	
	27.76								purge rate inc. to .3
1235	~~27.88~~	158	0.25	4.87	177.1	0.66	18.6	14.91	@ 2 well vol
									lower purge rate to ~~0.15~~ 0.15 L/min
1315	29.5	171.4	0.20	5.07	177.9	0.31	27.9	14.45	3 well vol
1330	29.19	174.4	0.21	5.08	137.9	0.46	28.65	14.56	
1339	29.53	172.5	0.21	5.08	134.3	0.66	29.4	14.56	
									1 in grid @ 1345
									ORP not collected
Stabilizing Criteria[e]	**+/- 1°C**	**+/- 3%**	**+/- 10% (see note below)[g]**	**+/- 0.1 unit**	**+/- 10 mV (see note below)[h]**	**<10 NTUs OR +/- 10%**	**(see note below)[d]**	**(see note below)[f]**	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
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(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

ERM

GROUND WATER SAMPLING LOG SHEET

0366660

Client: AGL | Project No.: ~~0176740~~ | Sampling Date: 8-24-2016

Site/Location: MACON, GA | Sampler's Name: A. STOREDITS

Well ID: MW-110D | Pump Type/Model: ALEXIS PERISTALTIC | Sample Collection Time: 09:30

Total Depth (ft)[a]: 33.94 Stoc. | Tubing Material: LDPE, Silicone | Sample Purge Rate (L/min)[c]: 0.2

Depth to Water (ft): 8.38 | Pump Intake Depth (ft): ~~35~~ 31.0 | Sample ID: MW-110D-20160824-01

Well Diameter (in): 4.00/2.00 | Purge Method: LOW FLOW/VOLUME | QA/QC Collected? YES

*Well Volume (gal) = 0.041d²h: 16.77 (63.5L) | Start/Stop Purge Time: 08:54/09:37 | QA/QC I.D. DUP-02-20160824-01

Purge Rate (L/min)[b]: 0.1/0.2 | Total Purge Volume (L): 6.75 | Laboratory Analyses: SEE COC

Well Type: (Flush) / Stick Up | Sampling Method: ☐ soda straw

Well Cap Condition: Good / (Replace) / Other | (check all that apply) / ☒ pump head discharge

Well Lock: (Yes) / No | Well Bolted: (Yes) / No | Bolts Needed: Yes / (No) | ☐ Bailer (only used if necessary)

Time[d]	Temp. (°C)	Spec. Cond. ~~(mS/cm)~~ µS/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.)
08:57	26.7	580	1.41	6.18	-51.1	23.7	~~0~~ 2	8.40	Started at 0.15 L/min.
09:02	25.4	583	0.62	6.17	-67.3	11.2	1.75	8.40	Increased purge rate to 0.2 L/min.
09:07	25.3	581	0.31	6.20	-74.4	10.8	2.75	8.38	Odour to water.
09:12	25.3	580	0.34	6.22	-76.4	10.5	3.75	8.41	
09:17	25.3	579	0.40	6.22	-72.0	9.35	4.75	8.41	
09:22	25.3	578	0.43	6.22	-70.2	8.70	5.75	8.41	
09:27	25.2	577	0.44	6.22	-69.1	9.44	6.75	8.41	
PARAMETERS ARE STABLE, WELL CAN BE SAMPLED.									
Stabilizing Criteria[e]	+/- 1°C	+/- 3%	+/- 10% (see note below)[g]	+/- 0.1 unit	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10%	(see note below)[d]	(see note below)[f]	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since ititial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

GROUND WATER SAMPLING LOG SHEET

ERM

0366660

Client: AGL | Project No.: ~~0176740~~ | Sampling Date: 8-23-16

Site/Location: Macon Ga | Sampler's Name: MR

Well ID: MW-200DR | Pump Type/Model: Alex Peri | Sample Collection Time: 0946

Total Depth (ft)[a]: 39.5 | Tubing Material: LDPE | Sample Purge Rate (L/min)[c]: 100

Depth to Water (ft): 7.42 | Pump Intake Depth (ft): 34.5 | Sample ID: MW-200DR-20160823-01

Well Diameter (in): 2 | Purge Method: Low Flow | QA/QC Collected? No

*Well Volume (gal) = 0.041d²h: 5.3gal / 20L | Start/Stop Purge Time: 0907 | QA/QC I.D. -

Purge Rate (L/min)[b]: 200 | Total Purge Volume (L): | Laboratory Analyses: VOC's, SVOC, Cyanide, Metal

Well Type: Flush / Stick Up

Well Cap Condition: Good / Replace / Other

Well Lock: Yes / No | Well Bolted: Yes / No | Bolts Needed: Yes / No

Sampling Method (check all that apply): ☑ soda straw ☑ pump head discharge ☐ Bailer (only used if necessary)

Time[d]	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.)
0912	25.6	547.9	0.48	6.51	-116.5	1.66	1	7.82	
0917	25.37	547.2	0.32	6.50	-116.7	1.85	2	8.47	DCC PR to 100mL/min
0922	25.7	545.2	0.30	6.49	-115.9	1.44	2.5	8.49	
0927	25.87	544.5	0.27	6.50	-115.7	1.50	3	8.49	
0932	26.15	540.5	0.25	6.49	-114.8	1.47	3.5	8.50	
0937	26.51	536.3	0.24	6.49	-114.4	1.38	4	8.52	
Parameters Stable									
				Sampling			@	0946	
Stabilizing Criteria[e]	+/- 1°C	+/- 3%	+/- 10% (see note below)[g]	+/- 0.1 unit	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10%	(see note below)[d]	(see note below)[f]	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since ititial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

ERM

GROUND WATER SAMPLING LOG SHEET

0366660

Client: AGLC | Project No.: ~~0170740~~ | Sampling Date: 8/24/16

Site/Location: Macon, GA | Sampler's Name: C. Hurdle

Well ID: MW-204D | Pump Type/Model: Alexis Peristaltic | Sample Collection Time: 0912

Total Depth (ft)[a]: 45.5 | Tubing Material: LDPE | Sample Purge Rate (L/min)[c]: 0.100

Depth to Water (ft): 8.65 | Pump Intake Depth (ft): 38 | Sample ID: MW-204D

Well Diameter (in): 2 | Purge Method: Low-Flow | QA/QC Collected? NO

*Well Volume (gal) = 0.041d²h: 6.04gal / 22.87L | Start/Stop Purge Time: 0840 | QA/QC I.D. NA

Purge Rate (L/min)[b]: 0.100 | Total Purge Volume (L): 2+Samples | Laboratory Analyses: SEE COC

Well Type: (Flush) / Stick Up

Well Cap Condition: (Good) / Replace / Other

Well Lock: Yes / (No) | Well Bolted: (Yes) / No | Bolts Needed: Yes / (No)

Sampling Method: ☑ soda straw (check all that apply) ☑ pump head discharge ☐ Bailer (only used if necessary)

Time[d]	Temp. (°C)	Spec. Cond. µS ~~(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.)
0850	25.05	509.90	0.02	6.38	-52.7	0.76	0.5	8.71	
0855	25.85	508.00	0.51	6.38	-52.9	0.40	1.0	8.71	
0900	26.06	505.40	0.45	6.38	-52.5	0.25	1.5	8.71	
0905	26.28	502.00	0.41	6.38	-52.3	0.54	2.0	8.72	
Stabilizing Criteria[e]	+/- 1°C	+/- 3%	+/- 10% (see note below)[g]	+/- 0.1 unit	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10%	(see note below)[d]	(see note below)[f]	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since ititial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

~~20.42~~ 19.52

678 486-2700

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0366660 | Sampling Date: 8/24/2016

Site/Location: Macon | Sampler's Name: K. Pine

Well ID: ~~X~~MW-205 | Pump Type/Model: Peristaltic / Alexis | Sample Collection Time: 1245

Total Depth (ft)[a]: 28.2 | Tubing Material: Poly | Sample Purge Rate (L/min)[c]: 0.100

Depth to Water (ft): ~~7.78~~ 8.68 (KHP 8/24/16) | Pump Intake Depth (ft): 23.2 | Sample ID: ~~AW~~ (KHP 8-24-16) XMW205 20160823-01

Well Diameter (in): 2 | Purge Method: Low Flow | QA/QC Collected? N/A

*Well Volume (gal) = 0.041d²h: ~~3.348~~ 3.201 (KHP 8/24/16) (0.164) | Start/Stop Purge Time: 09:35 / | QA/QC I.D. N/A

Purge Rate (L/min)[b]: 0.100 | Total Purge Volume (L): | Laboratory Analyses:

Well Type: (Flush) / Stick Up | Sampling Method: ☒ soda straw

Well Cap Condition: (Good) / Replace / Other | (check all that apply) ☐ pump head discharge

Well Lock: (Yes) / No | Well Bolted: Yes / (No) | Bolts Needed: (Yes) / No | ☐ Bailer (only used if necessary)

Time[d]	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.)
09:45	27.90	235.10	0.26	6.21	-55.30	6.82	.500	8.70	
09:50	27.66	214.90	0.22	6.22	-54.70	8.19	1.000	8.76	
09:55	27.94	164.50	0.25	6.24	-49.00	12.7	1.500	8.78	
10:00	28.46	120.10	0.24	6.27	-44.20	14.1	2.000	8.78	
10:05	28.87	83.40	0.23	6.27	-43.10	18.8	2.500	8.79	
10:10	29.07	74.00	0.20	6.31	-42.90	20.0	3.000	8.80	
10:15	28.83	70.70	0.20	6.33	-42.30	20.5	3.500	8.82	
10:20	28.38	69.30	0.20	6.33	-40.90	19.50	4.000	8.85	
10:25	28.13	68.40	0.20	6.34	-39.30	19.10	4.500	8.85	
10:30	27.96	67.70	0.21	6.33	-37.50	17.90	5.000	8.86	
10:35	27.89	67.50	0.20	6.34	-36.70	17.60	5.500	8.87	
10:40	27.94	66.90	0.19	6.33	-34.70	17.30	6.000	8.89	
10:45	27.89	66.70	0.19	6.33	-32.70	17.6	6.500	8.90	
10:50	27.91	66.20	0.19	6.33	-31.50	18.1	7.000	8.90	
10:55	27.99	66.10	0.18	6.32	-30.10	18.7	7.500	8.89	
11:00	28.17	65.70	0.19	6.32	-28.70	18.8	8.000	8.87	
11:05	28.44	65.30	0.22	6.32	-27.40	18.7	8.500	8.84	
11:10	28.55	65.30	0.21	6.32	-25.60	19.1	9.000	8.82	
11:15	28.64	95.50	0.21	6.25	-37.20	15.7	9.500	8.87	
1120	28.92	98.30	0.21	6.28	-38.00	16.8	10.000	8.85	
1125	29.14	89.80	0.21	6.30	-35.70	18.0	10.500	8.89	
11:30	29.38	70.00	0.19	6.30	-27.90	18.8	11.000	8.84	
Stabilizing Criteria[e]	+/- 1°C	+/- 3%	+/- 10% (see note below)[g]	+/- 0.1 unit	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10%	(see note below)[d]	(see note below)[f]	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since itiial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL | Project No.: 0366660 | Sampling Date: 8/24/2016

Site/Location: Macon | Sampler's Name: K. Prine

Well ID: XMW-205 | Pump Type/Model: Peristaltic / Alexis | Sample Collection Time: 12:45

Total Depth (ft)[a]: 28.2 | Tubing Material: Poly | Sample Purge Rate (L/min)[c]: .100

Depth to Water (ft): 8.68 | Pump Intake Depth (ft): ~~27.2~~ MWP 8/24/16 20.7 | Sample ID: XMW205 20160824-01

Well Diameter (in): 2" | Purge Method: Low Flow | QA/QC Collected? N/A

*Well Volume (gal) = 0.041d²h: 3.201 | Start/Stop Purge Time: 09:35 / 12:30 | QA/QC I.D. N/A

Purge Rate (L/min)[b]: .100 | Total Purge Volume (L): 17.000 | Laboratory Analyses:

Well Type: Flush / Stick Up | Sampling Method: ☒ soda straw

Well Cap Condition: Good / Replace / Other | (check all that apply) ☐ pump head discharge

Well Lock: Yes / No | Well Bolted: Yes / No | Bolts Needed: Yes / No | ☐ Bailer (only used if necessary)

Time[d]	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.)
11:35	30.29	59.20	0.18	6.34	-15,60	20.2	11.500	8.84	
11:40	30.10	58.60	0.18	6.33	-13,600	19.5	12.000	8.84	
11:45	29.92	58.80	0.17	6.32	-12,40	20.5	12,500	8.86	
11:50	29.59	59.20	0.16	6.32	-11,40	19.1	13,000	8.87	
11:55	29.25	59.60	0.15	6.32	-11,50	18.4	13.500	8.93	
12:00	29.62	63.80	0.16	6.25	-11.50	16.3	14.000	8.88	
12:05	30.05	70.50	0.16	6.28	-19.80	16.8	14.500	8.87	
12:10	30.50	66.00	0.15	6.29	-1.80	15.9	15.000	8.88	
12:15	30.82	62.80	0.14	6.25	2.70	15.6	15,500	8.87	
12:20	31.19	63.50	0.14	6.24	4.10	14.2	16.000	8.87	
12:25	30.82	64.10	0.15	6.24	4.70	13.3	16.500	8.86	
12:30	31.13	65.30	0.14	6.29	5.80	12.7	17,000	8.87	
Stabilizing Criteria[e]	+/- 1°C	+/- 3%	+/- 10% (see note below)[g]	+/- 0.1 unit	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10%	(see note below)[d]	(see note below)[f]	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since initial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

GROUND WATER SAMPLING LOG SHEET

ERM

0366660

Client: AGL | Project No.: ~~0176740~~ | Sampling Date: 8-24-2016

Site/Location: MACON, GA | Sampler's Name: J. SHOREDITS

Well ID: MW-205D | Pump Type/Model: ALEXIS PERISTALTIC | Sample Collection Time: 12:05

Total Depth (ft)[a]: 41.50 stoc (43) | Tubing Material: LDPE, Silicone | Sample Purge Rate (L/min)[c]: 0.125

Depth to Water (ft): 7.81 | Pump Intake Depth (ft): 35.0 | Sample ID: MW-205D-20160824-01

Well Diameter (in): 4.00/2.00 | Purge Method: LOW FLOW/VOLUME | QA/QC Collected? YES

*Well Volume (gal) = 0.041d²h: 23.1 (87.4L) for 4.00" well | Start/Stop Purge Time: 11:30/11:59 | QA/QC I.D. DUP-03-20160824-01

Purge Rate (L/min)[b]: 0.1/0.12 | Total Purge Volume (L): 3.52 | Laboratory Analyses: SEE COC

Well Type: (Flush) / Stick Up | Sampling Method: ☒ soda straw

Well Cap Condition: Good (Replace) / Other one bolt broken off | (check all that apply) ☒ pump head discharge

Well Lock: (Yes) / No | Well Bolted: (Yes) / No | Bolts Needed: (Yes) / No | ☐ Bailer (only used if necessary)

Time[d]	Temp. (°C)	Spec. Cond. ~~mS/cm~~ µS/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.)
11:34	25.7	731	1.24	6.51	-73.0	1.94	0.5	7.87	
11:39	25.4	730	0.53	6.52	-75.5	0.91	1.0	7.90	Increased purge rate to 0.12L/min.
11:44	25.9	728	0.43	6.52	-76.5	0.86	1.63	7.90	
11:49	25.7	728	0.48	6.53	-77.7	1.12	2.26	7.90	
11:54	25.7	729	0.50	6.54	-77.0	1.17	2.89	7.92	
11:59	26.1	727	0.53	6.54	-76.3	0.88	3.52	7.92	
PARAMETERS ARE STABLE, WELL CAN BE SAMPLED									
Stabilizing Criteria[e]	+/- 1°C ✓	+/- 3% ✓	+/- 10% (see note below)[g]	+/- 0.1 unit ✓	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10% ✓	(see note below)[d]	(see note below)[f] ✓	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since ititial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

GROUND WATER SAMPLING LOG SHEET

ERM

0366660

Client: AGLC | Project No.: ~~0176740~~ | Sampling Date: 8/24/16

Site/Location: Macon, GA | Sampler's Name: C. Hurdle

Well ID: MW-205DD | Pump Type/Model: Alexis Perimetric | Sample Collection Time: 1215

Total Depth (ft)[a]: 100 | Tubing Material: LDPE | Sample Purge Rate (L/min)[c]:

Depth to Water (ft): 16.21 | Pump Intake Depth (ft): 95 | Sample ID: MW-205DD-20160824

Well Diameter (in): 2 | Purge Method: Low Flow | QA/QC Collected?

*Well Volume (gal) = 0.041d²h: 13.74 gal / 52.01L | Start/Stop Purge Time: 1145 / 1255 | QA/QC I.D.

Purge Rate (L/min)[b]: 1 | Total Purge Volume (L): | Laboratory Analyses:

Well Type: (Flush) / Stick Up | Sampling Method: ☑ soda straw

Well Cap Condition: (Good) / Replace / Other | (check all that apply) ☐ pump head discharge

Well Lock: Yes / (No) | Well Bolted: (Yes) / No | Bolts Needed: Yes / (No) | ☐ Bailer (only used if necessary)

Time[d]	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.)
1150	26.36	296.16	2.42	9.30	51.40	1.36	0.5	16.85	
1155	26.42	295.7	2.38	9.30	53.30	1.64	1.0	17.02	
1200	27.32	297.9	2.42	9.29	53.80	1.016	1.25	17.15	Slowed flow rate to 50mL/min
1205	27.91	298.2	2.44	9.29	54.00	0.85	1.50	17.25	
1210	28.17	296.9	2.83	9.29	55.60	**0.95**	1.75	17.40	
									Significant drawdown, but did not purge 3 well volumes because not feasible in very deep bedrock well.
									Purge rate increased for sampling from .5 to 1 L/min
Stabilizing Criteria[e]	**+/- 1°C**	**+/- 3%**	**+/- 10% (see note below)[g]**	**+/- 0.1 unit**	**+/- 10 mV (see note below)[h]**	**<10 NTUs OR +/- 10%**	**(see note below)[d]**	**(see note below)[f]**	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since ititial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0366660 (~~0176740~~) | Sampling Date: 8-23-16

Site/Location: Macon Ga | Sampler's Name: MR

Well ID: MW-301D | Pump Type/Model: Alex Pen | Sample Collection Time: 1510

Total Depth (ft)[a]: 46 | Tubing Material: LDPE | Sample Purge Rate (L/min)[c]: .200L/min

Depth to Water (ft): 10.4 | Pump Intake Depth (ft): 41 | Sample ID: MW-301D-20160823-01

Well Diameter (in): 2 | Purge Method: Low flow | QA/QC Collected? Yes

*Well Volume (gal) = 0.041d²h: 5.8gal / 22L | Start/Stop Purge Time: ~~1427~~ | QA/QC I.D. MS, MSD

Purge Rate (L/min)[b]: .2 | Total Purge Volume (L): 8 | Laboratory Analyses: VOC, SVOC, Cyanide, Metals

Well Type: Flush / Stick Up

Well Cap Condition: Good / Replace / Other

Well Lock: Yes / No | Well Bolted: Yes / No | Bolts Needed: Yes / No

Sampling Method (check all that apply): ☐ soda straw ☑ pump head discharge ☐ Bailer (only used if necessary)

Time[d]	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.)
1432	27.82	427.1	0.36	6.27	-58.7	12	1	10.42	
1437	27.84	428.3	0.30	6.23	-55.1	12.2	2	10.42	
1442	27.57	396.2	0.26	6.19	-49.0	6.69	3	10.43	
1447	27.56	371.0	0.25	6.14	-44.7	5.65	4	10.43	
1452	27.71	352.1	0.23	6.11	-43.0	4.42	5	10.43	
1457	27.56	342.8	0.22	6.10	-42.5	6.17	6	10.42	
1502	27.48	348.9	0.21	6.11	-44.6	3.57	7	10.42	
1507	27.77	352.7	0.20	6.12	-47.9	3.63	8	10.42	

GROUND WATER SAMPLING LOG SHEET

0366660

Client: AGL | Project No.: ~~0176740~~ | Sampling Date: 8-24-16

Site/Location: Macon GA | Sampler's Name: MS

Well ID: MW-302DD | Pump Type/Model: ~~SPE~~ Alex. Peri | Sample Collection Time: 810

Total Depth (ft)[a]: 100 | Tubing Material: LDPE | Sample Purge Rate (L/min)[c]: .106

Depth to Water (ft): 24.40 | Pump Intake Depth (ft): ~~80~~ 85 | Sample ID: MW-302DD-20160824-01

Well Diameter (in): 2 | Purge Method: Low flow | QA/QC Collected? N

*Well Volume (gal) = 0.041d²h: 12.3 (46.6L) for 2.00" well | Start/Stop Purge Time: ~~0~~ 0721 | QA/QC I.D. —

Purge Rate (L/min)[b]: 200 | Total Purge Volume (L): 5 | Laboratory Analyses: VOC, SVOC, Cyanide, Metals/Mercury

Well Type: Flush / Stick Up

Well Cap Condition: Good / Replace / Other

Well Lock: Yes / No | Well Bolted: Yes / No | Bolts Needed: Yes / No

Sampling Method (check all that apply): ☐ soda straw ☑ pump head discharge ☐ Bailer (only used if necessary)

Time[d]	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.)
726	23.16	693.2	0.61	~~7.43~~	-233.8	0.97	1	24.96	Lower PR to .100L/min
731	23.11	690.6	0.46	7.47	-252.1	2.74	1.5	24.90	
736	23.21	689.0	0.44	7.48	-261.4	0.90	2.0	24.84	
741	23.21	685.8	0.40	7.48	-270.7	0.92	2.5	24.84	
746	23.23	686.7	0.37	7.48	-278.10	~~0.77~~	3.0	24.83	Tur 0.95
751	23.25	683.7	0.33	7.49	-284.7	0.77	3.5	24.83	
756	23.38	681.8	0.31	7.48	-290.2	0.79	4.0	24.83	
801	2343	676.7	0.30	7.48	-293.3	0.80	4.5	24.83	
806	23.42	677.3	0.29	7.49	-296.3	0.76	5.0	24.83	

ERM

GROUND WATER SAMPLING LOG SHEET

Client: ACL | Project No.: 0366660.02 | Sampling Date: 8-25-2016

Site/Location: MACON, GA | Sampler's Name: A. SHORETTS

Well ID: MW-305D | Pump Type/Model: ALEXIS PERISTALTIC | Sample Collection Time: 14:15

Total Depth (ft)[a]: 41.30 (41.5) | Tubing Material: LDPE, Silicone | Sample Purge Rate (L/min)[c]: ~~0.08~~ 0.1

Depth to Water (ft): 16.52 | Pump Intake Depth (ft): 38.0 | Sample ID: MW-305D-20160825-01

Well Diameter (in): 4.00/2.00 | Purge Method: LOW FLOW/VOLUME | QA/QC Collected? NO

*Well Volume (gal) = 0.041d²h: 12.69 (48.0L) | Start/Stop Purge Time: 13:46/14:11 | QA/QC I.D. NA

Purge Rate (L/min)[b]: 0.1 / 0.08 | Total Purge Volume (L): 2.0 | Laboratory Analyses: SEE COC

Well Type: (Flush) / Stick Up | Sampling Method: ~~X~~ soda straw

Well Cap Condition: (Good) / Replace / Other | (check all that apply) X pump head discharge

Well Lock: (Yes) / No | Well Bolted: (Yes) / No | Bolts Needed: Yes / (No) | ☐ Bailer (only used if necessary)

Time[d]	Temp. (°C)	Spec. Cond. ~~(µS/cm)~~ 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.)
13:51	27.4	6326	1.16	12.08	-58.9	5.26	0.4	16.71	Lowered purge rate to 0.08L/min
13:56	27.4	6415	0.96	12.08	-71.6	2.92	0.8	16.89	
14:01	26.8	6501	0.74	12.12	-90.2	5.24	1.2	17.07	
14:06	26.5	6494	0.68	12.14	-102.3	7.88	1.6	17.22	
14:11	26.7	6487	0.76	12.13	-105.2	5.44	2.0	17.34	Drawdown >0.3', but 3 vols not feasible.
PARAMETERS ARE STABLE, WELL CAN BE SAMPLED									
Stabilizing Criteria[e]	+/- 1°C ✓	194 +/- 3% ✓	+/- 10% (see note below)[g]	+/- 0.1 unit ✓	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10%	(see note below)[d]	(see note below)[f] X	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since itiitial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

GROUND WATER SAMPLING LOG SHEET

0366660

Client: AGLC | Project No.: ~~0176790~~ | Sampling Date: 8/23/16

Site/Location: Macon, GA | Sampler's Name: C. Hurdle

Well ID: MW-306D | Pump Type/Model: Alexis Perimetric | Sample Collection Time: 1600

Total Depth (ft)[a]: 51 | Tubing Material: LDPE | Sample Purge Rate (L/min)[c]: 0.075

Depth to Water (ft): 7.45 | Pump Intake Depth (ft): 41.75 | Sample ID: MW-306D-20160823-01

Well Diameter (in): 2 | Purge Method: low-flow | QA/QC Collected? NO

*Well Volume (gal) = 0.041d²h: 7.14gal / 27.03L | Start/Stop Purge Time: 1450 / 1637 | QA/QC I.D. NA

Purge Rate (L/min)[b]: 0.1 | Total Purge Volume (L): 2.0 | Laboratory Analyses: SEE COC

Well Type: (Flush) / Stick Up | Sampling Method: ☑ soda straw

Well Cap Condition: (Good) / Replace / Other | (check all that apply) ☐ pump head discharge

Well Lock: Yes / (No) | Well Bolted: (Yes) / No | Bolts Needed: (Yes) / No 2X | ☐ Bailer (only used if necessary)

Time[d]	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.)
1510	33.94	2105.8	5.86	~~11.47~~ ~~2105.8~~	.10	.55	.250	7.58	
1515	34.00	2101.5	5.84	~~11.46~~ ~~2101.5~~	2.50	.103	.500	7.61	
1520	33.58	2101.1	5.84	11.46	5.40	0.99	.625	7.63	
1525	33.72	2103.4	5.85	11.48	4.60	0.71	.750	7.65	
1530	33.84	2104.2	5.86	11.47	4.60	0.83	.875	7.67	
1535	34.13	2100.5	5.81	11.48	3.90	0.83	1.00	7.68	
1540	32.09	2088.6	5.79	11.53	7.80	0.85	1.25	~~7.74~~	
1545	30.76	2090.10	5.72	11.56	9.80	0.83	1.50	7.74	
1550	30.95	2095.6	5.72	11.56	9.80	0.79	1.75	~~7.85~~	
1555	30.70	2094.7	5.70	11.57	10.70	0.92	2.00	7.89	
Stabilizing Criteria[e]	+/- 1°C	+/- 3% ✓	+/- 10% (see note below)[g]	+/- 0.1 unit ✓	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10%	(see note below)[d]	(see note below)[f]	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since ititial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

ERM

GROUND WATER SAMPLING LOG SHEET

0366660

Client: AGL | Project No.: 0176740 | Sampling Date: 8-23-2016

Site/Location: MACON, GA | Sampler's Name: A. SHOREDITS

Well ID: MW-~~110D~~ 307D | Pump Type/Model: ALEXIS PERISTALTIC | Sample Collection Time: 12:05

Total Depth (ft)[a]: 57.64 (58') | Tubing Material: LDPE, Silicone | Sample Purge Rate (L/min)[c]: 0.07

Depth to Water (ft): 9.27 | Pump Intake Depth (ft): 45.0 Stoc | Sample ID: MW-307D-20160823-01

Well Diameter (in): 6.00/2.00 | Purge Method: LOW FLOW/VOLUME | QA/QC Collected? NO

*Well Volume (gal) = 0.041d²h: 7.94 (30.1 L) → for 2.00" diam. | Start/Stop Purge Time: 11:16/12:01 | QA/QC I.D. NA

Purge Rate (L/min)[b]: 0.1/0.07 | Total Purge Volume (L): 3.78 | Laboratory Analyses: SEE COC.

Well Type: (Flush) / Stick Up | Sampling Method: [X] soda straw

Well Cap Condition: (Good) / Replace / Other | (check all that apply) [X] pump head discharge

Well Lock: Yes (No) | Well Bolted: (Yes) / No | Bolts Needed: Yes / No | ☐ Bailer (only used if necessary)

Time[d]	Temp. (°C)	Spec. Cond. ~~mS/cm~~ µS/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.)
11:21	26.8	8325	3.07	12.23	-64.8	2.71	0.5	9.35	Some white flake
11:26	26.4	8432	2.40	12.28	-86.9	6.66	1.0	9.42	
11:31	26.4	8446	2.69	12.29	-90.7	8.89	1.5	9.51	
11:36	26.4	8422	2.88	12.29	-91.7	3.08	2.0	9.59	lowered purge rate to 75ml/min
11:41	26.7	8410	2.63	12.28	-91.7	8.37	2.38	9.65	lowered purge rate to 70ml/min
11:46	27.4	8401	2.46	12.26	-93.3	8.67	2.73	9.73	
11:51	27.7	8376	2.40	12.25	-92.6	2.96	3.08	9.78	
11:56	28.0	8332	2.52	12.23	-94.0	4.69	3.43	9.85	
12:01	28.7	8356	2.74	12.22	-96.7	3.40	3.78	9.90	Drawdown unavoidable
PARAMETERS ARE STABLE, NOT FEASIBLE TO PURGE THREE WELL VOLUMES, WELL CAN BE SAMPLED									
Stabilizing Criteria[e]	+/- ✓ 1°C	280 +/- ✓ 3%	+/- 10% (see note below)[g]	+/- ✓ 0.1 unit	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10%	(see note below)[d]	(see note below)[f]	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since itiial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

ERM

GROUND WATER SAMPLING LOG SHEET

Client: AGL
Project No.: 0366660 ~~0176740~~
Site/Location: Macon Ga
Well ID: MW-308D
Pump Type/Model: Alexis Pro
Total Depth (ft)[a]: 110
Tubing Material: LDPE
Depth to Water (ft): 20.15
Pump Intake Depth (ft): ~91
Well Diameter (in): 6
Purge Method: Low flow
*Well Volume (gal) = 0.041d²h: 132.6 gal / 501.9 L
Start/Stop Purge Time: 1038
Purge Rate (L/min)[b]: .200
Total Purge Volume (L):

Sampling Date: 8-23-16
Sampler's Name: MJC
Sample Collection Time: 1138
Sample Purge Rate (L/min)[c]: .100 L/min
Sample ID: MW-308D-20160823-01
QA/QC Collected? No
QA/QC I.D. —
Laboratory Analyses: VOC, SVOC, Metal, Cyanide

Well Type: Flush / Stick Up
Well Cap Condition: Good / Replace / Other
Well Lock: Yes / No
Well Bolted: Yes / No
Bolts Needed: Yes / No

Sampling Method: (check all that apply)
- ☑ soda straw
- ☐ pump head discharge
- ☐ Bailer (only used if necessary)

Time[d]	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.)
1043	27.61	4176.2	4.69	12.33	-114.5	8.00	1	20.28	
1048	27.88	42257	4.47	12.37	-81.2	4.79	2	20.38	
1053	27.20	42467	4.37	12.36	-66.1	6.07	3	20.51	Lower PR to 100mL/min
1058	27.74	4216.2	4.14	12.35	-57.4	2.86	3.5	20.66	
1103	28.00	42050	4.14	1235	-50.5	3.49	4	20.70	
1108	28.03	4181.4	4.10	12.35	-44.0	2.89	4.5	20.74	
1113	28.0	4161.6	4.09	12.36	-39.1	2.93	5.0	20.81	
1118	28.4	3771.1	4.09	12.36	-36.8	2.77	5.5	20.89	
1123	28.66	4177.0	4.07	12.35	-34.4	3.12	6.0	21.00	
1128	29.34	41225	3.99	12.34	-34.1	3.93	6.5	21.36	
1133	29.61	4162	4.01	1232	-32.5	3.71	7.0	21.58	
	Parameters Stable								
									Sample @ 1138
Stabilizing Criteria[e]	+/- 1°C	+/- 3%	+/- 10% (see note below)[g]	+/- 0.1 unit	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10%	(see note below)[d]	(see note below)[f]	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since ititial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

GROUND WATER SAMPLING LOG SHEET

0366660

Client: AGLC | Project No.: ~~0176740~~ | Sampling Date: 8-24-16

Site/Location: Macon, GA | Sampler's Name: C. Hurdle

Well ID: MW-400 | Pump Type/Model: Alexis, Perimetric | Sample Collection Time: 1721

Total Depth (ft)[a]: 16 | Tubing Material: LDPE | Sample Purge Rate (L/min)[c]: 0.5

Depth to Water (ft): 14.73 | Pump Intake Depth (ft): 15.37 | Sample ID: MW-400-20160824-01 & Dup-04

Well Diameter (in): 1 | Purge Method: low-flow | QA/QC Collected? yes

*Well Volume (gal) = 0.041d²h: 0.052 gal / 0.19L | Start/Stop Purge Time: 1557 / 1830 | QA/QC I.D. Dup-04

Purge Rate (L/min)[b]: 0.5 | Total Purge Volume (L): 6.75 + samples | Laboratory Analyses:

Well Type: Flush / (Stick Up) | Sampling Method: ☑ soda straw

Well Cap Condition: (Good) / Replace / Other | (check all that apply) ☐ pump head discharge

Well Lock: Yes / (No) | Well Bolted: Yes / (No) | Bolts Needed: Yes / No N/A | ☐ Bailer (only used if necessary)

Time[d]	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.)
1602	31.97	171.2	3.39	5.42	104.10	282	0.25	14.91	
1607	32.08	193.5	3.17	5.58	147.5	211	0.50	14.90	
1612	32.05	258.9	2.70	5.55	138.5	116	0.75	14.90	
1617	30.72	316.3	2.29	5.54	132.9	66.4	1.125	14.93	- turned purge rate up a bit. to ~~50~~ 75 mL/min
1622	30.76	385.3	2.08	5.52	131.0	64.9	1.5	14.93	
1627	30.27	457.5	2.10	5.51	128.8	90.0	1.875	14.96	
1632	30.29	527.9	3.70	5.53	129.4	30.3	2.25	14.95	- increasing purge rate to 100mL/min
1637	30.33	594.0	3.91	5.53	132.0	18.1	2.75	14.97	
1642	30.86	672.2	3.99	5.53	135.4	20.6	3.25	14.96	
1647	31.29	687.2	4.35	5.55	137.1	15.0	3.75	14.95	- increased purge rate 1 click
1652	29.20	714.2	1.12	5.47	143.8	35.6	4.25	15.05	- tubing weight must be lowered to check water level, forgot to bring back up & it caused more drawdown & turbidity
1657	30.52	747.7	3.64	5.54	139.5	17.4	4.75	14.96	
1702	30.88	772.6	3.92	5.55	143.6	6.48	5.25	14.95	
1707	30.81	793.8	3.77	5.53	148.1	4.97	5.75	14.95	
1712	30.93	810.0	3.76	5.53	150.9	1.98	6.25	14.95	
1717	30.62	817.2	3.81	5.53	151.5	1.38	6.75	14.96	
Stabilizing Criteria[e]	+/- 1°C	+/- 3%	+/- 10% (see note below)[g]	+/- 0.1 unit	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10%	(see note below)[d]	(see note below)[f]	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since ititial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

GROUND WATER SAMPLING LOG SHEET

ERM

Client: AGL | Project No.: 0366660 | Sampling Date: 8/24/2016

Site/Location: Macon | Sampler's Name: Keith Paine

Well ID: MW-401 | Pump Type/Model: Peristaltic / Alexis | Sample Collection Time: 16:45

Total Depth (ft)[a]: 20.20 | Tubing Material: Poly | Sample Purge Rate (L/min)[c]: .150L/min

Depth to Water (ft): 13.50 | Pump Intake Depth (ft): 15.20 | Sample ID: MW-401/20160824-01

Well Diameter (in): ~~1/8~~ 1" | Purge Method: Low Flow | QA/QC Collected? N/A

*Well Volume (gal) = 0.041d²h: 0.2747 | Start/Stop Purge Time: 15:40 / 16:30 | QA/QC I.D. N/A

~~0.1E9~~

Purge Rate (L/min)[b]: 100ml | Total Purge Volume (L): 7.000 | Laboratory Analyses:

Well Type: Flush / Stick Up | Sampling Method: ☒ soda straw

Well Cap Condition: Good / Replace / Other | (check all that apply) ☐ pump head discharge

Well Lock: Yes / No | Well Bolted: Yes / No | Bolts Needed: Yes / No | ☐ Bailer (only used if necessary)

Time[d]	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.)
1545	27.37	126.80	1.19	5.85	82.00	1000	.500	13.50	
1550	24.84	142.70	0.65	5.84	82.30	1000	1.000	13.50	
1555	25.42	175.70	0.42	5.84	72.60	108	1.750	13.51	Increased to 150ml/min = 750 @ 5min
16:00	25.15	182.30	0.32	5.88	65.50	67.8	2.500	13.52	
16:05	25.10	190.10	0.30	~~5.90~~	~~58.10~~	~~29.6~~	3.250	13.52	Turbidity is 29.6 KHP 8/24/2016
16:10	**25:06**	**192.40**	**0.28**	**5.91**	**55.50**	16.4	**4.000**	13.52	
16:15	24.98	194.80	0.27	5.91	53.70	11.8	4.750	13.52	
16:20	24.89	197.20	0.27	5.92	51.60	9.71	5.500	13.52	
16:25	24.94	199.30	0.26	5.93	49.80	8.60	6.250	13.52	
16.30	25.01	201.20	0.27	5.93	48.40	8.19	7.000	13.52	
Stabilizing Criteria[e]	+/- 1°C	+/- 3%	+/- 10% (see note below)[g]	+/- 0.1 unit	+/- 10 mV (see note below)[h]	<10 NTUs OR +/- 10%	(see note below)[d]	(see note below)[f]	

(a) - 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
(b) - Purge rate to be 0.5 lpm or less
(c) - Sampling rate to be 0.25 lpm or less
(d) - Field parameter measurements to be recorded every 3 to 5 minutes
(e) - Stabilization criteria based on three most recent consecutive measurements
(f) - Monitor DTW every 5 min. Well drawdown to be 0.3 ft or less since ititial reading. Purge/sampling rate to be lowered as necessary to keep drawdown below 0.3 ft before switching to three well volume method
(g) - DO is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure
(h) - ORP is not a stabilization criterion for the "Groundwater sampling" SESD Standard Operating Procedure.

* d = well diameter (inches); h = length of water column (feet)

Casing Diameter	Gallons per foot
1 in	0.12
2 in	0.16
4 in	0.64

Waste Disposal Manifest (CD ONLY)

Appendix B-3

Project No. 0366660
Atlanta Gas Light Company

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

NON-HAZARDOUS WASTE MANIFEST

AT1602749657

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. NONEREQUIRED

Manifest Document No. [illegible] 2. Page 1 of

3. Generator's Name and Mailing Address
AGL Macon
137 Mulberry Street
Macon GA 31201
(678) 230-7604 ATTN: DonDowling

4. Generator's Phone ( )

5. Transporter 1 Company Name: Clean Harbors Environmental Service, Inc. 6. US EPA ID Number: MAD039082250

A. State Transporter's ID (781) 792-5000

B. Transporter 1 Phone

7. Transporter 2 Company Name 8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
Clean Harbors Chattanooga LLC
3300 Cummings Road
Chattanooga, TN 37419

10. US EPA ID Number: TND982141392

E. State Facility's ID [illegible]

F. Facility's Phone 4238216926

GENERATOR

11. WASTE DESCRIPTION	Containers No.	Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. NONE, NON DOT REGULATED MATERIAL, N/A	1	TT	650	G
b.				
c.				
d.				

G. Additional Descriptions for Materials Listed Above
11a CH4998196

H. Handling Codes for Wastes Listed Above

EMERGENCY PHONE #: (800) 483-3718

15. Special Handling Instructions and Additional Information
GENERATOR: AGL Macon

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: CONSULTING COMPANY WAS (AGL) BY ANDREAS SIDEROPOULOS, ASSOCIATE GEOLOGIST, AS TTS AGENT

Signature

Date: Month 08 Day 25 Year 16

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Leonard Pill

Signature

Date: Month 08 Day 25 Year 16

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name

Signature

Date: Month Day Year

CF14 © 2002 LABELMASTER® (800) 621-5808 www.labelmaster.com

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CleanHarbors ENVIRONMENTAL SERVICES®

Site Services Multi-Task Worksheet

32477

Day & Date: Thursday 08-25-16

Sales Order #: AT160274957

Job Complete: (Yes) / No (Circle One)

Job Description / Comments: Pump out Loaded Drums and totes transport Material

Customer: AGL Macon

Billing Address: 137 Mulberry St Macon, GA 31201

Contact:

Job Location: Same

PO # / COD Amount:

Per Diem: Yes / (No) (Circle one) If yes, how many?:

Change Order Initiated: Yes / No (Circle One)

Component Type	Task # / Description	Task # / Description	Task # / Description
	Task Complete: Yes / No (Circle One)	Task Complete: Yes / No (Circle One)	Task Complete: Yes / No (Circle One)

Labor

Name	Title	ID #	ST	OT	DT	ST	OT	DT	ST	OT	DT
Leonard Price	E/O Tech	073193									
Marius Gantt		075371									

Disposal / Write Description/Destination	Manifest #	Amount	Manifest #	Amount	Manifest #	Amount
LIQUID: Bulk / Drum						
SOLID: Bulk / Drum						

Equipment Type	Quantity	Fleet #	# of Hr/Day	Quantity	Fleet #	# of Hr/Day	Quantity	Fleet #	# of Hr/Day
Pickup / Van / Car / Crew Cab (Circle One)									
Vacuum Trailer									
Tractor									
Vacuum Truck, Straight	1	4287							
Box Truck									
Cusco / Guzzler / Vactor (Circle One)									
Air Compressor, 175 CFM									
Backhoe Loader 1 Yd bucket									
Bobcat Loader--Mini Excavator									
Rack Truck									
Rolloff Truck, Straight									
Pressure Washer (PSI: _____) Hot / Cold (Circle One)									
Meter Type:									

Material Description	Quantity	Size	Quantity	Size	Quantity	Size
Drum Type:						
Drum Type:						
Rope Type:						
Degreaser Type:						
Speedi Dry						
Polycoated Rain Gear, 22mil						
Poly Sheet, 6mil, 20ft x 100ft						
Poly Bags, 6mil, per roll						
Absorbent Pad (101 Grade) 100/bale						
Absorbent Boom Each						
Absorbent Boom Bale						
Duct Tape/Roll						
Safety Plan						
Rolloff Poly Liner						
5 Gal / 20 Litre Poly Drum 1H2						

Container Management	Size	Fleet #	Size	Fleet #	Size	Fleet #
Rolloff / Intermodal / Frac Tank / Tanker (circle one)						
Rolloff / Intermodal / Frac Tank / Tanker (circle one)						

PPE Sets	Task 1	Task 2	Task 3	Type	Qty	Type	Qty	Type	Qty	Type	Qty	Type	Qty	Type	Qty
# of Complete Sets of PPE Used:				PPED1		PPEB2		PPED1		PPEB2		PPED1		PPEB2	
# of People in PPE:				PPEC2		PPEB3		PPEC2		PPEB3		PPEC2		PPEB3	
				PPEC3		PPEB4		PPEC3		PPEB4		PPEC3		PPEB4	
				PPEC4		PPEA5		PPEC4		PPEA5		PPEC4		PPEA5	

PPED1=Level D w/(Tyvek, boots, gloves) PPEC2=Level C w/(CPF1,2 or Poly Tyvek suit)
PPEC3=Level C w/(CPF3 or Saranex suit) PPEC4=Level C w/(CPF4 or Barricade suit)
PPEB2=Level B w/(CPF2 or Poly Tyvek suit) PPEB3=Level B w/(CPF3 or Saranex suit)
PPEB4=Level B w/(CPF4 or Barricade suit) PPEA5=Level A w/(Responder suit)

PPE Items Used in Addition to Sets Above	Quantity	Type	Quantity	Type	Quantity	Type
Cartridge						
Respirator						
Suit						
Inner Gloves						
Outer Gloves						
Breathing Air Bottle						

Analytical - Analysis Description	# of Tests	Lab Name	# of Tests	Lab Name	# of Tests	Lab Name

Subcontractor Name	Description of Service	Description of Service	Description of Service

CHES Rep (Print) Leonard Price

CHES Rep (Sign) LPR

Date: 08-25-16

Customer (Print) SOUTHERN COMPANY GAS (formerly AGL) BY: ANDREAS SHOREDITS, AS ITS AGENT

Customer (Sign)

Date: 08-25-16

CHI 225-SS (9/07) IMPORTANT - PAYMENT TERMS ON BACK

CUSTOMER COPY

Groundwater Gradient Estimation Figures (CD ONLY)

Appendix B-4

Project No. 0366660
Atlanta Gas Light Company

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

N

Eastern Portion Gradient Calculation				
Well Pair		dh	dL	Gradient
MW-101	MW-28	8.50	685	0.0124

Western Portion Gradient Calculation				
Well Pair		dh	dL	Gradient
MW-109	MW-08	12.08	212	0.0570

0 150 Feet

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

Environmental Resources Management

ERM

DESIGN:	H Sartain	DRAWN:	S Vizuete	CHKD.:	A Reimer
DATE:	10/14/2016	SCALE:	AS SHOWN	REVISION:	0

FILE: S:\0366660 - AGL_Macon\Figures\AGL_Macon\MXD\2016 10 3rdVRPPrgRpt\ApxB_GWRptAug2016\ApxBGWRptAug2016_AppxBIMcn_ApxB-2A_AlluvGWGradEst082216.mxd

- Shallow Well
- Abandoned Shallow Well
- Destroyed Shallow Well
- Intermediate Well
- GWGradEstAlluv_082216
- Groundwater Elevation Contour (ft AMSL)
- Groundwater Flow Direction
- ISS Mass

NOTES:

(285.85) = GW Elevation (ft AMSL)

(NM) = Not Measured

AMSL = Above Mean Sea Level

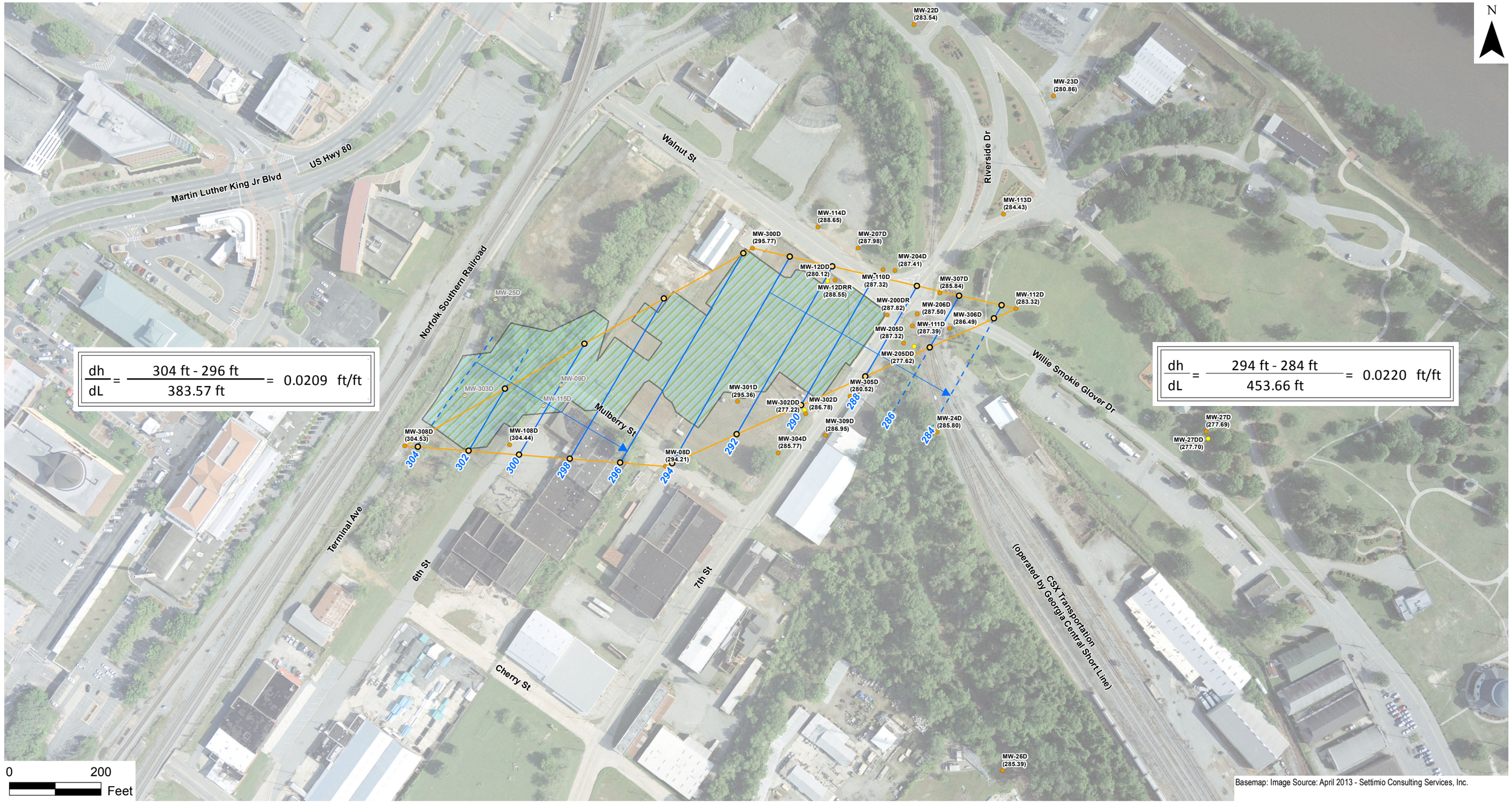
Intermediate wells MW-14I and MW-12IR not used in contouring.

FIGURE B-4A - GROUNDWATER GRADIENT ESTIMATION MAP AUGUST 22, 2016

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.:	A Reimer
DATE:	10/18/2016	SCALE:	AS SHOWN	REVISION:	0

FILE: P:\Projects\0366660 AGL Resources Macon GW Pathforward.AR\Figures\AGL_Macon\MXD\2016 10 3\rdVRPPrgRpt\ApxB_GWRptAug2016\ApxBGWRptAug2016_AppxB\Mcn_ApxB-2B_BdrkHydPotntl082216.mxd

- Shallow Bedrock Well
- Abandoned Shallow Bedrock Well
- Destroyed Shallow Bedrock Well
- Deep Bedrock Well
- ISS Mass
- Estimated Groundwater Contour
- Estimated Groundwater Flow Direction

NOTES:

(283.23) = Groundwater Elevation (Ft AMSL)

(NM) = Not Measured

Deep bedrock wells MW-12DD, MW-27DD, MW-205DD and MW-302DD not used in flow direction calculations.

FIGURE B-4B - HYDRAULIC POTENTIAL IN SHALLOW BEDROCK WELLS - AUGUST 22, 2016

Atlanta Gas Light Company

Former Manufactured Gas Plant

Macon, Bibb County, Georgia

Laboratory Analytical Reports (CD ONLY)

Appendix B-5

November 21, 2016
Project No. 0366660
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.

September 01, 2016

Adria Reimer
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

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

RE: AGL Macon

Dear Adria Reimer: Order No: 1608K90

Analytical Environmental Services, Inc. received 16 samples on 8/24/2016 5:15:00 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's accreditations are as follows:
-NELAC/Florida State Laboratory ID E87582 for analysis of Non-Potable Water, Solid & Chemical Materials, and Drinking Water Microbiology, effective 07/01/16-06/30/17.
-NELAC/Louisiana Agency Interest No. 100818 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 07/01/16-06/30/17.
-NELAC/Texas Certificate No. T104704509-16-6 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 03/01/16-02/28/17.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Metals, PCM Asbestos, Gravimetric), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

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: 1608K90

Date: 8/24/16 Page 1 of 1

COMPANY:	ADDRESS:
ERM	3200 WINDY HILL RD, #1500W ATLANTA, GA 30312
PHONE: 678-486-2700	FAX:
SAMPLED BY: MORRISON, PAYNE, PRINE	SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	VOCs	SVOCs	Metals	CN	No # of Containers	REMARKS
							PRESERVATION (See codes)					
							HI	I	NT	O		
1	AMW-6-20160822-01	8/22/16	1610	✓		GW	✓	✓	✓	✓	6	OCWATER KC
2	AMW-11-20160822-01	8/22/16	1740	✓			✓	✓	✓	✓	6	
3	AMW13-20160823-01	8/23/16	0930	✓			✓	✓	✓	✓	6	
4	AMW12-20160823-01	8/23/16	1400	✓			✓	✓	✓	✓	6	
5	AMW-14-20160823-01	8/23/16	1510	✓			✓	✓	✓	✓	6	
6	FD-1-20160823-01	8/23/16	—	✓			✓	✓	✓	✓	6	
7	MW-26-20160823-01	8/23/16	0945	✓			✓	✓	✓	✓	6	
8	AMW-2-20160823-01	8/23/16	1530	✓			✓	✓	✓	✓	6	
9	MW12R-20160824-01	8/24/16	0920	✓			✓	✓	✓	✓	6	
10	MW12IR-20160824-01	8/24/16	1045	✓			✓	✓	✓	✓	6	
11	MW28-20160824-01	8/24/16	1325	✓			✓	✓	✓	✓	6	
12	MW-109-20160824-01	8/24/16	1000	✓			✓	✓	✓	✓	6	
13	MW-205-20160824-01	8/24/16	1245	✓			✓	✓	✓	✓	6	
14	MW-109-20160824-01	8/24/16	1345	✓			✓	✓	✓	✓	6	

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:	8/24/16 1430	1:	8/24/16 1530
2:	8/24/16 5:15	2:	
3:		3: Christ Test	8-24-16 17:15

PROJECT INFORMATION

PROJECT NAME: ATL MACON

PROJECT #:

SITE ADDRESS: MACON, GA

SEND REPORT TO: ADRIA REINHART

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: PO#:

RECEIPT

Total # of Containers: 94

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): N

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

CHAIN OF CUSTODY

Work Order: 1608K90

Date: 8/24/16 Page 1 of 1

COMPANY: EPM

ADDRESS: 3200 Windy Hill Rd, #150W Atlanta, GA 30339

PHONE: 678 486-2700

FAX:

SAMPLED BY: Jim Morrison

SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	PRESERVATION (See codes)	REMARKS	No # of Containers
1	TRIP BLANK 01-2016.0824-01	8/24	—	✓		W	I		2
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									2

ANALYSIS REQUESTED: VOCs

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

PRESERVATION (See codes): H+I

RELINQUISHED BY / DATE/TIME:
1: 8/24/16 1430
2: 8/24/16 5:15
3:

RECEIVED BY / DATE/TIME:
1:
2: 8/24/16 3:30
3: 8-24-16 17:15

SPECIAL INSTRUCTIONS/COMMENTS:

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

PROJECT INFORMATION
PROJECT NAME: AGL - MACON
PROJECT #:
SITE ADDRESS: MACON, GA
SEND REPORT TO:
INVOICE TO: (IF DIFFERENT FROM ABOVE)
QUOTE #: PO#:

RECEIPT
Total # of Containers: 2

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: AGL Macon
Lab ID: 1608K90

Case Narrative

Per Adria Reimer via email on 8/29/16, sample ID "FD-1-20160823-01" was changed to "DUP-01-20160823-01."

Semi-Volatile Organics Analysis by Method 8270D:

Percent recovery for the surrogate spiking compound 2,4,6-tribromophenol on QC sample LCS-228603 was outside control limits biased high.

Matrix spike and matrix spike duplicate analyses were not performed with Batch 228646 due to insufficient sample volume.

Analytical Environmental Services, Inc **Date:** 1-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	AMW-6-20160822-01
Project Name:	AGL Macon	**Collection Date:**	8/22/2016 4:10:00 PM
Lab ID:	1608K90-001	**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	228677	1	08/25/2016 18:34	NH
Carbon disulfide	BRL	5.0		ug/L	228677	1	08/25/2016 18:34	NH
Ethylbenzene	BRL	5.0		ug/L	228677	1	08/25/2016 18:34	NH
Toluene	BRL	5.0		ug/L	228677	1	08/25/2016 18:34	NH
Xylenes, Total	BRL	5.0		ug/L	228677	1	08/25/2016 18:34	NH
Surr: 4-Bromofluorobenzene	88.7	70.7-125		%REC	228677	1	08/25/2016 18:34	NH
Surr: Dibromofluoromethane	106	82.2-120		%REC	228677	1	08/25/2016 18:34	NH
Surr: Toluene-d8	97.6	81.8-120		%REC	228677	1	08/25/2016 18:34	NH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	228604	1	08/26/2016 16:07	YH
Acenaphthylene	BRL	1.0		ug/L	228604	1	08/26/2016 16:07	YH
Acenaphthene	BRL	0.50		ug/L	228604	1	08/26/2016 16:07	YH
Fluorene	BRL	0.10		ug/L	228604	1	08/26/2016 16:07	YH
Phenanthrene	BRL	0.050		ug/L	228604	1	08/26/2016 16:07	YH
Anthracene	BRL	0.050		ug/L	228604	1	08/26/2016 16:07	YH
Fluoranthene	BRL	0.10		ug/L	228604	1	08/26/2016 16:07	YH
Pyrene	BRL	0.050		ug/L	228604	1	08/26/2016 16:07	YH
Benz(a)anthracene	BRL	0.050		ug/L	228604	1	08/26/2016 16:07	YH
Chrysene	BRL	0.050		ug/L	228604	1	08/26/2016 16:07	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228604	1	08/26/2016 16:07	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228604	1	08/26/2016 16:07	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228604	1	08/26/2016 16:07	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228604	1	08/26/2016 16:07	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228604	1	08/26/2016 16:07	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228604	1	08/26/2016 16:07	YH
Surr: 4-Terphenyl-d14	111	58.7-134		%REC	228604	1	08/26/2016 16:07	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228603	1	08/26/2016 16:46	YH
2-Methylphenol	BRL	10		ug/L	228603	1	08/26/2016 16:46	YH
3,4-Methylphenol	BRL	10		ug/L	228603	1	08/26/2016 16:46	YH
Phenol	BRL	10		ug/L	228603	1	08/26/2016 16:46	YH
Surr: 2,4,6-Tribromophenol	96.8	51.5-141		%REC	228603	1	08/26/2016 16:46	YH
Surr: 2-Fluorobiphenyl	76.9	50.8-122		%REC	228603	1	08/26/2016 16:46	YH
Surr: 2-Fluorophenol	57.4	28.1-120		%REC	228603	1	08/26/2016 16:46	YH
Surr: 4-Terphenyl-d14	86.2	47.2-131		%REC	228603	1	08/26/2016 16:46	YH
Surr: Nitrobenzene-d5	70.5	42.1-124		%REC	228603	1	08/26/2016 16:46	YH
Surr: Phenol-d5	42.4	16-120		%REC	228603	1	08/26/2016 16:46	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-16

Client:	ERM-Southeast	**Client Sample ID:**	AMW-6-20160822-01
Project Name:	AGL Macon	**Collection Date:**	8/22/2016 4:10:00 PM
Lab ID:	1608K90-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228673	1	08/26/2016 13:43	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	228854	1	08/30/2016 10:30	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228519	1	08/29/2016 18:38	IO
Arsenic	BRL	0.0500		mg/L	228519	1	08/29/2016 18:38	IO
Barium	0.0393	0.0200		mg/L	228519	1	08/29/2016 18:38	IO
Beryllium	BRL	0.0100		mg/L	228519	1	08/29/2016 18:38	IO
Cadmium	BRL	0.0050		mg/L	228519	1	08/29/2016 18:38	IO
Chromium	BRL	0.0100		mg/L	228519	1	08/29/2016 18:38	IO
Copper	BRL	0.0100		mg/L	228519	1	08/29/2016 18:38	IO
Lead	BRL	0.0100		mg/L	228519	1	08/29/2016 18:38	IO
Nickel	BRL	0.0200		mg/L	228519	1	08/29/2016 18:38	IO
Zinc	BRL	0.0200		mg/L	228519	1	08/29/2016 18:38	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:** 1-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	AMW-11-20160822-01
Project Name:	AGL Macon	**Collection Date:**	8/22/2016 5:40:00 PM
Lab ID:	1608K90-002	**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	228677	1	08/25/2016 19:44	NH
Carbon disulfide	BRL	5.0		ug/L	228677	1	08/25/2016 19:44	NH
Ethylbenzene	BRL	5.0		ug/L	228677	1	08/25/2016 19:44	NH
Toluene	BRL	5.0		ug/L	228677	1	08/25/2016 19:44	NH
Xylenes, Total	BRL	5.0		ug/L	228677	1	08/25/2016 19:44	NH
Surr: 4-Bromofluorobenzene	88.4	70.7-125		%REC	228677	1	08/25/2016 19:44	NH
Surr: Dibromofluoromethane	107	82.2-120		%REC	228677	1	08/25/2016 19:44	NH
Surr: Toluene-d8	98.8	81.8-120		%REC	228677	1	08/25/2016 19:44	NH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	228604	1	08/26/2016 16:32	YH
Acenaphthylene	BRL	1.0		ug/L	228604	1	08/26/2016 16:32	YH
Acenaphthene	BRL	0.50		ug/L	228604	1	08/26/2016 16:32	YH
Fluorene	BRL	0.10		ug/L	228604	1	08/26/2016 16:32	YH
Phenanthrene	BRL	0.050		ug/L	228604	1	08/26/2016 16:32	YH
Anthracene	BRL	0.050		ug/L	228604	1	08/26/2016 16:32	YH
Fluoranthene	BRL	0.10		ug/L	228604	1	08/26/2016 16:32	YH
Pyrene	BRL	0.050		ug/L	228604	1	08/26/2016 16:32	YH
Benz(a)anthracene	BRL	0.050		ug/L	228604	1	08/26/2016 16:32	YH
Chrysene	BRL	0.050		ug/L	228604	1	08/26/2016 16:32	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228604	1	08/26/2016 16:32	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228604	1	08/26/2016 16:32	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228604	1	08/26/2016 16:32	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228604	1	08/26/2016 16:32	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228604	1	08/26/2016 16:32	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228604	1	08/26/2016 16:32	YH
Surr: 4-Terphenyl-d14	94.8	58.7-134		%REC	228604	1	08/26/2016 16:32	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228603	1	08/26/2016 17:15	YH
2-Methylphenol	BRL	10		ug/L	228603	1	08/26/2016 17:15	YH
3,4-Methylphenol	BRL	10		ug/L	228603	1	08/26/2016 17:15	YH
Phenol	BRL	10		ug/L	228603	1	08/26/2016 17:15	YH
Surr: 2,4,6-Tribromophenol	92.9	51.5-141		%REC	228603	1	08/26/2016 17:15	YH
Surr: 2-Fluorobiphenyl	72.5	50.8-122		%REC	228603	1	08/26/2016 17:15	YH
Surr: 2-Fluorophenol	50.7	28.1-120		%REC	228603	1	08/26/2016 17:15	YH
Surr: 4-Terphenyl-d14	77.3	47.2-131		%REC	228603	1	08/26/2016 17:15	YH
Surr: Nitrobenzene-d5	61	42.1-124		%REC	228603	1	08/26/2016 17:15	YH
Surr: Phenol-d5	36.2	16-120		%REC	228603	1	08/26/2016 17:15	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-16

Client:	ERM-Southeast	**Client Sample ID:**	AMW-11-20160822-01
Project Name:	AGL Macon	**Collection Date:**	8/22/2016 5:40:00 PM
Lab ID:	1608K90-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228673	1	08/26/2016 13:51	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.015	0.010		mg/L	228854	1	08/30/2016 10:30	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228519	1	08/29/2016 18:42	IO
Arsenic	BRL	0.0500		mg/L	228519	1	08/29/2016 18:42	IO
Barium	0.0474	0.0200		mg/L	228519	1	08/29/2016 18:42	IO
Beryllium	BRL	0.0100		mg/L	228519	1	08/29/2016 18:42	IO
Cadmium	BRL	0.0050		mg/L	228519	1	08/29/2016 18:42	IO
Chromium	0.232	0.0100		mg/L	228519	1	08/29/2016 18:42	IO
Copper	BRL	0.0100		mg/L	228519	1	08/29/2016 18:42	IO
Lead	BRL	0.0100		mg/L	228519	1	08/29/2016 18:42	IO
Nickel	BRL	0.0200		mg/L	228519	1	08/29/2016 18:42	IO
Zinc	BRL	0.0200		mg/L	228519	1	08/29/2016 18:42	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 **Date:** 1-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	AMW-13-20160823-01
Project Name:	AGL Macon	**Collection Date:**	8/23/2016 9:30:00 AM
Lab ID:	1608K90-003	**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	228677	1	08/25/2016 20:07	NH
Carbon disulfide	BRL	5.0		ug/L	228677	1	08/25/2016 20:07	NH
Ethylbenzene	BRL	5.0		ug/L	228677	1	08/25/2016 20:07	NH
Toluene	BRL	5.0		ug/L	228677	1	08/25/2016 20:07	NH
Xylenes, Total	BRL	5.0		ug/L	228677	1	08/25/2016 20:07	NH
Surr: 4-Bromofluorobenzene	88.9	70.7-125		%REC	228677	1	08/25/2016 20:07	NH
Surr: Dibromofluoromethane	108	82.2-120		%REC	228677	1	08/25/2016 20:07	NH
Surr: Toluene-d8	99.5	81.8-120		%REC	228677	1	08/25/2016 20:07	NH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	228604	1	08/26/2016 16:58	YH
Acenaphthylene	BRL	1.0		ug/L	228604	1	08/26/2016 16:58	YH
Acenaphthene	BRL	0.50		ug/L	228604	1	08/26/2016 16:58	YH
Fluorene	BRL	0.10		ug/L	228604	1	08/26/2016 16:58	YH
Phenanthrene	BRL	0.050		ug/L	228604	1	08/26/2016 16:58	YH
Anthracene	BRL	0.050		ug/L	228604	1	08/26/2016 16:58	YH
Fluoranthene	BRL	0.10		ug/L	228604	1	08/26/2016 16:58	YH
Pyrene	BRL	0.050		ug/L	228604	1	08/26/2016 16:58	YH
Benz(a)anthracene	BRL	0.050		ug/L	228604	1	08/26/2016 16:58	YH
Chrysene	BRL	0.050		ug/L	228604	1	08/26/2016 16:58	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228604	1	08/26/2016 16:58	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228604	1	08/26/2016 16:58	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228604	1	08/26/2016 16:58	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228604	1	08/26/2016 16:58	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228604	1	08/26/2016 16:58	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228604	1	08/26/2016 16:58	YH
Surr: 4-Terphenyl-d14	167	58.7-134	S	%REC	228604	1	08/26/2016 16:58	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228603	1	08/26/2016 17:44	YH
2-Methylphenol	BRL	10		ug/L	228603	1	08/26/2016 17:44	YH
3,4-Methylphenol	BRL	10		ug/L	228603	1	08/26/2016 17:44	YH
Phenol	BRL	10		ug/L	228603	1	08/26/2016 17:44	YH
Surr: 2,4,6-Tribromophenol	88.8	51.5-141		%REC	228603	1	08/26/2016 17:44	YH
Surr: 2-Fluorobiphenyl	72.1	50.8-122		%REC	228603	1	08/26/2016 17:44	YH
Surr: 2-Fluorophenol	46.8	28.1-120		%REC	228603	1	08/26/2016 17:44	YH
Surr: 4-Terphenyl-d14	79.6	47.2-131		%REC	228603	1	08/26/2016 17:44	YH
Surr: Nitrobenzene-d5	60.8	42.1-124		%REC	228603	1	08/26/2016 17:44	YH
Surr: Phenol-d5	32.8	16-120		%REC	228603	1	08/26/2016 17:44	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:** 1-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	AMW-13-20160823-01
Project Name:	AGL Macon	**Collection Date:**	8/23/2016 9:30:00 AM
Lab ID:	1608K90-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228673	1	08/26/2016 13:57	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	228854	1	08/30/2016 10:30	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228519	1	08/29/2016 18:46	IO
Arsenic	BRL	0.0500		mg/L	228519	1	08/29/2016 18:46	IO
Barium	0.0450	0.0200		mg/L	228519	1	08/29/2016 18:46	IO
Beryllium	BRL	0.0100		mg/L	228519	1	08/29/2016 18:46	IO
Cadmium	BRL	0.0050		mg/L	228519	1	08/29/2016 18:46	IO
Chromium	BRL	0.0100		mg/L	228519	1	08/29/2016 18:46	IO
Copper	BRL	0.0100		mg/L	228519	1	08/29/2016 18:46	IO
Lead	BRL	0.0100		mg/L	228519	1	08/29/2016 18:46	IO
Nickel	BRL	0.0200		mg/L	228519	1	08/29/2016 18:46	IO
Zinc	BRL	0.0200		mg/L	228519	1	08/29/2016 18:46	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:** 1-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	AMW-12-20160823-01
Project Name:	AGL Macon	**Collection Date:**	8/23/2016 2:00:00 PM
Lab ID:	1608K90-004	**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	228677	1	08/25/2016 20:31	NH
Carbon disulfide	BRL	5.0		ug/L	228677	1	08/25/2016 20:31	NH
Ethylbenzene	BRL	5.0		ug/L	228677	1	08/25/2016 20:31	NH
Toluene	BRL	5.0		ug/L	228677	1	08/25/2016 20:31	NH
Xylenes, Total	BRL	5.0		ug/L	228677	1	08/25/2016 20:31	NH
Surr: 4-Bromofluorobenzene	87.8	70.7-125		%REC	228677	1	08/25/2016 20:31	NH
Surr: Dibromofluoromethane	108	82.2-120		%REC	228677	1	08/25/2016 20:31	NH
Surr: Toluene-d8	99	81.8-120		%REC	228677	1	08/25/2016 20:31	NH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	228604	1	08/26/2016 17:24	YH
Acenaphthylene	BRL	1.0		ug/L	228604	1	08/26/2016 17:24	YH
Acenaphthene	BRL	0.50		ug/L	228604	1	08/26/2016 17:24	YH
Fluorene	BRL	0.10		ug/L	228604	1	08/26/2016 17:24	YH
Phenanthrene	BRL	0.050		ug/L	228604	1	08/26/2016 17:24	YH
Anthracene	BRL	0.050		ug/L	228604	1	08/26/2016 17:24	YH
Fluoranthene	BRL	0.10		ug/L	228604	1	08/26/2016 17:24	YH
Pyrene	BRL	0.050		ug/L	228604	1	08/26/2016 17:24	YH
Benz(a)anthracene	BRL	0.050		ug/L	228604	1	08/26/2016 17:24	YH
Chrysene	BRL	0.050		ug/L	228604	1	08/26/2016 17:24	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228604	1	08/26/2016 17:24	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228604	1	08/26/2016 17:24	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228604	1	08/26/2016 17:24	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228604	1	08/26/2016 17:24	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228604	1	08/26/2016 17:24	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228604	1	08/26/2016 17:24	YH
Surr: 4-Terphenyl-d14	104	58.7-134		%REC	228604	1	08/26/2016 17:24	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228603	1	08/26/2016 18:11	YH
2-Methylphenol	BRL	10		ug/L	228603	1	08/26/2016 18:11	YH
3,4-Methylphenol	BRL	10		ug/L	228603	1	08/26/2016 18:11	YH
Phenol	BRL	10		ug/L	228603	1	08/26/2016 18:11	YH
Surr: 2,4,6-Tribromophenol	96.1	51.5-141		%REC	228603	1	08/26/2016 18:11	YH
Surr: 2-Fluorobiphenyl	73.4	50.8-122		%REC	228603	1	08/26/2016 18:11	YH
Surr: 2-Fluorophenol	56	28.1-120		%REC	228603	1	08/26/2016 18:11	YH
Surr: 4-Terphenyl-d14	82.5	47.2-131		%REC	228603	1	08/26/2016 18:11	YH
Surr: Nitrobenzene-d5	68.2	42.1-124		%REC	228603	1	08/26/2016 18:11	YH
Surr: Phenol-d5	39.8	16-120		%REC	228603	1	08/26/2016 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:** 1-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	AMW-12-20160823-01
Project Name:	AGL Macon	**Collection Date:**	8/23/2016 2:00:00 PM
Lab ID:	1608K90-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228673	1	08/26/2016 13:58	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	228854	1	08/30/2016 10:30	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228519	1	08/29/2016 18:50	IO
Arsenic	BRL	0.0500		mg/L	228519	1	08/29/2016 18:50	IO
Barium	0.0388	0.0200		mg/L	228519	1	08/29/2016 18:50	IO
Beryllium	BRL	0.0100		mg/L	228519	1	08/29/2016 18:50	IO
Cadmium	BRL	0.0050		mg/L	228519	1	08/29/2016 18:50	IO
Chromium	0.0384	0.0100		mg/L	228519	1	08/29/2016 18:50	IO
Copper	BRL	0.0100		mg/L	228519	1	08/29/2016 18:50	IO
Lead	BRL	0.0100		mg/L	228519	1	08/29/2016 18:50	IO
Nickel	BRL	0.0200		mg/L	228519	1	08/29/2016 18:50	IO
Zinc	BRL	0.0200		mg/L	228519	1	08/29/2016 18:50	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:** 1-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	AMW-14-20160823-01
Project Name:	AGL Macon	**Collection Date:**	8/23/2016 3:10:00 PM
Lab ID:	1608K90-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	63	5.0		ug/L	228677	1	08/25/2016 22:52	NH
Carbon disulfide	BRL	5.0		ug/L	228677	1	08/25/2016 22:52	NH
Ethylbenzene	110	5.0		ug/L	228677	1	08/25/2016 22:52	NH
Toluene	11	5.0		ug/L	228677	1	08/25/2016 22:52	NH
Xylenes, Total	100	5.0		ug/L	228677	1	08/25/2016 22:52	NH
Surr: 4-Bromofluorobenzene	92.8	70.7-125		%REC	228677	1	08/25/2016 22:52	NH
Surr: Dibromofluoromethane	106	82.2-120		%REC	228677	1	08/25/2016 22:52	NH
Surr: Toluene-d8	98.3	81.8-120		%REC	228677	1	08/25/2016 22:52	NH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	40	5.0		ug/L	228604	10	08/30/2016 12:09	YH
Acenaphthylene	2.5	1.0		ug/L	228604	10	08/30/2016 12:09	YH
Acenaphthene	2.4	1.0		ug/L	228604	10	08/30/2016 12:09	YH
Fluorene	1.1	1.0		ug/L	228604	10	08/30/2016 12:09	YH
Phenanthrene	2.8	0.50		ug/L	228604	10	08/30/2016 12:09	YH
Anthracene	2.6	0.050		ug/L	228604	1	08/26/2016 17:49	YH
Fluoranthene	0.98	0.10		ug/L	228604	1	08/26/2016 17:49	YH
Pyrene	0.99	0.050		ug/L	228604	1	08/26/2016 17:49	YH
Benz(a)anthracene	0.068	0.050		ug/L	228604	1	08/26/2016 17:49	YH
Chrysene	BRL	0.050		ug/L	228604	1	08/26/2016 17:49	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228604	1	08/26/2016 17:49	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228604	1	08/26/2016 17:49	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228604	1	08/26/2016 17:49	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228604	1	08/26/2016 17:49	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228604	1	08/26/2016 17:49	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228604	1	08/26/2016 17:49	YH
Surr: 4-Terphenyl-d14	118	58.7-134		%REC	228604	1	08/26/2016 17:49	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228603	1	08/26/2016 18:40	YH
2-Methylphenol	BRL	10		ug/L	228603	1	08/26/2016 18:40	YH
3,4-Methylphenol	BRL	10		ug/L	228603	1	08/26/2016 18:40	YH
Phenol	BRL	10		ug/L	228603	1	08/26/2016 18:40	YH
Surr: 2,4,6-Tribromophenol	93.8	51.5-141		%REC	228603	1	08/26/2016 18:40	YH
Surr: 2-Fluorobiphenyl	71.3	50.8-122		%REC	228603	1	08/26/2016 18:40	YH
Surr: 2-Fluorophenol	43.2	28.1-120		%REC	228603	1	08/26/2016 18:40	YH
Surr: 4-Terphenyl-d14	77.7	47.2-131		%REC	228603	1	08/26/2016 18:40	YH
Surr: Nitrobenzene-d5	56.3	42.1-124		%REC	228603	1	08/26/2016 18:40	YH
Surr: Phenol-d5	30.6	16-120		%REC	228603	1	08/26/2016 18:40	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-16

Client:	ERM-Southeast	**Client Sample ID:**	AMW-14-20160823-01
Project Name:	AGL Macon	**Collection Date:**	8/23/2016 3:10:00 PM
Lab ID:	1608K90-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228673	1	08/26/2016 14:00	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	228854	1	08/30/2016 10:30	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228519	1	08/29/2016 18:53	IO
Arsenic	BRL	0.0500		mg/L	228519	1	08/29/2016 18:53	IO
Barium	0.201	0.0200		mg/L	228519	1	08/29/2016 18:53	IO
Beryllium	BRL	0.0100		mg/L	228519	1	08/29/2016 18:53	IO
Cadmium	BRL	0.0050		mg/L	228519	1	08/29/2016 18:53	IO
Chromium	BRL	0.0100		mg/L	228519	1	08/29/2016 18:53	IO
Copper	BRL	0.0100		mg/L	228519	1	08/29/2016 18:53	IO
Lead	BRL	0.0100		mg/L	228519	1	08/29/2016 18:53	IO
Nickel	BRL	0.0200		mg/L	228519	1	08/29/2016 18:53	IO
Zinc	BRL	0.0200		mg/L	228519	1	08/29/2016 18:53	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:** 1-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	DUP-01-20160823-01
Project Name:	AGL Macon	**Collection Date:**	8/23/2016
Lab ID:	1608K90-006	**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	228677	1	08/25/2016 20:55	NH
Carbon disulfide	BRL	5.0		ug/L	228677	1	08/25/2016 20:55	NH
Ethylbenzene	BRL	5.0		ug/L	228677	1	08/25/2016 20:55	NH
Toluene	BRL	5.0		ug/L	228677	1	08/25/2016 20:55	NH
Xylenes, Total	BRL	5.0		ug/L	228677	1	08/25/2016 20:55	NH
Surr: 4-Bromofluorobenzene	86.1	70.7-125		%REC	228677	1	08/25/2016 20:55	NH
Surr: Dibromofluoromethane	108	82.2-120		%REC	228677	1	08/25/2016 20:55	NH
Surr: Toluene-d8	98.2	81.8-120		%REC	228677	1	08/25/2016 20:55	NH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	228604	1	08/26/2016 18:14	YH
Acenaphthylene	BRL	1.0		ug/L	228604	1	08/26/2016 18:14	YH
Acenaphthene	BRL	0.50		ug/L	228604	1	08/26/2016 18:14	YH
Fluorene	BRL	0.10		ug/L	228604	1	08/26/2016 18:14	YH
Phenanthrene	BRL	0.050		ug/L	228604	1	08/26/2016 18:14	YH
Anthracene	BRL	0.050		ug/L	228604	1	08/26/2016 18:14	YH
Fluoranthene	BRL	0.10		ug/L	228604	1	08/26/2016 18:14	YH
Pyrene	BRL	0.050		ug/L	228604	1	08/26/2016 18:14	YH
Benz(a)anthracene	BRL	0.050		ug/L	228604	1	08/26/2016 18:14	YH
Chrysene	BRL	0.050		ug/L	228604	1	08/26/2016 18:14	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228604	1	08/26/2016 18:14	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228604	1	08/26/2016 18:14	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228604	1	08/26/2016 18:14	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228604	1	08/26/2016 18:14	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228604	1	08/26/2016 18:14	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228604	1	08/26/2016 18:14	YH
Surr: 4-Terphenyl-d14	102	58.7-134		%REC	228604	1	08/26/2016 18:14	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228603	1	08/26/2016 19:07	YH
2-Methylphenol	BRL	10		ug/L	228603	1	08/26/2016 19:07	YH
3,4-Methylphenol	BRL	10		ug/L	228603	1	08/26/2016 19:07	YH
Phenol	BRL	10		ug/L	228603	1	08/26/2016 19:07	YH
Surr: 2,4,6-Tribromophenol	101	51.5-141		%REC	228603	1	08/26/2016 19:07	YH
Surr: 2-Fluorobiphenyl	79.9	50.8-122		%REC	228603	1	08/26/2016 19:07	YH
Surr: 2-Fluorophenol	60.8	28.1-120		%REC	228603	1	08/26/2016 19:07	YH
Surr: 4-Terphenyl-d14	82	47.2-131		%REC	228603	1	08/26/2016 19:07	YH
Surr: Nitrobenzene-d5	68.4	42.1-124		%REC	228603	1	08/26/2016 19:07	YH
Surr: Phenol-d5	40.5	16-120		%REC	228603	1	08/26/2016 19:07	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:** 1-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	DUP-01-20160823-01
Project Name:	AGL Macon	**Collection Date:**	8/23/2016
Lab ID:	1608K90-006	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228673	1	08/26/2016 14:02	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	228854	1	08/30/2016 10:30	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228519	1	08/29/2016 18:57	IO
Arsenic	BRL	0.0500		mg/L	228519	1	08/29/2016 18:57	IO
Barium	0.0397	0.0200		mg/L	228519	1	08/29/2016 18:57	IO
Beryllium	BRL	0.0100		mg/L	228519	1	08/29/2016 18:57	IO
Cadmium	BRL	0.0050		mg/L	228519	1	08/29/2016 18:57	IO
Chromium	0.0392	0.0100		mg/L	228519	1	08/29/2016 18:57	IO
Copper	BRL	0.0100		mg/L	228519	1	08/29/2016 18:57	IO
Lead	BRL	0.0100		mg/L	228519	1	08/29/2016 18:57	IO
Nickel	BRL	0.0200		mg/L	228519	1	08/29/2016 18:57	IO
Zinc	BRL	0.0200		mg/L	228519	1	08/29/2016 18:57	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:** 1-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-26-20160823-01
Project Name:	AGL Macon	**Collection Date:**	8/23/2016 9:45:00 AM
Lab ID:	1608K90-007	**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	228677	1	08/25/2016 21:18	NH
Carbon disulfide	BRL	5.0		ug/L	228677	1	08/25/2016 21:18	NH
Ethylbenzene	BRL	5.0		ug/L	228677	1	08/25/2016 21:18	NH
Toluene	BRL	5.0		ug/L	228677	1	08/25/2016 21:18	NH
Xylenes, Total	BRL	5.0		ug/L	228677	1	08/25/2016 21:18	NH
Surr: 4-Bromofluorobenzene	85.4	70.7-125		%REC	228677	1	08/25/2016 21:18	NH
Surr: Dibromofluoromethane	108	82.2-120		%REC	228677	1	08/25/2016 21:18	NH
Surr: Toluene-d8	98	81.8-120		%REC	228677	1	08/25/2016 21:18	NH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	228604	1	08/25/2016 22:20	YH
Acenaphthylene	BRL	1.0		ug/L	228604	1	08/25/2016 22:20	YH
Acenaphthene	BRL	0.50		ug/L	228604	1	08/25/2016 22:20	YH
Fluorene	BRL	0.10		ug/L	228604	1	08/25/2016 22:20	YH
Phenanthrene	BRL	0.050		ug/L	228604	1	08/25/2016 22:20	YH
Anthracene	BRL	0.050		ug/L	228604	1	08/25/2016 22:20	YH
Fluoranthene	BRL	0.10		ug/L	228604	1	08/25/2016 22:20	YH
Pyrene	BRL	0.050		ug/L	228604	1	08/25/2016 22:20	YH
Benz(a)anthracene	BRL	0.050		ug/L	228604	1	08/25/2016 22:20	YH
Chrysene	BRL	0.050		ug/L	228604	1	08/25/2016 22:20	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228604	1	08/25/2016 22:20	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228604	1	08/25/2016 22:20	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228604	1	08/25/2016 22:20	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228604	1	08/25/2016 22:20	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228604	1	08/25/2016 22:20	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228604	1	08/25/2016 22:20	YH
Surr: 4-Terphenyl-d14	93.9	58.7-134		%REC	228604	1	08/25/2016 22:20	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228603	1	08/26/2016 19:38	YH
2-Methylphenol	BRL	10		ug/L	228603	1	08/26/2016 19:38	YH
3,4-Methylphenol	BRL	10		ug/L	228603	1	08/26/2016 19:38	YH
Phenol	BRL	10		ug/L	228603	1	08/26/2016 19:38	YH
Surr: 2,4,6-Tribromophenol	94.9	51.5-141		%REC	228603	1	08/26/2016 19:38	YH
Surr: 2-Fluorobiphenyl	74.2	50.8-122		%REC	228603	1	08/26/2016 19:38	YH
Surr: 2-Fluorophenol	53.5	28.1-120		%REC	228603	1	08/26/2016 19:38	YH
Surr: 4-Terphenyl-d14	80.5	47.2-131		%REC	228603	1	08/26/2016 19:38	YH
Surr: Nitrobenzene-d5	58.7	42.1-124		%REC	228603	1	08/26/2016 19:38	YH
Surr: Phenol-d5	39.6	16-120		%REC	228603	1	08/26/2016 19:38	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-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-26-20160823-01
Project Name:	AGL Macon	**Collection Date:**	8/23/2016 9:45:00 AM
Lab ID:	1608K90-007	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228673	1	08/26/2016 14:04	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	228854	1	08/30/2016 10:30	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228519	1	08/29/2016 19:01	IO
Arsenic	BRL	0.0500		mg/L	228519	1	08/29/2016 19:01	IO
Barium	0.0487	0.0200		mg/L	228519	1	08/29/2016 19:01	IO
Beryllium	BRL	0.0100		mg/L	228519	1	08/29/2016 19:01	IO
Cadmium	BRL	0.0050		mg/L	228519	1	08/29/2016 19:01	IO
Chromium	BRL	0.0100		mg/L	228519	1	08/29/2016 19:01	IO
Copper	BRL	0.0100		mg/L	228519	1	08/29/2016 19:01	IO
Lead	BRL	0.0100		mg/L	228519	1	08/29/2016 19:01	IO
Nickel	BRL	0.0200		mg/L	228519	1	08/29/2016 19:01	IO
Zinc	BRL	0.0200		mg/L	228519	1	08/29/2016 19:01	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:** 1-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	AMW-2-20160823-01
Project Name:	AGL Macon	**Collection Date:**	8/23/2016 3:30:00 PM
Lab ID:	1608K90-008	**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	228677	1	08/25/2016 21:42	NH
Carbon disulfide	BRL	5.0		ug/L	228677	1	08/25/2016 21:42	NH
Ethylbenzene	BRL	5.0		ug/L	228677	1	08/25/2016 21:42	NH
Toluene	BRL	5.0		ug/L	228677	1	08/25/2016 21:42	NH
Xylenes, Total	BRL	5.0		ug/L	228677	1	08/25/2016 21:42	NH
Surr: 4-Bromofluorobenzene	86.1	70.7-125		%REC	228677	1	08/25/2016 21:42	NH
Surr: Dibromofluoromethane	107	82.2-120		%REC	228677	1	08/25/2016 21:42	NH
Surr: Toluene-d8	96.4	81.8-120		%REC	228677	1	08/25/2016 21:42	NH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	228604	1	08/26/2016 18:41	YH
Acenaphthylene	BRL	1.0		ug/L	228604	1	08/26/2016 18:41	YH
Acenaphthene	BRL	0.50		ug/L	228604	1	08/26/2016 18:41	YH
Fluorene	BRL	0.10		ug/L	228604	1	08/26/2016 18:41	YH
Phenanthrene	BRL	0.050		ug/L	228604	1	08/26/2016 18:41	YH
Anthracene	BRL	0.050		ug/L	228604	1	08/26/2016 18:41	YH
Fluoranthene	BRL	0.10		ug/L	228604	1	08/26/2016 18:41	YH
Pyrene	BRL	0.050		ug/L	228604	1	08/26/2016 18:41	YH
Benz(a)anthracene	BRL	0.050		ug/L	228604	1	08/26/2016 18:41	YH
Chrysene	BRL	0.050		ug/L	228604	1	08/26/2016 18:41	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228604	1	08/26/2016 18:41	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228604	1	08/26/2016 18:41	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228604	1	08/26/2016 18:41	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228604	1	08/26/2016 18:41	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228604	1	08/26/2016 18:41	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228604	1	08/26/2016 18:41	YH
Surr: 4-Terphenyl-d14	114	58.7-134		%REC	228604	1	08/26/2016 18:41	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228603	1	08/26/2016 20:07	YH
2-Methylphenol	BRL	10		ug/L	228603	1	08/26/2016 20:07	YH
3,4-Methylphenol	BRL	10		ug/L	228603	1	08/26/2016 20:07	YH
Phenol	BRL	10		ug/L	228603	1	08/26/2016 20:07	YH
Surr: 2,4,6-Tribromophenol	95.8	51.5-141		%REC	228603	1	08/26/2016 20:07	YH
Surr: 2-Fluorobiphenyl	75.7	50.8-122		%REC	228603	1	08/26/2016 20:07	YH
Surr: 2-Fluorophenol	54.7	28.1-120		%REC	228603	1	08/26/2016 20:07	YH
Surr: 4-Terphenyl-d14	78.4	47.2-131		%REC	228603	1	08/26/2016 20:07	YH
Surr: Nitrobenzene-d5	63.6	42.1-124		%REC	228603	1	08/26/2016 20:07	YH
Surr: Phenol-d5	36.7	16-120		%REC	228603	1	08/26/2016 20:07	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:** 1-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	AMW-2-20160823-01
Project Name:	AGL Macon	**Collection Date:**	8/23/2016 3:30:00 PM
Lab ID:	1608K90-008	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228673	1	08/26/2016 14:06	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	228854	1	08/30/2016 10:30	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228519	1	08/29/2016 19:05	IO
Arsenic	BRL	0.0500		mg/L	228519	1	08/29/2016 19:05	IO
Barium	0.104	0.0200		mg/L	228519	1	08/29/2016 19:05	IO
Beryllium	BRL	0.0100		mg/L	228519	1	08/29/2016 19:05	IO
Cadmium	0.0053	0.0050		mg/L	228519	1	08/29/2016 19:05	IO
Chromium	BRL	0.0100		mg/L	228519	1	08/29/2016 19:05	IO
Copper	BRL	0.0100		mg/L	228519	1	08/29/2016 19:05	IO
Lead	BRL	0.0100		mg/L	228519	1	08/29/2016 19:05	IO
Nickel	BRL	0.0200		mg/L	228519	1	08/29/2016 19:05	IO
Zinc	0.0663	0.0200		mg/L	228519	1	08/29/2016 19:05	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:** 1-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-12R-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016 9:20:00 AM
Lab ID:	1608K90-009	**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	228677	1	08/25/2016 22:05	NH
Carbon disulfide	BRL	5.0		ug/L	228677	1	08/25/2016 22:05	NH
Ethylbenzene	BRL	5.0		ug/L	228677	1	08/25/2016 22:05	NH
Toluene	BRL	5.0		ug/L	228677	1	08/25/2016 22:05	NH
Xylenes, Total	BRL	5.0		ug/L	228677	1	08/25/2016 22:05	NH
Surr: 4-Bromofluorobenzene	88.8	70.7-125		%REC	228677	1	08/25/2016 22:05	NH
Surr: Dibromofluoromethane	108	82.2-120		%REC	228677	1	08/25/2016 22:05	NH
Surr: Toluene-d8	102	81.8-120		%REC	228677	1	08/25/2016 22:05	NH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	1.1	0.50		ug/L	228604	1	08/26/2016 19:07	YH
Acenaphthylene	BRL	1.0		ug/L	228604	1	08/26/2016 19:07	YH
Acenaphthene	BRL	0.50		ug/L	228604	1	08/26/2016 19:07	YH
Fluorene	BRL	0.10		ug/L	228604	1	08/26/2016 19:07	YH
Phenanthrene	BRL	0.050		ug/L	228604	1	08/26/2016 19:07	YH
Anthracene	0.16	0.050		ug/L	228604	1	08/26/2016 19:07	YH
Fluoranthene	BRL	0.10		ug/L	228604	1	08/26/2016 19:07	YH
Pyrene	1.2	0.050		ug/L	228604	1	08/26/2016 19:07	YH
Benz(a)anthracene	BRL	0.050		ug/L	228604	1	08/26/2016 19:07	YH
Chrysene	BRL	0.050		ug/L	228604	1	08/26/2016 19:07	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228604	1	08/26/2016 19:07	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228604	1	08/26/2016 19:07	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228604	1	08/26/2016 19:07	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228604	1	08/26/2016 19:07	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228604	1	08/26/2016 19:07	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228604	1	08/26/2016 19:07	YH
Surr: 4-Terphenyl-d14	89.8	58.7-134		%REC	228604	1	08/26/2016 19:07	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228603	1	08/26/2016 20:36	YH
2-Methylphenol	BRL	10		ug/L	228603	1	08/26/2016 20:36	YH
3,4-Methylphenol	BRL	10		ug/L	228603	1	08/26/2016 20:36	YH
Phenol	BRL	10		ug/L	228603	1	08/26/2016 20:36	YH
Surr: 2,4,6-Tribromophenol	103	51.5-141		%REC	228603	1	08/26/2016 20:36	YH
Surr: 2-Fluorobiphenyl	82.4	50.8-122		%REC	228603	1	08/26/2016 20:36	YH
Surr: 2-Fluorophenol	55.2	28.1-120		%REC	228603	1	08/26/2016 20:36	YH
Surr: 4-Terphenyl-d14	86	47.2-131		%REC	228603	1	08/26/2016 20:36	YH
Surr: Nitrobenzene-d5	67.1	42.1-124		%REC	228603	1	08/26/2016 20:36	YH
Surr: Phenol-d5	38.4	16-120		%REC	228603	1	08/26/2016 20:36	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-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-12R-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016 9:20:00 AM
Lab ID:	1608K90-009	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228673	1	08/26/2016 14:08	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.088	0.010		mg/L	228854	1	08/30/2016 10:30	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228519	1	08/29/2016 19:08	IO
Arsenic	BRL	0.0500		mg/L	228519	1	08/29/2016 19:08	IO
Barium	BRL	0.0200		mg/L	228519	1	08/29/2016 19:08	IO
Beryllium	BRL	0.0100		mg/L	228519	1	08/29/2016 19:08	IO
Cadmium	BRL	0.0050		mg/L	228519	1	08/29/2016 19:08	IO
Chromium	BRL	0.0100		mg/L	228519	1	08/29/2016 19:08	IO
Copper	BRL	0.0100		mg/L	228519	1	08/29/2016 19:08	IO
Lead	BRL	0.0100		mg/L	228519	1	08/29/2016 19:08	IO
Nickel	BRL	0.0200		mg/L	228519	1	08/29/2016 19:08	IO
Zinc	BRL	0.0200		mg/L	228519	1	08/29/2016 19:08	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:** 1-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-12IR-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016 10:45:00 AM
Lab ID:	1608K90-010	**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	228677	1	08/25/2016 22:29	NH
Carbon disulfide	BRL	5.0		ug/L	228677	1	08/25/2016 22:29	NH
Ethylbenzene	BRL	5.0		ug/L	228677	1	08/25/2016 22:29	NH
Toluene	BRL	5.0		ug/L	228677	1	08/25/2016 22:29	NH
Xylenes, Total	BRL	5.0		ug/L	228677	1	08/25/2016 22:29	NH
Surr: 4-Bromofluorobenzene	88.5	70.7-125		%REC	228677	1	08/25/2016 22:29	NH
Surr: Dibromofluoromethane	110	82.2-120		%REC	228677	1	08/25/2016 22:29	NH
Surr: Toluene-d8	101	81.8-120		%REC	228677	1	08/25/2016 22:29	NH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	228604	1	08/25/2016 20:58	YH
Acenaphthylene	4.4	1.0		ug/L	228604	1	08/25/2016 20:58	YH
Acenaphthene	6.8	0.50		ug/L	228604	1	08/25/2016 20:58	YH
Fluorene	9.5	1.0		ug/L	228604	10	08/29/2016 18:30	YH
Phenanthrene	0.36	0.050		ug/L	228604	1	08/25/2016 20:58	YH
Anthracene	0.43	0.050		ug/L	228604	1	08/25/2016 20:58	YH
Fluoranthene	7.5	0.10		ug/L	228604	1	08/25/2016 20:58	YH
Pyrene	8.7	0.50		ug/L	228604	10	08/29/2016 18:30	YH
Benz(a)anthracene	0.60	0.050		ug/L	228604	1	08/25/2016 20:58	YH
Chrysene	0.41	0.050		ug/L	228604	1	08/25/2016 20:58	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228604	1	08/25/2016 20:58	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228604	1	08/25/2016 20:58	YH
Benzo(a)pyrene	0.072	0.050		ug/L	228604	1	08/25/2016 20:58	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228604	1	08/25/2016 20:58	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228604	1	08/25/2016 20:58	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228604	1	08/25/2016 20:58	YH
Surr: 4-Terphenyl-d14	94.6	58.7-134		%REC	228604	1	08/25/2016 20:58	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228603	1	08/26/2016 21:05	YH
2-Methylphenol	BRL	10		ug/L	228603	1	08/26/2016 21:05	YH
3,4-Methylphenol	BRL	10		ug/L	228603	1	08/26/2016 21:05	YH
Phenol	BRL	10		ug/L	228603	1	08/26/2016 21:05	YH
Surr: 2,4,6-Tribromophenol	93.6	51.5-141		%REC	228603	1	08/26/2016 21:05	YH
Surr: 2-Fluorobiphenyl	76.3	50.8-122		%REC	228603	1	08/26/2016 21:05	YH
Surr: 2-Fluorophenol	56.9	28.1-120		%REC	228603	1	08/26/2016 21:05	YH
Surr: 4-Terphenyl-d14	80.2	47.2-131		%REC	228603	1	08/26/2016 21:05	YH
Surr: Nitrobenzene-d5	65.4	42.1-124		%REC	228603	1	08/26/2016 21:05	YH
Surr: Phenol-d5	39.4	16-120		%REC	228603	1	08/26/2016 21:05	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-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-12IR-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016 10:45:00 AM
Lab ID:	1608K90-010	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228673	1	08/26/2016 14:10	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.035	0.010		mg/L	228854	1	08/30/2016 10:30	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228519	1	08/29/2016 19:19	IO
Arsenic	BRL	0.0500		mg/L	228519	1	08/29/2016 19:19	IO
Barium	BRL	0.0200		mg/L	228519	1	08/29/2016 19:19	IO
Beryllium	BRL	0.0100		mg/L	228519	1	08/29/2016 19:19	IO
Cadmium	BRL	0.0050		mg/L	228519	1	08/29/2016 19:19	IO
Chromium	BRL	0.0100		mg/L	228519	1	08/29/2016 19:19	IO
Copper	BRL	0.0100		mg/L	228519	1	08/29/2016 19:19	IO
Lead	BRL	0.0100		mg/L	228519	1	08/29/2016 19:19	IO
Nickel	BRL	0.0200		mg/L	228519	1	08/29/2016 19:19	IO
Zinc	BRL	0.0200		mg/L	228519	1	08/29/2016 19:19	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:** 1-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-28-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016 1:25:00 PM
Lab ID:	1608K90-011	**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	228677	1	08/26/2016 14:55	NH
Carbon disulfide	BRL	5.0		ug/L	228677	1	08/26/2016 14:55	NH
Ethylbenzene	BRL	5.0		ug/L	228677	1	08/26/2016 14:55	NH
Toluene	BRL	5.0		ug/L	228677	1	08/26/2016 14:55	NH
Xylenes, Total	BRL	5.0		ug/L	228677	1	08/26/2016 14:55	NH
Surr: 4-Bromofluorobenzene	87.1	70.7-125		%REC	228677	1	08/26/2016 14:55	NH
Surr: Dibromofluoromethane	107	82.2-120		%REC	228677	1	08/26/2016 14:55	NH
Surr: Toluene-d8	100	81.8-120		%REC	228677	1	08/26/2016 14:55	NH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	228604	1	08/26/2016 19:35	YH
Acenaphthylene	BRL	1.0		ug/L	228604	1	08/26/2016 19:35	YH
Acenaphthene	BRL	0.50		ug/L	228604	1	08/26/2016 19:35	YH
Fluorene	BRL	0.10		ug/L	228604	1	08/26/2016 19:35	YH
Phenanthrene	0.053	0.050		ug/L	228604	1	08/26/2016 19:35	YH
Anthracene	BRL	0.050		ug/L	228604	1	08/26/2016 19:35	YH
Fluoranthene	BRL	0.10		ug/L	228604	1	08/26/2016 19:35	YH
Pyrene	BRL	0.050		ug/L	228604	1	08/26/2016 19:35	YH
Benz(a)anthracene	BRL	0.050		ug/L	228604	1	08/26/2016 19:35	YH
Chrysene	BRL	0.050		ug/L	228604	1	08/26/2016 19:35	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228604	1	08/26/2016 19:35	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228604	1	08/26/2016 19:35	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228604	1	08/26/2016 19:35	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228604	1	08/26/2016 19:35	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228604	1	08/26/2016 19:35	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228604	1	08/26/2016 19:35	YH
Surr: 4-Terphenyl-d14	73.5	58.7-134		%REC	228604	1	08/26/2016 19:35	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228603	1	08/26/2016 21:34	YH
2-Methylphenol	BRL	10		ug/L	228603	1	08/26/2016 21:34	YH
3,4-Methylphenol	BRL	10		ug/L	228603	1	08/26/2016 21:34	YH
Phenol	BRL	10		ug/L	228603	1	08/26/2016 21:34	YH
Surr: 2,4,6-Tribromophenol	98.9	51.5-141		%REC	228603	1	08/26/2016 21:34	YH
Surr: 2-Fluorobiphenyl	78.2	50.8-122		%REC	228603	1	08/26/2016 21:34	YH
Surr: 2-Fluorophenol	56.9	28.1-120		%REC	228603	1	08/26/2016 21:34	YH
Surr: 4-Terphenyl-d14	81.2	47.2-131		%REC	228603	1	08/26/2016 21:34	YH
Surr: Nitrobenzene-d5	68.7	42.1-124		%REC	228603	1	08/26/2016 21:34	YH
Surr: Phenol-d5	38.1	16-120		%REC	228603	1	08/26/2016 21:34	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-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-28-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016 1:25:00 PM
Lab ID:	1608K90-011	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228673	1	08/26/2016 14:12	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	228854	1	08/30/2016 10:30	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228519	1	08/29/2016 19:23	IO
Arsenic	BRL	0.0500		mg/L	228519	1	08/29/2016 19:23	IO
Barium	0.0807	0.0200		mg/L	228519	1	08/29/2016 19:23	IO
Beryllium	BRL	0.0100		mg/L	228519	1	08/29/2016 19:23	IO
Cadmium	BRL	0.0050		mg/L	228519	1	08/29/2016 19:23	IO
Chromium	BRL	0.0100		mg/L	228519	1	08/29/2016 19:23	IO
Copper	BRL	0.0100		mg/L	228519	1	08/29/2016 19:23	IO
Lead	BRL	0.0100		mg/L	228519	1	08/29/2016 19:23	IO
Nickel	BRL	0.0200		mg/L	228519	1	08/29/2016 19:23	IO
Zinc	BRL	0.0200		mg/L	228519	1	08/29/2016 19:23	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:** 1-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-108-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016 10:00:00 AM
Lab ID:	1608K90-012	**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	228677	1	08/26/2016 15:19	NH
Carbon disulfide	BRL	5.0		ug/L	228677	1	08/26/2016 15:19	NH
Ethylbenzene	BRL	5.0		ug/L	228677	1	08/26/2016 15:19	NH
Toluene	BRL	5.0		ug/L	228677	1	08/26/2016 15:19	NH
Xylenes, Total	BRL	5.0		ug/L	228677	1	08/26/2016 15:19	NH
Surr: 4-Bromofluorobenzene	90.4	70.7-125		%REC	228677	1	08/26/2016 15:19	NH
Surr: Dibromofluoromethane	106	82.2-120		%REC	228677	1	08/26/2016 15:19	NH
Surr: Toluene-d8	97.2	81.8-120		%REC	228677	1	08/26/2016 15:19	NH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	4.1	0.50		ug/L	228604	1	08/26/2016 20:01	YH
Acenaphthylene	BRL	1.0		ug/L	228604	1	08/26/2016 20:01	YH
Acenaphthene	BRL	0.50		ug/L	228604	1	08/26/2016 20:01	YH
Fluorene	0.11	0.10		ug/L	228604	1	08/26/2016 20:01	YH
Phenanthrene	0.064	0.050		ug/L	228604	1	08/26/2016 20:01	YH
Anthracene	0.23	0.050		ug/L	228604	1	08/26/2016 20:01	YH
Fluoranthene	BRL	0.10		ug/L	228604	1	08/26/2016 20:01	YH
Pyrene	0.30	0.050		ug/L	228604	1	08/26/2016 20:01	YH
Benz(a)anthracene	BRL	0.050		ug/L	228604	1	08/26/2016 20:01	YH
Chrysene	BRL	0.050		ug/L	228604	1	08/26/2016 20:01	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228604	1	08/26/2016 20:01	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228604	1	08/26/2016 20:01	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228604	1	08/26/2016 20:01	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228604	1	08/26/2016 20:01	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228604	1	08/26/2016 20:01	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228604	1	08/26/2016 20:01	YH
Surr: 4-Terphenyl-d14	85.9	58.7-134		%REC	228604	1	08/26/2016 20:01	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228646	1	08/30/2016 11:37	YH
2-Methylphenol	BRL	10		ug/L	228646	1	08/30/2016 11:37	YH
3,4-Methylphenol	BRL	10		ug/L	228646	1	08/30/2016 11:37	YH
Phenol	BRL	10		ug/L	228646	1	08/30/2016 11:37	YH
Surr: 2,4,6-Tribromophenol	82.5	51.5-141		%REC	228646	1	08/30/2016 11:37	YH
Surr: 2-Fluorobiphenyl	74.9	50.8-122		%REC	228646	1	08/30/2016 11:37	YH
Surr: 2-Fluorophenol	55.9	28.1-120		%REC	228646	1	08/30/2016 11:37	YH
Surr: 4-Terphenyl-d14	90.5	47.2-131		%REC	228646	1	08/30/2016 11:37	YH
Surr: Nitrobenzene-d5	74.1	42.1-124		%REC	228646	1	08/30/2016 11:37	YH
Surr: Phenol-d5	42	16-120		%REC	228646	1	08/30/2016 11:37	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:** 1-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-108-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016 10:00:00 AM
Lab ID:	1608K90-012	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228673	1	08/26/2016 14:14	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.029	0.010		mg/L	228854	1	08/30/2016 10:30	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228519	1	08/29/2016 19:26	IO
Arsenic	BRL	0.0500		mg/L	228519	1	08/29/2016 19:26	IO
Barium	0.0699	0.0200		mg/L	228519	1	08/29/2016 19:26	IO
Beryllium	BRL	0.0100		mg/L	228519	1	08/29/2016 19:26	IO
Cadmium	BRL	0.0050		mg/L	228519	1	08/29/2016 19:26	IO
Chromium	BRL	0.0100		mg/L	228519	1	08/29/2016 19:26	IO
Copper	BRL	0.0100		mg/L	228519	1	08/29/2016 19:26	IO
Lead	BRL	0.0100		mg/L	228519	1	08/29/2016 19:26	IO
Nickel	BRL	0.0200		mg/L	228519	1	08/29/2016 19:26	IO
Zinc	BRL	0.0200		mg/L	228519	1	08/29/2016 19:26	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:** 1-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-205-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016 12:45:00 PM
Lab ID:	1608K90-013	**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	228677	1	08/26/2016 15:43	NH
Carbon disulfide	BRL	5.0		ug/L	228677	1	08/26/2016 15:43	NH
Ethylbenzene	7.0	5.0		ug/L	228677	1	08/26/2016 15:43	NH
Toluene	BRL	5.0		ug/L	228677	1	08/26/2016 15:43	NH
Xylenes, Total	BRL	5.0		ug/L	228677	1	08/26/2016 15:43	NH
Surr: 4-Bromofluorobenzene	87.8	70.7-125		%REC	228677	1	08/26/2016 15:43	NH
Surr: Dibromofluoromethane	106	82.2-120		%REC	228677	1	08/26/2016 15:43	NH
Surr: Toluene-d8	97.4	81.8-120		%REC	228677	1	08/26/2016 15:43	NH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	10	5.0		ug/L	228604	10	08/30/2016 12:36	YH
Acenaphthylene	BRL	1.0		ug/L	228604	1	08/26/2016 20:27	YH
Acenaphthene	9.1	0.50		ug/L	228604	1	08/26/2016 20:27	YH
Fluorene	4.6	0.10		ug/L	228604	1	08/26/2016 20:27	YH
Phenanthrene	2.1	0.050		ug/L	228604	1	08/26/2016 20:27	YH
Anthracene	0.62	0.050		ug/L	228604	1	08/26/2016 20:27	YH
Fluoranthene	1.1	0.10		ug/L	228604	1	08/26/2016 20:27	YH
Pyrene	1.2	0.050		ug/L	228604	1	08/26/2016 20:27	YH
Benz(a)anthracene	0.12	0.050		ug/L	228604	1	08/26/2016 20:27	YH
Chrysene	0.11	0.050		ug/L	228604	1	08/26/2016 20:27	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228604	1	08/26/2016 20:27	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228604	1	08/26/2016 20:27	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228604	1	08/26/2016 20:27	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228604	1	08/26/2016 20:27	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228604	1	08/26/2016 20:27	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228604	1	08/26/2016 20:27	YH
Surr: 4-Terphenyl-d14	90.9	58.7-134		%REC	228604	1	08/26/2016 20:27	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228646	1	08/30/2016 12:03	YH
2-Methylphenol	BRL	10		ug/L	228646	1	08/30/2016 12:03	YH
3,4-Methylphenol	BRL	10		ug/L	228646	1	08/30/2016 12:03	YH
Phenol	BRL	10		ug/L	228646	1	08/30/2016 12:03	YH
Surr: 2,4,6-Tribromophenol	84.8	51.5-141		%REC	228646	1	08/30/2016 12:03	YH
Surr: 2-Fluorobiphenyl	79.4	50.8-122		%REC	228646	1	08/30/2016 12:03	YH
Surr: 2-Fluorophenol	58.9	28.1-120		%REC	228646	1	08/30/2016 12:03	YH
Surr: 4-Terphenyl-d14	93	47.2-131		%REC	228646	1	08/30/2016 12:03	YH
Surr: Nitrobenzene-d5	77.5	42.1-124		%REC	228646	1	08/30/2016 12:03	YH
Surr: Phenol-d5	44.7	16-120		%REC	228646	1	08/30/2016 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:** 1-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-205-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016 12:45:00 PM
Lab ID:	1608K90-013	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228673	1	08/26/2016 14:20	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	228854	1	08/30/2016 10:30	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228519	1	08/29/2016 19:30	IO
Arsenic	BRL	0.0500		mg/L	228519	1	08/29/2016 19:30	IO
Barium	0.0219	0.0200		mg/L	228519	1	08/29/2016 19:30	IO
Beryllium	BRL	0.0100		mg/L	228519	1	08/29/2016 19:30	IO
Cadmium	BRL	0.0050		mg/L	228519	1	08/29/2016 19:30	IO
Chromium	BRL	0.0100		mg/L	228519	1	08/29/2016 19:30	IO
Copper	BRL	0.0100		mg/L	228519	1	08/29/2016 19:30	IO
Lead	BRL	0.0100		mg/L	228519	1	08/29/2016 19:30	IO
Nickel	BRL	0.0200		mg/L	228519	1	08/29/2016 19:30	IO
Zinc	0.0323	0.0200		mg/L	228519	1	08/29/2016 19:30	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:** 1-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-109-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016 1:45:00 PM
Lab ID:	1608K90-014	**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	228677	1	08/26/2016 16:06	NH
Carbon disulfide	BRL	5.0		ug/L	228677	1	08/26/2016 16:06	NH
Ethylbenzene	BRL	5.0		ug/L	228677	1	08/26/2016 16:06	NH
Toluene	BRL	5.0		ug/L	228677	1	08/26/2016 16:06	NH
Xylenes, Total	BRL	5.0		ug/L	228677	1	08/26/2016 16:06	NH
Surr: 4-Bromofluorobenzene	86.2	70.7-125		%REC	228677	1	08/26/2016 16:06	NH
Surr: Dibromofluoromethane	107	82.2-120		%REC	228677	1	08/26/2016 16:06	NH
Surr: Toluene-d8	98.2	81.8-120		%REC	228677	1	08/26/2016 16:06	NH
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	228604	1	08/29/2016 13:45	YH
Acenaphthylene	BRL	1.0		ug/L	228604	1	08/29/2016 13:45	YH
Acenaphthene	BRL	0.50		ug/L	228604	1	08/29/2016 13:45	YH
Fluorene	BRL	0.10		ug/L	228604	1	08/29/2016 13:45	YH
Phenanthrene	BRL	0.050		ug/L	228604	1	08/29/2016 13:45	YH
Anthracene	BRL	0.050		ug/L	228604	1	08/29/2016 13:45	YH
Fluoranthene	BRL	0.10		ug/L	228604	1	08/29/2016 13:45	YH
Pyrene	BRL	0.050		ug/L	228604	1	08/29/2016 13:45	YH
Benz(a)anthracene	BRL	0.050		ug/L	228604	1	08/29/2016 13:45	YH
Chrysene	BRL	0.050		ug/L	228604	1	08/29/2016 13:45	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228604	1	08/29/2016 13:45	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228604	1	08/29/2016 13:45	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228604	1	08/29/2016 13:45	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228604	1	08/29/2016 13:45	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228604	1	08/29/2016 13:45	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228604	1	08/29/2016 13:45	YH
Surr: 4-Terphenyl-d14	89.8	58.7-134		%REC	228604	1	08/29/2016 13:45	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228646	1	08/30/2016 12:29	YH
2-Methylphenol	BRL	10		ug/L	228646	1	08/30/2016 12:29	YH
3,4-Methylphenol	BRL	10		ug/L	228646	1	08/30/2016 12:29	YH
Phenol	BRL	10		ug/L	228646	1	08/30/2016 12:29	YH
Surr: 2,4,6-Tribromophenol	75.3	51.5-141		%REC	228646	1	08/30/2016 12:29	YH
Surr: 2-Fluorobiphenyl	71.2	50.8-122		%REC	228646	1	08/30/2016 12:29	YH
Surr: 2-Fluorophenol	57.4	28.1-120		%REC	228646	1	08/30/2016 12:29	YH
Surr: 4-Terphenyl-d14	89.4	47.2-131		%REC	228646	1	08/30/2016 12:29	YH
Surr: Nitrobenzene-d5	71.8	42.1-124		%REC	228646	1	08/30/2016 12:29	YH
Surr: Phenol-d5	43	16-120		%REC	228646	1	08/30/2016 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:** 1-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-109-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016 1:45:00 PM
Lab ID:	1608K90-014	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228673	1	08/26/2016 14:22	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	228854	1	08/30/2016 10:30	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228519	1	08/29/2016 19:34	IO
Arsenic	BRL	0.0500		mg/L	228519	1	08/29/2016 19:34	IO
Barium	0.0823	0.0200		mg/L	228519	1	08/29/2016 19:34	IO
Beryllium	BRL	0.0100		mg/L	228519	1	08/29/2016 19:34	IO
Cadmium	BRL	0.0050		mg/L	228519	1	08/29/2016 19:34	IO
Chromium	BRL	0.0100		mg/L	228519	1	08/29/2016 19:34	IO
Copper	BRL	0.0100		mg/L	228519	1	08/29/2016 19:34	IO
Lead	BRL	0.0100		mg/L	228519	1	08/29/2016 19:34	IO
Nickel	BRL	0.0200		mg/L	228519	1	08/29/2016 19:34	IO
Zinc	BRL	0.0200		mg/L	228519	1	08/29/2016 19:34	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:** 1-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	TRIP BLANK 01-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016
Lab ID:	1608K90-015	**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	228677	1	08/25/2016 17:46	NH
Carbon disulfide	BRL	5.0		ug/L	228677	1	08/25/2016 17:46	NH
Ethylbenzene	BRL	5.0		ug/L	228677	1	08/25/2016 17:46	NH
Toluene	BRL	5.0		ug/L	228677	1	08/25/2016 17:46	NH
Xylenes, Total	BRL	5.0		ug/L	228677	1	08/25/2016 17:46	NH
Surr: 4-Bromofluorobenzene	91	70.7-125		%REC	228677	1	08/25/2016 17:46	NH
Surr: Dibromofluoromethane	108	82.2-120		%REC	228677	1	08/25/2016 17:46	NH
Surr: Toluene-d8	99.5	81.8-120		%REC	228677	1	08/25/2016 17:46	NH

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-16

Client:	ERM-Southeast	**Client Sample ID:**	TRIP BLANK
Project Name:	AGL Macon	**Collection Date:**	8/24/2016
Lab ID:	1608K90-016	**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	228677	1	08/25/2016 18:10	NH
Carbon disulfide	BRL	5.0		ug/L	228677	1	08/25/2016 18:10	NH
Ethylbenzene	BRL	5.0		ug/L	228677	1	08/25/2016 18:10	NH
Toluene	BRL	5.0		ug/L	228677	1	08/25/2016 18:10	NH
Xylenes, Total	BRL	5.0		ug/L	228677	1	08/25/2016 18:10	NH
Surr: 4-Bromofluorobenzene	91.2	70.7-125		%REC	228677	1	08/25/2016 18:10	NH
Surr: Dibromofluoromethane	106	82.2-120		%REC	228677	1	08/25/2016 18:10	NH
Surr: Toluene-d8	97.7	81.8-120		%REC	228677	1	08/25/2016 18:10	NH

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 1608K90

Checklist completed by [signature] 8-24-16
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 2.2 Cooler #2 2.8 Cooler #3 3.4 Cooler #4 2.9 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 CJ

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
Workorder: 1608K90

ANALYTICAL QC SUMMARY REPORT

BatchID: 228519

Sample ID: **MB-228519** Client ID: Units: **mg/L** Prep Date: **08/25/2016** Run No: **323963**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010D** BatchID: **228519** Analysis Date: **08/25/2016** Seq No: **7008675**

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-228519** Client ID: Units: **mg/L** Prep Date: **08/25/2016** Run No: **323963**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010D** BatchID: **228519** Analysis Date: **08/25/2016** Seq No: **7008676**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.056	0.0200	1.000		106	80	120				
Arsenic	1.059	0.0500	1.000		106	80	120				
Barium	1.047	0.0200	1.000		105	80	120				
Beryllium	1.066	0.0100	1.000		107	80	120				
Cadmium	1.067	0.0050	1.000		107	80	120				
Chromium	1.049	0.0100	1.000		105	80	120				
Copper	1.043	0.0100	1.000		104	80	120				
Lead	1.049	0.0100	1.000		105	80	120				
Nickel	1.054	0.0200	1.000		105	80	120				
Zinc	1.064	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: 1608K90

ANALYTICAL QC SUMMARY REPORT

BatchID: 228519

Sample ID: **1608K98-001CMS** Client ID: Units: **mg/L** Prep Date: **08/25/2016** Run No: **323963**
SampleType: **MS** TestCode: **METALS, TOTAL SW6010D** BatchID: **228519** Analysis Date: **08/25/2016** Seq No: **7008678**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.073	0.0200	1.000	0.009812	106	75	125				
Arsenic	1.074	0.0500	1.000	0.009771	106	75	125				
Barium	1.069	0.0200	1.000	0.04797	102	75	125				
Beryllium	1.035	0.0100	1.000		103	75	125				
Cadmium	1.044	0.0050	1.000		104	75	125				
Chromium	1.031	0.0100	1.000		103	75	125				
Copper	1.044	0.0100	1.000	0.007692	104	75	125				
Lead	1.011	0.0100	1.000		101	75	125				
Nickel	1.020	0.0200	1.000	0.006085	101	75	125				
Zinc	1.198	0.0200	1.000	0.1741	102	75	125				

Sample ID: **1608K98-001CMSD** Client ID: Units: **mg/L** Prep Date: **08/25/2016** Run No: **323963**
SampleType: **MSD** TestCode: **METALS, TOTAL SW6010D** BatchID: **228519** Analysis Date: **08/25/2016** Seq No: **7008679**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.069	0.0200	1.000	0.009812	106	75	125	1.073	0.411	20	
Arsenic	1.074	0.0500	1.000	0.009771	106	75	125	1.074	0.035	20	
Barium	1.067	0.0200	1.000	0.04797	102	75	125	1.069	0.238	20	
Beryllium	1.040	0.0100	1.000		104	75	125	1.035	0.470	20	
Cadmium	1.046	0.0050	1.000		105	75	125	1.044	0.201	20	
Chromium	1.028	0.0100	1.000		103	75	125	1.031	0.248	20	
Copper	1.041	0.0100	1.000	0.007692	103	75	125	1.044	0.222	20	
Lead	1.011	0.0100	1.000		101	75	125	1.011	0.055	20	
Nickel	1.022	0.0200	1.000	0.006085	102	75	125	1.020	0.175	20	
Zinc	1.200	0.0200	1.000	0.1741	103	75	125	1.198	0.126	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: 1608K90

ANALYTICAL QC SUMMARY REPORT

BatchID: 228603

Sample ID: **MB-228603** Client ID: Units: **ug/L** Prep Date: **08/25/2016** Run No: **323927**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **228603** Analysis Date: **08/25/2016** Seq No: **7012873**

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	86.60	0	100.0		86.6	51.5	141				
Surr: 2-Fluorobiphenyl	36.15	0	50.00		72.3	50.8	122				
Surr: 2-Fluorophenol	38.74	0	100.0		38.7	28.1	120				
Surr: 4-Terphenyl-d14	39.34	0	50.00		78.7	47.2	131				
Surr: Nitrobenzene-d5	31.24	0	50.00		62.5	42.1	124				
Surr: Phenol-d5	23.68	0	100.0		23.7	16	120				

Sample ID: **LCS-228603** Client ID: Units: **ug/L** Prep Date: **08/25/2016** Run No: **323927**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **228603** Analysis Date: **08/25/2016** Seq No: **7012874**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	36.54	10	100.0		36.5	27	120				
Surr: 2,4,6-Tribromophenol	147.1	0	100.0		147	51.5	141				S
Surr: 2-Fluorobiphenyl	48.40	0	50.00		96.8	50.8	122				
Surr: 2-Fluorophenol	56.42	0	100.0		56.4	28.1	120				
Surr: 4-Terphenyl-d14	50.03	0	50.00		100	47.2	131				
Surr: Nitrobenzene-d5	37.50	0	50.00		75.0	42.1	124				
Surr: Phenol-d5	40.48	0	100.0		40.5	16	120				

Sample ID: **1608K98-001BMS** Client ID: Units: **ug/L** Prep Date: **08/25/2016** Run No: **323927**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **228603** Analysis Date: **08/25/2016** Seq No: **7012876**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	37.04	10	100.0		37.0	30.6	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: 1608K90

ANALYTICAL QC SUMMARY REPORT

BatchID: 228603

Sample ID: **1608K98-001BMS**	Client ID:		Units: **ug/L**	Prep Date: **08/25/2016**	Run No: **323927**
SampleType: **MS**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **228603**	Analysis Date: **08/25/2016**	Seq No: **7012876**

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	107.9	0	100.0		108	51.5	141				
Surr: 2-Fluorobiphenyl	39.20	0	50.00		78.4	50.8	122				
Surr: 2-Fluorophenol	52.32	0	100.0		52.3	28.1	120				
Surr: 4-Terphenyl-d14	38.27	0	50.00		76.5	47.2	131				
Surr: Nitrobenzene-d5	31.20	0	50.00		62.4	42.1	124				
Surr: Phenol-d5	40.44	0	100.0		40.4	16	120				

Sample ID: **1608K98-001BMSD**	Client ID:		Units: **ug/L**	Prep Date: **08/25/2016**	Run No: **323927**
SampleType: **MSD**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **228603**	Analysis Date: **08/25/2016**	Seq No: **7012898**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	36.62	10	100.0		36.6	30.6	120	37.04	1.14	36.3	
Surr: 2,4,6-Tribromophenol	115.0	0	100.0		115	51.5	141	107.9	0	0	
Surr: 2-Fluorobiphenyl	40.31	0	50.00		80.6	50.8	122	39.20	0	0	
Surr: 2-Fluorophenol	50.16	0	100.0		50.2	28.1	120	52.32	0	0	
Surr: 4-Terphenyl-d14	39.50	0	50.00		79.0	47.2	131	38.27	0	0	
Surr: Nitrobenzene-d5	31.16	0	50.00		62.3	42.1	124	31.20	0	0	
Surr: Phenol-d5	39.17	0	100.0		39.2	16	120	40.44	0	0	

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1608K90

ANALYTICAL QC SUMMARY REPORT

BatchID: 228604

Sample ID: **MB-228604** Client ID: Units: **ug/L** Prep Date: **08/25/2016** Run No: **324100**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **228604** Analysis Date: **08/26/2016** Seq No: **7011870**

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	1.964	0	2.000		98.2	58.7	134				

Sample ID: **LCS-228604** Client ID: Units: **ug/L** Prep Date: **08/25/2016** Run No: **324100**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **228604** Analysis Date: **08/26/2016** Seq No: **7011871**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	2.013	0.50	2.000		101	65.2	121				
Acenaphthylene	2.034	1.0	2.000		102	62	120				
Anthracene	2.193	0.050	2.000		110	63.8	125				
Benz(a)anthracene	2.580	0.050	2.000		129	60	136				
Benzo(a)pyrene	2.323	0.050	2.000		116	65.6	128				
Benzo(b)fluoranthene	2.298	0.10	2.000		115	61.6	135				

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: 1608K90

ANALYTICAL QC SUMMARY REPORT

BatchID: 228604

Sample ID: **LCS-228604** Client ID: Units: **ug/L** Prep Date: **08/25/2016** Run No: **324100**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D** BatchID: **228604** Analysis Date: **08/26/2016** Seq No: **7011871**

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	2.325	0.10	2.000		116	60.6	124				
Benzo(k)fluoranthene	2.174	0.050	2.000		109	66.2	126				
Chrysene	2.267	0.050	2.000		113	69.9	134				
Dibenz(a,h)anthracene	2.251	0.10	2.000		113	56.6	127				
Fluoranthene	2.380	0.10	2.000		119	69.3	130				
Fluorene	2.067	0.10	2.000		103	68.4	121				
Indeno(1,2,3-cd)pyrene	2.384	0.050	2.000		119	59.2	130				
Naphthalene	1.823	0.50	2.000	0.09450	86.4	61.4	120				
Phenanthrene	2.082	0.050	2.000		104	65.4	123				
Pyrene	2.214	0.050	2.000		111	66.4	130				
Surr: 4-Terphenyl-d14	2.141	0	2.000		107	58.7	134				

Sample ID: **1608K06-002AMS** Client ID: Units: **ug/L** Prep Date: **08/25/2016** Run No: **324100**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D** BatchID: **228604** Analysis Date: **08/26/2016** Seq No: **7012087**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.966	0.50	2.000		98.3	51.2	120				
Acenaphthylene	1.974	1.0	2.000		98.7	53.5	120				
Anthracene	2.031	0.050	2.000		102	53.3	120				
Benz(a)anthracene	2.374	0.050	2.000		119	50.9	132				
Benzo(a)pyrene	2.071	0.050	2.000		104	50.5	120				
Benzo(b)fluoranthene	2.075	0.10	2.000		104	55.8	127				
Benzo(g,h,i)perylene	1.971	0.10	2.000		98.6	46.8	120				
Benzo(k)fluoranthene	1.987	0.050	2.000		99.3	54.5	120				
Chrysene	2.069	0.050	2.000		103	56.9	125				
Dibenz(a,h)anthracene	1.820	0.10	2.000		91.0	44.8	120				
Fluoranthene	2.249	0.10	2.000		112	61.5	122				
Fluorene	1.988	0.10	2.000		99.4	55.6	118				

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: 1608K90

ANALYTICAL QC SUMMARY REPORT

BatchID: 228604

Sample ID: **1608K06-002AMS** Client ID:
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**
Units: **ug/L** Prep Date: **08/25/2016** Run No: **324100**
BatchID: **228604** Analysis Date: **08/26/2016** Seq No: **7012087**

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	1.967	0.050	2.000		98.4	46.1	120				
Naphthalene	1.800	0.50	2.000		90.0	51.7	120				
Phenanthrene	1.957	0.050	2.000		97.8	56.1	120				
Pyrene	2.060	0.050	2.000		103	56.1	125				
Surr: 4-Terphenyl-d14	1.998	0	2.000		99.9	58.7	134				

Sample ID: **1608K06-002AMSD** Client ID:
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**
Units: **ug/L** Prep Date: **08/25/2016** Run No: **324100**
BatchID: **228604** Analysis Date: **08/26/2016** Seq No: **7012088**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.903	0.50	2.000		95.1	51.2	120	1.966	3.29	23.9	
Acenaphthylene	1.896	1.0	2.000		94.8	53.5	120	1.974	3.99	24.2	
Anthracene	2.065	0.050	2.000		103	53.3	120	2.031	1.65	22.3	
Benz(a)anthracene	2.409	0.050	2.000		120	50.9	132	2.374	1.48	27.4	
Benzo(a)pyrene	2.104	0.050	2.000		105	50.5	120	2.071	1.58	41.9	
Benzo(b)fluoranthene	2.132	0.10	2.000		107	55.8	127	2.075	2.70	26.1	
Benzo(g,h,i)perylene	2.039	0.10	2.000		102	46.8	120	1.971	3.38	24.3	
Benzo(k)fluoranthene	1.995	0.050	2.000		99.8	54.5	120	1.987	0.407	24.2	
Chrysene	2.188	0.050	2.000		109	56.9	125	2.069	5.55	23.1	
Dibenz(a,h)anthracene	1.734	0.10	2.000		86.7	44.8	120	1.820	4.81	26.1	
Fluoranthene	2.301	0.10	2.000		115	61.5	122	2.249	2.28	17.7	
Fluorene	1.960	0.10	2.000		98.0	55.6	118	1.988	1.43	27.5	
Indeno(1,2,3-cd)pyrene	2.046	0.050	2.000		102	46.1	120	1.967	3.94	26.7	
Naphthalene	1.780	0.50	2.000		89.0	51.7	120	1.800	1.13	24.2	
Phenanthrene	2.018	0.050	2.000		101	56.1	120	1.957	3.06	23.5	
Pyrene	2.085	0.050	2.000		104	56.1	125	2.060	1.24	20.9	
Surr: 4-Terphenyl-d14	1.928	0	2.000		96.4	58.7	134	1.998	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: 1608K90

ANALYTICAL QC SUMMARY REPORT

BatchID: 228646

Sample ID: **MB-228646** Client ID: Units: **ug/L** Prep Date: **08/25/2016** Run No: **324146**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **228646** Analysis Date: **08/29/2016** Seq No: **7014230**

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	99.55	0	100.0		99.6	51.5	141				
Surr: 2-Fluorobiphenyl	37.26	0	50.00		74.5	50.8	122				
Surr: 2-Fluorophenol	34.03	0	100.0		34.0	28.1	120				
Surr: 4-Terphenyl-d14	40.41	0	50.00		80.8	47.2	131				
Surr: Nitrobenzene-d5	31.66	0	50.00		63.3	42.1	124				
Surr: Phenol-d5	21.67	0	100.0		21.7	16	120				

Sample ID: **LCS-228646** Client ID: Units: **ug/L** Prep Date: **08/25/2016** Run No: **324146**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **228646** Analysis Date: **08/29/2016** Seq No: **7012704**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	35.07	10	100.0		35.1	27	120				
Surr: 2,4,6-Tribromophenol	110.9	0	100.0		111	51.5	141				
Surr: 2-Fluorobiphenyl	43.67	0	50.00		87.3	50.8	122				
Surr: 2-Fluorophenol	58.85	0	100.0		58.8	28.1	120				
Surr: 4-Terphenyl-d14	45.45	0	50.00		90.9	47.2	131				
Surr: Nitrobenzene-d5	36.64	0	50.00		73.3	42.1	124				
Surr: Phenol-d5	38.93	0	100.0		38.9	16	120				

Sample ID: **LCSD-228646** Client ID: Units: **ug/L** Prep Date: **08/26/2016** Run No: **324146**
SampleType: **LCSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **228646** Analysis Date: **08/29/2016** Seq No: **7012705**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	40.33	10	100.0		40.3	27	120	35.07	14.0	27.5	

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: 1608K90

ANALYTICAL QC SUMMARY REPORT

BatchID: 228646

Sample ID: **LCSD-228646** Client ID:
SampleType: **LCSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/L** Prep Date: **08/26/2016** Run No: **324146**
BatchID: **228646** Analysis Date: **08/29/2016** Seq No: **7012705**

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	99.99	0	100.0		100.0	51.5	141	110.9	0	0	
Surr: 2-Fluorobiphenyl	39.27	0	50.00		78.5	50.8	122	43.67	0	0	
Surr: 2-Fluorophenol	63.64	0	100.0		63.6	28.1	120	58.85	0	0	
Surr: 4-Terphenyl-d14	42.90	0	50.00		85.8	47.2	131	45.45	0	0	
Surr: Nitrobenzene-d5	38.64	0	50.00		77.3	42.1	124	36.64	0	0	
Surr: Phenol-d5	43.23	0	100.0		43.2	16	120	38.93	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: 1608K90

ANALYTICAL QC SUMMARY REPORT

BatchID: 228673

Sample ID: **MB-228673**	Client ID:			Units: **mg/L**	Prep Date: **08/26/2016**	Run No: **324032**
SampleType: **MBLK**	TestCode: **Mercury, Total SW7470A**			BatchID: **228673**	Analysis Date: **08/26/2016**	Seq No: **7015962**

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-228673**	Client ID:			Units: **mg/L**	Prep Date: **08/26/2016**	Run No: **324032**
SampleType: **LCS**	TestCode: **Mercury, Total SW7470A**			BatchID: **228673**	Analysis Date: **08/26/2016**	Seq No: **7015963**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005943	0.00020	0.0050		119	80	120				

Sample ID: **1608K90-001CMS**	Client ID: **AMW-6-20160822-01**			Units: **mg/L**	Prep Date: **08/26/2016**	Run No: **324032**
SampleType: **MS**	TestCode: **Mercury, Total SW7470A**			BatchID: **228673**	Analysis Date: **08/26/2016**	Seq No: **7015968**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.006010	0.00020	0.0050		120	70	130				

Sample ID: **1608K90-001CMSD**	Client ID: **AMW-6-20160822-01**			Units: **mg/L**	Prep Date: **08/26/2016**	Run No: **324032**
SampleType: **MSD**	TestCode: **Mercury, Total SW7470A**			BatchID: **228673**	Analysis Date: **08/26/2016**	Seq No: **7015970**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.006037	0.00020	0.0050		121	70	130	0.006010	0.440	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: 1608K90

ANALYTICAL QC SUMMARY REPORT

BatchID: 228677

Sample ID: **MB-228677** Client ID: Units: **ug/L** Prep Date: **08/25/2016** Run No: **323944**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **228677** Analysis Date: **08/25/2016** Seq No: **7009229**

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	43.63	0	50.00		87.3	70.7	125				
Surr: Dibromofluoromethane	52.85	0	50.00		106	82.2	120				
Surr: Toluene-d8	49.29	0	50.00		98.6	81.8	120				

Sample ID: **LCS-228677** Client ID: Units: **ug/L** Prep Date: **08/25/2016** Run No: **323944**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **228677** Analysis Date: **08/25/2016** Seq No: **7009228**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	47.92	5.0	50.00		95.8	74.9	123				
Toluene	46.86	5.0	50.00		93.7	75	124				
Surr: 4-Bromofluorobenzene	41.76	0	50.00		83.5	70.7	125				
Surr: Dibromofluoromethane	52.65	0	50.00		105	82.2	120				
Surr: Toluene-d8	48.88	0	50.00		97.8	81.8	120				

Sample ID: **1608K90-001AMS** Client ID: **AMW-6-20160822-01** Units: **ug/L** Prep Date: **08/25/2016** Run No: **323944**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **228677** Analysis Date: **08/25/2016** Seq No: **7009233**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	48.38	5.0	50.00		96.8	70.1	132				
Toluene	48.48	5.0	50.00		97.0	70.1	133				
Surr: 4-Bromofluorobenzene	46.20	0	50.00		92.4	70.7	125				
Surr: Dibromofluoromethane	53.31	0	50.00		107	82.2	120				
Surr: Toluene-d8	49.70	0	50.00		99.4	81.8	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: 1608K90

ANALYTICAL QC SUMMARY REPORT

BatchID: 228677

Sample ID: **1608K90-001AMSD** Client ID: **AMW-6-20160822-01** Units: **ug/L** Prep Date: **08/25/2016** Run No: **323944**
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **228677** Analysis Date: **08/25/2016** Seq No: **7009234**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	50.29	5.0	50.00		101	70.1	132	48.38	3.87	20	
Toluene	50.31	5.0	50.00		101	70.1	133	48.48	3.70	20	
Surr: 4-Bromofluorobenzene	45.81	0	50.00		91.6	70.7	125	46.20	0	0	
Surr: Dibromofluoromethane	54.38	0	50.00		109	82.2	120	53.31	0	0	
Surr: Toluene-d8	49.29	0	50.00		98.6	81.8	120	49.70	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: 1608K90

ANALYTICAL QC SUMMARY REPORT

BatchID: 228854

Sample ID: **MB-228854**	Client ID:					Units: **mg/L**		Prep Date: **08/30/2016**		Run No: **324288**	
SampleType: **MBLK**	TestCode: **Cyanide SW9014**					BatchID: **228854**		Analysis Date: **08/30/2016**		Seq No: **7016580**	
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-228854**	Client ID:					Units: **mg/L**		Prep Date: **08/30/2016**		Run No: **324288**	
SampleType: **LCS**	TestCode: **Cyanide SW9014**					BatchID: **228854**		Analysis Date: **08/30/2016**		Seq No: **7016581**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2420	0.010	0.2500		96.8	85	115				

Sample ID: **1608K90-001DMS**	Client ID: **AMW-6-20160822-01**					Units: **mg/L**		Prep Date: **08/30/2016**		Run No: **324288**	
SampleType: **MS**	TestCode: **Cyanide SW9014**					BatchID: **228854**		Analysis Date: **08/30/2016**		Seq No: **7016610**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2390	0.010	0.2500		95.6	70	130				

Sample ID: **1608K90-001DMSD**	Client ID: **AMW-6-20160822-01**					Units: **mg/L**		Prep Date: **08/30/2016**		Run No: **324288**	
SampleType: **MSD**	TestCode: **Cyanide SW9014**					BatchID: **228854**		Analysis Date: **08/30/2016**		Seq No: **7016611**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2230	0.010	0.2500		89.2	70	130	0.2390	6.93	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.

September 09, 2016

Adria Reimer
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

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

RE: AGL Macon

Dear Adria Reimer: Order No: 1608K91

Analytical Environmental Services, Inc. received 23 samples on 8/24/2016 5:15:00 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's accreditations are as follows:
-NELAC/Florida State Laboratory ID E87582 for analysis of Non-Potable Water, Solid & Chemical Materials, and Drinking Water Microbiology, effective 07/01/16-06/30/17.
-NELAC/Louisiana Agency Interest No. 100818 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 07/01/16-06/30/17.
-NELAC/Texas Certificate No. T104704509-16-6 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 03/01/16-02/28/17.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Metals, PCM Asbestos, Gravimetric), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

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: 1608K91

Date: 08/24/16 Page 1 of 2

COMPANY: ERM	ADDRESS: 3200 WINDY HILL RD SE SUITE 1500W ATLANTA, GA 30339
PHONE: 678-486-2700	FAX: —
SAMPLED BY: CAYCE HURDLE, MYLES ROGERS, ANDREAS SHOREDITS	SIGNATURE:

ANALYSIS REQUESTED

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

PRESERVATION (See codes)

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	VOC (8260B)	SVOC (8270C)	CYANIDE	TOT. METALS/Hg	H+I	I	N+I	O+F	REMARKS	No # of Containers
1	MW-24D-20160822-01	8-22-16	10:40	X		GW					2	2	1	1	NaOH pres. for metals	6
2	MW-12DRR-20160822-01	"	16:55													6
3	MW-23D-20160822-01	"	16:25													6
4	MW-27D-20160823-01	8-23-16	09:40													6
5	MW-200DR-20160823-01	"	09:40													6
6	MW-26D-20160823-01	"	10:20													6
7	MW-308D-20160823-01	"	11:38													6
8	MW-307D-20160823-01	"	12:05													6
9	MW-301D-20160823-01	"	15:10													6
10	MW-22D-20160823-01	"	16:50													6
11	MW-306D-20160823-01	"	16:00													6
12	MS-01-20160823-01	"	16:10													6
13	MSD-DUP-01-20160823-01	"	16:10	↓		↓					↓	↓	↓	↓		6
14																

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:		1:	08/24/16 15:25
2:		2:	8/24/16 5:30
3:	8/24/16 5:30	3: Pam Masad	8-24-16 5:18

SHIPMENT METHOD

OUT / / VIA:

IN / / VIA:

CLIENT FedEx UPS MAIL COURIER

GREYHOUND OTHER

PROJECT INFORMATION

PROJECT NAME: AGL MACON

PROJECT #: 0176740

SITE ADDRESS: 137 MULBERRY ST MACON, GA 31201

SEND REPORT TO: adria.reiner@erm.com

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: PO#:

RECEIPT

Total # of Containers: 78

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): GA

E-mail? (Y) N; Fax? Y (N)

DATA PACKAGE: I II III IV

CUSTODY SEAL QEDrock Quality Environmental Containers 800-255-3950 • 304-255-3900

DATE 08/24/2016

SIGNATURE

NSIDERED 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: 1608K91

Date: 08/24/16 Page 2 of 2

COMPANY: ERM	ADDRESS: 3200 WINDY HILL RD SE SUITE 1600W ATLANTA, GA 30339
PHONE: 678-486-2700	FAX: —
SAMPLED BY: CAYCE HURDLE, MYLES ROGERS, ANDREAS SKOREDIS	SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	VOC (8260B)	SVOC (8270C)	CYANIDE	TOT. METALS (HG)	PRESERVATION (See codes) H+I	I	O+I	N+I	REMARKS	No # of Containers
1	MW-302DD-20160824-01	8/24/16	08:10	X		GW	2	2	1	1					NaOH pres. for cyanide	6
2	MW-204D-20160824-01	"	09:12													6
3	MW-110D-20160824-01	"	09:30													6
4	MW-205D-20160824-01	"	12:05													6
5	MW-205DD-20160824-01	"	12:15													6
6	DUP-02-20160824-01	"	—													6
7	DUP-03-20160824-01	"	—													6
8	TB-01-20160824-01	NA	—			W	2									2
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:		1:	08/24/16 15:25
2:		2:	8/24/16
3:	8/24/16 5:15	3: parts Mixed 8-24-16 5:15	

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

CUSTODY SEAL — Red Rock Quality Environmental Containers 800-255-3950 • 304-255-3900
DATE 08/24/2016
SIGNATURE

PROJECT INFORMATION

PROJECT NAME: AGL MACON
PROJECT #: 0176740
SITE ADDRESS: 137 MULBERRY ST MACON, GA 31201
SEND REPORT TO: adrian.reimer@erm.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): GA
E-mail? (Y) N; Fax? Y (N)
DATA PACKAGE: I II III IV

NSIDERED 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: 1608K91

Case Narrative

Samples "MS-01-20160823-01" and "MS-DUP-01-20160823-01" were listed on the Chain of Custody as individual samples; however, per Andrew Shoredits 8/29/2016, the samples are only required for MS and MSD analysis for sample "MW-301D-20160823-01."

Two sets of Trip Blanks were provided but not listed on the Chain of Custody. The Trip blanks were analyzed at no cost to the client.

Volatiles Organic Compounds Analysis by Method 8260B:

Due to sample matrix, sample 1608K91-017A required dilution during preparation and/or analysis resulting in elevated reporting limits.

Semi-Volatile Organics Analysis by Method 8270D:

Matrix spike and matrix spike duplicate analyses were not performed with Batch 228646 due to insufficient sample volume.

Percent recovery for the surrogate spiking compound 2,4,6-tribromophenol on QC sample LCS-228603 was outside control limits biased high.

PAH Analysis by Method 8270D SIM:

Matrix spike and matrix spike duplicate analyses were not performed with Batch 228608 due to insufficient sample volume.

Mercury Analysis by Method 7470A:

LCS-229049 recovery for mercury was outside control limits biased high. Target analyte was not detected in the analytical samples and data is reportable with high bias.

Analytical Environmental Services, Inc **Date:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-24D-20160822-01
Project Name:	AGL Macon	**Collection Date:**	8/22/2016 10:40:00 AM
Lab ID:	1608K91-001	**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	228692	1	08/25/2016 21:30	JE
Carbon disulfide	BRL	5.0		ug/L	228692	1	08/25/2016 21:30	JE
Ethylbenzene	5.2	5.0		ug/L	228692	1	08/25/2016 21:30	JE
Toluene	BRL	5.0		ug/L	228692	1	08/25/2016 21:30	JE
Xylenes, Total	BRL	5.0		ug/L	228692	1	08/25/2016 21:30	JE
Surr: 4-Bromofluorobenzene	103	70.7-125		%REC	228692	1	08/25/2016 21:30	JE
Surr: Dibromofluoromethane	93.2	82.2-120		%REC	228692	1	08/25/2016 21:30	JE
Surr: Toluene-d8	98.3	81.8-120		%REC	228692	1	08/25/2016 21:30	JE
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	14	5.0		ug/L	228604	10	09/06/2016 11:03	YH
Acenaphthylene	BRL	1.0		ug/L	228604	1	08/29/2016 14:11	YH
Acenaphthene	1.7	0.50		ug/L	228604	1	08/29/2016 14:11	YH
Fluorene	0.27	0.10		ug/L	228604	1	08/29/2016 14:11	YH
Phenanthrene	0.21	0.050		ug/L	228604	1	08/29/2016 14:11	YH
Anthracene	0.19	0.050		ug/L	228604	1	08/29/2016 14:11	YH
Fluoranthene	BRL	0.10		ug/L	228604	1	08/29/2016 14:11	YH
Pyrene	BRL	0.050		ug/L	228604	1	08/29/2016 14:11	YH
Benz(a)anthracene	BRL	0.050		ug/L	228604	1	08/29/2016 14:11	YH
Chrysene	BRL	0.050		ug/L	228604	1	08/29/2016 14:11	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228604	1	08/29/2016 14:11	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228604	1	08/29/2016 14:11	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228604	1	08/29/2016 14:11	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228604	1	08/29/2016 14:11	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228604	1	08/29/2016 14:11	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228604	1	08/29/2016 14:11	YH
Surr: 4-Terphenyl-d14	90.7	58.7-134		%REC	228604	1	08/29/2016 14:11	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228603	1	08/26/2016 22:03	YH
2-Methylphenol	BRL	10		ug/L	228603	1	08/26/2016 22:03	YH
3,4-Methylphenol	BRL	10		ug/L	228603	1	08/26/2016 22:03	YH
Phenol	BRL	10		ug/L	228603	1	08/26/2016 22:03	YH
Surr: 2,4,6-Tribromophenol	91.5	51.5-141		%REC	228603	1	08/26/2016 22:03	YH
Surr: 2-Fluorobiphenyl	71.9	50.8-122		%REC	228603	1	08/26/2016 22:03	YH
Surr: 2-Fluorophenol	53.4	28.1-120		%REC	228603	1	08/26/2016 22:03	YH
Surr: 4-Terphenyl-d14	79.3	47.2-131		%REC	228603	1	08/26/2016 22:03	YH
Surr: Nitrobenzene-d5	60.4	42.1-124		%REC	228603	1	08/26/2016 22:03	YH
Surr: Phenol-d5	38	16-120		%REC	228603	1	08/26/2016 22:03	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-24D-20160822-01
Project Name:	AGL Macon	**Collection Date:**	8/22/2016 10:40:00 AM
Lab ID:	1608K91-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	228678	1	08/26/2016 14:35	JR
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	BRL	0.010		mg/L	228854	1	08/30/2016 10:30	BD
METALS, TOTAL SW6010D				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	228625	1	08/31/2016 20:28	JL
Arsenic	BRL	0.0500		mg/L	228625	1	08/31/2016 20:28	JL
Barium	1.10	0.0400		mg/L	228625	2	09/01/2016 14:22	JL
Beryllium	BRL	0.0100		mg/L	228625	1	08/31/2016 20:28	JL
Cadmium	BRL	0.0050		mg/L	228625	1	08/31/2016 20:28	JL
Chromium	BRL	0.0100		mg/L	228625	1	08/31/2016 20:28	JL
Copper	BRL	0.0100		mg/L	228625	1	08/31/2016 20:28	JL
Lead	BRL	0.0100		mg/L	228625	1	08/31/2016 20:28	JL
Nickel	BRL	0.0200		mg/L	228625	1	08/31/2016 20:28	JL
Zinc	BRL	0.0200		mg/L	228625	1	08/31/2016 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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-12DRR-20160822-01
Project Name:	AGL Macon	**Collection Date:**	8/22/2016 4:55:00 PM
Lab ID:	1608K91-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	220	50		ug/L	228692	10	08/26/2016 15:00	JE
Carbon disulfide	BRL	5.0		ug/L	228692	1	08/26/2016 02:19	JE
Ethylbenzene	76	5.0		ug/L	228692	1	08/26/2016 02:19	JE
Toluene	BRL	5.0		ug/L	228692	1	08/26/2016 02:19	JE
Xylenes, Total	48	5.0		ug/L	228692	1	08/26/2016 02:19	JE
Surr: 4-Bromofluorobenzene	101	70.7-125		%REC	228692	10	08/26/2016 15:00	JE
Surr: 4-Bromofluorobenzene	102	70.7-125		%REC	228692	1	08/26/2016 02:19	JE
Surr: Dibromofluoromethane	90.8	82.2-120		%REC	228692	10	08/26/2016 15:00	JE
Surr: Dibromofluoromethane	92	82.2-120		%REC	228692	1	08/26/2016 02:19	JE
Surr: Toluene-d8	97.4	81.8-120		%REC	228692	1	08/26/2016 02:19	JE
Surr: Toluene-d8	99.2	81.8-120		%REC	228692	10	08/26/2016 15:00	JE
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	8.9	0.50		ug/L	228604	1	08/29/2016 14:38	YH
Acenaphthylene	BRL	1.0		ug/L	228604	1	08/29/2016 14:38	YH
Acenaphthene	10	5.0		ug/L	228604	10	09/06/2016 11:29	YH
Fluorene	14	1.0		ug/L	228604	10	09/06/2016 11:29	YH
Phenanthrene	0.66	0.050		ug/L	228604	1	08/29/2016 14:38	YH
Anthracene	0.65	0.050		ug/L	228604	1	08/29/2016 14:38	YH
Fluoranthene	3.6	0.10		ug/L	228604	1	08/29/2016 14:38	YH
Pyrene	3.7	0.050		ug/L	228604	1	08/29/2016 14:38	YH
Benz(a)anthracene	0.16	0.050		ug/L	228604	1	08/29/2016 14:38	YH
Chrysene	0.13	0.050		ug/L	228604	1	08/29/2016 14:38	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228604	1	08/29/2016 14:38	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228604	1	08/29/2016 14:38	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228604	1	08/29/2016 14:38	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228604	1	08/29/2016 14:38	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228604	1	08/29/2016 14:38	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228604	1	08/29/2016 14:38	YH
Surr: 4-Terphenyl-d14	86.7	58.7-134		%REC	228604	1	08/29/2016 14:38	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228603	1	08/26/2016 22:33	YH
2-Methylphenol	BRL	10		ug/L	228603	1	08/26/2016 22:33	YH
3,4-Methylphenol	BRL	10		ug/L	228603	1	08/26/2016 22:33	YH
Phenol	BRL	10		ug/L	228603	1	08/26/2016 22:33	YH
Surr: 2,4,6-Tribromophenol	103	51.5-141		%REC	228603	1	08/26/2016 22:33	YH
Surr: 2-Fluorobiphenyl	84.5	50.8-122		%REC	228603	1	08/26/2016 22:33	YH
Surr: 2-Fluorophenol	60.8	28.1-120		%REC	228603	1	08/26/2016 22:33	YH
Surr: 4-Terphenyl-d14	87.6	47.2-131		%REC	228603	1	08/26/2016 22:33	YH
Surr: Nitrobenzene-d5	68.4	42.1-124		%REC	228603	1	08/26/2016 22:33	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-12DRR-20160822-01
Project Name:	AGL Macon	**Collection Date:**	8/22/2016 4:55:00 PM
Lab ID:	1608K91-002	**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	16-120		%REC	228603	1	08/26/2016 22:33	YH
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	228678	1	08/26/2016 14:28	JR
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	0.027	0.010		mg/L	228854	1	08/30/2016 10:30	BD
METALS, TOTAL SW6010D				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	228625	1	08/31/2016 20:45	JL
Arsenic	BRL	0.0500		mg/L	228625	1	08/31/2016 20:45	JL
Barium	1.37	0.0400		mg/L	228625	2	09/01/2016 14:25	JL
Beryllium	BRL	0.0100		mg/L	228625	1	08/31/2016 20:45	JL
Cadmium	BRL	0.0050		mg/L	228625	1	08/31/2016 20:45	JL
Chromium	BRL	0.0100		mg/L	228625	1	08/31/2016 20:45	JL
Copper	BRL	0.0100		mg/L	228625	1	08/31/2016 20:45	JL
Lead	BRL	0.0100		mg/L	228625	1	08/31/2016 20:45	JL
Nickel	0.0854	0.0200		mg/L	228625	1	08/31/2016 20:45	JL
Zinc	BRL	0.0200		mg/L	228625	1	08/31/2016 20:45	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-23D-20160822-01
Project Name:	AGL Macon	**Collection Date:**	8/22/2016 6:25:00 PM
Lab ID:	1608K91-003	**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	228692	1	08/25/2016 21:54	JE
Carbon disulfide	BRL	5.0		ug/L	228692	1	08/25/2016 21:54	JE
Ethylbenzene	BRL	5.0		ug/L	228692	1	08/25/2016 21:54	JE
Toluene	BRL	5.0		ug/L	228692	1	08/25/2016 21:54	JE
Xylenes, Total	BRL	5.0		ug/L	228692	1	08/25/2016 21:54	JE
Surr: 4-Bromofluorobenzene	104	70.7-125		%REC	228692	1	08/25/2016 21:54	JE
Surr: Dibromofluoromethane	93	82.2-120		%REC	228692	1	08/25/2016 21:54	JE
Surr: Toluene-d8	97.7	81.8-120		%REC	228692	1	08/25/2016 21:54	JE
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	228604	1	08/29/2016 15:04	YH
Acenaphthylene	BRL	1.0		ug/L	228604	1	08/29/2016 15:04	YH
Acenaphthene	BRL	0.50		ug/L	228604	1	08/29/2016 15:04	YH
Fluorene	BRL	0.10		ug/L	228604	1	08/29/2016 15:04	YH
Phenanthrene	BRL	0.050		ug/L	228604	1	08/29/2016 15:04	YH
Anthracene	BRL	0.050		ug/L	228604	1	08/29/2016 15:04	YH
Fluoranthene	BRL	0.10		ug/L	228604	1	08/29/2016 15:04	YH
Pyrene	BRL	0.050		ug/L	228604	1	08/29/2016 15:04	YH
Benz(a)anthracene	BRL	0.050		ug/L	228604	1	08/29/2016 15:04	YH
Chrysene	BRL	0.050		ug/L	228604	1	08/29/2016 15:04	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228604	1	08/29/2016 15:04	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228604	1	08/29/2016 15:04	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228604	1	08/29/2016 15:04	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228604	1	08/29/2016 15:04	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228604	1	08/29/2016 15:04	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228604	1	08/29/2016 15:04	YH
Surr: 4-Terphenyl-d14	98.6	58.7-134		%REC	228604	1	08/29/2016 15:04	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228603	1	08/30/2016 10:49	YH
2-Methylphenol	BRL	10		ug/L	228603	1	08/30/2016 10:49	YH
3,4-Methylphenol	BRL	10		ug/L	228603	1	08/30/2016 10:49	YH
Phenol	BRL	10		ug/L	228603	1	08/30/2016 10:49	YH
Surr: 2,4,6-Tribromophenol	95.6	51.5-141		%REC	228603	1	08/30/2016 10:49	YH
Surr: 2-Fluorobiphenyl	78	50.8-122		%REC	228603	1	08/30/2016 10:49	YH
Surr: 2-Fluorophenol	47.8	28.1-120		%REC	228603	1	08/30/2016 10:49	YH
Surr: 4-Terphenyl-d14	85.5	47.2-131		%REC	228603	1	08/30/2016 10:49	YH
Surr: Nitrobenzene-d5	65.4	42.1-124		%REC	228603	1	08/30/2016 10:49	YH
Surr: Phenol-d5	39.4	16-120		%REC	228603	1	08/30/2016 10:49	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-23D-20160822-01
Project Name:	AGL Macon	**Collection Date:**	8/22/2016 6:25:00 PM
Lab ID:	1608K91-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228678	1	08/26/2016 14:37	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	228854	1	08/30/2016 10:30	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228625	1	08/31/2016 20:48	JL
Arsenic	BRL	0.0500		mg/L	228625	1	08/31/2016 20:48	JL
Barium	0.0655	0.0200		mg/L	228625	1	08/31/2016 20:48	JL
Beryllium	BRL	0.0100		mg/L	228625	1	08/31/2016 20:48	JL
Cadmium	BRL	0.0050		mg/L	228625	1	08/31/2016 20:48	JL
Chromium	BRL	0.0100		mg/L	228625	1	08/31/2016 20:48	JL
Copper	BRL	0.0100		mg/L	228625	1	08/31/2016 20:48	JL
Lead	BRL	0.0100		mg/L	228625	1	08/31/2016 20:48	JL
Nickel	BRL	0.0200		mg/L	228625	1	08/31/2016 20:48	JL
Zinc	BRL	0.0200		mg/L	228625	1	08/31/2016 20:48	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-27D-20160823-01
Project Name:	AGL Macon	**Collection Date:**	8/23/2016 9:40:00 AM
Lab ID:	1608K91-004	**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	228692	1	08/25/2016 22:18	JE
Carbon disulfide	BRL	5.0		ug/L	228692	1	08/25/2016 22:18	JE
Ethylbenzene	BRL	5.0		ug/L	228692	1	08/25/2016 22:18	JE
Toluene	BRL	5.0		ug/L	228692	1	08/25/2016 22:18	JE
Xylenes, Total	BRL	5.0		ug/L	228692	1	08/25/2016 22:18	JE
Surr: 4-Bromofluorobenzene	104	70.7-125		%REC	228692	1	08/25/2016 22:18	JE
Surr: Dibromofluoromethane	94.6	82.2-120		%REC	228692	1	08/25/2016 22:18	JE
Surr: Toluene-d8	102	81.8-120		%REC	228692	1	08/25/2016 22:18	JE
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	228604	1	08/29/2016 16:22	YH
Acenaphthylene	BRL	1.0		ug/L	228604	1	08/29/2016 16:22	YH
Acenaphthene	BRL	0.50		ug/L	228604	1	08/29/2016 16:22	YH
Fluorene	BRL	0.10		ug/L	228604	1	08/29/2016 16:22	YH
Phenanthrene	BRL	0.050		ug/L	228604	1	08/29/2016 16:22	YH
Anthracene	BRL	0.050		ug/L	228604	1	08/29/2016 16:22	YH
Fluoranthene	BRL	0.10		ug/L	228604	1	08/29/2016 16:22	YH
Pyrene	0.17	0.050		ug/L	228604	1	08/29/2016 16:22	YH
Benz(a)anthracene	BRL	0.050		ug/L	228604	1	08/29/2016 16:22	YH
Chrysene	BRL	0.050		ug/L	228604	1	08/29/2016 16:22	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228604	1	08/29/2016 16:22	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228604	1	08/29/2016 16:22	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228604	1	08/29/2016 16:22	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228604	1	08/29/2016 16:22	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228604	1	08/29/2016 16:22	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228604	1	08/29/2016 16:22	YH
Surr: 4-Terphenyl-d14	113	58.7-134		%REC	228604	1	08/29/2016 16:22	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228603	1	08/30/2016 11:19	YH
2-Methylphenol	BRL	10		ug/L	228603	1	08/30/2016 11:19	YH
3,4-Methylphenol	BRL	10		ug/L	228603	1	08/30/2016 11:19	YH
Phenol	BRL	10		ug/L	228603	1	08/30/2016 11:19	YH
Surr: 2,4,6-Tribromophenol	91.4	51.5-141		%REC	228603	1	08/30/2016 11:19	YH
Surr: 2-Fluorobiphenyl	67.8	50.8-122		%REC	228603	1	08/30/2016 11:19	YH
Surr: 2-Fluorophenol	39.9	28.1-120		%REC	228603	1	08/30/2016 11:19	YH
Surr: 4-Terphenyl-d14	80.3	47.2-131		%REC	228603	1	08/30/2016 11:19	YH
Surr: Nitrobenzene-d5	53.9	42.1-124		%REC	228603	1	08/30/2016 11:19	YH
Surr: Phenol-d5	33.1	16-120		%REC	228603	1	08/30/2016 11:19	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-27D-20160823-01
Project Name:	AGL Macon	**Collection Date:**	8/23/2016 9:40:00 AM
Lab ID:	1608K91-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228678	1	08/26/2016 14:43	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	228854	1	08/30/2016 10:30	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228625	1	08/31/2016 20:51	JL
Arsenic	BRL	0.0500		mg/L	228625	1	08/31/2016 20:51	JL
Barium	0.934	0.0200		mg/L	228625	1	08/31/2016 20:51	JL
Beryllium	BRL	0.0100		mg/L	228625	1	08/31/2016 20:51	JL
Cadmium	BRL	0.0050		mg/L	228625	1	08/31/2016 20:51	JL
Chromium	BRL	0.0100		mg/L	228625	1	08/31/2016 20:51	JL
Copper	BRL	0.0100		mg/L	228625	1	08/31/2016 20:51	JL
Lead	BRL	0.0100		mg/L	228625	1	08/31/2016 20:51	JL
Nickel	0.0375	0.0200		mg/L	228625	1	08/31/2016 20:51	JL
Zinc	BRL	0.0200		mg/L	228625	1	08/31/2016 20:51	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-200DR-20160823-01
Project Name:	AGL Macon	**Collection Date:**	8/23/2016 9:40:00 AM
Lab ID:	1608K91-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	85	5.0		ug/L	228692	1	08/25/2016 22:42	JE
Carbon disulfide	BRL	5.0		ug/L	228692	1	08/25/2016 22:42	JE
Ethylbenzene	40	5.0		ug/L	228692	1	08/25/2016 22:42	JE
Toluene	BRL	5.0		ug/L	228692	1	08/25/2016 22:42	JE
Xylenes, Total	8.0	5.0		ug/L	228692	1	08/25/2016 22:42	JE
Surr: 4-Bromofluorobenzene	103	70.7-125		%REC	228692	1	08/25/2016 22:42	JE
Surr: Dibromofluoromethane	91.9	82.2-120		%REC	228692	1	08/25/2016 22:42	JE
Surr: Toluene-d8	99.1	81.8-120		%REC	228692	1	08/25/2016 22:42	JE
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	390	50		ug/L	228608	100	08/29/2016 18:55	YH
Acenaphthylene	26	10		ug/L	228608	100	08/29/2016 18:55	YH
Acenaphthene	24	10		ug/L	228608	100	08/29/2016 18:55	YH
Fluorene	12	10		ug/L	228608	100	08/29/2016 18:55	YH
Phenanthrene	27	5.0		ug/L	228608	100	08/29/2016 18:55	YH
Anthracene	3.6	0.050		ug/L	228608	1	08/25/2016 19:06	YH
Fluoranthene	1.3	0.10		ug/L	228608	1	08/25/2016 19:06	YH
Pyrene	1.3	0.050		ug/L	228608	1	08/25/2016 19:06	YH
Benz(a)anthracene	0.080	0.050		ug/L	228608	1	08/25/2016 19:06	YH
Chrysene	0.056	0.050		ug/L	228608	1	08/25/2016 19:06	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228608	1	08/25/2016 19:06	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228608	1	08/25/2016 19:06	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228608	1	08/25/2016 19:06	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228608	1	08/25/2016 19:06	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228608	1	08/25/2016 19:06	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228608	1	08/25/2016 19:06	YH
Surr: 4-Terphenyl-d14	97.2	58.7-134		%REC	228608	1	08/25/2016 19:06	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228603	1	08/30/2016 11:46	YH
2-Methylphenol	BRL	10		ug/L	228603	1	08/30/2016 11:46	YH
3,4-Methylphenol	BRL	10		ug/L	228603	1	08/30/2016 11:46	YH
Phenol	BRL	10		ug/L	228603	1	08/30/2016 11:46	YH
Surr: 2,4,6-Tribromophenol	107	51.5-141		%REC	228603	1	08/30/2016 11:46	YH
Surr: 2-Fluorobiphenyl	83.4	50.8-122		%REC	228603	1	08/30/2016 11:46	YH
Surr: 2-Fluorophenol	55.4	28.1-120		%REC	228603	1	08/30/2016 11:46	YH
Surr: 4-Terphenyl-d14	87.5	47.2-131		%REC	228603	1	08/30/2016 11:46	YH
Surr: Nitrobenzene-d5	75	42.1-124		%REC	228603	1	08/30/2016 11:46	YH
Surr: Phenol-d5	47.5	16-120		%REC	228603	1	08/30/2016 11:46	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-200DR-20160823-01
Project Name:	AGL Macon	**Collection Date:**	8/23/2016 9:40:00 AM
Lab ID:	1608K91-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228678	1	08/26/2016 14:45	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.031	0.010		mg/L	228854	1	08/30/2016 10:30	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228625	1	08/31/2016 20:54	JL
Arsenic	BRL	0.0500		mg/L	228625	1	08/31/2016 20:54	JL
Barium	1.27	0.0400		mg/L	228625	2	09/01/2016 14:28	JL
Beryllium	BRL	0.0100		mg/L	228625	1	08/31/2016 20:54	JL
Cadmium	BRL	0.0050		mg/L	228625	1	08/31/2016 20:54	JL
Chromium	BRL	0.0100		mg/L	228625	1	08/31/2016 20:54	JL
Copper	BRL	0.0100		mg/L	228625	1	08/31/2016 20:54	JL
Lead	BRL	0.0100		mg/L	228625	1	08/31/2016 20:54	JL
Nickel	0.0616	0.0200		mg/L	228625	1	08/31/2016 20:54	JL
Zinc	BRL	0.0200		mg/L	228625	1	08/31/2016 20:54	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-26D-20160823-01
Project Name:	AGL Macon	**Collection Date:**	8/23/2016 10:20:00 AM
Lab ID:	1608K91-006	**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	228692	1	08/26/2016 01:31	JE
Carbon disulfide	BRL	5.0		ug/L	228692	1	08/26/2016 01:31	JE
Ethylbenzene	BRL	5.0		ug/L	228692	1	08/26/2016 01:31	JE
Toluene	BRL	5.0		ug/L	228692	1	08/26/2016 01:31	JE
Xylenes, Total	BRL	5.0		ug/L	228692	1	08/26/2016 01:31	JE
Surr: 4-Bromofluorobenzene	105	70.7-125		%REC	228692	1	08/26/2016 01:31	JE
Surr: Dibromofluoromethane	95.3	82.2-120		%REC	228692	1	08/26/2016 01:31	JE
Surr: Toluene-d8	99.7	81.8-120		%REC	228692	1	08/26/2016 01:31	JE
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	228608	1	08/25/2016 19:34	YH
Acenaphthylene	BRL	1.0		ug/L	228608	1	08/25/2016 19:34	YH
Acenaphthene	BRL	0.50		ug/L	228608	1	08/25/2016 19:34	YH
Fluorene	BRL	0.10		ug/L	228608	1	08/25/2016 19:34	YH
Phenanthrene	BRL	0.050		ug/L	228608	1	08/25/2016 19:34	YH
Anthracene	BRL	0.050		ug/L	228608	1	08/25/2016 19:34	YH
Fluoranthene	BRL	0.10		ug/L	228608	1	08/25/2016 19:34	YH
Pyrene	BRL	0.050		ug/L	228608	1	08/25/2016 19:34	YH
Benz(a)anthracene	BRL	0.050		ug/L	228608	1	08/25/2016 19:34	YH
Chrysene	BRL	0.050		ug/L	228608	1	08/25/2016 19:34	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228608	1	08/25/2016 19:34	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228608	1	08/25/2016 19:34	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228608	1	08/25/2016 19:34	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228608	1	08/25/2016 19:34	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228608	1	08/25/2016 19:34	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228608	1	08/25/2016 19:34	YH
Surr: 4-Terphenyl-d14	99.1	58.7-134		%REC	228608	1	08/25/2016 19:34	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228603	1	08/30/2016 12:15	YH
2-Methylphenol	BRL	10		ug/L	228603	1	08/30/2016 12:15	YH
3,4-Methylphenol	BRL	10		ug/L	228603	1	08/30/2016 12:15	YH
Phenol	BRL	10		ug/L	228603	1	08/30/2016 12:15	YH
Surr: 2,4,6-Tribromophenol	103	51.5-141		%REC	228603	1	08/30/2016 12:15	YH
Surr: 2-Fluorobiphenyl	76.4	50.8-122		%REC	228603	1	08/30/2016 12:15	YH
Surr: 2-Fluorophenol	43	28.1-120		%REC	228603	1	08/30/2016 12:15	YH
Surr: 4-Terphenyl-d14	86.8	47.2-131		%REC	228603	1	08/30/2016 12:15	YH
Surr: Nitrobenzene-d5	64	42.1-124		%REC	228603	1	08/30/2016 12:15	YH
Surr: Phenol-d5	36.8	16-120		%REC	228603	1	08/30/2016 12:15	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-26D-20160823-01
Project Name:	AGL Macon	**Collection Date:**	8/23/2016 10:20:00 AM
Lab ID:	1608K91-006	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	228678	1	08/26/2016 14:47	JR
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	BRL	0.010		mg/L	228854	1	08/30/2016 10:30	BD
METALS, TOTAL SW6010D				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	228625	1	08/31/2016 21:04	JL
Arsenic	BRL	0.0500		mg/L	228625	1	08/31/2016 21:04	JL
Barium	1.34	0.0400		mg/L	228625	2	09/01/2016 14:31	JL
Beryllium	BRL	0.0100		mg/L	228625	1	08/31/2016 21:04	JL
Cadmium	BRL	0.0050		mg/L	228625	1	08/31/2016 21:04	JL
Chromium	BRL	0.0100		mg/L	228625	1	08/31/2016 21:04	JL
Copper	BRL	0.0100		mg/L	228625	1	08/31/2016 21:04	JL
Lead	BRL	0.0100		mg/L	228625	1	08/31/2016 21:04	JL
Nickel	BRL	0.0200		mg/L	228625	1	08/31/2016 21:04	JL
Zinc	BRL	0.0200		mg/L	228625	1	08/31/2016 21:04	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-308D-20160823-01
Project Name:	AGL Macon	**Collection Date:**	8/23/2016 11:38:00 AM
Lab ID:	1608K91-007	**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	228692	1	08/25/2016 23:07	JE
Carbon disulfide	BRL	5.0		ug/L	228692	1	08/25/2016 23:07	JE
Ethylbenzene	BRL	5.0		ug/L	228692	1	08/25/2016 23:07	JE
Toluene	BRL	5.0		ug/L	228692	1	08/25/2016 23:07	JE
Xylenes, Total	BRL	5.0		ug/L	228692	1	08/25/2016 23:07	JE
Surr: 4-Bromofluorobenzene	104	70.7-125		%REC	228692	1	08/25/2016 23:07	JE
Surr: Dibromofluoromethane	92.5	82.2-120		%REC	228692	1	08/25/2016 23:07	JE
Surr: Toluene-d8	98.8	81.8-120		%REC	228692	1	08/25/2016 23:07	JE
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	228608	1	08/26/2016 14:23	YH
Acenaphthylene	BRL	1.0		ug/L	228608	1	08/26/2016 14:23	YH
Acenaphthene	BRL	0.50		ug/L	228608	1	08/26/2016 14:23	YH
Fluorene	BRL	0.10		ug/L	228608	1	08/26/2016 14:23	YH
Phenanthrene	BRL	0.050		ug/L	228608	1	08/26/2016 14:23	YH
Anthracene	BRL	0.050		ug/L	228608	1	08/26/2016 14:23	YH
Fluoranthene	BRL	0.10		ug/L	228608	1	08/26/2016 14:23	YH
Pyrene	BRL	0.050		ug/L	228608	1	08/26/2016 14:23	YH
Benz(a)anthracene	BRL	0.050		ug/L	228608	1	08/26/2016 14:23	YH
Chrysene	BRL	0.050		ug/L	228608	1	08/26/2016 14:23	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228608	1	08/26/2016 14:23	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228608	1	08/26/2016 14:23	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228608	1	08/26/2016 14:23	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228608	1	08/26/2016 14:23	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228608	1	08/26/2016 14:23	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228608	1	08/26/2016 14:23	YH
Surr: 4-Terphenyl-d14	91.7	58.7-134		%REC	228608	1	08/26/2016 14:23	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228603	1	08/30/2016 12:43	YH
2-Methylphenol	BRL	10		ug/L	228603	1	08/30/2016 12:43	YH
3,4-Methylphenol	BRL	10		ug/L	228603	1	08/30/2016 12:43	YH
Phenol	BRL	10		ug/L	228603	1	08/30/2016 12:43	YH
Surr: 2,4,6-Tribromophenol	109	51.5-141		%REC	228603	1	08/30/2016 12:43	YH
Surr: 2-Fluorobiphenyl	83.5	50.8-122		%REC	228603	1	08/30/2016 12:43	YH
Surr: 2-Fluorophenol	49.9	28.1-120		%REC	228603	1	08/30/2016 12:43	YH
Surr: 4-Terphenyl-d14	88.5	47.2-131		%REC	228603	1	08/30/2016 12:43	YH
Surr: Nitrobenzene-d5	71.1	42.1-124		%REC	228603	1	08/30/2016 12:43	YH
Surr: Phenol-d5	41.5	16-120		%REC	228603	1	08/30/2016 12:43	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-308D-20160823-01
Project Name:	AGL Macon	**Collection Date:**	8/23/2016 11:38:00 AM
Lab ID:	1608K91-007	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	228678	1	08/26/2016 14:49	JR
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	BRL	0.010		mg/L	228856	1	08/30/2016 12:00	BD
METALS, TOTAL SW6010D				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	228625	1	08/31/2016 21:08	JL
Arsenic	BRL	0.0500		mg/L	228625	1	08/31/2016 21:08	JL
Barium	0.221	0.0200		mg/L	228625	1	08/31/2016 21:08	JL
Beryllium	BRL	0.0100		mg/L	228625	1	08/31/2016 21:08	JL
Cadmium	BRL	0.0050		mg/L	228625	1	08/31/2016 21:08	JL
Chromium	0.0365	0.0100		mg/L	228625	1	08/31/2016 21:08	JL
Copper	BRL	0.0100		mg/L	228625	1	08/31/2016 21:08	JL
Lead	BRL	0.0100		mg/L	228625	1	08/31/2016 21:08	JL
Nickel	BRL	0.0200		mg/L	228625	1	08/31/2016 21:08	JL
Zinc	BRL	0.0200		mg/L	228625	1	08/31/2016 21:08	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-307D-20160823-01
Project Name:	AGL Macon	**Collection Date:**	8/23/2016 12:05:00 PM
Lab ID:	1608K91-008	**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	228692	1	08/25/2016 23:31	JE
Carbon disulfide	BRL	5.0		ug/L	228692	1	08/25/2016 23:31	JE
Ethylbenzene	BRL	5.0		ug/L	228692	1	08/25/2016 23:31	JE
Toluene	BRL	5.0		ug/L	228692	1	08/25/2016 23:31	JE
Xylenes, Total	BRL	5.0		ug/L	228692	1	08/25/2016 23:31	JE
Surr: 4-Bromofluorobenzene	104	70.7-125		%REC	228692	1	08/25/2016 23:31	JE
Surr: Dibromofluoromethane	94.3	82.2-120		%REC	228692	1	08/25/2016 23:31	JE
Surr: Toluene-d8	98	81.8-120		%REC	228692	1	08/25/2016 23:31	JE
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	3.2	0.50		ug/L	228608	1	08/25/2016 20:02	YH
Acenaphthylene	BRL	1.0		ug/L	228608	1	08/25/2016 20:02	YH
Acenaphthene	1.3	0.50		ug/L	228608	1	08/25/2016 20:02	YH
Fluorene	0.53	0.10		ug/L	228608	1	08/25/2016 20:02	YH
Phenanthrene	2.7	0.050		ug/L	228608	1	08/25/2016 20:02	YH
Anthracene	0.29	0.050		ug/L	228608	1	08/25/2016 20:02	YH
Fluoranthene	0.30	0.10		ug/L	228608	1	08/25/2016 20:02	YH
Pyrene	0.35	0.050		ug/L	228608	1	08/25/2016 20:02	YH
Benz(a)anthracene	BRL	0.050		ug/L	228608	1	08/25/2016 20:02	YH
Chrysene	BRL	0.050		ug/L	228608	1	08/25/2016 20:02	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228608	1	08/25/2016 20:02	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228608	1	08/25/2016 20:02	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228608	1	08/25/2016 20:02	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228608	1	08/25/2016 20:02	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228608	1	08/25/2016 20:02	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228608	1	08/25/2016 20:02	YH
Surr: 4-Terphenyl-d14	92.2	58.7-134		%REC	228608	1	08/25/2016 20:02	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228603	1	08/30/2016 13:13	YH
2-Methylphenol	BRL	10		ug/L	228603	1	08/30/2016 13:13	YH
3,4-Methylphenol	BRL	10		ug/L	228603	1	08/30/2016 13:13	YH
Phenol	BRL	10		ug/L	228603	1	08/30/2016 13:13	YH
Surr: 2,4,6-Tribromophenol	106	51.5-141		%REC	228603	1	08/30/2016 13:13	YH
Surr: 2-Fluorobiphenyl	85.1	50.8-122		%REC	228603	1	08/30/2016 13:13	YH
Surr: 2-Fluorophenol	56.9	28.1-120		%REC	228603	1	08/30/2016 13:13	YH
Surr: 4-Terphenyl-d14	91.3	47.2-131		%REC	228603	1	08/30/2016 13:13	YH
Surr: Nitrobenzene-d5	72.2	42.1-124		%REC	228603	1	08/30/2016 13:13	YH
Surr: Phenol-d5	46.1	16-120		%REC	228603	1	08/30/2016 13:13	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-307D-20160823-01
Project Name:	AGL Macon	**Collection Date:**	8/23/2016 12:05:00 PM
Lab ID:	1608K91-008	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228678	1	08/26/2016 14:51	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	228856	1	08/30/2016 12:00	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228625	1	08/31/2016 21:11	JL
Arsenic	BRL	0.0500		mg/L	228625	1	08/31/2016 21:11	JL
Barium	1.21	0.0400		mg/L	228625	2	09/01/2016 14:35	JL
Beryllium	BRL	0.0100		mg/L	228625	1	08/31/2016 21:11	JL
Cadmium	BRL	0.0050		mg/L	228625	1	08/31/2016 21:11	JL
Chromium	0.0722	0.0100		mg/L	228625	1	08/31/2016 21:11	JL
Copper	0.0106	0.0100		mg/L	228625	1	08/31/2016 21:11	JL
Lead	BRL	0.0100		mg/L	228625	1	08/31/2016 21:11	JL
Nickel	BRL	0.0200		mg/L	228625	1	08/31/2016 21:11	JL
Zinc	BRL	0.0200		mg/L	228625	1	08/31/2016 21:11	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-301D-20160823-01
Project Name:	AGL Macon	**Collection Date:**	8/23/2016 3:10:00 PM
Lab ID:	1608K91-009	**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	228692	1	08/25/2016 23:55	JE
Carbon disulfide	BRL	5.0		ug/L	228692	1	08/25/2016 23:55	JE
Ethylbenzene	BRL	5.0		ug/L	228692	1	08/25/2016 23:55	JE
Toluene	BRL	5.0		ug/L	228692	1	08/25/2016 23:55	JE
Xylenes, Total	BRL	5.0		ug/L	228692	1	08/25/2016 23:55	JE
Surr: 4-Bromofluorobenzene	103	70.7-125		%REC	228692	1	08/25/2016 23:55	JE
Surr: Dibromofluoromethane	94.4	82.2-120		%REC	228692	1	08/25/2016 23:55	JE
Surr: Toluene-d8	99	81.8-120		%REC	228692	1	08/25/2016 23:55	JE
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	228762	1	08/31/2016 10:55	YH
Acenaphthylene	BRL	1.0		ug/L	228762	1	08/31/2016 10:55	YH
Acenaphthene	0.97	0.50		ug/L	228762	1	08/31/2016 10:55	YH
Fluorene	0.77	0.10		ug/L	228762	1	08/31/2016 10:55	YH
Phenanthrene	BRL	0.050		ug/L	228762	1	08/31/2016 10:55	YH
Anthracene	0.16	0.050		ug/L	228762	1	08/31/2016 10:55	YH
Fluoranthene	BRL	0.10		ug/L	228762	1	08/31/2016 10:55	YH
Pyrene	0.91	0.050		ug/L	228762	1	08/31/2016 10:55	YH
Benz(a)anthracene	BRL	0.050		ug/L	228762	1	08/31/2016 10:55	YH
Chrysene	BRL	0.050		ug/L	228762	1	08/31/2016 10:55	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228762	1	08/31/2016 10:55	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228762	1	08/31/2016 10:55	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228762	1	08/31/2016 10:55	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228762	1	08/31/2016 10:55	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228762	1	08/31/2016 10:55	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228762	1	08/31/2016 10:55	YH
Surr: 4-Terphenyl-d14	89.9	58.7-134		%REC	228762	1	08/31/2016 10:55	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228791	1	08/30/2016 17:37	YH
2-Methylphenol	BRL	10		ug/L	228791	1	08/30/2016 17:37	YH
3,4-Methylphenol	BRL	10		ug/L	228791	1	08/30/2016 17:37	YH
Phenol	BRL	10		ug/L	228791	1	08/30/2016 17:37	YH
Surr: 2,4,6-Tribromophenol	97.6	51.5-141		%REC	228791	1	08/30/2016 17:37	YH
Surr: 2-Fluorobiphenyl	93.4	50.8-122		%REC	228791	1	08/30/2016 17:37	YH
Surr: 2-Fluorophenol	75.1	28.1-120		%REC	228791	1	08/30/2016 17:37	YH
Surr: 4-Terphenyl-d14	106	47.2-131		%REC	228791	1	08/30/2016 17:37	YH
Surr: Nitrobenzene-d5	92.9	42.1-124		%REC	228791	1	08/30/2016 17:37	YH
Surr: Phenol-d5	60	16-120		%REC	228791	1	08/30/2016 17:37	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-301D-20160823-01
Project Name:	AGL Macon	**Collection Date:**	8/23/2016 3:10:00 PM
Lab ID:	1608K91-009	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228678	1	08/26/2016 14:53	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.012	0.010		mg/L	228856	1	08/30/2016 12:00	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228625	1	08/31/2016 21:14	JL
Arsenic	BRL	0.0500		mg/L	228625	1	08/31/2016 21:14	JL
Barium	0.0502	0.0200		mg/L	228625	1	08/31/2016 21:14	JL
Beryllium	BRL	0.0100		mg/L	228625	1	08/31/2016 21:14	JL
Cadmium	BRL	0.0050		mg/L	228625	1	08/31/2016 21:14	JL
Chromium	BRL	0.0100		mg/L	228625	1	08/31/2016 21:14	JL
Copper	BRL	0.0100		mg/L	228625	1	08/31/2016 21:14	JL
Lead	BRL	0.0100		mg/L	228625	1	08/31/2016 21:14	JL
Nickel	BRL	0.0200		mg/L	228625	1	08/31/2016 21:14	JL
Zinc	BRL	0.0200		mg/L	228625	1	08/31/2016 21:14	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-22D-20160823-01
Project Name:	AGL Macon	**Collection Date:**	8/23/2016 3:50:00 PM
Lab ID:	1608K91-010	**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	228692	1	08/26/2016 00:20	JE
Carbon disulfide	BRL	5.0		ug/L	228692	1	08/26/2016 00:20	JE
Ethylbenzene	BRL	5.0		ug/L	228692	1	08/26/2016 00:20	JE
Toluene	BRL	5.0		ug/L	228692	1	08/26/2016 00:20	JE
Xylenes, Total	BRL	5.0		ug/L	228692	1	08/26/2016 00:20	JE
Surr: 4-Bromofluorobenzene	102	70.7-125		%REC	228692	1	08/26/2016 00:20	JE
Surr: Dibromofluoromethane	92.9	82.2-120		%REC	228692	1	08/26/2016 00:20	JE
Surr: Toluene-d8	97.5	81.8-120		%REC	228692	1	08/26/2016 00:20	JE
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	228608	1	08/29/2016 16:49	YH
Acenaphthylene	BRL	1.0		ug/L	228608	1	08/29/2016 16:49	YH
Acenaphthene	BRL	0.50		ug/L	228608	1	08/29/2016 16:49	YH
Fluorene	BRL	0.10		ug/L	228608	1	08/29/2016 16:49	YH
Phenanthrene	0.063	0.050		ug/L	228608	1	08/29/2016 16:49	YH
Anthracene	BRL	0.050		ug/L	228608	1	08/29/2016 16:49	YH
Fluoranthene	BRL	0.10		ug/L	228608	1	08/29/2016 16:49	YH
Pyrene	BRL	0.050		ug/L	228608	1	08/29/2016 16:49	YH
Benz(a)anthracene	BRL	0.050		ug/L	228608	1	08/29/2016 16:49	YH
Chrysene	BRL	0.050		ug/L	228608	1	08/29/2016 16:49	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228608	1	08/29/2016 16:49	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228608	1	08/29/2016 16:49	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228608	1	08/29/2016 16:49	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228608	1	08/29/2016 16:49	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228608	1	08/29/2016 16:49	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228608	1	08/29/2016 16:49	YH
Surr: 4-Terphenyl-d14	99.1	58.7-134		%REC	228608	1	08/29/2016 16:49	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228646	1	08/30/2016 14:11	YH
2-Methylphenol	BRL	10		ug/L	228646	1	08/30/2016 14:11	YH
3,4-Methylphenol	BRL	10		ug/L	228646	1	08/30/2016 14:11	YH
Phenol	BRL	10		ug/L	228646	1	08/30/2016 14:11	YH
Surr: 2,4,6-Tribromophenol	42.6	51.5-141	S	%REC	228646	1	08/30/2016 14:11	YH
Surr: 2-Fluorobiphenyl	68.6	50.8-122		%REC	228646	1	08/30/2016 14:11	YH
Surr: 2-Fluorophenol	52.6	28.1-120		%REC	228646	1	08/30/2016 14:11	YH
Surr: 4-Terphenyl-d14	81.2	47.2-131		%REC	228646	1	08/30/2016 14:11	YH
Surr: Nitrobenzene-d5	66.8	42.1-124		%REC	228646	1	08/30/2016 14:11	YH
Surr: Phenol-d5	40.3	16-120		%REC	228646	1	08/30/2016 14:11	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-22D-20160823-01
Project Name:	AGL Macon	**Collection Date:**	8/23/2016 3:50:00 PM
Lab ID:	1608K91-010	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228678	1	08/26/2016 14:55	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	228856	1	08/30/2016 12:00	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228625	1	08/31/2016 21:17	JL
Arsenic	BRL	0.0500		mg/L	228625	1	08/31/2016 21:17	JL
Barium	1.12	0.0400		mg/L	228625	2	09/01/2016 14:38	JL
Beryllium	BRL	0.0100		mg/L	228625	1	08/31/2016 21:17	JL
Cadmium	BRL	0.0050		mg/L	228625	1	08/31/2016 21:17	JL
Chromium	BRL	0.0100		mg/L	228625	1	08/31/2016 21:17	JL
Copper	BRL	0.0100		mg/L	228625	1	08/31/2016 21:17	JL
Lead	BRL	0.0100		mg/L	228625	1	08/31/2016 21:17	JL
Nickel	0.0454	0.0200		mg/L	228625	1	08/31/2016 21:17	JL
Zinc	BRL	0.0200		mg/L	228625	1	08/31/2016 21:17	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-306D-20160823-01
Project Name:	AGL Macon	**Collection Date:**	8/23/2016 4:00:00 PM
Lab ID:	1608K91-011	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	190	5.0		ug/L	228692	1	08/26/2016 01:56	JE
Carbon disulfide	BRL	5.0		ug/L	228692	1	08/26/2016 01:56	JE
Ethylbenzene	23	5.0		ug/L	228692	1	08/26/2016 01:56	JE
Toluene	7.2	5.0		ug/L	228692	1	08/26/2016 01:56	JE
Xylenes, Total	18	5.0		ug/L	228692	1	08/26/2016 01:56	JE
Surr: 4-Bromofluorobenzene	102	70.7-125		%REC	228692	1	08/26/2016 01:56	JE
Surr: Dibromofluoromethane	92.1	82.2-120		%REC	228692	1	08/26/2016 01:56	JE
Surr: Toluene-d8	101	81.8-120		%REC	228692	1	08/26/2016 01:56	JE
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	1.1	0.50		ug/L	228608	1	08/25/2016 21:26	YH
Acenaphthylene	BRL	1.0		ug/L	228608	1	08/25/2016 21:26	YH
Acenaphthene	7.2	0.50		ug/L	228608	1	08/25/2016 21:26	YH
Fluorene	1.8	0.10		ug/L	228608	1	08/25/2016 21:26	YH
Phenanthrene	1.5	0.050		ug/L	228608	1	08/25/2016 21:26	YH
Anthracene	0.21	0.050		ug/L	228608	1	08/25/2016 21:26	YH
Fluoranthene	0.16	0.10		ug/L	228608	1	08/25/2016 21:26	YH
Pyrene	0.19	0.050		ug/L	228608	1	08/25/2016 21:26	YH
Benz(a)anthracene	BRL	0.050		ug/L	228608	1	08/25/2016 21:26	YH
Chrysene	BRL	0.050		ug/L	228608	1	08/25/2016 21:26	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228608	1	08/25/2016 21:26	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228608	1	08/25/2016 21:26	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228608	1	08/25/2016 21:26	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228608	1	08/25/2016 21:26	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228608	1	08/25/2016 21:26	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228608	1	08/25/2016 21:26	YH
Surr: 4-Terphenyl-d14	103	58.7-134		%REC	228608	1	08/25/2016 21:26	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228646	1	08/30/2016 14:37	YH
2-Methylphenol	BRL	10		ug/L	228646	1	08/30/2016 14:37	YH
3,4-Methylphenol	BRL	10		ug/L	228646	1	08/30/2016 14:37	YH
Phenol	BRL	10		ug/L	228646	1	08/30/2016 14:37	YH
Surr: 2,4,6-Tribromophenol	84.2	51.5-141		%REC	228646	1	08/30/2016 14:37	YH
Surr: 2-Fluorobiphenyl	76.8	50.8-122		%REC	228646	1	08/30/2016 14:37	YH
Surr: 2-Fluorophenol	54.9	28.1-120		%REC	228646	1	08/30/2016 14:37	YH
Surr: 4-Terphenyl-d14	89.9	47.2-131		%REC	228646	1	08/30/2016 14:37	YH
Surr: Nitrobenzene-d5	73.1	42.1-124		%REC	228646	1	08/30/2016 14:37	YH
Surr: Phenol-d5	42.3	16-120		%REC	228646	1	08/30/2016 14:37	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-306D-20160823-01
Project Name:	AGL Macon	**Collection Date:**	8/23/2016 4:00:00 PM
Lab ID:	1608K91-011	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228678	1	08/26/2016 14:57	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	228856	1	08/30/2016 12:00	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228625	1	08/31/2016 21:21	JL
Arsenic	BRL	0.0500		mg/L	228625	1	08/31/2016 21:21	JL
Barium	0.109	0.0200		mg/L	228625	1	08/31/2016 21:21	JL
Beryllium	BRL	0.0100		mg/L	228625	1	08/31/2016 21:21	JL
Cadmium	BRL	0.0050		mg/L	228625	1	08/31/2016 21:21	JL
Chromium	0.0285	0.0100		mg/L	228625	1	08/31/2016 21:21	JL
Copper	0.0300	0.0100		mg/L	228625	1	08/31/2016 21:21	JL
Lead	BRL	0.0100		mg/L	228625	1	08/31/2016 21:21	JL
Nickel	0.0228	0.0200		mg/L	228625	1	09/01/2016 14:15	JL
Zinc	BRL	0.0200		mg/L	228625	1	08/31/2016 21:21	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-302DD-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016 8:10:00 AM
Lab ID:	1608K91-014	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	24	5.0		ug/L	228692	1	08/26/2016 00:44	JE
Carbon disulfide	BRL	5.0		ug/L	228692	1	08/26/2016 00:44	JE
Ethylbenzene	33	5.0		ug/L	228692	1	08/26/2016 00:44	JE
Toluene	BRL	5.0		ug/L	228692	1	08/26/2016 00:44	JE
Xylenes, Total	6.8	5.0		ug/L	228692	1	08/26/2016 00:44	JE
Surr: 4-Bromofluorobenzene	102	70.7-125		%REC	228692	1	08/26/2016 00:44	JE
Surr: Dibromofluoromethane	93.5	82.2-120		%REC	228692	1	08/26/2016 00:44	JE
Surr: Toluene-d8	99.9	81.8-120		%REC	228692	1	08/26/2016 00:44	JE
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	22	5.0		ug/L	228608	10	09/06/2016 11:55	YH
Acenaphthylene	1.2	1.0		ug/L	228608	1	08/29/2016 18:05	YH
Acenaphthene	1.4	0.50		ug/L	228608	1	08/29/2016 18:05	YH
Fluorene	0.77	0.10		ug/L	228608	1	08/29/2016 18:05	YH
Phenanthrene	0.13	0.050		ug/L	228608	1	08/29/2016 18:05	YH
Anthracene	0.066	0.050		ug/L	228608	1	08/29/2016 18:05	YH
Fluoranthene	BRL	0.10		ug/L	228608	1	08/29/2016 18:05	YH
Pyrene	0.12	0.050		ug/L	228608	1	08/29/2016 18:05	YH
Benz(a)anthracene	BRL	0.050		ug/L	228608	1	08/29/2016 18:05	YH
Chrysene	BRL	0.050		ug/L	228608	1	08/29/2016 18:05	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228608	1	08/29/2016 18:05	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228608	1	08/29/2016 18:05	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228608	1	08/29/2016 18:05	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228608	1	08/29/2016 18:05	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228608	1	08/29/2016 18:05	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228608	1	08/29/2016 18:05	YH
Surr: 4-Terphenyl-d14	110	58.7-134		%REC	228608	1	08/29/2016 18:05	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228646	1	08/30/2016 15:53	YH
2-Methylphenol	BRL	10		ug/L	228646	1	08/30/2016 15:53	YH
3,4-Methylphenol	BRL	10		ug/L	228646	1	08/30/2016 15:53	YH
Phenol	BRL	10		ug/L	228646	1	08/30/2016 15:53	YH
Surr: 2,4,6-Tribromophenol	88.9	51.5-141		%REC	228646	1	08/30/2016 15:53	YH
Surr: 2-Fluorobiphenyl	82.8	50.8-122		%REC	228646	1	08/30/2016 15:53	YH
Surr: 2-Fluorophenol	57.4	28.1-120		%REC	228646	1	08/30/2016 15:53	YH
Surr: 4-Terphenyl-d14	98.9	47.2-131		%REC	228646	1	08/30/2016 15:53	YH
Surr: Nitrobenzene-d5	76.5	42.1-124		%REC	228646	1	08/30/2016 15:53	YH
Surr: Phenol-d5	45.6	16-120		%REC	228646	1	08/30/2016 15:53	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-302DD-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016 8:10:00 AM
Lab ID:	1608K91-014	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228678	1	08/26/2016 15:06	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.010	0.010		mg/L	228856	1	08/30/2016 12:00	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228625	1	08/31/2016 21:30	JL
Arsenic	BRL	0.0500		mg/L	228625	1	08/31/2016 21:30	JL
Barium	0.808	0.0200		mg/L	228625	1	08/31/2016 21:30	JL
Beryllium	BRL	0.0100		mg/L	228625	1	08/31/2016 21:30	JL
Cadmium	BRL	0.0050		mg/L	228625	1	08/31/2016 21:30	JL
Chromium	BRL	0.0100		mg/L	228625	1	08/31/2016 21:30	JL
Copper	BRL	0.0100		mg/L	228625	1	08/31/2016 21:30	JL
Lead	BRL	0.0100		mg/L	228625	1	08/31/2016 21:30	JL
Nickel	0.0361	0.0200		mg/L	228625	1	09/01/2016 14:18	JL
Zinc	BRL	0.0200		mg/L	228625	1	08/31/2016 21:30	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-204D-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016 9:12:00 AM
Lab ID:	1608K91-015	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	460	50		ug/L	228692	10	08/26/2016 15:24	JE
Carbon disulfide	BRL	5.0		ug/L	228692	1	08/26/2016 04:44	JE
Ethylbenzene	310	50		ug/L	228692	10	08/26/2016 15:24	JE
Toluene	BRL	5.0		ug/L	228692	1	08/26/2016 04:44	JE
Xylenes, Total	19	5.0		ug/L	228692	1	08/26/2016 04:44	JE
Surr: 4-Bromofluorobenzene	103	70.7-125		%REC	228692	10	08/26/2016 15:24	JE
Surr: 4-Bromofluorobenzene	106	70.7-125		%REC	228692	1	08/26/2016 04:44	JE
Surr: Dibromofluoromethane	89.7	82.2-120		%REC	228692	10	08/26/2016 15:24	JE
Surr: Dibromofluoromethane	93.4	82.2-120		%REC	228692	1	08/26/2016 04:44	JE
Surr: Toluene-d8	98.6	81.8-120		%REC	228692	1	08/26/2016 04:44	JE
Surr: Toluene-d8	98.8	81.8-120		%REC	228692	10	08/26/2016 15:24	JE
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	2300	500		ug/L	228608	1000	08/30/2016 13:02	YH
Acenaphthylene	2.6	1.0		ug/L	228608	1	08/26/2016 10:32	YH
Acenaphthene	57	50		ug/L	228608	100	08/29/2016 20:42	YH
Fluorene	21	10		ug/L	228608	100	08/29/2016 20:42	YH
Phenanthrene	22	5.0		ug/L	228608	100	08/29/2016 20:42	YH
Anthracene	3.5	0.050		ug/L	228608	1	08/26/2016 10:32	YH
Fluoranthene	3.8	0.10		ug/L	228608	1	08/26/2016 10:32	YH
Pyrene	4.2	0.050		ug/L	228608	1	08/26/2016 10:32	YH
Benz(a)anthracene	0.14	0.050		ug/L	228608	1	08/26/2016 10:32	YH
Chrysene	0.11	0.050		ug/L	228608	1	08/26/2016 10:32	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228608	1	08/26/2016 10:32	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228608	1	08/26/2016 10:32	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228608	1	08/26/2016 10:32	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228608	1	08/26/2016 10:32	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228608	1	08/26/2016 10:32	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228608	1	08/26/2016 10:32	YH
Surr: 4-Terphenyl-d14	98.6	58.7-134		%REC	228608	1	08/26/2016 10:32	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228646	1	08/30/2016 16:45	YH
2-Methylphenol	BRL	10		ug/L	228646	1	08/30/2016 16:45	YH
3,4-Methylphenol	BRL	10		ug/L	228646	1	08/30/2016 16:45	YH
Phenol	BRL	10		ug/L	228646	1	08/30/2016 16:45	YH
Surr: 2,4,6-Tribromophenol	91.9	51.5-141		%REC	228646	1	08/30/2016 16:45	YH
Surr: 2-Fluorobiphenyl	91.1	50.8-122		%REC	228646	1	08/30/2016 16:45	YH
Surr: 2-Fluorophenol	68.2	28.1-120		%REC	228646	1	08/30/2016 16:45	YH
Surr: 4-Terphenyl-d14	104	47.2-131		%REC	228646	1	08/30/2016 16:45	YH
Surr: Nitrobenzene-d5	89.7	42.1-124		%REC	228646	1	08/30/2016 16:45	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-204D-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016 9:12:00 AM
Lab ID:	1608K91-015	**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	55.6	16-120		%REC	228646	1	08/30/2016 16:45	YH
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	228678	1	08/26/2016 15:08	JR
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	0.029	0.010		mg/L	228856	1	08/30/2016 12:00	BD
METALS, TOTAL SW6010D				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	228625	1	08/31/2016 21:34	JL
Arsenic	BRL	0.0500		mg/L	228625	1	08/31/2016 21:34	JL
Barium	4.70	0.100		mg/L	228625	5	09/01/2016 14:54	JL
Beryllium	BRL	0.0100		mg/L	228625	1	08/31/2016 21:34	JL
Cadmium	BRL	0.0050		mg/L	228625	1	08/31/2016 21:34	JL
Chromium	BRL	0.0100		mg/L	228625	1	08/31/2016 21:34	JL
Copper	BRL	0.0100		mg/L	228625	1	08/31/2016 21:34	JL
Lead	BRL	0.0100		mg/L	228625	1	08/31/2016 21:34	JL
Nickel	0.0830	0.0200		mg/L	228625	1	08/31/2016 21:34	JL
Zinc	BRL	0.0200		mg/L	228625	1	08/31/2016 21:34	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-110D-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016 9:30:00 AM
Lab ID:	1608K91-016	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	86	5.0		ug/L	228692	1	08/26/2016 04:20	JE
Carbon disulfide	BRL	5.0		ug/L	228692	1	08/26/2016 04:20	JE
Ethylbenzene	280	50		ug/L	228692	10	08/26/2016 15:49	JE
Toluene	BRL	5.0		ug/L	228692	1	08/26/2016 04:20	JE
Xylenes, Total	5.2	5.0		ug/L	228692	1	08/26/2016 04:20	JE
Surr: 4-Bromofluorobenzene	102	70.7-125		%REC	228692	10	08/26/2016 15:49	JE
Surr: 4-Bromofluorobenzene	106	70.7-125		%REC	228692	1	08/26/2016 04:20	JE
Surr: Dibromofluoromethane	90.7	82.2-120		%REC	228692	10	08/26/2016 15:49	JE
Surr: Dibromofluoromethane	93	82.2-120		%REC	228692	1	08/26/2016 04:20	JE
Surr: Toluene-d8	99	81.8-120		%REC	228692	1	08/26/2016 04:20	JE
Surr: Toluene-d8	99.7	81.8-120		%REC	228692	10	08/26/2016 15:49	JE
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	3100	500		ug/L	228608	1000	08/30/2016 13:28	YH
Acenaphthylene	2.7	1.0		ug/L	228608	1	08/26/2016 10:57	YH
Acenaphthene	80	50		ug/L	228608	100	08/30/2016 10:26	YH
Fluorene	28	10		ug/L	228608	100	08/30/2016 10:26	YH
Phenanthrene	50	5.0		ug/L	228608	100	08/30/2016 10:26	YH
Anthracene	8.3	0.050		ug/L	228608	1	08/26/2016 10:57	YH
Fluoranthene	6.3	0.10		ug/L	228608	1	08/26/2016 10:57	YH
Pyrene	7.9	0.050		ug/L	228608	1	08/26/2016 10:57	YH
Benz(a)anthracene	0.30	0.050		ug/L	228608	1	08/26/2016 10:57	YH
Chrysene	0.25	0.050		ug/L	228608	1	08/26/2016 10:57	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228608	1	08/26/2016 10:57	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228608	1	08/26/2016 10:57	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228608	1	08/26/2016 10:57	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228608	1	08/26/2016 10:57	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228608	1	08/26/2016 10:57	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228608	1	08/26/2016 10:57	YH
Surr: 4-Terphenyl-d14	96.8	58.7-134		%REC	228608	1	08/26/2016 10:57	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228646	1	08/30/2016 13:40	YH
2-Methylphenol	BRL	10		ug/L	228646	1	08/30/2016 13:40	YH
3,4-Methylphenol	BRL	10		ug/L	228646	1	08/30/2016 13:40	YH
Phenol	BRL	10		ug/L	228646	1	08/30/2016 13:40	YH
Surr: 2,4,6-Tribromophenol	97.6	51.5-141		%REC	228646	1	08/30/2016 13:40	YH
Surr: 2-Fluorobiphenyl	78.9	50.8-122		%REC	228646	1	08/30/2016 13:40	YH
Surr: 2-Fluorophenol	44.7	28.1-120		%REC	228646	1	08/30/2016 13:40	YH
Surr: 4-Terphenyl-d14	81	47.2-131		%REC	228646	1	08/30/2016 13:40	YH
Surr: Nitrobenzene-d5	72.1	42.1-124		%REC	228646	1	08/30/2016 13:40	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-110D-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016 9:30:00 AM
Lab ID:	1608K91-016	**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	37.3	16-120		%REC	228646	1	08/30/2016 13:40	YH
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	228678	1	08/26/2016 15:10	JR
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	0.014	0.010		mg/L	228856	1	08/30/2016 12:00	BD
METALS, TOTAL SW6010D				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	228625	1	08/31/2016 21:43	JL
Arsenic	BRL	0.0500		mg/L	228625	1	08/31/2016 21:43	JL
Barium	3.51	0.100		mg/L	228625	5	09/01/2016 15:19	JL
Beryllium	BRL	0.0100		mg/L	228625	1	08/31/2016 21:43	JL
Cadmium	BRL	0.0050		mg/L	228625	1	08/31/2016 21:43	JL
Chromium	BRL	0.0100		mg/L	228625	1	08/31/2016 21:43	JL
Copper	BRL	0.0100		mg/L	228625	1	08/31/2016 21:43	JL
Lead	BRL	0.0100		mg/L	228625	1	08/31/2016 21:43	JL
Nickel	0.122	0.0200		mg/L	228625	1	08/31/2016 21:43	JL
Zinc	BRL	0.0200		mg/L	228625	1	08/31/2016 21:43	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-205D-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016 12:05:00 PM
Lab ID:	1608K91-017	**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	228692	50	08/25/2016 20:18	JE
Carbon disulfide	BRL	250		ug/L	228692	50	08/25/2016 20:18	JE
Ethylbenzene	930	250		ug/L	228692	50	08/25/2016 20:18	JE
Toluene	BRL	250		ug/L	228692	50	08/25/2016 20:18	JE
Xylenes, Total	410	250		ug/L	228692	50	08/25/2016 20:18	JE
Surr: 4-Bromofluorobenzene	106	70.7-125		%REC	228692	50	08/25/2016 20:18	JE
Surr: Dibromofluoromethane	92.4	82.2-120		%REC	228692	50	08/25/2016 20:18	JE
Surr: Toluene-d8	97.5	81.8-120		%REC	228692	50	08/25/2016 20:18	JE
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	6400	500		ug/L	228608	1000	08/30/2016 13:53	YH
Acenaphthylene	1.7	1.0		ug/L	228608	1	08/26/2016 11:23	YH
Acenaphthene	150	50		ug/L	228608	100	08/30/2016 10:52	YH
Fluorene	39	10		ug/L	228608	100	08/30/2016 10:52	YH
Phenanthrene	39	5.0		ug/L	228608	100	08/30/2016 10:52	YH
Anthracene	6.1	0.050		ug/L	228608	1	08/26/2016 11:23	YH
Fluoranthene	1.5	0.10		ug/L	228608	1	08/26/2016 11:23	YH
Pyrene	1.6	0.050		ug/L	228608	1	08/26/2016 11:23	YH
Benz(a)anthracene	BRL	0.050		ug/L	228608	1	08/26/2016 11:23	YH
Chrysene	BRL	0.050		ug/L	228608	1	08/26/2016 11:23	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228608	1	08/26/2016 11:23	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228608	1	08/26/2016 11:23	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228608	1	08/26/2016 11:23	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228608	1	08/26/2016 11:23	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228608	1	08/26/2016 11:23	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228608	1	08/26/2016 11:23	YH
Surr: 4-Terphenyl-d14	92.9	58.7-134		%REC	228608	1	08/26/2016 11:23	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228646	1	08/30/2016 14:09	YH
2-Methylphenol	BRL	10		ug/L	228646	1	08/30/2016 14:09	YH
3,4-Methylphenol	BRL	10		ug/L	228646	1	08/30/2016 14:09	YH
Phenol	BRL	10		ug/L	228646	1	08/30/2016 14:09	YH
Surr: 2,4,6-Tribromophenol	120	51.5-141		%REC	228646	1	08/30/2016 14:09	YH
Surr: 2-Fluorobiphenyl	95.6	50.8-122		%REC	228646	1	08/30/2016 14:09	YH
Surr: 2-Fluorophenol	58.3	28.1-120		%REC	228646	1	08/30/2016 14:09	YH
Surr: 4-Terphenyl-d14	118	47.2-131		%REC	228646	1	08/30/2016 14:09	YH
Surr: Nitrobenzene-d5	113	42.1-124		%REC	228646	1	08/30/2016 14:09	YH
Surr: Phenol-d5	48	16-120		%REC	228646	1	08/30/2016 14:09	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-205D-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016 12:05:00 PM
Lab ID:	1608K91-017	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228678	1	08/26/2016 15:12	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.026	0.010		mg/L	228856	1	08/30/2016 12:00	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228625	1	08/31/2016 21:47	JL
Arsenic	BRL	0.0500		mg/L	228625	1	08/31/2016 21:47	JL
Barium	3.15	0.100		mg/L	228625	5	09/01/2016 15:22	JL
Beryllium	BRL	0.0100		mg/L	228625	1	08/31/2016 21:47	JL
Cadmium	BRL	0.0050		mg/L	228625	1	08/31/2016 21:47	JL
Chromium	BRL	0.0100		mg/L	228625	1	08/31/2016 21:47	JL
Copper	BRL	0.0100		mg/L	228625	1	08/31/2016 21:47	JL
Lead	BRL	0.0100		mg/L	228625	1	08/31/2016 21:47	JL
Nickel	0.0731	0.0200		mg/L	228625	1	08/31/2016 21:47	JL
Zinc	BRL	0.0200		mg/L	228625	1	08/31/2016 21:47	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-205DD-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016 12:15:00 PM
Lab ID:	1608K91-018	**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	228692	1	08/26/2016 01:07	JE
Carbon disulfide	BRL	5.0		ug/L	228692	1	08/26/2016 01:07	JE
Ethylbenzene	BRL	5.0		ug/L	228692	1	08/26/2016 01:07	JE
Toluene	BRL	5.0		ug/L	228692	1	08/26/2016 01:07	JE
Xylenes, Total	BRL	5.0		ug/L	228692	1	08/26/2016 01:07	JE
Surr: 4-Bromofluorobenzene	103	70.7-125		%REC	228692	1	08/26/2016 01:07	JE
Surr: Dibromofluoromethane	93.5	82.2-120		%REC	228692	1	08/26/2016 01:07	JE
Surr: Toluene-d8	101	81.8-120		%REC	228692	1	08/26/2016 01:07	JE
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	228608	1	08/26/2016 11:48	YH
Acenaphthylene	BRL	1.0		ug/L	228608	1	08/26/2016 11:48	YH
Acenaphthene	BRL	0.50		ug/L	228608	1	08/26/2016 11:48	YH
Fluorene	BRL	0.10		ug/L	228608	1	08/26/2016 11:48	YH
Phenanthrene	BRL	0.050		ug/L	228608	1	08/26/2016 11:48	YH
Anthracene	0.055	0.050		ug/L	228608	1	08/26/2016 11:48	YH
Fluoranthene	BRL	0.10		ug/L	228608	1	08/26/2016 11:48	YH
Pyrene	BRL	0.050		ug/L	228608	1	08/26/2016 11:48	YH
Benz(a)anthracene	BRL	0.050		ug/L	228608	1	08/26/2016 11:48	YH
Chrysene	BRL	0.050		ug/L	228608	1	08/26/2016 11:48	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228608	1	08/26/2016 11:48	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228608	1	08/26/2016 11:48	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228608	1	08/26/2016 11:48	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228608	1	08/26/2016 11:48	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228608	1	08/26/2016 11:48	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228608	1	08/26/2016 11:48	YH
Surr: 4-Terphenyl-d14	101	58.7-134		%REC	228608	1	08/26/2016 11:48	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228646	1	08/30/2016 14:37	YH
2-Methylphenol	BRL	10		ug/L	228646	1	08/30/2016 14:37	YH
3,4-Methylphenol	BRL	10		ug/L	228646	1	08/30/2016 14:37	YH
Phenol	BRL	10		ug/L	228646	1	08/30/2016 14:37	YH
Surr: 2,4,6-Tribromophenol	108	51.5-141		%REC	228646	1	08/30/2016 14:37	YH
Surr: 2-Fluorobiphenyl	71.5	50.8-122		%REC	228646	1	08/30/2016 14:37	YH
Surr: 2-Fluorophenol	60.7	28.1-120		%REC	228646	1	08/30/2016 14:37	YH
Surr: 4-Terphenyl-d14	93.4	47.2-131		%REC	228646	1	08/30/2016 14:37	YH
Surr: Nitrobenzene-d5	91.1	42.1-124		%REC	228646	1	08/30/2016 14:37	YH
Surr: Phenol-d5	42.7	16-120		%REC	228646	1	08/30/2016 14:37	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-205DD-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016 12:15:00 PM
Lab ID:	1608K91-018	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228678	1	08/26/2016 15:14	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	228856	1	08/30/2016 12:00	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228625	1	08/31/2016 21:50	JL
Arsenic	BRL	0.0500		mg/L	228625	1	08/31/2016 21:50	JL
Barium	0.0309	0.0200		mg/L	228625	1	08/31/2016 21:50	JL
Beryllium	BRL	0.0100		mg/L	228625	1	08/31/2016 21:50	JL
Cadmium	BRL	0.0050		mg/L	228625	1	08/31/2016 21:50	JL
Chromium	BRL	0.0100		mg/L	228625	1	08/31/2016 21:50	JL
Copper	0.0144	0.0100		mg/L	228625	1	08/31/2016 21:50	JL
Lead	BRL	0.0100		mg/L	228625	1	08/31/2016 21:50	JL
Nickel	BRL	0.0200		mg/L	228625	1	08/31/2016 21:50	JL
Zinc	BRL	0.0200		mg/L	228625	1	08/31/2016 21:50	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	DUP-02-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016
Lab ID:	1608K91-019	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	88	5.0		ug/L	228692	1	08/26/2016 03:08	JE
Carbon disulfide	BRL	5.0		ug/L	228692	1	08/26/2016 03:08	JE
Ethylbenzene	240	50		ug/L	228692	10	08/26/2016 16:13	JE
Toluene	BRL	5.0		ug/L	228692	1	08/26/2016 03:08	JE
Xylenes, Total	BRL	5.0		ug/L	228692	1	08/26/2016 03:08	JE
Surr: 4-Bromofluorobenzene	104	70.7-125		%REC	228692	1	08/26/2016 03:08	JE
Surr: 4-Bromofluorobenzene	105	70.7-125		%REC	228692	10	08/26/2016 16:13	JE
Surr: Dibromofluoromethane	91.2	82.2-120		%REC	228692	10	08/26/2016 16:13	JE
Surr: Dibromofluoromethane	93.8	82.2-120		%REC	228692	1	08/26/2016 03:08	JE
Surr: Toluene-d8	99.3	81.8-120		%REC	228692	1	08/26/2016 03:08	JE
Surr: Toluene-d8	99.3	81.8-120		%REC	228692	10	08/26/2016 16:13	JE
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	3400	500		ug/L	228608	1000	08/30/2016 14:18	YH
Acenaphthylene	3.0	1.0		ug/L	228608	1	08/26/2016 12:13	YH
Acenaphthene	80	50		ug/L	228608	100	08/30/2016 11:18	YH
Fluorene	26	10		ug/L	228608	100	08/30/2016 11:18	YH
Phenanthrene	48	5.0		ug/L	228608	100	08/30/2016 11:18	YH
Anthracene	8.9	0.050		ug/L	228608	1	08/26/2016 12:13	YH
Fluoranthene	6.6	0.10		ug/L	228608	1	08/26/2016 12:13	YH
Pyrene	8.2	0.050		ug/L	228608	1	08/26/2016 12:13	YH
Benz(a)anthracene	0.31	0.050		ug/L	228608	1	08/26/2016 12:13	YH
Chrysene	0.27	0.050		ug/L	228608	1	08/26/2016 12:13	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228608	1	08/26/2016 12:13	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228608	1	08/26/2016 12:13	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228608	1	08/26/2016 12:13	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228608	1	08/26/2016 12:13	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228608	1	08/26/2016 12:13	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228608	1	08/26/2016 12:13	YH
Surr: 4-Terphenyl-d14	100	58.7-134		%REC	228608	1	08/26/2016 12:13	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228646	1	08/30/2016 15:05	YH
2-Methylphenol	BRL	10		ug/L	228646	1	08/30/2016 15:05	YH
3,4-Methylphenol	BRL	10		ug/L	228646	1	08/30/2016 15:05	YH
Phenol	BRL	10		ug/L	228646	1	08/30/2016 15:05	YH
Surr: 2,4,6-Tribromophenol	120	51.5-141		%REC	228646	1	08/30/2016 15:05	YH
Surr: 2-Fluorobiphenyl	93.5	50.8-122		%REC	228646	1	08/30/2016 15:05	YH
Surr: 2-Fluorophenol	76.8	28.1-120		%REC	228646	1	08/30/2016 15:05	YH
Surr: 4-Terphenyl-d14	95.4	47.2-131		%REC	228646	1	08/30/2016 15:05	YH
Surr: Nitrobenzene-d5	93.6	42.1-124		%REC	228646	1	08/30/2016 15:05	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	DUP-02-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016
Lab ID:	1608K91-019	**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	50.4	16-120		%REC	228646	1	08/30/2016 15:05	YH
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	228678	1	08/26/2016 15:49	JR
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	0.012	0.010		mg/L	228856	1	08/30/2016 12:00	BD
METALS, TOTAL SW6010D				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	228625	1	08/31/2016 21:53	JL
Arsenic	BRL	0.0500		mg/L	228625	1	08/31/2016 21:53	JL
Barium	2.90	0.100		mg/L	228625	5	09/01/2016 15:25	JL
Beryllium	BRL	0.0100		mg/L	228625	1	08/31/2016 21:53	JL
Cadmium	BRL	0.0050		mg/L	228625	1	08/31/2016 21:53	JL
Chromium	BRL	0.0100		mg/L	228625	1	08/31/2016 21:53	JL
Copper	BRL	0.0100		mg/L	228625	1	08/31/2016 21:53	JL
Lead	BRL	0.0100		mg/L	228625	1	08/31/2016 21:53	JL
Nickel	0.120	0.0200		mg/L	228625	1	08/31/2016 21:53	JL
Zinc	BRL	0.0200		mg/L	228625	1	08/31/2016 21:53	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	DUP-03-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016
Lab ID:	1608K91-020	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	5400	250		ug/L	228692	50	08/29/2016 19:34	NP
Carbon disulfide	BRL	5.0		ug/L	228692	1	08/26/2016 03:32	JE
Ethylbenzene	930	100		ug/L	228692	20	08/26/2016 16:37	JE
Toluene	7.6	5.0		ug/L	228692	1	08/26/2016 03:32	JE
Xylenes, Total	430	100		ug/L	228692	20	08/26/2016 16:37	JE
Surr: 4-Bromofluorobenzene	102	70.7-125		%REC	228692	20	08/26/2016 16:37	JE
Surr: 4-Bromofluorobenzene	104	70.7-125		%REC	228692	50	08/29/2016 19:34	NP
Surr: 4-Bromofluorobenzene	103	70.7-125		%REC	228692	1	08/26/2016 03:32	JE
Surr: Dibromofluoromethane	94.3	82.2-120		%REC	228692	50	08/29/2016 19:34	NP
Surr: Dibromofluoromethane	93.3	82.2-120		%REC	228692	1	08/26/2016 03:32	JE
Surr: Dibromofluoromethane	89.5	82.2-120		%REC	228692	20	08/26/2016 16:37	JE
Surr: Toluene-d8	101	81.8-120		%REC	228692	50	08/29/2016 19:34	NP
Surr: Toluene-d8	101	81.8-120		%REC	228692	1	08/26/2016 03:32	JE
Surr: Toluene-d8	99.4	81.8-120		%REC	228692	20	08/26/2016 16:37	JE
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	6200	500		ug/L	228608	1000	08/30/2016 14:44	YH
Acenaphthylene	1.7	1.0		ug/L	228608	1	08/26/2016 12:39	YH
Acenaphthene	130	50		ug/L	228608	100	08/30/2016 11:43	YH
Fluorene	33	10		ug/L	228608	100	08/30/2016 11:43	YH
Phenanthrene	34	5.0		ug/L	228608	100	08/30/2016 11:43	YH
Anthracene	5.9	0.050		ug/L	228608	1	08/26/2016 12:39	YH
Fluoranthene	1.6	0.10		ug/L	228608	1	08/26/2016 12:39	YH
Pyrene	1.7	0.050		ug/L	228608	1	08/26/2016 12:39	YH
Benz(a)anthracene	0.092	0.050		ug/L	228608	1	08/26/2016 12:39	YH
Chrysene	0.067	0.050		ug/L	228608	1	08/26/2016 12:39	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228608	1	08/26/2016 12:39	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228608	1	08/26/2016 12:39	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228608	1	08/26/2016 12:39	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228608	1	08/26/2016 12:39	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228608	1	08/26/2016 12:39	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228608	1	08/26/2016 12:39	YH
Surr: 4-Terphenyl-d14	91.7	58.7-134		%REC	228608	1	08/26/2016 12:39	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228646	1	08/30/2016 15:34	YH
2-Methylphenol	BRL	10		ug/L	228646	1	08/30/2016 15:34	YH
3,4-Methylphenol	BRL	10		ug/L	228646	1	08/30/2016 15:34	YH
Phenol	BRL	10		ug/L	228646	1	08/30/2016 15:34	YH
Surr: 2,4,6-Tribromophenol	118	51.5-141		%REC	228646	1	08/30/2016 15:34	YH
Surr: 2-Fluorobiphenyl	93.8	50.8-122		%REC	228646	1	08/30/2016 15:34	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	DUP-03-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016
Lab ID:	1608K91-020	**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	61.8	28.1-120		%REC	228646	1	08/30/2016 15:34	YH
Surr: 4-Terphenyl-d14	94.5	47.2-131		%REC	228646	1	08/30/2016 15:34	YH
Surr: Nitrobenzene-d5	108	42.1-124		%REC	228646	1	08/30/2016 15:34	YH
Surr: Phenol-d5	45.9	16-120		%REC	228646	1	08/30/2016 15:34	YH
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228678	1	08/26/2016 15:51	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.027	0.010		mg/L	228856	1	08/30/2016 12:00	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228625	1	08/31/2016 21:56	JL
Arsenic	BRL	0.0500		mg/L	228625	1	08/31/2016 21:56	JL
Barium	3.08	0.100		mg/L	228625	5	09/01/2016 15:29	JL
Beryllium	BRL	0.0100		mg/L	228625	1	08/31/2016 21:56	JL
Cadmium	BRL	0.0050		mg/L	228625	1	08/31/2016 21:56	JL
Chromium	BRL	0.0100		mg/L	228625	1	08/31/2016 21:56	JL
Copper	BRL	0.0100		mg/L	228625	1	08/31/2016 21:56	JL
Lead	BRL	0.0100		mg/L	228625	1	08/31/2016 21:56	JL
Nickel	0.0684	0.0200		mg/L	228625	1	08/31/2016 21:56	JL
Zinc	BRL	0.0200		mg/L	228625	1	08/31/2016 21:56	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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	TB-01-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016
Lab ID:	1608K91-021	**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	228776	1	08/26/2016 11:10	JE
Carbon disulfide	BRL	5.0		ug/L	228776	1	08/26/2016 11:10	JE
Ethylbenzene	BRL	5.0		ug/L	228776	1	08/26/2016 11:10	JE
Toluene	BRL	5.0		ug/L	228776	1	08/26/2016 11:10	JE
Xylenes, Total	BRL	5.0		ug/L	228776	1	08/26/2016 11:10	JE
Surr: 4-Bromofluorobenzene	101	70.7-125		%REC	228776	1	08/26/2016 11:10	JE
Surr: Dibromofluoromethane	92.9	82.2-120		%REC	228776	1	08/26/2016 11:10	JE
Surr: Toluene-d8	98.8	81.8-120		%REC	228776	1	08/26/2016 11:10	JE

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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	TRIP BLANK 2
Project Name:	AGL Macon	**Collection Date:**	8/24/2016
Lab ID:	1608K91-022	**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	228776	1	08/26/2016 11:33	JE
Carbon disulfide	BRL	5.0		ug/L	228776	1	08/26/2016 11:33	JE
Ethylbenzene	BRL	5.0		ug/L	228776	1	08/26/2016 11:33	JE
Toluene	BRL	5.0		ug/L	228776	1	08/26/2016 11:33	JE
Xylenes, Total	BRL	5.0		ug/L	228776	1	08/26/2016 11:33	JE
Surr: 4-Bromofluorobenzene	101	70.7-125		%REC	228776	1	08/26/2016 11:33	JE
Surr: Dibromofluoromethane	90.6	82.2-120		%REC	228776	1	08/26/2016 11:33	JE
Surr: Toluene-d8	100	81.8-120		%REC	228776	1	08/26/2016 11:33	JE

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:** 9-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	TRIP BLANK 3
Project Name:	AGL Macon	**Collection Date:**	8/24/2016
Lab ID:	1608K91-023	**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	228776	1	08/26/2016 11:57	JE
Carbon disulfide	BRL	5.0		ug/L	228776	1	08/26/2016 11:57	JE
Ethylbenzene	BRL	5.0		ug/L	228776	1	08/26/2016 11:57	JE
Toluene	BRL	5.0		ug/L	228776	1	08/26/2016 11:57	JE
Xylenes, Total	BRL	5.0		ug/L	228776	1	08/26/2016 11:57	JE
Surr: 4-Bromofluorobenzene	102	70.7-125		%REC	228776	1	08/26/2016 11:57	JE
Surr: Dibromofluoromethane	92.3	82.2-120		%REC	228776	1	08/26/2016 11:57	JE
Surr: Toluene-d8	97.8	81.8-120		%REC	228776	1	08/26/2016 11:57	JE

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 1608K91

Checklist completed by Parag Mosruchi 8/24/16
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 3.0° Cooler #2 0.8° Cooler #3 3.2° Cooler #4 1.2° Cooler#5 2.4° Cooler #6 2.9°

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? MJ Checked by PM

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

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
1608K91-007D	6010,7470	9	1	HNO_3	MET-668-83	0.5 mL Pellets	1	MJ	8/24	7:00
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
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						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				
						mL Pellets				

* Number of Pellets when adding NAOH

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1608K91

ANALYTICAL QC SUMMARY REPORT

BatchID: 228603

Sample ID: **MB-228603**	Client ID:		Units: **ug/L**	Prep Date: **08/25/2016**	Run No: **323927**
SampleType: **MBLK**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **228603**	Analysis Date: **08/25/2016**	Seq No: **7012873**

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	86.60	0	100.0		86.6	51.5	141				
Surr: 2-Fluorobiphenyl	36.15	0	50.00		72.3	50.8	122				
Surr: 2-Fluorophenol	38.74	0	100.0		38.7	28.1	120				
Surr: 4-Terphenyl-d14	39.34	0	50.00		78.7	47.2	131				
Surr: Nitrobenzene-d5	31.24	0	50.00		62.5	42.1	124				
Surr: Phenol-d5	23.68	0	100.0		23.7	16	120				

Sample ID: **LCS-228603**	Client ID:		Units: **ug/L**	Prep Date: **08/25/2016**	Run No: **323927**
SampleType: **LCS**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **228603**	Analysis Date: **08/25/2016**	Seq No: **7012874**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	36.54	10	100.0		36.5	27	120				
Surr: 2,4,6-Tribromophenol	147.1	0	100.0		147	51.5	141				S
Surr: 2-Fluorobiphenyl	48.40	0	50.00		96.8	50.8	122				
Surr: 2-Fluorophenol	56.42	0	100.0		56.4	28.1	120				
Surr: 4-Terphenyl-d14	50.03	0	50.00		100	47.2	131				
Surr: Nitrobenzene-d5	37.50	0	50.00		75.0	42.1	124				
Surr: Phenol-d5	40.48	0	100.0		40.5	16	120				

Sample ID: **1608K98-001BMS**	Client ID:		Units: **ug/L**	Prep Date: **08/25/2016**	Run No: **323927**
SampleType: **MS**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **228603**	Analysis Date: **08/25/2016**	Seq No: **7012876**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	37.04	10	100.0		37.0	30.6	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: 1608K91

ANALYTICAL QC SUMMARY REPORT

BatchID: 228603

Sample ID: **1608K98-001BMS**	Client ID:		Units: **ug/L**	Prep Date: **08/25/2016**	Run No: **323927**
SampleType: **MS**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **228603**	Analysis Date: **08/25/2016**	Seq No: **7012876**

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	107.9	0	100.0		108	51.5	141				
Surr: 2-Fluorobiphenyl	39.20	0	50.00		78.4	50.8	122				
Surr: 2-Fluorophenol	52.32	0	100.0		52.3	28.1	120				
Surr: 4-Terphenyl-d14	38.27	0	50.00		76.5	47.2	131				
Surr: Nitrobenzene-d5	31.20	0	50.00		62.4	42.1	124				
Surr: Phenol-d5	40.44	0	100.0		40.4	16	120				

Sample ID: **1608K98-001BMSD**	Client ID:		Units: **ug/L**	Prep Date: **08/25/2016**	Run No: **323927**
SampleType: **MSD**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **228603**	Analysis Date: **08/25/2016**	Seq No: **7012898**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	36.62	10	100.0		36.6	30.6	120	37.04	1.14	36.3	
Surr: 2,4,6-Tribromophenol	115.0	0	100.0		115	51.5	141	107.9	0	0	
Surr: 2-Fluorobiphenyl	40.31	0	50.00		80.6	50.8	122	39.20	0	0	
Surr: 2-Fluorophenol	50.16	0	100.0		50.2	28.1	120	52.32	0	0	
Surr: 4-Terphenyl-d14	39.50	0	50.00		79.0	47.2	131	38.27	0	0	
Surr: Nitrobenzene-d5	31.16	0	50.00		62.3	42.1	124	31.20	0	0	
Surr: Phenol-d5	39.17	0	100.0		39.2	16	120	40.44	0	0	

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1608K91

ANALYTICAL QC SUMMARY REPORT

BatchID: 228604

Sample ID: **MB-228604** Client ID: Units: **ug/L** Prep Date: **08/25/2016** Run No: **324100**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **228604** Analysis Date: **08/26/2016** Seq No: **7011870**

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	1.964	0	2.000		98.2	58.7	134				

Sample ID: **LCS-228604** Client ID: Units: **ug/L** Prep Date: **08/25/2016** Run No: **324100**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **228604** Analysis Date: **08/26/2016** Seq No: **7011871**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	2.013	0.50	2.000		101	65.2	121				
Acenaphthylene	2.034	1.0	2.000		102	62	120				
Anthracene	2.193	0.050	2.000		110	63.8	125				
Benz(a)anthracene	2.580	0.050	2.000		129	60	136				
Benzo(a)pyrene	2.323	0.050	2.000		116	65.6	128				
Benzo(b)fluoranthene	2.298	0.10	2.000		115	61.6	135				

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: 1608K91

ANALYTICAL QC SUMMARY REPORT

BatchID: 228604

Sample ID: **LCS-228604** Client ID: Units: **ug/L** Prep Date: **08/25/2016** Run No: **324100**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **228604** Analysis Date: **08/26/2016** Seq No: **7011871**

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	2.325	0.10	2.000		116	60.6	124				
Benzo(k)fluoranthene	2.174	0.050	2.000		109	66.2	126				
Chrysene	2.267	0.050	2.000		113	69.9	134				
Dibenz(a,h)anthracene	2.251	0.10	2.000		113	56.6	127				
Fluoranthene	2.380	0.10	2.000		119	69.3	130				
Fluorene	2.067	0.10	2.000		103	68.4	121				
Indeno(1,2,3-cd)pyrene	2.384	0.050	2.000		119	59.2	130				
Naphthalene	1.823	0.50	2.000	0.09450	86.4	61.4	120				
Phenanthrene	2.082	0.050	2.000		104	65.4	123				
Pyrene	2.214	0.050	2.000		111	66.4	130				
Surr: 4-Terphenyl-d14	2.141	0	2.000		107	58.7	134				

Sample ID: **1608K06-002AMS** Client ID: Units: **ug/L** Prep Date: **08/25/2016** Run No: **324100**
SampleType: **MS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **228604** Analysis Date: **08/26/2016** Seq No: **7012087**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.966	0.50	2.000		98.3	51.2	120				
Acenaphthylene	1.974	1.0	2.000		98.7	53.5	120				
Anthracene	2.031	0.050	2.000		102	53.3	120				
Benz(a)anthracene	2.374	0.050	2.000		119	50.9	132				
Benzo(a)pyrene	2.071	0.050	2.000		104	50.5	120				
Benzo(b)fluoranthene	2.075	0.10	2.000		104	55.8	127				
Benzo(g,h,i)perylene	1.971	0.10	2.000		98.6	46.8	120				
Benzo(k)fluoranthene	1.987	0.050	2.000		99.3	54.5	120				
Chrysene	2.069	0.050	2.000		103	56.9	125				
Dibenz(a,h)anthracene	1.820	0.10	2.000		91.0	44.8	120				
Fluoranthene	2.249	0.10	2.000		112	61.5	122				
Fluorene	1.988	0.10	2.000		99.4	55.6	118				

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: 1608K91

ANALYTICAL QC SUMMARY REPORT

BatchID: 228604

Sample ID: **1608K06-002AMS**	Client ID:		Units: **ug/L**	Prep Date: **08/25/2016**	Run No: **324100**
SampleType: **MS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **228604**	Analysis Date: **08/26/2016**	Seq No: **7012087**

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	1.967	0.050	2.000		98.4	46.1	120				
Naphthalene	1.800	0.50	2.000		90.0	51.7	120				
Phenanthrene	1.957	0.050	2.000		97.8	56.1	120				
Pyrene	2.060	0.050	2.000		103	56.1	125				
Surr: 4-Terphenyl-d14	1.998	0	2.000		99.9	58.7	134				

Sample ID: **1608K06-002AMSD**	Client ID:		Units: **ug/L**	Prep Date: **08/25/2016**	Run No: **324100**
SampleType: **MSD**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **228604**	Analysis Date: **08/26/2016**	Seq No: **7012088**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.903	0.50	2.000		95.1	51.2	120	1.966	3.29	23.9	
Acenaphthylene	1.896	1.0	2.000		94.8	53.5	120	1.974	3.99	24.2	
Anthracene	2.065	0.050	2.000		103	53.3	120	2.031	1.65	22.3	
Benz(a)anthracene	2.409	0.050	2.000		120	50.9	132	2.374	1.48	27.4	
Benzo(a)pyrene	2.104	0.050	2.000		105	50.5	120	2.071	1.58	41.9	
Benzo(b)fluoranthene	2.132	0.10	2.000		107	55.8	127	2.075	2.70	26.1	
Benzo(g,h,i)perylene	2.039	0.10	2.000		102	46.8	120	1.971	3.38	24.3	
Benzo(k)fluoranthene	1.995	0.050	2.000		99.8	54.5	120	1.987	0.407	24.2	
Chrysene	2.188	0.050	2.000		109	56.9	125	2.069	5.55	23.1	
Dibenz(a,h)anthracene	1.734	0.10	2.000		86.7	44.8	120	1.820	4.81	26.1	
Fluoranthene	2.301	0.10	2.000		115	61.5	122	2.249	2.28	17.7	
Fluorene	1.960	0.10	2.000		98.0	55.6	118	1.988	1.43	27.5	
Indeno(1,2,3-cd)pyrene	2.046	0.050	2.000		102	46.1	120	1.967	3.94	26.7	
Naphthalene	1.780	0.50	2.000		89.0	51.7	120	1.800	1.13	24.2	
Phenanthrene	2.018	0.050	2.000		101	56.1	120	1.957	3.06	23.5	
Pyrene	2.085	0.050	2.000		104	56.1	125	2.060	1.24	20.9	
Surr: 4-Terphenyl-d14	1.928	0	2.000		96.4	58.7	134	1.998	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: 1608K91

ANALYTICAL QC SUMMARY REPORT

BatchID: 228608

Sample ID: **MB-228608** Client ID: Units: **ug/L** Prep Date: **08/25/2016** Run No: **324041**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **228608** Analysis Date: **08/25/2016** Seq No: **7010354**

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	2.170	0	2.000		108	58.7	134				

Sample ID: **LCS-228608** Client ID: Units: **ug/L** Prep Date: **08/25/2016** Run No: **324107**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **228608** Analysis Date: **08/29/2016** Seq No: **7012047**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.868	0.50	2.000		93.4	65.2	121				
Acenaphthylene	1.848	1.0	2.000		92.4	62	120				
Anthracene	1.930	0.050	2.000		96.5	63.8	125				
Benz(a)anthracene	2.274	0.050	2.000		114	60	136				
Benzo(a)pyrene	2.015	0.050	2.000		101	65.6	128				
Benzo(b)fluoranthene	1.920	0.10	2.000		96.0	61.6	135				

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: 1608K91

ANALYTICAL QC SUMMARY REPORT

BatchID: 228608

Sample ID: **LCS-228608**	Client ID:		Units: **ug/L**	Prep Date: **08/25/2016**	Run No: **324107**
SampleType: **LCS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **228608**	Analysis Date: **08/29/2016**	Seq No: **7012047**

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	2.072	0.10	2.000		104	60.6	124				
Benzo(k)fluoranthene	1.973	0.050	2.000		98.7	66.2	126				
Chrysene	2.022	0.050	2.000		101	69.9	134				
Dibenz(a,h)anthracene	1.942	0.10	2.000		97.1	56.6	127				
Fluoranthene	2.106	0.10	2.000		105	69.3	130				
Fluorene	1.877	0.10	2.000		93.9	68.4	121				
Indeno(1,2,3-cd)pyrene	2.113	0.050	2.000		106	59.2	130				
Naphthalene	1.725	0.50	2.000		86.3	61.4	120				
Phenanthrene	1.880	0.050	2.000		94.0	65.4	123				
Pyrene	1.916	0.050	2.000		95.8	66.4	130				
Surr: 4-Terphenyl-d14	1.826	0	2.000		91.3	58.7	134				

Sample ID: **LCSD-228608**	Client ID:		Units: **ug/L**	Prep Date: **08/25/2016**	Run No: **324107**
SampleType: **LCSD**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **228608**	Analysis Date: **08/29/2016**	Seq No: **7012049**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.771	0.50	2.000		88.6	65.2	121	1.868	5.35	18.2	
Acenaphthylene	1.769	1.0	2.000		88.4	62	120	1.848	4.38	20	
Anthracene	1.853	0.050	2.000		92.7	63.8	125	1.930	4.07	17.7	
Benz(a)anthracene	2.163	0.050	2.000		108	60	136	2.274	5.00	20.6	
Benzo(a)pyrene	1.967	0.050	2.000		98.4	65.6	128	2.015	2.39	21.5	
Benzo(b)fluoranthene	1.830	0.10	2.000		91.5	61.6	135	1.920	4.81	23.1	
Benzo(g,h,i)perylene	1.986	0.10	2.000		99.3	60.6	124	2.072	4.25	18.9	
Benzo(k)fluoranthene	1.903	0.050	2.000		95.1	66.2	126	1.973	3.64	21.3	
Chrysene	1.983	0.050	2.000		99.1	69.9	134	2.022	1.97	18.9	
Dibenz(a,h)anthracene	1.809	0.10	2.000		90.4	56.6	127	1.942	7.10	24.1	
Fluoranthene	2.016	0.10	2.000		101	69.3	130	2.106	4.39	20	
Fluorene	1.771	0.10	2.000		88.6	68.4	121	1.877	5.83	17.8	

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: 1608K91

ANALYTICAL QC SUMMARY REPORT

BatchID: 228608

Sample ID: **LCSD-228608** Client ID:
SampleType: **LCSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**
Units: **ug/L** Prep Date: **08/25/2016** Run No: **324107**
BatchID: **228608** Analysis Date: **08/29/2016** Seq No: **7012049**

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	2.012	0.050	2.000		101	59.2	130	2.113	4.89	20.5	
Naphthalene	1.594	0.50	2.000		79.7	61.4	120	1.725	7.94	22.2	
Phenanthrene	1.801	0.050	2.000		90.0	65.4	123	1.880	4.30	17.3	
Pyrene	1.871	0.050	2.000		93.5	66.4	130	1.916	2.39	17.7	
Surr: 4-Terphenyl-d14	1.762	0	2.000		88.1	58.7	134	1.826	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: 1608K91

ANALYTICAL QC SUMMARY REPORT

BatchID: 228625

Sample ID: **MB-228625** Client ID: Units: **mg/L** Prep Date: **08/25/2016** Run No: **324390**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010D** BatchID: **228625** Analysis Date: **08/31/2016** Seq No: **7019424**

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-228625** Client ID: Units: **mg/L** Prep Date: **08/25/2016** Run No: **324390**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010D** BatchID: **228625** Analysis Date: **08/31/2016** Seq No: **7019427**

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	80	120				
Arsenic	1.012	0.0500	1.000		101	80	120				
Barium	0.9948	0.0200	1.000		99.5	80	120				
Beryllium	0.9809	0.0100	1.000		98.1	80	120				
Cadmium	0.9639	0.0050	1.000		96.4	80	120				
Chromium	1.018	0.0100	1.000		102	80	120				
Copper	1.015	0.0100	1.000		101	80	120				
Lead	0.9638	0.0100	1.000		96.4	80	120				
Nickel	0.9588	0.0200	1.000		95.9	80	120				
Zinc	0.9489	0.0200	1.000		94.9	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: 1608K91

ANALYTICAL QC SUMMARY REPORT

BatchID: 228625

Sample ID: **1608K91-001DMS**	Client ID: **MW-24D-20160822-01**	Units: **mg/L**	Prep Date: **08/25/2016**	Run No: **324390**
SampleType: **MS**	TestCode: **METALS, TOTAL SW6010D**	BatchID: **228625**	Analysis Date: **08/31/2016**	Seq No: **7019433**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	0.9761	0.0200	1.000	0.003620	97.2	75	125				
Barium	1.933	0.0200	1.000	1.023	91.1	75	125				
Beryllium	0.9634	0.0100	1.000		96.3	75	125				
Cadmium	0.9460	0.0050	1.000	0.0005500	94.5	75	125				
Chromium	0.9959	0.0100	1.000	0.0009500	99.5	75	125				
Copper	0.9854	0.0100	1.000	0.001520	98.4	75	125				
Lead	0.9344	0.0100	1.000		93.4	75	125				
Nickel	0.9347	0.0200	1.000	0.01384	92.1	75	125				
Zinc	0.9416	0.0200	1.000	0.01306	92.9	75	125				

Sample ID: **1608K91-001DMSD**	Client ID: **MW-24D-20160822-01**	Units: **mg/L**	Prep Date: **08/25/2016**	Run No: **324390**
SampleType: **MSD**	TestCode: **METALS, TOTAL SW6010D**	BatchID: **228625**	Analysis Date: **08/31/2016**	Seq No: **7019435**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	0.9949	0.0200	1.000	0.003620	99.1	75	125	0.9761	1.91	20	
Arsenic	1.006	0.0500	1.000		101	75	125	1.000	0.591	20	
Barium	1.953	0.0200	1.000	1.023	93.1	75	125	1.933	1.03	20	
Beryllium	0.9593	0.0100	1.000		95.9	75	125	0.9634	0.421	20	
Cadmium	0.9509	0.0050	1.000	0.0005500	95.0	75	125	0.9460	0.520	20	
Chromium	1.005	0.0100	1.000	0.0009500	100	75	125	0.9959	0.884	20	
Copper	0.9940	0.0100	1.000	0.001520	99.2	75	125	0.9854	0.865	20	
Lead	0.9433	0.0100	1.000		94.3	75	125	0.9344	0.946	20	
Nickel	0.9394	0.0200	1.000	0.01384	92.6	75	125	0.9347	0.508	20	
Zinc	0.9499	0.0200	1.000	0.01306	93.7	75	125	0.9416	0.880	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: 1608K91

ANALYTICAL QC SUMMARY REPORT

BatchID: 228646

Sample ID: **MB-228646** Client ID: Units: **ug/L** Prep Date: **08/25/2016** Run No: **324146**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **228646** Analysis Date: **08/29/2016** Seq No: **7014230**

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	99.55	0	100.0		99.6	51.5	141				
Surr: 2-Fluorobiphenyl	37.26	0	50.00		74.5	50.8	122				
Surr: 2-Fluorophenol	34.03	0	100.0		34.0	28.1	120				
Surr: 4-Terphenyl-d14	40.41	0	50.00		80.8	47.2	131				
Surr: Nitrobenzene-d5	31.66	0	50.00		63.3	42.1	124				
Surr: Phenol-d5	21.67	0	100.0		21.7	16	120				

Sample ID: **LCS-228646** Client ID: Units: **ug/L** Prep Date: **08/25/2016** Run No: **324146**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **228646** Analysis Date: **08/29/2016** Seq No: **7012704**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	35.07	10	100.0		35.1	27	120				
Surr: 2,4,6-Tribromophenol	110.9	0	100.0		111	51.5	141				
Surr: 2-Fluorobiphenyl	43.67	0	50.00		87.3	50.8	122				
Surr: 2-Fluorophenol	58.85	0	100.0		58.8	28.1	120				
Surr: 4-Terphenyl-d14	45.45	0	50.00		90.9	47.2	131				
Surr: Nitrobenzene-d5	36.64	0	50.00		73.3	42.1	124				
Surr: Phenol-d5	38.93	0	100.0		38.9	16	120				

Sample ID: **LCSD-228646** Client ID: Units: **ug/L** Prep Date: **08/26/2016** Run No: **324146**
SampleType: **LCSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **228646** Analysis Date: **08/29/2016** Seq No: **7012705**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	40.33	10	100.0		40.3	27	120	35.07	14.0	27.5	

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: 1608K91

ANALYTICAL QC SUMMARY REPORT

BatchID: 228646

Sample ID: **LCSD-228646** Client ID:
SampleType: **LCSD** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**
Units: **ug/L** Prep Date: **08/26/2016** Run No: **324146**
BatchID: **228646** Analysis Date: **08/29/2016** Seq No: **7012705**

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	99.99	0	100.0		100.0	51.5	141	110.9	0	0	
Surr: 2-Fluorobiphenyl	39.27	0	50.00		78.5	50.8	122	43.67	0	0	
Surr: 2-Fluorophenol	63.64	0	100.0		63.6	28.1	120	58.85	0	0	
Surr: 4-Terphenyl-d14	42.90	0	50.00		85.8	47.2	131	45.45	0	0	
Surr: Nitrobenzene-d5	38.64	0	50.00		77.3	42.1	124	36.64	0	0	
Surr: Phenol-d5	43.23	0	100.0		43.2	16	120	38.93	0	0	

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1608K91

ANALYTICAL QC SUMMARY REPORT

BatchID: 228678

Sample ID: **MB-228678**	Client ID:			Units: **mg/L**	Prep Date: **08/26/2016**	Run No: **324033**
SampleType: **MBLK**	TestCode: **Mercury, Total SW7470A**			BatchID: **228678**	Analysis Date: **08/26/2016**	Seq No: **7010946**

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-228678**	Client ID:			Units: **mg/L**	Prep Date: **08/26/2016**	Run No: **324033**
SampleType: **LCS**	TestCode: **Mercury, Total SW7470A**			BatchID: **228678**	Analysis Date: **08/26/2016**	Seq No: **7010947**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005421	0.00020	0.0050		108	80	120				

Sample ID: **1608K91-002DMS**	Client ID: **MW-12DRR-20160822-01**			Units: **mg/L**	Prep Date: **08/26/2016**	Run No: **324033**
SampleType: **MS**	TestCode: **Mercury, Total SW7470A**			BatchID: **228678**	Analysis Date: **08/26/2016**	Seq No: **7010949**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.004017	0.00020	0.0050		80.3	70	130				

Sample ID: **1608K91-002DMSD**	Client ID: **MW-12DRR-20160822-01**			Units: **mg/L**	Prep Date: **08/26/2016**	Run No: **324033**
SampleType: **MSD**	TestCode: **Mercury, Total SW7470A**			BatchID: **228678**	Analysis Date: **08/26/2016**	Seq No: **7010950**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.003946	0.00020	0.0050		78.9	70	130	0.004017	1.78	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: 1608K91

ANALYTICAL QC SUMMARY REPORT

BatchID: 228692

Sample ID: **MB-228692** Client ID: Units: **ug/L** Prep Date: **08/25/2016** Run No: **324019**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **228692** Analysis Date: **08/25/2016** Seq No: **7009697**

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	51.76	0	50.00		104	70.7	125				
Surr: Dibromofluoromethane	45.79	0	50.00		91.6	82.2	120				
Surr: Toluene-d8	49.60	0	50.00		99.2	81.8	120				

Sample ID: **LCS-228692** Client ID: Units: **ug/L** Prep Date: **08/25/2016** Run No: **324019**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **228692** Analysis Date: **08/25/2016** Seq No: **7009696**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	54.97	5.0	50.00		110	74.9	123				
Toluene	56.29	5.0	50.00		113	75	124				
Surr: 4-Bromofluorobenzene	51.87	0	50.00		104	70.7	125				
Surr: Dibromofluoromethane	46.65	0	50.00		93.3	82.2	120				
Surr: Toluene-d8	49.86	0	50.00		99.7	81.8	120				

Sample ID: **1608K91-009AMS** Client ID: **MW-301D-20160823-01** Units: **ug/L** Prep Date: **08/25/2016** Run No: **324254**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **228692** Analysis Date: **08/29/2016** Seq No: **7015483**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	57.91	5.0	50.00		116	70.1	132				
Toluene	58.96	5.0	50.00		118	70.1	133				
Surr: 4-Bromofluorobenzene	52.02	0	50.00		104	70.7	125				
Surr: Dibromofluoromethane	46.49	0	50.00		93.0	82.2	120				
Surr: Toluene-d8	49.88	0	50.00		99.8	81.8	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: 1608K91

ANALYTICAL QC SUMMARY REPORT

BatchID: 228692

Sample ID: **1608K91-017AMS**	Client ID: **MW-205D-20160824-01**	Units: **ug/L**	Prep Date: **08/25/2016**	Run No: **324019**
SampleType: **MS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**	BatchID: **228692**	Analysis Date: **08/25/2016**	Seq No: **7009700**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	7804	250	2500	5168	105	70.1	132				
Toluene	2774	250	2500		111	70.1	133				
Surr: 4-Bromofluorobenzene	2578	0	2500		103	70.7	125				
Surr: Dibromofluoromethane	2308	0	2500		92.3	82.2	120				
Surr: Toluene-d8	2476	0	2500		99.0	81.8	120				

Sample ID: **1608K91-009AMSD**	Client ID: **MW-301D-20160823-01**	Units: **ug/L**	Prep Date: **08/25/2016**	Run No: **324254**
SampleType: **MSD**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**	BatchID: **228692**	Analysis Date: **08/29/2016**	Seq No: **7015487**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	56.12	5.0	50.00		112	70.1	132	57.91	3.14	20	
Toluene	58.05	5.0	50.00		116	70.1	133	58.96	1.56	20	
Surr: 4-Bromofluorobenzene	51.82	0	50.00		104	70.7	125	52.02	0	0	
Surr: Dibromofluoromethane	45.27	0	50.00		90.5	82.2	120	46.49	0	0	
Surr: Toluene-d8	50.77	0	50.00		102	81.8	120	49.88	0	0	

Sample ID: **1608K91-017AMSD**	Client ID: **MW-205D-20160824-01**	Units: **ug/L**	Prep Date: **08/25/2016**	Run No: **324019**
SampleType: **MSD**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**	BatchID: **228692**	Analysis Date: **08/25/2016**	Seq No: **7009701**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	7768	250	2500	5168	104	70.1	132	7804	0.450	20	
Toluene	2741	250	2500		110	70.1	133	2774	1.21	20	
Surr: 4-Bromofluorobenzene	2536	0	2500		101	70.7	125	2578	0	0	
Surr: Dibromofluoromethane	2273	0	2500		90.9	82.2	120	2308	0	0	
Surr: Toluene-d8	2456	0	2500		98.2	81.8	120	2476	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: 1608K91

ANALYTICAL QC SUMMARY REPORT

BatchID: 228762

Sample ID: **MB-228762**	Client ID:		Units: **ug/L**	Prep Date: **08/29/2016**	Run No: **324297**
SampleType: **MBLK**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **228762**	Analysis Date: **08/30/2016**	Seq No: **7017213**

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	1.800	0	2.000		90.0	58.7	134				

Sample ID: **LCS-228762**	Client ID:		Units: **ug/L**	Prep Date: **08/29/2016**	Run No: **324297**
SampleType: **LCS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **228762**	Analysis Date: **08/30/2016**	Seq No: **7017214**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.659	0.50	2.000		83.0	65.2	121				
Acenaphthylene	1.684	1.0	2.000		84.2	62	120				
Anthracene	1.817	0.050	2.000		90.9	63.8	125				
Benz(a)anthracene	2.138	0.050	2.000		107	60	136				
Benzo(a)pyrene	1.908	0.050	2.000		95.4	65.6	128				
Benzo(b)fluoranthene	1.801	0.10	2.000		90.1	61.6	135				

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: 1608K91

ANALYTICAL QC SUMMARY REPORT

BatchID: 228762

Sample ID: **LCS-228762**	Client ID:		Units: **ug/L**	Prep Date: **08/29/2016**	Run No: **324297**
SampleType: **LCS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **228762**	Analysis Date: **08/30/2016**	Seq No: **7017214**

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	1.964	0.10	2.000		98.2	60.6	124				
Benzo(k)fluoranthene	1.814	0.050	2.000		90.7	66.2	126				
Chrysene	1.954	0.050	2.000		97.7	69.9	134				
Dibenz(a,h)anthracene	1.894	0.10	2.000		94.7	56.6	127				
Fluoranthene	1.973	0.10	2.000		98.7	69.3	130				
Fluorene	1.708	0.10	2.000		85.4	68.4	121				
Indeno(1,2,3-cd)pyrene	2.026	0.050	2.000		101	59.2	130				
Naphthalene	1.516	0.50	2.000		75.8	61.4	120				
Phenanthrene	1.729	0.050	2.000		86.5	65.4	123				
Pyrene	1.842	0.050	2.000		92.1	66.4	130				
Surr: 4-Terphenyl-d14	1.656	0	2.000		82.8	58.7	134				

Sample ID: **1608K91-009BMS**	Client ID: **MW-301D-20160823-01**		Units: **ug/L**	Prep Date: **08/29/2016**	Run No: **324319**
SampleType: **MS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **228762**	Analysis Date: **08/31/2016**	Seq No: **7018132**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	2.248	0.50	2.000	0.9510	64.8	51.2	120				
Acenaphthylene	1.728	1.0	2.000	0.1766	77.6	53.5	120				
Anthracene	1.716	0.050	2.000	0.1625	77.7	53.3	120				
Benz(a)anthracene	1.925	0.050	2.000		96.3	50.9	132				
Benzo(a)pyrene	1.636	0.050	2.000		81.8	50.5	120				
Benzo(b)fluoranthene	1.562	0.10	2.000		78.1	55.8	127				
Benzo(g,h,i)perylene	1.625	0.10	2.000		81.3	46.8	120				
Benzo(k)fluoranthene	1.556	0.050	2.000		77.8	54.5	120				
Chrysene	1.608	0.050	2.000		80.4	56.9	125				
Dibenz(a,h)anthracene	1.554	0.10	2.000		77.7	44.8	120				
Fluoranthene	1.764	0.10	2.000	0.05766	85.3	61.5	122				
Fluorene	2.189	0.10	2.000	0.7539	71.7	55.6	118				

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: 1608K91

ANALYTICAL QC SUMMARY REPORT

BatchID: 228762

Sample ID: **1608K91-009BMS**	Client ID: **MW-301D-20160823-01**				Units: **ug/L**		Prep Date: **08/29/2016**		Run No: **324319**	
SampleType: **MS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**				BatchID: **228762**		Analysis Date: **08/31/2016**		Seq No: **7018132**	
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	1.686	0.050	2.000		84.3	46.1	120				
Naphthalene	1.434	0.50	2.000	0.2474	59.3	51.7	120				
Phenanthrene	1.485	0.050	2.000		74.2	56.1	120				
Pyrene	2.347	0.050	2.000	0.9266	71.0	56.1	125				
Surr: 4-Terphenyl-d14	1.555	0	2.000		77.7	58.7	134				

Sample ID: **1608M11-009BMS**	Client ID:				Units: **ug/L**		Prep Date: **08/29/2016**		Run No: **324319**	
SampleType: **MS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**				BatchID: **228762**		Analysis Date: **08/31/2016**		Seq No: **7019695**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.664	0.50	2.000		83.2	51.2	120				
Acenaphthylene	1.643	1.0	2.000		82.2	53.5	120				
Anthracene	1.753	0.050	2.000		87.7	53.3	120				
Benz(a)anthracene	1.998	0.050	2.000		99.9	50.9	132				
Benzo(a)pyrene	1.769	0.050	2.000		88.5	50.5	120				
Benzo(b)fluoranthene	1.533	0.10	2.000		76.7	55.8	127				
Benzo(g,h,i)perylene	1.671	0.10	2.000		83.5	46.8	120				
Benzo(k)fluoranthene	1.761	0.050	2.000		88.1	54.5	120				
Chrysene	1.834	0.050	2.000		91.7	56.9	125				
Dibenz(a,h)anthracene	1.419	0.10	2.000		71.0	44.8	120				
Fluoranthene	1.947	0.10	2.000		97.4	61.5	122				
Fluorene	1.721	0.10	2.000		86.0	55.6	118				
Indeno(1,2,3-cd)pyrene	1.619	0.050	2.000		80.9	46.1	120				
Naphthalene	1.538	0.50	2.000		76.9	51.7	120				
Phenanthrene	1.671	0.050	2.000		83.6	56.1	120				
Pyrene	1.726	0.050	2.000		86.3	56.1	125				
Surr: 4-Terphenyl-d14	1.661	0	2.000		83.0	58.7	134				

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: 1608K91

ANALYTICAL QC SUMMARY REPORT

BatchID: 228762

Sample ID: **1608K91-009BMSD** Client ID: **MW-301D-20160823-01** Units: **ug/L** Prep Date: **08/29/2016** Run No: **324319**
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **228762** Analysis Date: **08/31/2016** Seq No: **7019694**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	2.653	0.50	2.000	0.9510	85.1	51.2	120	2.258	16.1	23.9	
Acenaphthylene	2.023	1.0	2.000	0.1766	92.3	53.5	120	1.750	14.4	24.2	
Anthracene	2.022	0.050	2.000	0.1625	93.0	53.3	120	1.717	16.3	22.3	
Benz(a)anthracene	2.217	0.050	2.000		111	50.9	132	1.947	12.9	27.4	
Benzo(a)pyrene	1.911	0.050	2.000		95.5	50.5	120	1.661	14.0	41.9	
Benzo(b)fluoranthene	1.745	0.10	2.000		87.3	55.8	127	1.595	9.03	26.1	
Benzo(g,h,i)perylene	1.833	0.10	2.000		91.7	46.8	120	1.647	10.7	24.3	
Benzo(k)fluoranthene	1.878	0.050	2.000		93.9	54.5	120	1.557	18.7	24.2	
Chrysene	1.945	0.050	2.000		97.2	56.9	125	1.618	18.3	23.1	
Dibenz(a,h)anthracene	1.676	0.10	2.000		83.8	44.8	120	1.560	7.20	26.1	
Fluoranthene	2.106	0.10	2.000	0.05766	102	61.5	122	1.785	16.5	17.7	
Fluorene	2.592	0.10	2.000	0.7539	91.9	55.6	118	2.203	16.2	27.5	
Indeno(1,2,3-cd)pyrene	1.860	0.050	2.000		93.0	46.1	120	1.658	11.5	26.7	
Naphthalene	1.651	0.50	2.000	0.2474	70.2	51.7	120	1.430	14.3	24.2	
Phenanthrene	1.780	0.050	2.000		89.0	56.1	120	1.494	17.4	23.5	
Pyrene	2.775	0.050	2.000	0.9266	92.4	56.1	125	2.385	15.1	20.9	
Surr: 4-Terphenyl-d14	1.771	0	2.000		88.6	58.7	134	1.558	0	0	

Sample ID: **1608M11-009BMSD** Client ID: Units: **ug/L** Prep Date: **08/29/2016** Run No: **324319**
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **228762** Analysis Date: **08/31/2016** Seq No: **7019696**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.619	0.50	2.000		81.0	51.2	120	1.650	1.90	23.9	
Acenaphthylene	1.597	1.0	2.000		79.9	53.5	120	1.668	4.35	24.2	
Anthracene	1.652	0.050	2.000		82.6	53.3	120	1.760	6.33	22.3	
Benz(a)anthracene	1.903	0.050	2.000		95.2	50.9	132	2.051	7.49	27.4	
Benzo(a)pyrene	1.649	0.050	2.000		82.4	50.5	120	1.777	7.47	41.9	
Benzo(b)fluoranthene	1.479	0.10	2.000		73.9	55.8	127	1.619	9.04	26.1	

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: 1608K91

ANALYTICAL QC SUMMARY REPORT

BatchID: 228762

Sample ID: **1608M11-009BMSD** Client ID:
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D**
Units: **ug/L** BatchID: **228762**
Prep Date: **08/29/2016** Analysis Date: **08/31/2016**
Run No: **324319** Seq No: **7019696**

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	1.603	0.10	2.000		80.1	46.8	120	1.667	3.93	24.3	
Benzo(k)fluoranthene	1.624	0.050	2.000		81.2	54.5	120	1.705	4.85	24.2	
Chrysene	1.736	0.050	2.000		86.8	56.9	125	1.797	3.42	23.1	
Dibenz(a,h)anthracene	1.329	0.10	2.000		66.5	44.8	120	1.499	12.0	26.1	
Fluoranthene	1.817	0.10	2.000		90.9	61.5	122	1.904	4.68	17.7	
Fluorene	1.667	0.10	2.000		83.3	55.6	118	1.706	2.32	27.5	
Indeno(1,2,3-cd)pyrene	1.557	0.050	2.000		77.9	46.1	120	1.719	9.87	26.7	
Naphthalene	1.560	0.50	2.000		78.0	51.7	120	1.537	1.52	24.2	
Phenanthrene	1.596	0.050	2.000		79.8	56.1	120	1.654	3.57	23.5	
Pyrene	1.652	0.050	2.000		82.6	56.1	125	1.738	5.03	20.9	
Surr: 4-Terphenyl-d14	1.732	0	2.000		86.6	58.7	134	1.682	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: 1608K91

ANALYTICAL QC SUMMARY REPORT

BatchID: 228776

Sample ID: **MB-228776**	Client ID:		Units: **ug/L**	Prep Date: **08/26/2016**	Run No: **324123**
SampleType: **MBLK**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **228776**	Analysis Date: **08/26/2016**	Seq No: **7012792**

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	51.06	0	50.00		102	70.7	125				
Surr: Dibromofluoromethane	46.08	0	50.00		92.2	82.2	120				
Surr: Toluene-d8	48.74	0	50.00		97.5	81.8	120				

Sample ID: **LCS-228776**	Client ID:		Units: **ug/L**	Prep Date: **08/26/2016**	Run No: **324123**
SampleType: **LCS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **228776**	Analysis Date: **08/26/2016**	Seq No: **7012791**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	54.90	5.0	50.00		110	74.9	123				
Toluene	56.95	5.0	50.00		114	75	124				
Surr: 4-Bromofluorobenzene	51.07	0	50.00		102	70.7	125				
Surr: Dibromofluoromethane	45.92	0	50.00		91.8	82.2	120				
Surr: Toluene-d8	49.70	0	50.00		99.4	81.8	120				

Sample ID: **1608M03-002AMS**	Client ID:		Units: **ug/L**	Prep Date: **08/26/2016**	Run No: **324123**
SampleType: **MS**	TestCode: **Volatile Organic Compounds by GC/MS SW8260B**		BatchID: **228776**	Analysis Date: **08/26/2016**	Seq No: **7012798**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	788.1	50	500.0	250.9	107	70.1	132				
Toluene	547.5	50	500.0		110	70.1	133				
Surr: 4-Bromofluorobenzene	498.9	0	500.0		99.8	70.7	125				
Surr: Dibromofluoromethane	463.4	0	500.0		92.7	82.2	120				
Surr: Toluene-d8	501.2	0	500.0		100	81.8	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: 1608K91

ANALYTICAL QC SUMMARY REPORT

BatchID: 228776

Sample ID: **1608M03-002AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/L** Prep Date: **08/26/2016** Run No: **324123**
BatchID: **228776** Analysis Date: **08/26/2016** Seq No: **7012799**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	779.2	50	500.0	250.9	106	70.1	132	788.1	1.14	20	
Toluene	548.0	50	500.0		110	70.1	133	547.5	0.091	20	
Surr: 4-Bromofluorobenzene	508.8	0	500.0		102	70.7	125	498.9	0	0	
Surr: Dibromofluoromethane	453.7	0	500.0		90.7	82.2	120	463.4	0	0	
Surr: Toluene-d8	498.0	0	500.0		99.6	81.8	120	501.2	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: 1608K91

ANALYTICAL QC SUMMARY REPORT

BatchID: 228791

Sample ID: **MB-228791**	Client ID:		Units: **ug/L**	Prep Date: **08/30/2016**	Run No: **324208**
SampleType: **MBLK**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **228791**	Analysis Date: **08/30/2016**	Seq No: **7017560**

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	76.54	0	100.0		76.5	51.5	141				
Surr: 2-Fluorobiphenyl	38.27	0	50.00		76.5	50.8	122				
Surr: 2-Fluorophenol	49.02	0	100.0		49.0	28.1	120				
Surr: 4-Terphenyl-d14	46.71	0	50.00		93.4	47.2	131				
Surr: Nitrobenzene-d5	38.63	0	50.00		77.3	42.1	124				
Surr: Phenol-d5	33.48	0	100.0		33.5	16	120				

Sample ID: **LCS-228791**	Client ID:		Units: **ug/L**	Prep Date: **08/30/2016**	Run No: **324208**
SampleType: **LCS**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **228791**	Analysis Date: **08/30/2016**	Seq No: **7017561**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	49.93	10	100.0		49.9	27	120				
Surr: 2,4,6-Tribromophenol	99.55	0	100.0		99.6	51.5	141				
Surr: 2-Fluorobiphenyl	47.78	0	50.00		95.6	50.8	122				
Surr: 2-Fluorophenol	69.28	0	100.0		69.3	28.1	120				
Surr: 4-Terphenyl-d14	57.56	0	50.00		115	47.2	131				
Surr: Nitrobenzene-d5	47.68	0	50.00		95.4	42.1	124				
Surr: Phenol-d5	52.63	0	100.0		52.6	16	120				

Sample ID: **1608K91-009BMS**	Client ID: **MW-301D-20160823-01**		Units: **ug/L**	Prep Date: **08/30/2016**	Run No: **324208**
SampleType: **MS**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**		BatchID: **228791**	Analysis Date: **08/30/2016**	Seq No: **7017563**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	49.02	10	100.0		49.0	30.6	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: 1608K91

ANALYTICAL QC SUMMARY REPORT

BatchID: 228791

Sample ID: **1608K91-009BMS**	Client ID: **MW-301D-20160823-01**	Units: **ug/L**	Prep Date: **08/30/2016**	Run No: **324208**
SampleType: **MS**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**	BatchID: **228791**	Analysis Date: **08/30/2016**	Seq No: **7017563**

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	86.02	0	100.0		86.0	51.5	141				
Surr: 2-Fluorobiphenyl	42.04	0	50.00		84.1	50.8	122				
Surr: 2-Fluorophenol	61.38	0	100.0		61.4	28.1	120				
Surr: 4-Terphenyl-d14	46.46	0	50.00		92.9	47.2	131				
Surr: Nitrobenzene-d5	41.61	0	50.00		83.2	42.1	124				
Surr: Phenol-d5	50.08	0	100.0		50.1	16	120				

Sample ID: **1608K91-009BMSD**	Client ID: **MW-301D-20160823-01**	Units: **ug/L**	Prep Date: **08/30/2016**	Run No: **324208**
SampleType: **MSD**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**	BatchID: **228791**	Analysis Date: **08/30/2016**	Seq No: **7017564**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	56.64	10	100.0		56.6	30.6	120	49.02	14.4	36.3	
Surr: 2,4,6-Tribromophenol	91.02	0	100.0		91.0	51.5	141	86.02	0	0	
Surr: 2-Fluorobiphenyl	44.19	0	50.00		88.4	50.8	122	42.04	0	0	
Surr: 2-Fluorophenol	70.24	0	100.0		70.2	28.1	120	61.38	0	0	
Surr: 4-Terphenyl-d14	49.08	0	50.00		98.2	47.2	131	46.46	0	0	
Surr: Nitrobenzene-d5	43.10	0	50.00		86.2	42.1	124	41.61	0	0	
Surr: Phenol-d5	55.82	0	100.0		55.8	16	120	50.08	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: 1608K91

ANALYTICAL QC SUMMARY REPORT

BatchID: 228854

Sample ID: **MB-228854**	Client ID:					Units: **mg/L**		Prep Date: **08/30/2016**		Run No: **324288**	
SampleType: **MBLK**	TestCode: **Cyanide SW9014**					BatchID: **228854**		Analysis Date: **08/30/2016**		Seq No: **7016580**	
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-228854**	Client ID:					Units: **mg/L**		Prep Date: **08/30/2016**		Run No: **324288**	
SampleType: **LCS**	TestCode: **Cyanide SW9014**					BatchID: **228854**		Analysis Date: **08/30/2016**		Seq No: **7016581**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2420	0.010	0.2500		96.8	85	115				

Sample ID: **1608K90-001DMS**	Client ID:					Units: **mg/L**		Prep Date: **08/30/2016**		Run No: **324288**	
SampleType: **MS**	TestCode: **Cyanide SW9014**					BatchID: **228854**		Analysis Date: **08/30/2016**		Seq No: **7016610**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2390	0.010	0.2500		95.6	70	130				

Sample ID: **1608K90-001DMSD**	Client ID:					Units: **mg/L**		Prep Date: **08/30/2016**		Run No: **324288**	
SampleType: **MSD**	TestCode: **Cyanide SW9014**					BatchID: **228854**		Analysis Date: **08/30/2016**		Seq No: **7016611**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2230	0.010	0.2500		89.2	70	130	0.2390	6.93	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: 1608K91

ANALYTICAL QC SUMMARY REPORT

BatchID: 228856

Sample ID: **MB-228856**	Client ID:			Units: **mg/L**	Prep Date: **08/30/2016**	Run No: **324293**
SampleType: **MBLK**	TestCode: **Cyanide SW9014**			BatchID: **228856**	Analysis Date: **08/30/2016**	Seq No: **7016649**

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-228856**	Client ID:			Units: **mg/L**	Prep Date: **08/30/2016**	Run No: **324293**
SampleType: **LCS**	TestCode: **Cyanide SW9014**			BatchID: **228856**	Analysis Date: **08/30/2016**	Seq No: **7016650**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2420	0.010	0.2500		96.8	85	115				

Sample ID: **1608K91-007CMS**	Client ID: **MW-308D-20160823-01**			Units: **mg/L**	Prep Date: **08/30/2016**	Run No: **324293**
SampleType: **MS**	TestCode: **Cyanide SW9014**			BatchID: **228856**	Analysis Date: **08/30/2016**	Seq No: **7016673**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2450	0.010	0.2500		98.0	70	130				

Sample ID: **1608K91-007CMSD**	Client ID: **MW-308D-20160823-01**			Units: **mg/L**	Prep Date: **08/30/2016**	Run No: **324293**
SampleType: **MSD**	TestCode: **Cyanide SW9014**			BatchID: **228856**	Analysis Date: **08/30/2016**	Seq No: **7016674**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2340	0.010	0.2500		93.6	70	130	0.2450	4.59	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: 1608K91

ANALYTICAL QC SUMMARY REPORT

BatchID: 229001

Sample ID: **MB-229001** Client ID: Units: **mg/L** Prep Date: **09/06/2016** Run No: **324648**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010D** BatchID: **229001** Analysis Date: **09/06/2016** Seq No: **7026075**

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-229001** Client ID: Units: **mg/L** Prep Date: **09/06/2016** Run No: **324648**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010D** BatchID: **229001** Analysis Date: **09/06/2016** Seq No: **7026076**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.085	0.0200	1.000		108	80	120				
Arsenic	1.073	0.0500	1.000		107	80	120				
Barium	1.070	0.0200	1.000		107	80	120				
Beryllium	1.080	0.0100	1.000		108	80	120				
Cadmium	1.087	0.0050	1.000		109	80	120				
Chromium	1.040	0.0100	1.000		104	80	120				
Copper	1.061	0.0100	1.000		106	80	120				
Lead	1.080	0.0100	1.000		108	80	120				
Nickel	1.078	0.0200	1.000		108	80	120				
Zinc	1.093	0.0200	1.000		109	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: 1608K91

ANALYTICAL QC SUMMARY REPORT

BatchID: 229001

Sample ID: **1608K91-009DMS**	Client ID: **MW-301D-20160823-01**	Units: **mg/L**	Prep Date: **09/06/2016**	Run No: **324648**
SampleType: **MS**	TestCode: **METALS, TOTAL SW6010D**	BatchID: **229001**	Analysis Date: **09/07/2016**	Seq No: **7028495**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.050	0.0200	1.000		105	75	125				
Arsenic	1.055	0.0500	1.000		106	75	125				
Barium	1.048	0.0200	1.000	0.05139	99.7	75	125				
Beryllium	1.006	0.0100	1.000		101	75	125				
Cadmium	1.020	0.0050	1.000		102	75	125				
Chromium	0.9936	0.0100	1.000		99.4	75	125				
Copper	1.012	0.0100	1.000		101	75	125				
Lead	1.002	0.0100	1.000		100	75	125				
Nickel	0.9999	0.0200	1.000		100.0	75	125				
Zinc	0.9927	0.0200	1.000		99.3	75	125				

Sample ID: **1609217-002CMS**	Client ID:	Units: **mg/L**	Prep Date: **09/06/2016**	Run No: **324648**
SampleType: **MS**	TestCode: **METALS, TOTAL SW6010D**	BatchID: **229001**	Analysis Date: **09/06/2016**	Seq No: **7026078**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.068	0.0200	1.000		107	75	125				
Arsenic	1.040	0.0500	1.000		104	75	125				
Barium	1.105	0.0200	1.000	0.09885	101	75	125				
Beryllium	1.024	0.0100	1.000		102	75	125				
Cadmium	1.040	0.0050	1.000		104	75	125				
Chromium	0.9967	0.0100	1.000	0.0009422	99.6	75	125				
Copper	1.015	0.0100	1.000	0.0009514	101	75	125				
Lead	1.027	0.0100	1.000	0.01132	102	75	125				
Nickel	1.005	0.0200	1.000		100	75	125				
Zinc	1.030	0.0200	1.000	0.007093	102	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: 1608K91

ANALYTICAL QC SUMMARY REPORT

BatchID: 229001

Sample ID: **1608K91-009DMSD** Client ID: **MW-301D-20160823-01** Units: **mg/L** Prep Date: **09/06/2016** Run No: **324648**
SampleType: **MSD** TestCode: **METALS, TOTAL SW6010D** BatchID: **229001** Analysis Date: **09/07/2016** Seq No: **7028496**

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	1.050	0.784	20	
Arsenic	1.049	0.0500	1.000		105	75	125	1.055	0.538	20	
Barium	1.043	0.0200	1.000	0.05139	99.2	75	125	1.048	0.492	20	
Beryllium	1.001	0.0100	1.000		100	75	125	1.006	0.441	20	
Cadmium	1.018	0.0050	1.000		102	75	125	1.020	0.219	20	
Chromium	0.9934	0.0100	1.000		99.3	75	125	0.9936	0.020	20	
Copper	1.007	0.0100	1.000		101	75	125	1.012	0.424	20	
Lead	1.001	0.0100	1.000		100	75	125	1.002	0.101	20	
Nickel	0.9953	0.0200	1.000		99.5	75	125	0.9999	0.459	20	
Zinc	0.9899	0.0200	1.000		99.0	75	125	0.9927	0.279	20	

Sample ID: **1609217-002CMSD** Client ID: Units: **mg/L** Prep Date: **09/06/2016** Run No: **324648**
SampleType: **MSD** TestCode: **METALS, TOTAL SW6010D** BatchID: **229001** Analysis Date: **09/06/2016** Seq No: **7026079**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.059	0.0200	1.000		106	75	125	1.068	0.814	20	
Arsenic	1.079	0.0500	1.000		108	75	125	1.040	3.65	20	
Barium	1.137	0.0200	1.000	0.09885	104	75	125	1.105	2.93	20	
Beryllium	1.062	0.0100	1.000		106	75	125	1.024	3.68	20	
Cadmium	1.077	0.0050	1.000		108	75	125	1.040	3.46	20	
Chromium	1.030	0.0100	1.000	0.0009422	103	75	125	0.9967	3.25	20	
Copper	1.050	0.0100	1.000	0.0009514	105	75	125	1.015	3.39	20	
Lead	1.063	0.0100	1.000	0.01132	105	75	125	1.027	3.42	20	
Nickel	1.038	0.0200	1.000		104	75	125	1.005	3.29	20	
Zinc	1.072	0.0200	1.000	0.007093	107	75	125	1.030	4.04	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: 1608K91

ANALYTICAL QC SUMMARY REPORT

BatchID: 229049

Sample ID: **MB-229049**	Client ID:			Units: **mg/L**	Prep Date: **09/06/2016**	Run No: **324692**
SampleType: **MBLK**	TestCode: **Mercury, Total SW7470A**			BatchID: **229049**	Analysis Date: **09/07/2016**	Seq No: **7027127**

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-229049**	Client ID:			Units: **mg/L**	Prep Date: **09/06/2016**	Run No: **324692**
SampleType: **LCS**	TestCode: **Mercury, Total SW7470A**			BatchID: **229049**	Analysis Date: **09/07/2016**	Seq No: **7028007**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.006644	0.00040	0.0050		133	80	120				S

Sample ID: **1608K91-009DMS**	Client ID: **MW-301D-20160823-01**			Units: **mg/L**	Prep Date: **09/06/2016**	Run No: **324692**
SampleType: **MS**	TestCode: **Mercury, Total SW7470A**			BatchID: **229049**	Analysis Date: **09/07/2016**	Seq No: **7027130**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005696	0.00020	0.0050		114	70	130				

Sample ID: **1608K91-009DMSD**	Client ID: **MW-301D-20160823-01**			Units: **mg/L**	Prep Date: **09/06/2016**	Run No: **324692**
SampleType: **MSD**	TestCode: **Mercury, Total SW7470A**			BatchID: **229049**	Analysis Date: **09/07/2016**	Seq No: **7027131**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005870	0.00020	0.0050		117	70	130	0.005696	3.00	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: 1608K91

ANALYTICAL QC SUMMARY REPORT

BatchID: 229178

Sample ID: **MB-229178**	Client ID:					Units: **mg/L**		Prep Date: **09/08/2016**		Run No: **324796**	
SampleType: **MBLK**	TestCode: **Cyanide SW9014**					BatchID: **229178**		Analysis Date: **09/08/2016**		Seq No: **7029370**	
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-229178**	Client ID:					Units: **mg/L**		Prep Date: **09/08/2016**		Run No: **324796**	
SampleType: **LCS**	TestCode: **Cyanide SW9014**					BatchID: **229178**		Analysis Date: **09/08/2016**		Seq No: **7029371**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2430	0.010	0.2500		97.2	85	115				

Sample ID: **1608K91-009CMS**	Client ID: **MW-301D-20160823-01**					Units: **mg/L**		Prep Date: **09/08/2016**		Run No: **324796**	
SampleType: **MS**	TestCode: **Cyanide SW9014**					BatchID: **229178**		Analysis Date: **09/08/2016**		Seq No: **7029373**	
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				H

Sample ID: **1608K91-009CMSD**	Client ID: **MW-301D-20160823-01**					Units: **mg/L**		Prep Date: **09/08/2016**		Run No: **324796**	
SampleType: **MSD**	TestCode: **Cyanide SW9014**					BatchID: **229178**		Analysis Date: **09/08/2016**		Seq No: **7029375**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2520	0.010	0.2500		101	70	130	0.2570	1.96	20	H

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 13, 2016

Adria Reimer
ERM-Southeast
3200 Windy Hill Rd
Atlanta GA 30339

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

RE: AGL Macon

Dear Adria Reimer: Order No: 1608M11

Analytical Environmental Services, Inc. received 19 samples on 8/25/2016 6:30:00 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's accreditations are as follows:
-NELAC/Florida State Laboratory ID E87582 for analysis of Non-Potable Water, Solid & Chemical Materials, and Drinking Water Microbiology, effective 07/01/16-06/30/17.
-NELAC/Louisiana Agency Interest No. 100818 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 07/01/16-06/30/17.
-NELAC/Texas Certificate No. T104704509-16-6 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 03/01/16-02/28/17.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Metals, PCM Asbestos, Gravimetric), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

Mirzeta Kararic

Mirzeta Kararic
Project Manager

Revision 9/13/2016

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: 1608M11

Date: 8/25/16 Page 1 of 2

COMPANY:	ADDRESS:
ERM	3200 WINDY HILL RD SE SUITE 1500W ATLANTA, GA 30339.
PHONE: CAYCE 678.486.2700	FAX:
SAMPLED BY: ~~CASEY~~ HURDLE, TAYLOR PAYNE, KEITH PRINE, ANDREAS SHOREDITS	SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	VOC (8260B)	SVOC (8270C)	CYANIDE	TOT METALS/Hg	REMARKS	No # of Containers
							PRESERVATION (See codes)					
1	MW-401-20160824-01	8/24/16	16:45	X		GW	2	2	1	1	O=NaOH	6
2	MW-106-20160824-01	"	16:45									
3	MW-10-20160824-01	"	17:20									
4	MW-600-20160824-01	"	17:21									
5	MW-103-20160824-01	"	18:15									
6	AMW-16-20160824-01	"	17:55									
7	DUP-04-20160824-01	"	—									
8	MW-08-20160825-01	8/25/16	09:20									
9	MW-14-20160825-01	"	09:20									
10	MW-101-20160825-01	"	09:45									
11	MW-104-20160825-01	"	11:25									
12	MW-15-20160825-01	"	11:40									
13	MW-21-20160825-01	"	13:00									
14	MW-14I-20160825-01	"	13:30	V		V	V	V	V	V		

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:	08/25/16 1830	1: Pam Masoud	8-25-16 18:30
2:		2:	
3:		3:	

PROJECT INFORMATION

PROJECT NAME: AGL MACON
PROJECT #: 0366660
SITE ADDRESS: 137 MULBERRY ST MACON, GA 31201
SEND REPORT TO: adrianne.richer@erm.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): GA.
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
TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1608M11

Date: 8/25/16 Page 2 of 2

COMPANY: EKM

ADDRESS: 3200 Windy Hill Rd SE. Suite 600P Atlanta GA 30339

PHONE: Cayce 678-986-2700

FAX:

SAMPLED BY: Hunter Taylor Ramey, K. Prine, A. Shoreibah

SIGNATURE:

ANALYSIS REQUESTED

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	PRESERVATION (See codes)	REMARKS	No # of Containers
1	MS-02-20160825-01	8/25/16	920	X		GW	2 2 1 1		6
2	MSD-02-20160825-01	8/25/16	940	X		GW	2 2 1 1		6
3	MW-102-20160825-01	8/25/16	1700	X		GW	2 2 1 1		6
4	MW-305D-20160825-01	8/25/16	1915	X		GW	2 2 1 1		6
5	TB-01-20160825-01	NA	NA			W	2		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:	8/26/16 1830	1: Paris Masoud	8-25-16
2:		2:	18:30
3:		3:	

PROJECT INFORMATION

PROJECT NAME: AGL Main

PROJECT #: 0366660

SITE ADDRESS:

SEND REPORT TO: adrianeimer@cln.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): GA

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: 1608M11

Case Narrative

Samples "MS-02-20160825-01" and "MSD-02-20160825-01" were listed on the Chain of Custody as individual samples; however, per Andrew Shoredits 8/29/2016, the samples are only required for MS and MSD analysis for sample "MW-14-20160825-01."

A second trip blank was provided but not listed on the Chain of Custody. Trip blank analyzed at no cost to the client.

One vial or sample 013 "MW-21-20160825-01" was received with headspace present as signified by >1/4 inch bubble present. The lab proceeded with the analysis using the remaining vial.

Volatiles Organic Compounds Analysis by Method 8260B:

Due to sample matrix, sample 1608M11-017A required dilution during preparation and/or analysis resulting in elevated reporting limits.

Analytical Environmental Services, Inc **Date:** 13-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-401-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016 4:45:00 PM
Lab ID:	1608M11-001	**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	228787	1	08/26/2016 21:04	JE
Carbon disulfide	BRL	5.0		ug/L	228787	1	08/26/2016 21:04	JE
Ethylbenzene	BRL	5.0		ug/L	228787	1	08/26/2016 21:04	JE
Toluene	BRL	5.0		ug/L	228787	1	08/26/2016 21:04	JE
Xylenes, Total	BRL	5.0		ug/L	228787	1	08/26/2016 21:04	JE
Surr: 4-Bromofluorobenzene	103	70.7-125		%REC	228787	1	08/26/2016 21:04	JE
Surr: Dibromofluoromethane	89.1	82.2-120		%REC	228787	1	08/26/2016 21:04	JE
Surr: Toluene-d8	98.6	81.8-120		%REC	228787	1	08/26/2016 21:04	JE
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	228762	1	08/30/2016 20:42	YH
Acenaphthylene	BRL	1.0		ug/L	228762	1	08/30/2016 20:42	YH
Acenaphthene	BRL	0.50		ug/L	228762	1	08/30/2016 20:42	YH
Fluorene	BRL	0.10		ug/L	228762	1	08/30/2016 20:42	YH
Phenanthrene	BRL	0.050		ug/L	228762	1	08/30/2016 20:42	YH
Anthracene	0.093	0.050		ug/L	228762	1	08/30/2016 20:42	YH
Fluoranthene	BRL	0.10		ug/L	228762	1	08/30/2016 20:42	YH
Pyrene	1.0	0.050		ug/L	228762	1	08/30/2016 20:42	YH
Benz(a)anthracene	BRL	0.050		ug/L	228762	1	08/30/2016 20:42	YH
Chrysene	BRL	0.050		ug/L	228762	1	08/30/2016 20:42	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228762	1	08/30/2016 20:42	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228762	1	08/30/2016 20:42	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228762	1	08/30/2016 20:42	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228762	1	08/30/2016 20:42	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228762	1	08/30/2016 20:42	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228762	1	08/30/2016 20:42	YH
Surr: 4-Terphenyl-d14	84.6	58.7-134		%REC	228762	1	08/30/2016 20:42	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228746	1	08/30/2016 19:20	YH
2-Methylphenol	BRL	10		ug/L	228746	1	08/30/2016 19:20	YH
3,4-Methylphenol	BRL	10		ug/L	228746	1	08/30/2016 19:20	YH
Phenol	BRL	10		ug/L	228746	1	08/30/2016 19:20	YH
Surr: 2,4,6-Tribromophenol	95	51.5-141		%REC	228746	1	08/30/2016 19:20	YH
Surr: 2-Fluorobiphenyl	88.2	50.8-122		%REC	228746	1	08/30/2016 19:20	YH
Surr: 2-Fluorophenol	66.5	28.1-120		%REC	228746	1	08/30/2016 19:20	YH
Surr: 4-Terphenyl-d14	107	47.2-131		%REC	228746	1	08/30/2016 19:20	YH
Surr: Nitrobenzene-d5	85.6	42.1-124		%REC	228746	1	08/30/2016 19:20	YH
Surr: Phenol-d5	51.1	16-120		%REC	228746	1	08/30/2016 19:20	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:** 13-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-401-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016 4:45:00 PM
Lab ID:	1608M11-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228811	1	08/31/2016 10:03	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	228856	1	08/30/2016 12:00	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228744	1	08/29/2016 19:52	JL
Arsenic	BRL	0.0500		mg/L	228744	1	08/29/2016 19:52	JL
Barium	0.122	0.0200		mg/L	228744	1	08/29/2016 19:52	JL
Beryllium	BRL	0.0100		mg/L	228744	1	08/29/2016 19:52	JL
Cadmium	BRL	0.0050		mg/L	228744	1	08/29/2016 19:52	JL
Chromium	BRL	0.0100		mg/L	228744	1	08/29/2016 19:52	JL
Copper	BRL	0.0100		mg/L	228744	1	08/29/2016 19:52	JL
Lead	BRL	0.0100		mg/L	228744	1	08/29/2016 19:52	JL
Nickel	BRL	0.0200		mg/L	228744	1	08/29/2016 19:52	JL
Zinc	0.166	0.0200		mg/L	228744	1	08/29/2016 19:52	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:** 13-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-106-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016 4:45:00 PM
Lab ID:	1608M11-002	**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	228787	1	08/26/2016 21:28	JE
Carbon disulfide	BRL	5.0		ug/L	228787	1	08/26/2016 21:28	JE
Ethylbenzene	BRL	5.0		ug/L	228787	1	08/26/2016 21:28	JE
Toluene	BRL	5.0		ug/L	228787	1	08/26/2016 21:28	JE
Xylenes, Total	BRL	5.0		ug/L	228787	1	08/26/2016 21:28	JE
Surr: 4-Bromofluorobenzene	103	70.7-125		%REC	228787	1	08/26/2016 21:28	JE
Surr: Dibromofluoromethane	89.9	82.2-120		%REC	228787	1	08/26/2016 21:28	JE
Surr: Toluene-d8	99.7	81.8-120		%REC	228787	1	08/26/2016 21:28	JE
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	228762	1	08/30/2016 21:10	YH
Acenaphthylene	BRL	1.0		ug/L	228762	1	08/30/2016 21:10	YH
Acenaphthene	BRL	0.50		ug/L	228762	1	08/30/2016 21:10	YH
Fluorene	BRL	0.10		ug/L	228762	1	08/30/2016 21:10	YH
Phenanthrene	BRL	0.050		ug/L	228762	1	08/30/2016 21:10	YH
Anthracene	0.062	0.050		ug/L	228762	1	08/30/2016 21:10	YH
Fluoranthene	BRL	0.10		ug/L	228762	1	08/30/2016 21:10	YH
Pyrene	0.47	0.050		ug/L	228762	1	08/30/2016 21:10	YH
Benz(a)anthracene	BRL	0.050		ug/L	228762	1	08/30/2016 21:10	YH
Chrysene	BRL	0.050		ug/L	228762	1	08/30/2016 21:10	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228762	1	08/30/2016 21:10	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228762	1	08/30/2016 21:10	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228762	1	08/30/2016 21:10	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228762	1	08/30/2016 21:10	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228762	1	08/30/2016 21:10	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228762	1	08/30/2016 21:10	YH
Surr: 4-Terphenyl-d14	86.4	58.7-134		%REC	228762	1	08/30/2016 21:10	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228746	1	08/30/2016 19:47	YH
2-Methylphenol	BRL	10		ug/L	228746	1	08/30/2016 19:47	YH
3,4-Methylphenol	BRL	10		ug/L	228746	1	08/30/2016 19:47	YH
Phenol	BRL	10		ug/L	228746	1	08/30/2016 19:47	YH
Surr: 2,4,6-Tribromophenol	84.4	51.5-141		%REC	228746	1	08/30/2016 19:47	YH
Surr: 2-Fluorobiphenyl	77.4	50.8-122		%REC	228746	1	08/30/2016 19:47	YH
Surr: 2-Fluorophenol	56.4	28.1-120		%REC	228746	1	08/30/2016 19:47	YH
Surr: 4-Terphenyl-d14	101	47.2-131		%REC	228746	1	08/30/2016 19:47	YH
Surr: Nitrobenzene-d5	74.1	42.1-124		%REC	228746	1	08/30/2016 19:47	YH
Surr: Phenol-d5	42	16-120		%REC	228746	1	08/30/2016 19:47	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:** 13-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-106-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016 4:45:00 PM
Lab ID:	1608M11-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228811	1	08/31/2016 10:05	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.072	0.010		mg/L	228856	1	08/30/2016 12:00	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228744	1	08/29/2016 19:55	JL
Arsenic	BRL	0.0500		mg/L	228744	1	08/29/2016 19:55	JL
Barium	0.0349	0.0200		mg/L	228744	1	08/29/2016 19:55	JL
Beryllium	BRL	0.0100		mg/L	228744	1	08/29/2016 19:55	JL
Cadmium	BRL	0.0050		mg/L	228744	1	08/29/2016 19:55	JL
Chromium	BRL	0.0100		mg/L	228744	1	08/29/2016 19:55	JL
Copper	BRL	0.0100		mg/L	228744	1	08/29/2016 19:55	JL
Lead	BRL	0.0100		mg/L	228744	1	08/29/2016 19:55	JL
Nickel	BRL	0.0200		mg/L	228744	1	08/29/2016 19:55	JL
Zinc	BRL	0.0200		mg/L	228744	1	08/29/2016 19:55	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:** 13-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-10-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016 5:20:00 PM
Lab ID:	1608M11-003	**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	228787	1	08/26/2016 21:51	JE
Carbon disulfide	BRL	5.0		ug/L	228787	1	08/26/2016 21:51	JE
Ethylbenzene	BRL	5.0		ug/L	228787	1	08/26/2016 21:51	JE
Toluene	BRL	5.0		ug/L	228787	1	08/26/2016 21:51	JE
Xylenes, Total	BRL	5.0		ug/L	228787	1	08/26/2016 21:51	JE
Surr: 4-Bromofluorobenzene	103	70.7-125		%REC	228787	1	08/26/2016 21:51	JE
Surr: Dibromofluoromethane	92.8	82.2-120		%REC	228787	1	08/26/2016 21:51	JE
Surr: Toluene-d8	102	81.8-120		%REC	228787	1	08/26/2016 21:51	JE
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	228762	1	08/30/2016 21:37	YH
Acenaphthylene	BRL	1.0		ug/L	228762	1	08/30/2016 21:37	YH
Acenaphthene	BRL	0.50		ug/L	228762	1	08/30/2016 21:37	YH
Fluorene	BRL	0.10		ug/L	228762	1	08/30/2016 21:37	YH
Phenanthrene	BRL	0.050		ug/L	228762	1	08/30/2016 21:37	YH
Anthracene	BRL	0.050		ug/L	228762	1	08/30/2016 21:37	YH
Fluoranthene	BRL	0.10		ug/L	228762	1	08/30/2016 21:37	YH
Pyrene	BRL	0.050		ug/L	228762	1	08/30/2016 21:37	YH
Benz(a)anthracene	BRL	0.050		ug/L	228762	1	08/30/2016 21:37	YH
Chrysene	BRL	0.050		ug/L	228762	1	08/30/2016 21:37	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228762	1	08/30/2016 21:37	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228762	1	08/30/2016 21:37	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228762	1	08/30/2016 21:37	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228762	1	08/30/2016 21:37	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228762	1	08/30/2016 21:37	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228762	1	08/30/2016 21:37	YH
Surr: 4-Terphenyl-d14	79.9	58.7-134		%REC	228762	1	08/30/2016 21:37	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228746	1	08/30/2016 20:14	YH
2-Methylphenol	BRL	10		ug/L	228746	1	08/30/2016 20:14	YH
3,4-Methylphenol	BRL	10		ug/L	228746	1	08/30/2016 20:14	YH
Phenol	BRL	10		ug/L	228746	1	08/30/2016 20:14	YH
Surr: 2,4,6-Tribromophenol	97.3	51.5-141		%REC	228746	1	08/30/2016 20:14	YH
Surr: 2-Fluorobiphenyl	94.9	50.8-122		%REC	228746	1	08/30/2016 20:14	YH
Surr: 2-Fluorophenol	66.8	28.1-120		%REC	228746	1	08/30/2016 20:14	YH
Surr: 4-Terphenyl-d14	116	47.2-131		%REC	228746	1	08/30/2016 20:14	YH
Surr: Nitrobenzene-d5	92.2	42.1-124		%REC	228746	1	08/30/2016 20:14	YH
Surr: Phenol-d5	49.1	16-120		%REC	228746	1	08/30/2016 20:14	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:** 13-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-10-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016 5:20:00 PM
Lab ID:	1608M11-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	228811	1	08/31/2016 10:07	JR
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	BRL	0.010		mg/L	228856	1	08/30/2016 12:00	BD
METALS, TOTAL SW6010D				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	228744	1	08/29/2016 19:58	JL
Arsenic	BRL	0.0500		mg/L	228744	1	08/29/2016 19:58	JL
Barium	0.0608	0.0200		mg/L	228744	1	08/29/2016 19:58	JL
Beryllium	BRL	0.0100		mg/L	228744	1	08/29/2016 19:58	JL
Cadmium	BRL	0.0050		mg/L	228744	1	08/29/2016 19:58	JL
Chromium	BRL	0.0100		mg/L	228744	1	08/29/2016 19:58	JL
Copper	BRL	0.0100		mg/L	228744	1	08/29/2016 19:58	JL
Lead	BRL	0.0100		mg/L	228744	1	08/29/2016 19:58	JL
Nickel	BRL	0.0200		mg/L	228744	1	08/29/2016 19:58	JL
Zinc	BRL	0.0200		mg/L	228744	1	08/29/2016 19:58	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:** 13-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-400-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016 5:21:00 PM
Lab ID:	1608M11-004	**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	228787	1	08/26/2016 22:15	JE
Carbon disulfide	BRL	5.0		ug/L	228787	1	08/26/2016 22:15	JE
Ethylbenzene	BRL	5.0		ug/L	228787	1	08/26/2016 22:15	JE
Toluene	BRL	5.0		ug/L	228787	1	08/26/2016 22:15	JE
Xylenes, Total	BRL	5.0		ug/L	228787	1	08/26/2016 22:15	JE
Surr: 4-Bromofluorobenzene	103	70.7-125		%REC	228787	1	08/26/2016 22:15	JE
Surr: Dibromofluoromethane	93.1	82.2-120		%REC	228787	1	08/26/2016 22:15	JE
Surr: Toluene-d8	100	81.8-120		%REC	228787	1	08/26/2016 22:15	JE
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	228762	1	08/30/2016 22:03	YH
Acenaphthylene	BRL	1.0		ug/L	228762	1	08/30/2016 22:03	YH
Acenaphthene	BRL	0.50		ug/L	228762	1	08/30/2016 22:03	YH
Fluorene	0.19	0.10		ug/L	228762	1	08/30/2016 22:03	YH
Phenanthrene	BRL	0.050		ug/L	228762	1	08/30/2016 22:03	YH
Anthracene	0.14	0.050		ug/L	228762	1	08/30/2016 22:03	YH
Fluoranthene	BRL	0.10		ug/L	228762	1	08/30/2016 22:03	YH
Pyrene	0.13	0.050		ug/L	228762	1	08/30/2016 22:03	YH
Benz(a)anthracene	BRL	0.050		ug/L	228762	1	08/30/2016 22:03	YH
Chrysene	BRL	0.050		ug/L	228762	1	08/30/2016 22:03	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228762	1	08/30/2016 22:03	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228762	1	08/30/2016 22:03	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228762	1	08/30/2016 22:03	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228762	1	08/30/2016 22:03	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228762	1	08/30/2016 22:03	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228762	1	08/30/2016 22:03	YH
Surr: 4-Terphenyl-d14	89.3	58.7-134		%REC	228762	1	08/30/2016 22:03	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228746	1	08/30/2016 20:40	YH
2-Methylphenol	BRL	10		ug/L	228746	1	08/30/2016 20:40	YH
3,4-Methylphenol	BRL	10		ug/L	228746	1	08/30/2016 20:40	YH
Phenol	BRL	10		ug/L	228746	1	08/30/2016 20:40	YH
Surr: 2,4,6-Tribromophenol	86.2	51.5-141		%REC	228746	1	08/30/2016 20:40	YH
Surr: 2-Fluorobiphenyl	75.3	50.8-122		%REC	228746	1	08/30/2016 20:40	YH
Surr: 2-Fluorophenol	50.1	28.1-120		%REC	228746	1	08/30/2016 20:40	YH
Surr: 4-Terphenyl-d14	97	47.2-131		%REC	228746	1	08/30/2016 20:40	YH
Surr: Nitrobenzene-d5	69.4	42.1-124		%REC	228746	1	08/30/2016 20:40	YH
Surr: Phenol-d5	40.1	16-120		%REC	228746	1	08/30/2016 20:40	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:** 13-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-400-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016 5:21:00 PM
Lab ID:	1608M11-004	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228811	1	08/31/2016 10:09	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.288	0.010		mg/L	228856	1	08/30/2016 12:00	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228744	1	08/29/2016 20:08	JL
Arsenic	BRL	0.0500		mg/L	228744	1	08/29/2016 20:08	JL
Barium	0.0680	0.0200		mg/L	228744	1	08/29/2016 20:08	JL
Beryllium	BRL	0.0100		mg/L	228744	1	08/29/2016 20:08	JL
Cadmium	BRL	0.0050		mg/L	228744	1	08/29/2016 20:08	JL
Chromium	BRL	0.0100		mg/L	228744	1	08/29/2016 20:08	JL
Copper	BRL	0.0100		mg/L	228744	1	08/29/2016 20:08	JL
Lead	BRL	0.0100		mg/L	228744	1	08/29/2016 20:08	JL
Nickel	BRL	0.0200		mg/L	228744	1	08/29/2016 20:08	JL
Zinc	0.145	0.0200		mg/L	228744	1	08/29/2016 20:08	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:** 13-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-103-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016 6:45:00 PM
Lab ID:	1608M11-005	**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	228787	1	08/26/2016 22:39	JE
Carbon disulfide	BRL	5.0		ug/L	228787	1	08/26/2016 22:39	JE
Ethylbenzene	BRL	5.0		ug/L	228787	1	08/26/2016 22:39	JE
Toluene	BRL	5.0		ug/L	228787	1	08/26/2016 22:39	JE
Xylenes, Total	BRL	5.0		ug/L	228787	1	08/26/2016 22:39	JE
Surr: 4-Bromofluorobenzene	104	70.7-125		%REC	228787	1	08/26/2016 22:39	JE
Surr: Dibromofluoromethane	93.7	82.2-120		%REC	228787	1	08/26/2016 22:39	JE
Surr: Toluene-d8	100	81.8-120		%REC	228787	1	08/26/2016 22:39	JE
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	228762	1	08/30/2016 22:30	YH
Acenaphthylene	BRL	1.0		ug/L	228762	1	08/30/2016 22:30	YH
Acenaphthene	BRL	0.50		ug/L	228762	1	08/30/2016 22:30	YH
Fluorene	BRL	0.10		ug/L	228762	1	08/30/2016 22:30	YH
Phenanthrene	BRL	0.050		ug/L	228762	1	08/30/2016 22:30	YH
Anthracene	BRL	0.050		ug/L	228762	1	08/30/2016 22:30	YH
Fluoranthene	BRL	0.10		ug/L	228762	1	08/30/2016 22:30	YH
Pyrene	BRL	0.050		ug/L	228762	1	08/30/2016 22:30	YH
Benz(a)anthracene	BRL	0.050		ug/L	228762	1	08/30/2016 22:30	YH
Chrysene	BRL	0.050		ug/L	228762	1	08/30/2016 22:30	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228762	1	08/30/2016 22:30	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228762	1	08/30/2016 22:30	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228762	1	08/30/2016 22:30	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228762	1	08/30/2016 22:30	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228762	1	08/30/2016 22:30	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228762	1	08/30/2016 22:30	YH
Surr: 4-Terphenyl-d14	88	58.7-134		%REC	228762	1	08/30/2016 22:30	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228746	1	08/30/2016 21:05	YH
2-Methylphenol	BRL	10		ug/L	228746	1	08/30/2016 21:05	YH
3,4-Methylphenol	BRL	10		ug/L	228746	1	08/30/2016 21:05	YH
Phenol	BRL	10		ug/L	228746	1	08/30/2016 21:05	YH
Surr: 2,4,6-Tribromophenol	89.7	51.5-141		%REC	228746	1	08/30/2016 21:05	YH
Surr: 2-Fluorobiphenyl	84	50.8-122		%REC	228746	1	08/30/2016 21:05	YH
Surr: 2-Fluorophenol	59.7	28.1-120		%REC	228746	1	08/30/2016 21:05	YH
Surr: 4-Terphenyl-d14	110	47.2-131		%REC	228746	1	08/30/2016 21:05	YH
Surr: Nitrobenzene-d5	78.3	42.1-124		%REC	228746	1	08/30/2016 21:05	YH
Surr: Phenol-d5	42.7	16-120		%REC	228746	1	08/30/2016 21:05	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:** 13-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-103-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016 6:45:00 PM
Lab ID:	1608M11-005	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228811	1	08/31/2016 10:11	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	228856	1	08/30/2016 12:00	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228744	1	08/29/2016 20:12	JL
Arsenic	BRL	0.0500		mg/L	228744	1	08/29/2016 20:12	JL
Barium	0.0383	0.0200		mg/L	228744	1	08/29/2016 20:12	JL
Beryllium	BRL	0.0100		mg/L	228744	1	08/29/2016 20:12	JL
Cadmium	BRL	0.0050		mg/L	228744	1	08/29/2016 20:12	JL
Chromium	BRL	0.0100		mg/L	228744	1	08/29/2016 20:12	JL
Copper	BRL	0.0100		mg/L	228744	1	08/29/2016 20:12	JL
Lead	BRL	0.0100		mg/L	228744	1	08/29/2016 20:12	JL
Nickel	BRL	0.0200		mg/L	228744	1	08/29/2016 20:12	JL
Zinc	BRL	0.0200		mg/L	228744	1	08/29/2016 20:12	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:** 13-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	AMW-15-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016 5:55:00 PM
Lab ID:	1608M11-006	**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	228787	1	08/26/2016 23:03	JE
Carbon disulfide	BRL	5.0		ug/L	228787	1	08/26/2016 23:03	JE
Ethylbenzene	28	5.0		ug/L	228787	1	08/26/2016 23:03	JE
Toluene	6.5	5.0		ug/L	228787	1	08/26/2016 23:03	JE
Xylenes, Total	27	5.0		ug/L	228787	1	08/26/2016 23:03	JE
Surr: 4-Bromofluorobenzene	105	70.7-125		%REC	228787	1	08/26/2016 23:03	JE
Surr: Dibromofluoromethane	93.1	82.2-120		%REC	228787	1	08/26/2016 23:03	JE
Surr: Toluene-d8	100	81.8-120		%REC	228787	1	08/26/2016 23:03	JE
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	48	5.0		ug/L	228762	10	08/31/2016 15:47	YH
Acenaphthylene	4.2	1.0		ug/L	228762	1	08/30/2016 22:57	YH
Acenaphthene	15	5.0		ug/L	228762	10	08/31/2016 15:47	YH
Fluorene	5.4	0.10		ug/L	228762	1	08/30/2016 22:57	YH
Phenanthrene	8.0	0.050		ug/L	228762	1	08/30/2016 22:57	YH
Anthracene	0.81	0.050		ug/L	228762	1	08/30/2016 22:57	YH
Fluoranthene	0.44	0.10		ug/L	228762	1	08/30/2016 22:57	YH
Pyrene	0.39	0.050		ug/L	228762	1	08/30/2016 22:57	YH
Benz(a)anthracene	BRL	0.050		ug/L	228762	1	08/30/2016 22:57	YH
Chrysene	BRL	0.050		ug/L	228762	1	08/30/2016 22:57	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228762	1	08/30/2016 22:57	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228762	1	08/30/2016 22:57	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228762	1	08/30/2016 22:57	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228762	1	08/30/2016 22:57	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228762	1	08/30/2016 22:57	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228762	1	08/30/2016 22:57	YH
Surr: 4-Terphenyl-d14	96.6	58.7-134		%REC	228762	1	08/30/2016 22:57	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228746	1	08/30/2016 21:30	YH
2-Methylphenol	BRL	10		ug/L	228746	1	08/30/2016 21:30	YH
3,4-Methylphenol	BRL	10		ug/L	228746	1	08/30/2016 21:30	YH
Phenol	BRL	10		ug/L	228746	1	08/30/2016 21:30	YH
Surr: 2,4,6-Tribromophenol	87.4	51.5-141		%REC	228746	1	08/30/2016 21:30	YH
Surr: 2-Fluorobiphenyl	81.7	50.8-122		%REC	228746	1	08/30/2016 21:30	YH
Surr: 2-Fluorophenol	53	28.1-120		%REC	228746	1	08/30/2016 21:30	YH
Surr: 4-Terphenyl-d14	98.4	47.2-131		%REC	228746	1	08/30/2016 21:30	YH
Surr: Nitrobenzene-d5	75	42.1-124		%REC	228746	1	08/30/2016 21:30	YH
Surr: Phenol-d5	42	16-120		%REC	228746	1	08/30/2016 21:30	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:** 13-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	AMW-15-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016 5:55:00 PM
Lab ID:	1608M11-006	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	228811	1	08/31/2016 10:13	JR
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	BRL	0.010		mg/L	228856	1	08/30/2016 12:00	BD
METALS, TOTAL SW6010D				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	228744	1	08/29/2016 20:15	JL
Arsenic	BRL	0.0500		mg/L	228744	1	08/29/2016 20:15	JL
Barium	0.164	0.0200		mg/L	228744	1	08/29/2016 20:15	JL
Beryllium	BRL	0.0100		mg/L	228744	1	08/29/2016 20:15	JL
Cadmium	BRL	0.0050		mg/L	228744	1	08/29/2016 20:15	JL
Chromium	BRL	0.0100		mg/L	228744	1	08/29/2016 20:15	JL
Copper	BRL	0.0100		mg/L	228744	1	08/29/2016 20:15	JL
Lead	BRL	0.0100		mg/L	228744	1	08/29/2016 20:15	JL
Nickel	BRL	0.0200		mg/L	228744	1	08/29/2016 20:15	JL
Zinc	BRL	0.0200		mg/L	228744	1	08/29/2016 20:15	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:** 13-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	DUP-04-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016
Lab ID:	1608M11-007	**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	228787	1	08/26/2016 23:27	JE
Carbon disulfide	BRL	5.0		ug/L	228787	1	08/26/2016 23:27	JE
Ethylbenzene	BRL	5.0		ug/L	228787	1	08/26/2016 23:27	JE
Toluene	BRL	5.0		ug/L	228787	1	08/26/2016 23:27	JE
Xylenes, Total	BRL	5.0		ug/L	228787	1	08/26/2016 23:27	JE
Surr: 4-Bromofluorobenzene	104	70.7-125		%REC	228787	1	08/26/2016 23:27	JE
Surr: Dibromofluoromethane	91	82.2-120		%REC	228787	1	08/26/2016 23:27	JE
Surr: Toluene-d8	99.3	81.8-120		%REC	228787	1	08/26/2016 23:27	JE
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	228762	1	08/30/2016 23:25	YH
Acenaphthylene	BRL	1.0		ug/L	228762	1	08/30/2016 23:25	YH
Acenaphthene	0.52	0.50		ug/L	228762	1	08/30/2016 23:25	YH
Fluorene	0.21	0.10		ug/L	228762	1	08/30/2016 23:25	YH
Phenanthrene	BRL	0.050		ug/L	228762	1	08/30/2016 23:25	YH
Anthracene	0.17	0.050		ug/L	228762	1	08/30/2016 23:25	YH
Fluoranthene	BRL	0.10		ug/L	228762	1	08/30/2016 23:25	YH
Pyrene	0.13	0.050		ug/L	228762	1	08/30/2016 23:25	YH
Benz(a)anthracene	BRL	0.050		ug/L	228762	1	08/30/2016 23:25	YH
Chrysene	BRL	0.050		ug/L	228762	1	08/30/2016 23:25	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228762	1	08/30/2016 23:25	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228762	1	08/30/2016 23:25	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228762	1	08/30/2016 23:25	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228762	1	08/30/2016 23:25	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228762	1	08/30/2016 23:25	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228762	1	08/30/2016 23:25	YH
Surr: 4-Terphenyl-d14	91.7	58.7-134		%REC	228762	1	08/30/2016 23:25	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228746	1	08/31/2016 09:41	YH
2-Methylphenol	BRL	10		ug/L	228746	1	08/31/2016 09:41	YH
3,4-Methylphenol	BRL	10		ug/L	228746	1	08/31/2016 09:41	YH
Phenol	BRL	10		ug/L	228746	1	08/31/2016 09:41	YH
Surr: 2,4,6-Tribromophenol	123	51.5-141		%REC	228746	1	08/31/2016 09:41	YH
Surr: 2-Fluorobiphenyl	86.3	50.8-122		%REC	228746	1	08/31/2016 09:41	YH
Surr: 2-Fluorophenol	60.2	28.1-120		%REC	228746	1	08/31/2016 09:41	YH
Surr: 4-Terphenyl-d14	95.1	47.2-131		%REC	228746	1	08/31/2016 09:41	YH
Surr: Nitrobenzene-d5	69.5	42.1-124		%REC	228746	1	08/31/2016 09:41	YH
Surr: Phenol-d5	44	16-120		%REC	228746	1	08/31/2016 09:41	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:** 13-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	DUP-04-20160824-01
Project Name:	AGL Macon	**Collection Date:**	8/24/2016
Lab ID:	1608M11-007	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	228811	1	08/31/2016 10:15	JR
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	0.167	0.010		mg/L	228859	1	08/30/2016 15:00	BD
METALS, TOTAL SW6010D				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	228744	1	08/29/2016 20:18	JL
Arsenic	BRL	0.0500		mg/L	228744	1	08/29/2016 20:18	JL
Barium	0.0676	0.0200		mg/L	228744	1	08/29/2016 20:18	JL
Beryllium	BRL	0.0100		mg/L	228744	1	08/29/2016 20:18	JL
Cadmium	BRL	0.0050		mg/L	228744	1	08/29/2016 20:18	JL
Chromium	BRL	0.0100		mg/L	228744	1	08/29/2016 20:18	JL
Copper	BRL	0.0100		mg/L	228744	1	08/29/2016 20:18	JL
Lead	BRL	0.0100		mg/L	228744	1	08/29/2016 20:18	JL
Nickel	BRL	0.0200		mg/L	228744	1	08/29/2016 20:18	JL
Zinc	0.147	0.0200		mg/L	228744	1	08/29/2016 20:18	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:** 13-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-08-20160825-01
Project Name:	AGL Macon	**Collection Date:**	8/25/2016 9:20:00 AM
Lab ID:	1608M11-008	**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	228787	1	08/26/2016 23:52	JE
Carbon disulfide	BRL	5.0		ug/L	228787	1	08/26/2016 23:52	JE
Ethylbenzene	BRL	5.0		ug/L	228787	1	08/26/2016 23:52	JE
Toluene	BRL	5.0		ug/L	228787	1	08/26/2016 23:52	JE
Xylenes, Total	BRL	5.0		ug/L	228787	1	08/26/2016 23:52	JE
Surr: 4-Bromofluorobenzene	104	70.7-125		%REC	228787	1	08/26/2016 23:52	JE
Surr: Dibromofluoromethane	93.5	82.2-120		%REC	228787	1	08/26/2016 23:52	JE
Surr: Toluene-d8	99.5	81.8-120		%REC	228787	1	08/26/2016 23:52	JE
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	228762	1	08/30/2016 23:52	YH
Acenaphthylene	BRL	1.0		ug/L	228762	1	08/30/2016 23:52	YH
Acenaphthene	BRL	0.50		ug/L	228762	1	08/30/2016 23:52	YH
Fluorene	BRL	0.10		ug/L	228762	1	08/30/2016 23:52	YH
Phenanthrene	BRL	0.050		ug/L	228762	1	08/30/2016 23:52	YH
Anthracene	BRL	0.050		ug/L	228762	1	08/30/2016 23:52	YH
Fluoranthene	BRL	0.10		ug/L	228762	1	08/30/2016 23:52	YH
Pyrene	0.16	0.050		ug/L	228762	1	08/30/2016 23:52	YH
Benz(a)anthracene	BRL	0.050		ug/L	228762	1	08/30/2016 23:52	YH
Chrysene	BRL	0.050		ug/L	228762	1	08/30/2016 23:52	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228762	1	08/30/2016 23:52	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228762	1	08/30/2016 23:52	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228762	1	08/30/2016 23:52	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228762	1	08/30/2016 23:52	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228762	1	08/30/2016 23:52	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228762	1	08/30/2016 23:52	YH
Surr: 4-Terphenyl-d14	107	58.7-134		%REC	228762	1	08/30/2016 23:52	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228746	1	08/31/2016 10:10	YH
2-Methylphenol	BRL	10		ug/L	228746	1	08/31/2016 10:10	YH
3,4-Methylphenol	BRL	10		ug/L	228746	1	08/31/2016 10:10	YH
Phenol	BRL	10		ug/L	228746	1	08/31/2016 10:10	YH
Surr: 2,4,6-Tribromophenol	117	51.5-141		%REC	228746	1	08/31/2016 10:10	YH
Surr: 2-Fluorobiphenyl	81	50.8-122		%REC	228746	1	08/31/2016 10:10	YH
Surr: 2-Fluorophenol	58.9	28.1-120		%REC	228746	1	08/31/2016 10:10	YH
Surr: 4-Terphenyl-d14	96	47.2-131		%REC	228746	1	08/31/2016 10:10	YH
Surr: Nitrobenzene-d5	64.7	42.1-124		%REC	228746	1	08/31/2016 10:10	YH
Surr: Phenol-d5	40.2	16-120		%REC	228746	1	08/31/2016 10:10	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:** 13-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-08-20160825-01
Project Name:	AGL Macon	**Collection Date:**	8/25/2016 9:20:00 AM
Lab ID:	1608M11-008	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	228811	1	08/31/2016 10:21	JR
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	BRL	0.010		mg/L	228859	1	08/30/2016 15:00	BD
METALS, TOTAL SW6010D				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	228744	1	08/29/2016 20:21	JL
Arsenic	BRL	0.0500		mg/L	228744	1	08/29/2016 20:21	JL
Barium	0.0595	0.0200		mg/L	228744	1	08/29/2016 20:21	JL
Beryllium	BRL	0.0100		mg/L	228744	1	08/29/2016 20:21	JL
Cadmium	BRL	0.0050		mg/L	228744	1	08/29/2016 20:21	JL
Chromium	BRL	0.0100		mg/L	228744	1	08/29/2016 20:21	JL
Copper	BRL	0.0100		mg/L	228744	1	08/29/2016 20:21	JL
Lead	BRL	0.0100		mg/L	228744	1	08/29/2016 20:21	JL
Nickel	BRL	0.0200		mg/L	228744	1	08/29/2016 20:21	JL
Zinc	BRL	0.0200		mg/L	228744	1	08/29/2016 20:21	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:** 13-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-14-20160825-01
Project Name:	AGL Macon	**Collection Date:**	8/25/2016 9:20:00 AM
Lab ID:	1608M11-009	**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	228787	1	08/27/2016 00:16	JE
Carbon disulfide	BRL	5.0		ug/L	228787	1	08/27/2016 00:16	JE
Ethylbenzene	BRL	5.0		ug/L	228787	1	08/27/2016 00:16	JE
Toluene	BRL	5.0		ug/L	228787	1	08/27/2016 00:16	JE
Xylenes, Total	BRL	5.0		ug/L	228787	1	08/27/2016 00:16	JE
Surr: 4-Bromofluorobenzene	102	70.7-125		%REC	228787	1	08/27/2016 00:16	JE
Surr: Dibromofluoromethane	92.4	82.2-120		%REC	228787	1	08/27/2016 00:16	JE
Surr: Toluene-d8	102	81.8-120		%REC	228787	1	08/27/2016 00:16	JE
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	228762	1	08/31/2016 00:19	YH
Acenaphthylene	BRL	1.0		ug/L	228762	1	08/31/2016 00:19	YH
Acenaphthene	BRL	0.50		ug/L	228762	1	08/31/2016 00:19	YH
Fluorene	BRL	0.10		ug/L	228762	1	08/31/2016 00:19	YH
Phenanthrene	BRL	0.050		ug/L	228762	1	08/31/2016 00:19	YH
Anthracene	BRL	0.050		ug/L	228762	1	08/31/2016 00:19	YH
Fluoranthene	BRL	0.10		ug/L	228762	1	08/31/2016 00:19	YH
Pyrene	BRL	0.050		ug/L	228762	1	08/31/2016 00:19	YH
Benz(a)anthracene	BRL	0.050		ug/L	228762	1	08/31/2016 00:19	YH
Chrysene	BRL	0.050		ug/L	228762	1	08/31/2016 00:19	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228762	1	08/31/2016 00:19	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228762	1	08/31/2016 00:19	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228762	1	08/31/2016 00:19	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228762	1	08/31/2016 00:19	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228762	1	08/31/2016 00:19	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228762	1	08/31/2016 00:19	YH
Surr: 4-Terphenyl-d14	87.3	58.7-134		%REC	228762	1	08/31/2016 00:19	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228746	1	08/31/2016 10:39	YH
2-Methylphenol	BRL	10		ug/L	228746	1	08/31/2016 10:39	YH
3,4-Methylphenol	BRL	10		ug/L	228746	1	08/31/2016 10:39	YH
Phenol	BRL	10		ug/L	228746	1	08/31/2016 10:39	YH
Surr: 2,4,6-Tribromophenol	116	51.5-141		%REC	228746	1	08/31/2016 10:39	YH
Surr: 2-Fluorobiphenyl	74.1	50.8-122		%REC	228746	1	08/31/2016 10:39	YH
Surr: 2-Fluorophenol	57	28.1-120		%REC	228746	1	08/31/2016 10:39	YH
Surr: 4-Terphenyl-d14	101	47.2-131		%REC	228746	1	08/31/2016 10:39	YH
Surr: Nitrobenzene-d5	62.2	42.1-124		%REC	228746	1	08/31/2016 10:39	YH
Surr: Phenol-d5	41.8	16-120		%REC	228746	1	08/31/2016 10:39	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:** 13-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-14-20160825-01
Project Name:	AGL Macon	**Collection Date:**	8/25/2016 9:20:00 AM
Lab ID:	1608M11-009	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228811	1	08/30/2016 15:06	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	228859	1	08/30/2016 15:00	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228744	1	08/29/2016 20:25	JL
Arsenic	BRL	0.0500		mg/L	228744	1	08/29/2016 20:25	JL
Barium	0.159	0.0200		mg/L	228744	1	08/29/2016 20:25	JL
Beryllium	BRL	0.0100		mg/L	228744	1	08/29/2016 20:25	JL
Cadmium	BRL	0.0050		mg/L	228744	1	08/29/2016 20:25	JL
Chromium	BRL	0.0100		mg/L	228744	1	08/29/2016 20:25	JL
Copper	BRL	0.0100		mg/L	228744	1	08/29/2016 20:25	JL
Lead	BRL	0.0100		mg/L	228744	1	08/29/2016 20:25	JL
Nickel	BRL	0.0200		mg/L	228744	1	08/29/2016 20:25	JL
Zinc	0.0432	0.0200		mg/L	228744	1	08/29/2016 20:25	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:** 13-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-101-20160825-01
Project Name:	AGL Macon	**Collection Date:**	8/25/2016 9:45:00 AM
Lab ID:	1608M11-010	**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	228787	1	08/29/2016 20:23	NP
Carbon disulfide	BRL	5.0		ug/L	228787	1	08/29/2016 20:23	NP
Ethylbenzene	BRL	5.0		ug/L	228787	1	08/29/2016 20:23	NP
Toluene	BRL	5.0		ug/L	228787	1	08/29/2016 20:23	NP
Xylenes, Total	BRL	5.0		ug/L	228787	1	08/29/2016 20:23	NP
Surr: 4-Bromofluorobenzene	103	70.7-125		%REC	228787	1	08/29/2016 20:23	NP
Surr: Dibromofluoromethane	92.6	82.2-120		%REC	228787	1	08/29/2016 20:23	NP
Surr: Toluene-d8	101	81.8-120		%REC	228787	1	08/29/2016 20:23	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	228762	1	08/31/2016 00:44	YH
Acenaphthylene	1.4	1.0		ug/L	228762	1	08/31/2016 00:44	YH
Acenaphthene	4.1	0.50		ug/L	228762	1	08/31/2016 00:44	YH
Fluorene	2.1	0.10		ug/L	228762	1	08/31/2016 00:44	YH
Phenanthrene	0.062	0.050		ug/L	228762	1	08/31/2016 00:44	YH
Anthracene	0.43	0.050		ug/L	228762	1	08/31/2016 00:44	YH
Fluoranthene	0.73	0.10		ug/L	228762	1	08/31/2016 00:44	YH
Pyrene	0.51	0.050		ug/L	228762	1	08/31/2016 00:44	YH
Benz(a)anthracene	BRL	0.050		ug/L	228762	1	08/31/2016 00:44	YH
Chrysene	BRL	0.050		ug/L	228762	1	08/31/2016 00:44	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228762	1	08/31/2016 00:44	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228762	1	08/31/2016 00:44	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228762	1	08/31/2016 00:44	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228762	1	08/31/2016 00:44	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228762	1	08/31/2016 00:44	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228762	1	08/31/2016 00:44	YH
Surr: 4-Terphenyl-d14	88.8	58.7-134		%REC	228762	1	08/31/2016 00:44	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228746	1	08/31/2016 11:47	YH
2-Methylphenol	BRL	10		ug/L	228746	1	08/31/2016 11:47	YH
3,4-Methylphenol	BRL	10		ug/L	228746	1	08/31/2016 11:47	YH
Phenol	BRL	10		ug/L	228746	1	08/31/2016 11:47	YH
Surr: 2,4,6-Tribromophenol	109	51.5-141		%REC	228746	1	08/31/2016 11:47	YH
Surr: 2-Fluorobiphenyl	86	50.8-122		%REC	228746	1	08/31/2016 11:47	YH
Surr: 2-Fluorophenol	58	28.1-120		%REC	228746	1	08/31/2016 11:47	YH
Surr: 4-Terphenyl-d14	100	47.2-131		%REC	228746	1	08/31/2016 11:47	YH
Surr: Nitrobenzene-d5	75.4	42.1-124		%REC	228746	1	08/31/2016 11:47	YH
Surr: Phenol-d5	41.1	16-120		%REC	228746	1	08/31/2016 11:47	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:** 13-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-101-20160825-01
Project Name:	AGL Macon	**Collection Date:**	8/25/2016 9:45:00 AM
Lab ID:	1608M11-010	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228811	1	08/31/2016 10:23	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.066	0.010		mg/L	228859	1	08/30/2016 15:00	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228744	1	08/29/2016 20:28	JL
Arsenic	BRL	0.0500		mg/L	228744	1	08/29/2016 20:28	JL
Barium	0.0394	0.0200		mg/L	228744	1	08/29/2016 20:28	JL
Beryllium	BRL	0.0100		mg/L	228744	1	08/29/2016 20:28	JL
Cadmium	BRL	0.0050		mg/L	228744	1	08/29/2016 20:28	JL
Chromium	BRL	0.0100		mg/L	228744	1	08/29/2016 20:28	JL
Copper	BRL	0.0100		mg/L	228744	1	08/29/2016 20:28	JL
Lead	BRL	0.0100		mg/L	228744	1	08/29/2016 20:28	JL
Nickel	BRL	0.0200		mg/L	228744	1	08/29/2016 20:28	JL
Zinc	BRL	0.0200		mg/L	228744	1	08/29/2016 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:** 13-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-104-20160825-01
Project Name:	AGL Macon	**Collection Date:**	8/25/2016 11:25:00 AM
Lab ID:	1608M11-011	**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	228787	1	08/27/2016 00:40	JE
Carbon disulfide	BRL	5.0		ug/L	228787	1	08/27/2016 00:40	JE
Ethylbenzene	BRL	5.0		ug/L	228787	1	08/27/2016 00:40	JE
Toluene	BRL	5.0		ug/L	228787	1	08/27/2016 00:40	JE
Xylenes, Total	BRL	5.0		ug/L	228787	1	08/27/2016 00:40	JE
Surr: 4-Bromofluorobenzene	104	70.7-125		%REC	228787	1	08/27/2016 00:40	JE
Surr: Dibromofluoromethane	92	82.2-120		%REC	228787	1	08/27/2016 00:40	JE
Surr: Toluene-d8	100	81.8-120		%REC	228787	1	08/27/2016 00:40	JE
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	228762	1	08/31/2016 01:12	YH
Acenaphthylene	BRL	1.0		ug/L	228762	1	08/31/2016 01:12	YH
Acenaphthene	BRL	0.50		ug/L	228762	1	08/31/2016 01:12	YH
Fluorene	BRL	0.10		ug/L	228762	1	08/31/2016 01:12	YH
Phenanthrene	BRL	0.050		ug/L	228762	1	08/31/2016 01:12	YH
Anthracene	BRL	0.050		ug/L	228762	1	08/31/2016 01:12	YH
Fluoranthene	BRL	0.10		ug/L	228762	1	08/31/2016 01:12	YH
Pyrene	BRL	0.050		ug/L	228762	1	08/31/2016 01:12	YH
Benz(a)anthracene	BRL	0.050		ug/L	228762	1	08/31/2016 01:12	YH
Chrysene	BRL	0.050		ug/L	228762	1	08/31/2016 01:12	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228762	1	08/31/2016 01:12	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228762	1	08/31/2016 01:12	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228762	1	08/31/2016 01:12	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228762	1	08/31/2016 01:12	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228762	1	08/31/2016 01:12	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228762	1	08/31/2016 01:12	YH
Surr: 4-Terphenyl-d14	86.8	58.7-134		%REC	228762	1	08/31/2016 01:12	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228746	1	09/01/2016 10:10	YH
2-Methylphenol	BRL	10		ug/L	228746	1	09/01/2016 10:10	YH
3,4-Methylphenol	BRL	10		ug/L	228746	1	09/01/2016 10:10	YH
Phenol	BRL	10		ug/L	228746	1	09/01/2016 10:10	YH
Surr: 2,4,6-Tribromophenol	65.4	51.5-141		%REC	228746	1	09/01/2016 10:10	YH
Surr: 2-Fluorobiphenyl	56.5	50.8-122		%REC	228746	1	09/01/2016 10:10	YH
Surr: 2-Fluorophenol	37.8	28.1-120		%REC	228746	1	09/01/2016 10:10	YH
Surr: 4-Terphenyl-d14	91.1	47.2-131		%REC	228746	1	09/01/2016 10:10	YH
Surr: Nitrobenzene-d5	49.1	42.1-124		%REC	228746	1	09/01/2016 10:10	YH
Surr: Phenol-d5	30	16-120		%REC	228746	1	09/01/2016 10:10	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:** 13-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-104-20160825-01
Project Name:	AGL Macon	**Collection Date:**	8/25/2016 11:25:00 AM
Lab ID:	1608M11-011	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228811	1	08/31/2016 10:25	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	228859	1	08/30/2016 15:00	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228744	1	08/29/2016 20:31	JL
Arsenic	BRL	0.0500		mg/L	228744	1	08/29/2016 20:31	JL
Barium	0.0361	0.0200		mg/L	228744	1	08/29/2016 20:31	JL
Beryllium	BRL	0.0100		mg/L	228744	1	08/29/2016 20:31	JL
Cadmium	BRL	0.0050		mg/L	228744	1	08/29/2016 20:31	JL
Chromium	BRL	0.0100		mg/L	228744	1	08/29/2016 20:31	JL
Copper	BRL	0.0100		mg/L	228744	1	08/29/2016 20:31	JL
Lead	BRL	0.0100		mg/L	228744	1	08/29/2016 20:31	JL
Nickel	BRL	0.0200		mg/L	228744	1	08/30/2016 19:00	JL
Zinc	BRL	0.0200		mg/L	228744	1	08/29/2016 20:31	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:** 13-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-15-20160825-01
Project Name:	AGL Macon	**Collection Date:**	8/25/2016 11:40:00 AM
Lab ID:	1608M11-012	**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	228787	1	08/27/2016 01:05	JE
Carbon disulfide	BRL	5.0		ug/L	228787	1	08/27/2016 01:05	JE
Ethylbenzene	BRL	5.0		ug/L	228787	1	08/27/2016 01:05	JE
Toluene	BRL	5.0		ug/L	228787	1	08/27/2016 01:05	JE
Xylenes, Total	BRL	5.0		ug/L	228787	1	08/27/2016 01:05	JE
Surr: 4-Bromofluorobenzene	101	70.7-125		%REC	228787	1	08/27/2016 01:05	JE
Surr: Dibromofluoromethane	91	82.2-120		%REC	228787	1	08/27/2016 01:05	JE
Surr: Toluene-d8	100	81.8-120		%REC	228787	1	08/27/2016 01:05	JE
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	228762	1	08/31/2016 01:39	YH
Acenaphthylene	BRL	1.0		ug/L	228762	1	08/31/2016 01:39	YH
Acenaphthene	BRL	0.50		ug/L	228762	1	08/31/2016 01:39	YH
Fluorene	BRL	0.10		ug/L	228762	1	08/31/2016 01:39	YH
Phenanthrene	BRL	0.050		ug/L	228762	1	08/31/2016 01:39	YH
Anthracene	0.14	0.050		ug/L	228762	1	08/31/2016 01:39	YH
Fluoranthene	BRL	0.10		ug/L	228762	1	08/31/2016 01:39	YH
Pyrene	0.055	0.050		ug/L	228762	1	08/31/2016 01:39	YH
Benz(a)anthracene	0.13	0.050		ug/L	228762	1	08/31/2016 01:39	YH
Chrysene	0.15	0.050		ug/L	228762	1	08/31/2016 01:39	YH
Benzo(b)fluoranthene	0.12	0.10		ug/L	228762	1	08/31/2016 01:39	YH
Benzo(k)fluoranthene	0.14	0.050		ug/L	228762	1	08/31/2016 01:39	YH
Benzo(a)pyrene	0.14	0.050		ug/L	228762	1	08/31/2016 01:39	YH
Indeno(1,2,3-cd)pyrene	0.15	0.050		ug/L	228762	1	08/31/2016 01:39	YH
Dibenz(a,h)anthracene	0.13	0.10		ug/L	228762	1	08/31/2016 01:39	YH
Benzo(g,h,i)perylene	0.16	0.10		ug/L	228762	1	08/31/2016 01:39	YH
Surr: 4-Terphenyl-d14	90.1	58.7-134		%REC	228762	1	08/31/2016 01:39	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228746	1	08/31/2016 14:46	YH
2-Methylphenol	BRL	10		ug/L	228746	1	08/31/2016 14:46	YH
3,4-Methylphenol	BRL	10		ug/L	228746	1	08/31/2016 14:46	YH
Phenol	BRL	10		ug/L	228746	1	08/31/2016 14:46	YH
Surr: 2,4,6-Tribromophenol	85.1	51.5-141		%REC	228746	1	08/31/2016 14:46	YH
Surr: 2-Fluorobiphenyl	64.4	50.8-122		%REC	228746	1	08/31/2016 14:46	YH
Surr: 2-Fluorophenol	51.3	28.1-120		%REC	228746	1	08/31/2016 14:46	YH
Surr: 4-Terphenyl-d14	72.6	47.2-131		%REC	228746	1	08/31/2016 14:46	YH
Surr: Nitrobenzene-d5	55.7	42.1-124		%REC	228746	1	08/31/2016 14:46	YH
Surr: Phenol-d5	38.6	16-120		%REC	228746	1	08/31/2016 14:46	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:** 13-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-15-20160825-01
Project Name:	AGL Macon	**Collection Date:**	8/25/2016 11:40:00 AM
Lab ID:	1608M11-012	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228811	1	08/31/2016 10:26	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.141	0.010		mg/L	228859	1	08/30/2016 15:00	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228744	1	08/29/2016 20:34	JL
Arsenic	BRL	0.0500		mg/L	228744	1	08/29/2016 20:34	JL
Barium	0.0317	0.0200		mg/L	228744	1	08/29/2016 20:34	JL
Beryllium	BRL	0.0100		mg/L	228744	1	08/29/2016 20:34	JL
Cadmium	BRL	0.0050		mg/L	228744	1	08/29/2016 20:34	JL
Chromium	BRL	0.0100		mg/L	228744	1	08/29/2016 20:34	JL
Copper	BRL	0.0100		mg/L	228744	1	08/29/2016 20:34	JL
Lead	BRL	0.0100		mg/L	228744	1	08/29/2016 20:34	JL
Nickel	BRL	0.0200		mg/L	228744	1	08/30/2016 19:03	JL
Zinc	0.0239	0.0200		mg/L	228744	1	08/29/2016 20:34	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:** 13-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-21-20160825-01
Project Name:	AGL Macon	**Collection Date:**	8/25/2016 1:00:00 PM
Lab ID:	1608M11-013	**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	228787	1	08/27/2016 01:29	JE
Carbon disulfide	BRL	5.0		ug/L	228787	1	08/27/2016 01:29	JE
Ethylbenzene	BRL	5.0		ug/L	228787	1	08/27/2016 01:29	JE
Toluene	BRL	5.0		ug/L	228787	1	08/27/2016 01:29	JE
Xylenes, Total	BRL	5.0		ug/L	228787	1	08/27/2016 01:29	JE
Surr: 4-Bromofluorobenzene	102	70.7-125		%REC	228787	1	08/27/2016 01:29	JE
Surr: Dibromofluoromethane	93.3	82.2-120		%REC	228787	1	08/27/2016 01:29	JE
Surr: Toluene-d8	100	81.8-120		%REC	228787	1	08/27/2016 01:29	JE
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	228762	1	08/31/2016 02:04	YH
Acenaphthylene	BRL	1.0		ug/L	228762	1	08/31/2016 02:04	YH
Acenaphthene	BRL	0.50		ug/L	228762	1	08/31/2016 02:04	YH
Fluorene	BRL	0.10		ug/L	228762	1	08/31/2016 02:04	YH
Phenanthrene	BRL	0.050		ug/L	228762	1	08/31/2016 02:04	YH
Anthracene	BRL	0.050		ug/L	228762	1	08/31/2016 02:04	YH
Fluoranthene	BRL	0.10		ug/L	228762	1	08/31/2016 02:04	YH
Pyrene	BRL	0.050		ug/L	228762	1	08/31/2016 02:04	YH
Benz(a)anthracene	BRL	0.050		ug/L	228762	1	08/31/2016 02:04	YH
Chrysene	BRL	0.050		ug/L	228762	1	08/31/2016 02:04	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228762	1	08/31/2016 02:04	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228762	1	08/31/2016 02:04	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228762	1	08/31/2016 02:04	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228762	1	08/31/2016 02:04	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228762	1	08/31/2016 02:04	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228762	1	08/31/2016 02:04	YH
Surr: 4-Terphenyl-d14	86.4	58.7-134		%REC	228762	1	08/31/2016 02:04	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228746	1	08/31/2016 15:15	YH
2-Methylphenol	BRL	10		ug/L	228746	1	08/31/2016 15:15	YH
3,4-Methylphenol	BRL	10		ug/L	228746	1	08/31/2016 15:15	YH
Phenol	BRL	10		ug/L	228746	1	08/31/2016 15:15	YH
Surr: 2,4,6-Tribromophenol	71.3	51.5-141		%REC	228746	1	08/31/2016 15:15	YH
Surr: 2-Fluorobiphenyl	50.8	50.8-122		%REC	228746	1	08/31/2016 15:15	YH
Surr: 2-Fluorophenol	36.4	28.1-120		%REC	228746	1	08/31/2016 15:15	YH
Surr: 4-Terphenyl-d14	66.5	47.2-131		%REC	228746	1	08/31/2016 15:15	YH
Surr: Nitrobenzene-d5	37.2	42.1-124	S	%REC	228746	1	08/31/2016 15:15	YH
Surr: Phenol-d5	27.1	16-120		%REC	228746	1	08/31/2016 15:15	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:** 13-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-21-20160825-01
Project Name:	AGL Macon	**Collection Date:**	8/25/2016 1:00:00 PM
Lab ID:	1608M11-013	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228811	1	08/31/2016 10:28	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	BRL	0.010		mg/L	228859	1	08/30/2016 15:00	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228744	1	08/29/2016 20:38	JL
Arsenic	BRL	0.0500		mg/L	228744	1	08/29/2016 20:38	JL
Barium	0.158	0.0200		mg/L	228744	1	08/29/2016 20:38	JL
Beryllium	BRL	0.0100		mg/L	228744	1	08/29/2016 20:38	JL
Cadmium	0.0055	0.0050		mg/L	228744	1	08/29/2016 20:38	JL
Chromium	BRL	0.0100		mg/L	228744	1	08/29/2016 20:38	JL
Copper	0.0143	0.0100		mg/L	228744	1	08/29/2016 20:38	JL
Lead	BRL	0.0100		mg/L	228744	1	08/29/2016 20:38	JL
Nickel	BRL	0.0200		mg/L	228744	1	08/29/2016 20:38	JL
Zinc	0.134	0.0200		mg/L	228744	1	08/29/2016 20:38	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:** 13-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-14I-20160825-01
Project Name:	AGL Macon	**Collection Date:**	8/25/2016 1:30:00 PM
Lab ID:	1608M11-014	**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	228787	1	08/27/2016 01:53	JE
Carbon disulfide	BRL	5.0		ug/L	228787	1	08/27/2016 01:53	JE
Ethylbenzene	BRL	5.0		ug/L	228787	1	08/27/2016 01:53	JE
Toluene	BRL	5.0		ug/L	228787	1	08/27/2016 01:53	JE
Xylenes, Total	BRL	5.0		ug/L	228787	1	08/27/2016 01:53	JE
Surr: 4-Bromofluorobenzene	104	70.7-125		%REC	228787	1	08/27/2016 01:53	JE
Surr: Dibromofluoromethane	95.8	82.2-120		%REC	228787	1	08/27/2016 01:53	JE
Surr: Toluene-d8	101	81.8-120		%REC	228787	1	08/27/2016 01:53	JE
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	228762	1	08/31/2016 02:31	YH
Acenaphthylene	4.0	1.0		ug/L	228762	1	08/31/2016 02:31	YH
Acenaphthene	4.1	0.50		ug/L	228762	1	08/31/2016 02:31	YH
Fluorene	1.9	0.10		ug/L	228762	1	08/31/2016 02:31	YH
Phenanthrene	0.051	0.050		ug/L	228762	1	08/31/2016 02:31	YH
Anthracene	0.12	0.050		ug/L	228762	1	08/31/2016 02:31	YH
Fluoranthene	0.38	0.10		ug/L	228762	1	08/31/2016 02:31	YH
Pyrene	0.84	0.050		ug/L	228762	1	08/31/2016 02:31	YH
Benz(a)anthracene	BRL	0.050		ug/L	228762	1	08/31/2016 02:31	YH
Chrysene	BRL	0.050		ug/L	228762	1	08/31/2016 02:31	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228762	1	08/31/2016 02:31	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228762	1	08/31/2016 02:31	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228762	1	08/31/2016 02:31	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228762	1	08/31/2016 02:31	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228762	1	08/31/2016 02:31	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228762	1	08/31/2016 02:31	YH
Surr: 4-Terphenyl-d14	82.9	58.7-134		%REC	228762	1	08/31/2016 02:31	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228746	1	08/31/2016 14:54	YH
2-Methylphenol	BRL	10		ug/L	228746	1	08/31/2016 14:54	YH
3,4-Methylphenol	BRL	10		ug/L	228746	1	08/31/2016 14:54	YH
Phenol	BRL	10		ug/L	228746	1	08/31/2016 14:54	YH
Surr: 2,4,6-Tribromophenol	68.5	51.5-141		%REC	228746	1	08/31/2016 14:54	YH
Surr: 2-Fluorobiphenyl	57	50.8-122		%REC	228746	1	08/31/2016 14:54	YH
Surr: 2-Fluorophenol	36.8	28.1-120		%REC	228746	1	08/31/2016 14:54	YH
Surr: 4-Terphenyl-d14	61.7	47.2-131		%REC	228746	1	08/31/2016 14:54	YH
Surr: Nitrobenzene-d5	49.5	42.1-124		%REC	228746	1	08/31/2016 14:54	YH
Surr: Phenol-d5	29.1	16-120		%REC	228746	1	08/31/2016 14:54	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:** 13-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-14I-20160825-01
Project Name:	AGL Macon	**Collection Date:**	8/25/2016 1:30:00 PM
Lab ID:	1608M11-014	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	228811	1	08/31/2016 10:30	JR
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	BRL	0.010		mg/L	228859	1	08/30/2016 15:00	BD
METALS, TOTAL SW6010D				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	228744	1	08/29/2016 20:47	JL
Arsenic	BRL	0.0500		mg/L	228744	1	08/29/2016 20:47	JL
Barium	0.112	0.0200		mg/L	228744	1	08/29/2016 20:47	JL
Beryllium	BRL	0.0100		mg/L	228744	1	08/29/2016 20:47	JL
Cadmium	BRL	0.0050		mg/L	228744	1	08/29/2016 20:47	JL
Chromium	BRL	0.0100		mg/L	228744	1	08/29/2016 20:47	JL
Copper	BRL	0.0100		mg/L	228744	1	08/29/2016 20:47	JL
Lead	BRL	0.0100		mg/L	228744	1	08/29/2016 20:47	JL
Nickel	BRL	0.0200		mg/L	228744	1	08/29/2016 20:47	JL
Zinc	BRL	0.0200		mg/L	228744	1	08/29/2016 20:47	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:** 13-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-102-20160825-01
Project Name:	AGL Macon	**Collection Date:**	8/25/2016 2:00:00 PM
Lab ID:	1608M11-016	**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	228787	1	08/27/2016 02:40	JE
Carbon disulfide	BRL	5.0		ug/L	228787	1	08/27/2016 02:40	JE
Ethylbenzene	BRL	5.0		ug/L	228787	1	08/27/2016 02:40	JE
Toluene	BRL	5.0		ug/L	228787	1	08/27/2016 02:40	JE
Xylenes, Total	BRL	5.0		ug/L	228787	1	08/27/2016 02:40	JE
Surr: 4-Bromofluorobenzene	100	70.7-125		%REC	228787	1	08/27/2016 02:40	JE
Surr: Dibromofluoromethane	91	82.2-120		%REC	228787	1	08/27/2016 02:40	JE
Surr: Toluene-d8	101	81.8-120		%REC	228787	1	08/27/2016 02:40	JE
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	BRL	0.50		ug/L	228762	1	08/31/2016 02:58	YH
Acenaphthylene	BRL	1.0		ug/L	228762	1	08/31/2016 02:58	YH
Acenaphthene	BRL	0.50		ug/L	228762	1	08/31/2016 02:58	YH
Fluorene	BRL	0.10		ug/L	228762	1	08/31/2016 02:58	YH
Phenanthrene	BRL	0.050		ug/L	228762	1	08/31/2016 02:58	YH
Anthracene	0.069	0.050		ug/L	228762	1	08/31/2016 02:58	YH
Fluoranthene	BRL	0.10		ug/L	228762	1	08/31/2016 02:58	YH
Pyrene	BRL	0.050		ug/L	228762	1	08/31/2016 02:58	YH
Benz(a)anthracene	BRL	0.050		ug/L	228762	1	08/31/2016 02:58	YH
Chrysene	BRL	0.050		ug/L	228762	1	08/31/2016 02:58	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228762	1	08/31/2016 02:58	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228762	1	08/31/2016 02:58	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228762	1	08/31/2016 02:58	YH
Indeno(1,2,3-cd)pyrene	BRL	0.050		ug/L	228762	1	08/31/2016 02:58	YH
Dibenz(a,h)anthracene	BRL	0.10		ug/L	228762	1	08/31/2016 02:58	YH
Benzo(g,h,i)perylene	BRL	0.10		ug/L	228762	1	08/31/2016 02:58	YH
Surr: 4-Terphenyl-d14	85.8	58.7-134		%REC	228762	1	08/31/2016 02:58	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228746	1	08/31/2016 15:43	YH
2-Methylphenol	BRL	10		ug/L	228746	1	08/31/2016 15:43	YH
3,4-Methylphenol	BRL	10		ug/L	228746	1	08/31/2016 15:43	YH
Phenol	BRL	10		ug/L	228746	1	08/31/2016 15:43	YH
Surr: 2,4,6-Tribromophenol	69.4	51.5-141		%REC	228746	1	08/31/2016 15:43	YH
Surr: 2-Fluorobiphenyl	51.8	50.8-122		%REC	228746	1	08/31/2016 15:43	YH
Surr: 2-Fluorophenol	36.9	28.1-120		%REC	228746	1	08/31/2016 15:43	YH
Surr: 4-Terphenyl-d14	61.8	47.2-131		%REC	228746	1	08/31/2016 15:43	YH
Surr: Nitrobenzene-d5	41	42.1-124	S	%REC	228746	1	08/31/2016 15:43	YH
Surr: Phenol-d5	27	16-120		%REC	228746	1	08/31/2016 15:43	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:** 13-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-102-20160825-01
Project Name:	AGL Macon	**Collection Date:**	8/25/2016 2:00:00 PM
Lab ID:	1608M11-016	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Mercury, Total SW7470A					**(SW7470A)**			
Mercury	BRL	0.00020		mg/L	228811	1	08/31/2016 10:32	JR
Cyanide SW9014					**(SW9010C)**			
Cyanide, Total	0.247	0.010		mg/L	228859	1	08/30/2016 15:00	BD
METALS, TOTAL SW6010D					**(SW3010A)**			
Antimony	BRL	0.0200		mg/L	228744	1	08/29/2016 20:51	JL
Arsenic	BRL	0.0500		mg/L	228744	1	08/29/2016 20:51	JL
Barium	0.129	0.0200		mg/L	228744	1	08/29/2016 20:51	JL
Beryllium	BRL	0.0100		mg/L	228744	1	08/29/2016 20:51	JL
Cadmium	BRL	0.0050		mg/L	228744	1	08/29/2016 20:51	JL
Chromium	BRL	0.0100		mg/L	228744	1	08/29/2016 20:51	JL
Copper	BRL	0.0100		mg/L	228744	1	08/29/2016 20:51	JL
Lead	BRL	0.0100		mg/L	228744	1	08/29/2016 20:51	JL
Nickel	BRL	0.0200		mg/L	228744	1	08/29/2016 20:51	JL
Zinc	0.304	0.0200		mg/L	228744	1	08/29/2016 20:51	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:** 13-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-305D-20160825-01
Project Name:	AGL Macon	**Collection Date:**	8/25/2016 2:15:00 PM
Lab ID:	1608M11-017	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Benzene	22000	2500		ug/L	228787	500	08/29/2016 19:59	NP
Carbon disulfide	BRL	250		ug/L	228787	50	08/26/2016 19:28	JE
Ethylbenzene	770	250		ug/L	228787	50	08/26/2016 19:28	JE
Toluene	12000	2500		ug/L	228787	500	08/29/2016 19:59	NP
Xylenes, Total	3000	250		ug/L	228787	50	08/26/2016 19:28	JE
Surr: 4-Bromofluorobenzene	104	70.7-125		%REC	228787	50	08/26/2016 19:28	JE
Surr: 4-Bromofluorobenzene	104	70.7-125		%REC	228787	500	08/29/2016 19:59	NP
Surr: Dibromofluoromethane	93.5	82.2-120		%REC	228787	500	08/29/2016 19:59	NP
Surr: Dibromofluoromethane	94.4	82.2-120		%REC	228787	50	08/26/2016 19:28	JE
Surr: Toluene-d8	100	81.8-120		%REC	228787	50	08/26/2016 19:28	JE
Surr: Toluene-d8	101	81.8-120		%REC	228787	500	08/29/2016 19:59	NP
SIM Polynuclear Aromatic Hydrocarbons SW8270D				**(SW3510C)**				
Naphthalene	9600	500		ug/L	228762	1000	08/31/2016 16:39	YH
Acenaphthylene	200	100		ug/L	228762	100	08/31/2016 16:13	YH
Acenaphthene	13	10		ug/L	228762	100	08/31/2016 16:13	YH
Fluorene	46	10		ug/L	228762	100	08/31/2016 16:13	YH
Phenanthrene	52	5.0		ug/L	228762	100	08/31/2016 16:13	YH
Anthracene	7.9	0.050		ug/L	228762	1	08/31/2016 10:29	YH
Fluoranthene	4.1	0.10		ug/L	228762	1	08/31/2016 10:29	YH
Pyrene	5.1	0.050		ug/L	228762	1	08/31/2016 10:29	YH
Benz(a)anthracene	0.21	0.050		ug/L	228762	1	08/31/2016 10:29	YH
Chrysene	0.16	0.050		ug/L	228762	1	08/31/2016 10:29	YH
Benzo(b)fluoranthene	BRL	0.10		ug/L	228762	1	08/31/2016 10:29	YH
Benzo(k)fluoranthene	BRL	0.050		ug/L	228762	1	08/31/2016 10:29	YH
Benzo(a)pyrene	BRL	0.050		ug/L	228762	1	08/31/2016 10:29	YH
Indeno(1,2,3-cd)pyrene	0.12	0.050		ug/L	228762	1	08/31/2016 10:29	YH
Dibenz(a,h)anthracene	0.18	0.10		ug/L	228762	1	08/31/2016 10:29	YH
Benzo(g,h,i)perylene	0.15	0.10		ug/L	228762	1	08/31/2016 10:29	YH
Surr: 4-Terphenyl-d14	91.6	58.7-134		%REC	228762	1	08/31/2016 10:29	YH
Semivolatile Org. Comp. by GC/MS SW8270D				**(SW3510C)**				
2,4-Dimethylphenol	BRL	10		ug/L	228746	1	08/31/2016 16:12	YH
2-Methylphenol	BRL	10		ug/L	228746	1	08/31/2016 16:12	YH
3,4-Methylphenol	BRL	10		ug/L	228746	1	08/31/2016 16:12	YH
Phenol	BRL	10		ug/L	228746	1	08/31/2016 16:12	YH
Surr: 2,4,6-Tribromophenol	76.8	51.5-141		%REC	228746	1	08/31/2016 16:12	YH
Surr: 2-Fluorobiphenyl	61.7	50.8-122		%REC	228746	1	08/31/2016 16:12	YH
Surr: 2-Fluorophenol	33.2	28.1-120		%REC	228746	1	08/31/2016 16:12	YH
Surr: 4-Terphenyl-d14	62.6	47.2-131		%REC	228746	1	08/31/2016 16:12	YH
Surr: Nitrobenzene-d5	77.9	42.1-124		%REC	228746	1	08/31/2016 16:12	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:** 13-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	MW-305D-20160825-01
Project Name:	AGL Macon	**Collection Date:**	8/25/2016 2:15:00 PM
Lab ID:	1608M11-017	**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	27.6	16-120		%REC	228746	1	08/31/2016 16:12	YH
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	228811	1	08/31/2016 10:34	JR
Cyanide SW9014				**(SW9010C)**				
Cyanide, Total	BRL	0.010		mg/L	228859	1	08/30/2016 15:00	BD
METALS, TOTAL SW6010D				**(SW3010A)**				
Antimony	BRL	0.0200		mg/L	228744	1	08/29/2016 20:54	JL
Arsenic	BRL	0.0500		mg/L	228744	1	08/29/2016 20:54	JL
Barium	0.606	0.0200		mg/L	228744	1	08/29/2016 20:54	JL
Beryllium	BRL	0.0100		mg/L	228744	1	08/29/2016 20:54	JL
Cadmium	BRL	0.0050		mg/L	228744	1	08/29/2016 20:54	JL
Chromium	0.0197	0.0100		mg/L	228744	1	08/29/2016 20:54	JL
Copper	0.0176	0.0100		mg/L	228744	1	08/29/2016 20:54	JL
Lead	BRL	0.0100		mg/L	228744	1	08/29/2016 20:54	JL
Nickel	BRL	0.0200		mg/L	228744	1	08/29/2016 20:54	JL
Zinc	BRL	0.0200		mg/L	228744	1	08/29/2016 20:54	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:** 13-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	TB-01-20160825-01
Project Name:	AGL Macon	**Collection Date:**	8/25/2016
Lab ID:	1608M11-018	**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	228787	1	08/26/2016 18:40	JE
Carbon disulfide	BRL	5.0		ug/L	228787	1	08/26/2016 18:40	JE
Ethylbenzene	BRL	5.0		ug/L	228787	1	08/26/2016 18:40	JE
Toluene	BRL	5.0		ug/L	228787	1	08/26/2016 18:40	JE
Xylenes, Total	BRL	5.0		ug/L	228787	1	08/26/2016 18:40	JE
Surr: 4-Bromofluorobenzene	101	70.7-125		%REC	228787	1	08/26/2016 18:40	JE
Surr: Dibromofluoromethane	93.6	82.2-120		%REC	228787	1	08/26/2016 18:40	JE
Surr: Toluene-d8	101	81.8-120		%REC	228787	1	08/26/2016 18:40	JE

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:** 13-Sep-16

Client:	ERM-Southeast	**Client Sample ID:**	TRIP BLANK #2
Project Name:	AGL Macon	**Collection Date:**	8/25/2016
Lab ID:	1608M11-019	**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	228787	1	08/26/2016 19:04	JE
Carbon disulfide	BRL	5.0		ug/L	228787	1	08/26/2016 19:04	JE
Ethylbenzene	BRL	5.0		ug/L	228787	1	08/26/2016 19:04	JE
Toluene	BRL	5.0		ug/L	228787	1	08/26/2016 19:04	JE
Xylenes, Total	BRL	5.0		ug/L	228787	1	08/26/2016 19:04	JE
Surr: 4-Bromofluorobenzene	103	70.7-125		%REC	228787	1	08/26/2016 19:04	JE
Surr: Dibromofluoromethane	92.9	82.2-120		%REC	228787	1	08/26/2016 19:04	JE
Surr: Toluene-d8	101	81.8-120		%REC	228787	1	08/26/2016 19:04	JE

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 1608M11

Checklist completed by Parvis Masoud 8/25/16
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 3.3° Cooler #2 1.5° Cooler #3 0.7° Cooler #4 2.4° Cooler#5 2.6° Cooler #6 0.4°

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 PM

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
Workorder: 1608M11

ANALYTICAL QC SUMMARY REPORT

BatchID: 228744

Sample ID: **MB-228744** Client ID: Units: **mg/L** Prep Date: **08/28/2016** Run No: **324235**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010D** BatchID: **228744** Analysis Date: **08/29/2016** Seq No: **7015143**

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-228744** Client ID: Units: **mg/L** Prep Date: **08/28/2016** Run No: **324235**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010D** BatchID: **228744** Analysis Date: **08/29/2016** Seq No: **7015144**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.030	0.0200	1.000	0.006120	102	80	120				
Arsenic	1.069	0.0500	1.000		107	80	120				
Barium	1.032	0.0200	1.000		103	80	120				
Beryllium	1.054	0.0100	1.000		105	80	120				
Cadmium	1.050	0.0050	1.000		105	80	120				
Chromium	1.052	0.0100	1.000		105	80	120				
Copper	1.043	0.0100	1.000		104	80	120				
Lead	1.048	0.0100	1.000		105	80	120				
Nickel	1.022	0.0200	1.000		102	80	120				
Zinc	1.036	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: 1608M11

ANALYTICAL QC SUMMARY REPORT

BatchID: 228744

Sample ID: **1608M11-009DMS**	Client ID: **MW-14-20160825-01**	Units: **mg/L**	Prep Date: **08/28/2016**	Run No: **324235**
SampleType: **MS**	TestCode: **METALS, TOTAL SW6010D**	BatchID: **228744**	Analysis Date: **08/29/2016**	Seq No: **7021582**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Antimony	1.007	0.0200	1.000	0.007080	100	75	125				
Arsenic	1.048	0.0500	1.000		105	75	125				
Barium	1.150	0.0200	1.000	0.1594	99.1	75	125				
Beryllium	1.025	0.0100	1.000		103	75	125				
Cadmium	1.015	0.0050	1.000	0.0009000	101	75	125				
Chromium	1.029	0.0100	1.000		103	75	125				
Copper	1.032	0.0100	1.000	0.003170	103	75	125				
Lead	1.011	0.0100	1.000		101	75	125				
Nickel	0.9840	0.0200	1.000	0.01092	97.3	75	125				
Zinc	1.023	0.0200	1.000	0.04315	98.0	75	125				

Sample ID: **1608M11-009DMSD**	Client ID: **MW-14-20160825-01**	Units: **mg/L**	Prep Date: **08/28/2016**	Run No: **324235**
SampleType: **MSD**	TestCode: **METALS, TOTAL SW6010D**	BatchID: **228744**	Analysis Date: **08/29/2016**	Seq No: **7021583**

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	0.007080	103	75	125	1.037	0	20	
Arsenic	1.068	0.0500	1.000		107	75	125	1.068	0	20	
Barium	1.180	0.0200	1.000	0.1594	102	75	125	1.180	0	20	
Beryllium	1.046	0.0100	1.000		105	75	125	1.046	0	20	
Cadmium	1.034	0.0050	1.000	0.0009000	103	75	125	1.034	0	20	
Chromium	1.050	0.0100	1.000		105	75	125	1.050	0	20	
Copper	1.054	0.0100	1.000	0.003170	105	75	125	1.054	0	20	
Lead	1.030	0.0100	1.000		103	75	125	1.030	0	20	
Nickel	1.003	0.0200	1.000	0.01092	99.2	75	125	1.003	0	20	
Zinc	1.042	0.0200	1.000	0.04315	99.9	75	125	1.042	0	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: 1608M11

ANALYTICAL QC SUMMARY REPORT

BatchID: 228746

Sample ID: **MB-228746** Client ID: Units: **ug/L** Prep Date: **08/29/2016** Run No: **324145**
SampleType: **MBLK** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **228746** Analysis Date: **08/29/2016** Seq No: **7020682**

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	101.0	0	100.0		101	51.5	141				
Surr: 2-Fluorobiphenyl	47.12	0	50.00		94.2	50.8	122				
Surr: 2-Fluorophenol	46.55	0	100.0		46.6	28.1	120				
Surr: 4-Terphenyl-d14	43.85	0	50.00		87.7	47.2	131				
Surr: Nitrobenzene-d5	33.66	0	50.00		67.3	42.1	124				
Surr: Phenol-d5	25.86	0	100.0		25.9	16	120				

Sample ID: **LCS-228746** Client ID: Units: **ug/L** Prep Date: **08/29/2016** Run No: **324145**
SampleType: **LCS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **228746** Analysis Date: **08/29/2016** Seq No: **7020683**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	36.23	10	100.0		36.2	27	120				
Surr: 2,4,6-Tribromophenol	134.2	0	100.0		134	51.5	141				
Surr: 2-Fluorobiphenyl	55.70	0	50.00		111	50.8	122				
Surr: 2-Fluorophenol	61.13	0	100.0		61.1	28.1	120				
Surr: 4-Terphenyl-d14	52.86	0	50.00		106	47.2	131				
Surr: Nitrobenzene-d5	39.72	0	50.00		79.4	42.1	124				
Surr: Phenol-d5	40.14	0	100.0		40.1	16	120				

Sample ID: **1608M11-009BMS** Client ID: **MW-14-20160825-01** Units: **ug/L** Prep Date: **08/29/2016** Run No: **324326**
SampleType: **MS** TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D** BatchID: **228746** Analysis Date: **08/31/2016** Seq No: **7019818**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	25.07	10	100.0		25.1	30.6	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: AGL Macon
Workorder: 1608M11

ANALYTICAL QC SUMMARY REPORT

BatchID: 228746

Sample ID: **1608M11-009BMS**	Client ID: **MW-14-20160825-01**	Units: **ug/L**	Prep Date: **08/29/2016**	Run No: **324326**
SampleType: **MS**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**	BatchID: **228746**	Analysis Date: **08/31/2016**	Seq No: **7019818**

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	78.24	0	100.0		78.2	51.5	141				
Surr: 2-Fluorobiphenyl	29.42	0	50.00		58.8	50.8	122				
Surr: 2-Fluorophenol	34.46	0	100.0		34.5	28.1	120				
Surr: 4-Terphenyl-d14	34.39	0	50.00		68.8	47.2	131				
Surr: Nitrobenzene-d5	22.10	0	50.00		44.2	42.1	124				
Surr: Phenol-d5	28.34	0	100.0		28.3	16	120				

Sample ID: **1608M11-009BMSD**	Client ID: **MW-14-20160825-01**	Units: **ug/L**	Prep Date: **08/29/2016**	Run No: **324326**
SampleType: **MSD**	TestCode: **Semivolatile Org. Comp. by GC/MS SW8270D**	BatchID: **228746**	Analysis Date: **08/31/2016**	Seq No: **7019825**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Phenol	27.76	10	100.0		27.8	30.6	120	25.07	10.2	36.3	S
Surr: 2,4,6-Tribromophenol	74.94	0	100.0		74.9	51.5	141	78.24	0	0	
Surr: 2-Fluorobiphenyl	30.15	0	50.00		60.3	50.8	122	29.42	0	0	
Surr: 2-Fluorophenol	38.00	0	100.0		38.0	28.1	120	34.46	0	0	
Surr: 4-Terphenyl-d14	34.92	0	50.00		69.8	47.2	131	34.39	0	0	
Surr: Nitrobenzene-d5	21.78	0	50.00		43.6	42.1	124	22.10	0	0	
Surr: Phenol-d5	29.16	0	100.0		29.2	16	120	28.34	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: 1608M11

ANALYTICAL QC SUMMARY REPORT

BatchID: 228762

Sample ID: **MB-228762** Client ID: Units: **ug/L** Prep Date: **08/29/2016** Run No: **324297**
SampleType: **MBLK** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **228762** Analysis Date: **08/30/2016** Seq No: **7017213**

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	1.800	0	2.000		90.0	58.7	134				

Sample ID: **LCS-228762** Client ID: Units: **ug/L** Prep Date: **08/29/2016** Run No: **324297**
SampleType: **LCS** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **228762** Analysis Date: **08/30/2016** Seq No: **7017214**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.659	0.50	2.000		83.0	65.2	121				
Acenaphthylene	1.684	1.0	2.000		84.2	62	120				
Anthracene	1.817	0.050	2.000		90.9	63.8	125				
Benz(a)anthracene	2.138	0.050	2.000		107	60	136				
Benzo(a)pyrene	1.908	0.050	2.000		95.4	65.6	128				
Benzo(b)fluoranthene	1.801	0.10	2.000		90.1	61.6	135				

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: 1608M11

ANALYTICAL QC SUMMARY REPORT

BatchID: 228762

Sample ID: **LCS-228762**	Client ID:		Units: **ug/L**	Prep Date: **08/29/2016**	Run No: **324297**
SampleType: **LCS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **228762**	Analysis Date: **08/30/2016**	Seq No: **7017214**

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	1.964	0.10	2.000		98.2	60.6	124				
Benzo(k)fluoranthene	1.814	0.050	2.000		90.7	66.2	126				
Chrysene	1.954	0.050	2.000		97.7	69.9	134				
Dibenz(a,h)anthracene	1.894	0.10	2.000		94.7	56.6	127				
Fluoranthene	1.973	0.10	2.000		98.7	69.3	130				
Fluorene	1.708	0.10	2.000		85.4	68.4	121				
Indeno(1,2,3-cd)pyrene	2.026	0.050	2.000		101	59.2	130				
Naphthalene	1.516	0.50	2.000		75.8	61.4	120				
Phenanthrene	1.729	0.050	2.000		86.5	65.4	123				
Pyrene	1.842	0.050	2.000		92.1	66.4	130				
Surr: 4-Terphenyl-d14	1.656	0	2.000		82.8	58.7	134				

Sample ID: **1608K91-009BMS**	Client ID:		Units: **ug/L**	Prep Date: **08/29/2016**	Run No: **324319**
SampleType: **MS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **228762**	Analysis Date: **08/31/2016**	Seq No: **7018132**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	2.248	0.50	2.000	0.9510	64.8	51.2	120				
Acenaphthylene	1.728	1.0	2.000	0.1766	77.6	53.5	120				
Anthracene	1.716	0.050	2.000	0.1625	77.7	53.3	120				
Benz(a)anthracene	1.925	0.050	2.000		96.3	50.9	132				
Benzo(a)pyrene	1.636	0.050	2.000		81.8	50.5	120				
Benzo(b)fluoranthene	1.562	0.10	2.000		78.1	55.8	127				
Benzo(g,h,i)perylene	1.625	0.10	2.000		81.3	46.8	120				
Benzo(k)fluoranthene	1.556	0.050	2.000		77.8	54.5	120				
Chrysene	1.608	0.050	2.000		80.4	56.9	125				
Dibenz(a,h)anthracene	1.554	0.10	2.000		77.7	44.8	120				
Fluoranthene	1.764	0.10	2.000	0.05766	85.3	61.5	122				
Fluorene	2.189	0.10	2.000	0.7539	71.7	55.6	118				

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: 1608M11

ANALYTICAL QC SUMMARY REPORT

BatchID: 228762

Sample ID: **1608K91-009BMS**	Client ID:		Units: **ug/L**	Prep Date: **08/29/2016**	Run No: **324319**
SampleType: **MS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **228762**	Analysis Date: **08/31/2016**	Seq No: **7018132**

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	1.686	0.050	2.000		84.3	46.1	120				
Naphthalene	1.434	0.50	2.000	0.2474	59.3	51.7	120				
Phenanthrene	1.485	0.050	2.000		74.2	56.1	120				
Pyrene	2.347	0.050	2.000	0.9266	71.0	56.1	125				
Surr: 4-Terphenyl-d14	1.555	0	2.000		77.7	58.7	134				

Sample ID: **1608M11-009BMS**	Client ID: **MW-14-20160825-01**		Units: **ug/L**	Prep Date: **08/29/2016**	Run No: **324319**
SampleType: **MS**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **228762**	Analysis Date: **08/31/2016**	Seq No: **7019695**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.664	0.50	2.000		83.2	51.2	120				
Acenaphthylene	1.643	1.0	2.000		82.2	53.5	120				
Anthracene	1.753	0.050	2.000		87.7	53.3	120				
Benz(a)anthracene	1.998	0.050	2.000		99.9	50.9	132				
Benzo(a)pyrene	1.769	0.050	2.000		88.5	50.5	120				
Benzo(b)fluoranthene	1.533	0.10	2.000		76.7	55.8	127				
Benzo(g,h,i)perylene	1.671	0.10	2.000		83.5	46.8	120				
Benzo(k)fluoranthene	1.761	0.050	2.000		88.1	54.5	120				
Chrysene	1.834	0.050	2.000		91.7	56.9	125				
Dibenz(a,h)anthracene	1.419	0.10	2.000		71.0	44.8	120				
Fluoranthene	1.947	0.10	2.000		97.4	61.5	122				
Fluorene	1.721	0.10	2.000		86.0	55.6	118				
Indeno(1,2,3-cd)pyrene	1.619	0.050	2.000		80.9	46.1	120				
Naphthalene	1.538	0.50	2.000		76.9	51.7	120				
Phenanthrene	1.671	0.050	2.000		83.6	56.1	120				
Pyrene	1.726	0.050	2.000		86.3	56.1	125				
Surr: 4-Terphenyl-d14	1.661	0	2.000		83.0	58.7	134				

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: 1608M11

ANALYTICAL QC SUMMARY REPORT

BatchID: 228762

Sample ID: **1608K91-009BMSD**	Client ID:		Units: **ug/L**	Prep Date: **08/29/2016**	Run No: **324319**
SampleType: **MSD**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **228762**	Analysis Date: **08/31/2016**	Seq No: **7019694**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	2.653	0.50	2.000	0.9510	85.1	51.2	120	2.258	16.1	23.9	
Acenaphthylene	2.023	1.0	2.000	0.1766	92.3	53.5	120	1.750	14.4	24.2	
Anthracene	2.022	0.050	2.000	0.1625	93.0	53.3	120	1.717	16.3	22.3	
Benz(a)anthracene	2.217	0.050	2.000		111	50.9	132	1.947	12.9	27.4	
Benzo(a)pyrene	1.911	0.050	2.000		95.5	50.5	120	1.661	14.0	41.9	
Benzo(b)fluoranthene	1.745	0.10	2.000		87.3	55.8	127	1.595	9.03	26.1	
Benzo(g,h,i)perylene	1.833	0.10	2.000		91.7	46.8	120	1.647	10.7	24.3	
Benzo(k)fluoranthene	1.878	0.050	2.000		93.9	54.5	120	1.557	18.7	24.2	
Chrysene	1.945	0.050	2.000		97.2	56.9	125	1.618	18.3	23.1	
Dibenz(a,h)anthracene	1.676	0.10	2.000		83.8	44.8	120	1.560	7.20	26.1	
Fluoranthene	2.106	0.10	2.000	0.05766	102	61.5	122	1.785	16.5	17.7	
Fluorene	2.592	0.10	2.000	0.7539	91.9	55.6	118	2.203	16.2	27.5	
Indeno(1,2,3-cd)pyrene	1.860	0.050	2.000		93.0	46.1	120	1.658	11.5	26.7	
Naphthalene	1.651	0.50	2.000	0.2474	70.2	51.7	120	1.430	14.3	24.2	
Phenanthrene	1.780	0.050	2.000		89.0	56.1	120	1.494	17.4	23.5	
Pyrene	2.775	0.050	2.000	0.9266	92.4	56.1	125	2.385	15.1	20.9	
Surr: 4-Terphenyl-d14	1.771	0	2.000		88.6	58.7	134	1.558	0	0	

Sample ID: **1608M11-009BMSD**	Client ID: **MW-14-20160825-01**		Units: **ug/L**	Prep Date: **08/29/2016**	Run No: **324319**
SampleType: **MSD**	TestCode: **SIM Polynuclear Aromatic Hydrocarbons** **SW8270D**		BatchID: **228762**	Analysis Date: **08/31/2016**	Seq No: **7019696**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Acenaphthene	1.619	0.50	2.000		81.0	51.2	120	1.650	1.90	23.9	
Acenaphthylene	1.597	1.0	2.000		79.9	53.5	120	1.668	4.35	24.2	
Anthracene	1.652	0.050	2.000		82.6	53.3	120	1.760	6.33	22.3	
Benz(a)anthracene	1.903	0.050	2.000		95.2	50.9	132	2.051	7.49	27.4	
Benzo(a)pyrene	1.649	0.050	2.000		82.4	50.5	120	1.777	7.47	41.9	
Benzo(b)fluoranthene	1.479	0.10	2.000		73.9	55.8	127	1.619	9.04	26.1	

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: 1608M11

ANALYTICAL QC SUMMARY REPORT

BatchID: 228762

Sample ID: **1608M11-009BMSD** Client ID: **MW-14-20160825-01** Units: **ug/L** Prep Date: **08/29/2016** Run No: **324319**
SampleType: **MSD** TestCode: **SIM Polynuclear Aromatic Hydrocarbons SW8270D** BatchID: **228762** Analysis Date: **08/31/2016** Seq No: **7019696**

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	1.603	0.10	2.000		80.1	46.8	120	1.667	3.93	24.3	
Benzo(k)fluoranthene	1.624	0.050	2.000		81.2	54.5	120	1.705	4.85	24.2	
Chrysene	1.736	0.050	2.000		86.8	56.9	125	1.797	3.42	23.1	
Dibenz(a,h)anthracene	1.329	0.10	2.000		66.5	44.8	120	1.499	12.0	26.1	
Fluoranthene	1.817	0.10	2.000		90.9	61.5	122	1.904	4.68	17.7	
Fluorene	1.667	0.10	2.000		83.3	55.6	118	1.706	2.32	27.5	
Indeno(1,2,3-cd)pyrene	1.557	0.050	2.000		77.9	46.1	120	1.719	9.87	26.7	
Naphthalene	1.560	0.50	2.000		78.0	51.7	120	1.537	1.52	24.2	
Phenanthrene	1.596	0.050	2.000		79.8	56.1	120	1.654	3.57	23.5	
Pyrene	1.652	0.050	2.000		82.6	56.1	125	1.738	5.03	20.9	
Surr: 4-Terphenyl-d14	1.732	0	2.000		86.6	58.7	134	1.682	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: 1608M11

ANALYTICAL QC SUMMARY REPORT

BatchID: 228787

Sample ID: **MB-228787** Client ID: Units: **ug/L** Prep Date: **08/26/2016** Run No: **324157**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **228787** Analysis Date: **08/26/2016** Seq No: **7012982**

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	51.49	0	50.00		103	70.7	125				
Surr: Dibromofluoromethane	44.75	0	50.00		89.5	82.2	120				
Surr: Toluene-d8	49.24	0	50.00		98.5	81.8	120				

Sample ID: **LCS-228787** Client ID: Units: **ug/L** Prep Date: **08/26/2016** Run No: **324157**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **228787** Analysis Date: **08/26/2016** Seq No: **7012981**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	54.45	5.0	50.00		109	74.9	123				
Toluene	55.14	5.0	50.00		110	75	124				
Surr: 4-Bromofluorobenzene	51.76	0	50.00		104	70.7	125				
Surr: Dibromofluoromethane	46.60	0	50.00		93.2	82.2	120				
Surr: Toluene-d8	50.29	0	50.00		101	81.8	120				

Sample ID: **1608M11-009AMS** Client ID: **MW-14-20160825-01** Units: **ug/L** Prep Date: **08/26/2016** Run No: **324254**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **228787** Analysis Date: **08/29/2016** Seq No: **7015492**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	57.12	5.0	50.00		114	70.1	132				
Toluene	58.62	5.0	50.00		117	70.1	133				
Surr: 4-Bromofluorobenzene	52.31	0	50.00		105	70.7	125				
Surr: Dibromofluoromethane	46.34	0	50.00		92.7	82.2	120				
Surr: Toluene-d8	50.48	0	50.00		101	81.8	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: 1608M11

ANALYTICAL QC SUMMARY REPORT

BatchID: 228787

Sample ID: **1608M11-009AMSD** Client ID: **MW-14-20160825-01** Units: **ug/L** Prep Date: **08/26/2016** Run No: **324254**
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **228787** Analysis Date: **08/29/2016** Seq No: **7015496**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	56.00	5.0	50.00		112	70.1	132	57.12	1.98	20	
Toluene	57.55	5.0	50.00		115	70.1	133	58.62	1.84	20	
Surr: 4-Bromofluorobenzene	51.90	0	50.00		104	70.7	125	52.31	0	0	
Surr: Dibromofluoromethane	46.71	0	50.00		93.4	82.2	120	46.34	0	0	
Surr: Toluene-d8	50.61	0	50.00		101	81.8	120	50.48	0	0	

Client: ERM-Southeast
Project Name: AGL Macon
Workorder: 1608M11

ANALYTICAL QC SUMMARY REPORT

BatchID: 228811

Sample ID: **MB-228811**	Client ID:					Units: **mg/L**		Prep Date: **08/30/2016**		Run No: **324243**	
SampleType: **MBLK**	TestCode: **Mercury, Total SW7470A**					BatchID: **228811**		Analysis Date: **08/30/2016**		Seq No: **7015866**	
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-228811**	Client ID:					Units: **mg/L**		Prep Date: **08/30/2016**		Run No: **324243**	
SampleType: **LCS**	TestCode: **Mercury, Total SW7470A**					BatchID: **228811**		Analysis Date: **08/30/2016**		Seq No: **7015867**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005304	0.00020	0.0050		106	80	120				

Sample ID: **1608M11-009DMS**	Client ID: **MW-14-20160825-01**					Units: **mg/L**		Prep Date: **08/30/2016**		Run No: **324243**	
SampleType: **MS**	TestCode: **Mercury, Total SW7470A**					BatchID: **228811**		Analysis Date: **08/30/2016**		Seq No: **7015869**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005680	0.00020	0.0050		114	70	130				

Sample ID: **1608M11-009DMSD**	Client ID: **MW-14-20160825-01**					Units: **mg/L**		Prep Date: **08/30/2016**		Run No: **324243**	
SampleType: **MSD**	TestCode: **Mercury, Total SW7470A**					BatchID: **228811**		Analysis Date: **08/30/2016**		Seq No: **7015872**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Mercury	0.005835	0.00020	0.0050		117	70	130	0.005680	2.70	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: 1608M11

ANALYTICAL QC SUMMARY REPORT

BatchID: 228856

Sample ID: **MB-228856**	Client ID:					Units: **mg/L**		Prep Date: **08/30/2016**		Run No: **324293**	
SampleType: **MBLK**	TestCode: **Cyanide SW9014**					BatchID: **228856**		Analysis Date: **08/30/2016**		Seq No: **7016649**	
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-228856**	Client ID:					Units: **mg/L**		Prep Date: **08/30/2016**		Run No: **324293**	
SampleType: **LCS**	TestCode: **Cyanide SW9014**					BatchID: **228856**		Analysis Date: **08/30/2016**		Seq No: **7016650**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2420	0.010	0.2500		96.8	85	115				

Sample ID: **1608K91-007CMS**	Client ID:					Units: **mg/L**		Prep Date: **08/30/2016**		Run No: **324293**	
SampleType: **MS**	TestCode: **Cyanide SW9014**					BatchID: **228856**		Analysis Date: **08/30/2016**		Seq No: **7016673**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2450	0.010	0.2500		98.0	70	130				

Sample ID: **1608K91-007CMSD**	Client ID:					Units: **mg/L**		Prep Date: **08/30/2016**		Run No: **324293**	
SampleType: **MSD**	TestCode: **Cyanide SW9014**					BatchID: **228856**		Analysis Date: **08/30/2016**		Seq No: **7016674**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2340	0.010	0.2500		93.6	70	130	0.2450	4.59	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: 1608M11

ANALYTICAL QC SUMMARY REPORT

BatchID: 228859

Sample ID: **MB-228859**	Client ID:					Units: **mg/L**		Prep Date: **08/30/2016**		Run No: **324296**	
SampleType: **MBLK**	TestCode: **Cyanide SW9014**					BatchID: **228859**		Analysis Date: **08/30/2016**		Seq No: **7016698**	
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-228859**	Client ID:					Units: **mg/L**		Prep Date: **08/30/2016**		Run No: **324296**	
SampleType: **LCS**	TestCode: **Cyanide SW9014**					BatchID: **228859**		Analysis Date: **08/30/2016**		Seq No: **7016699**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2420	0.010	0.2500		96.8	85	115				

Sample ID: **1608M11-009CMS**	Client ID: **MW-14-20160825-01**					Units: **mg/L**		Prep Date: **08/30/2016**		Run No: **324296**	
SampleType: **MS**	TestCode: **Cyanide SW9014**					BatchID: **228859**		Analysis Date: **08/30/2016**		Seq No: **7016695**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2450	0.010	0.2500		98.0	70	130				

Sample ID: **1608M11-009CMSD**	Client ID: **MW-14-20160825-01**					Units: **mg/L**		Prep Date: **08/30/2016**		Run No: **324296**	
SampleType: **MSD**	TestCode: **Cyanide SW9014**					BatchID: **228859**		Analysis Date: **08/30/2016**		Seq No: **7016697**	
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Cyanide, Total	0.2380	0.010	0.2500		95.2	70	130	0.2450	2.90	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 B-6

Project No. 0366660
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
August 22-25, 2016

Matrix	Sample ID	Laboratory ID
Water	AMW-6-20160822-01	1608K90-001
Water	AMW-11-20160822-01	1608K90-002
Water	AMW-13-20160823-01	1608K90-003
Water	AMW-12-20160823-01	1608K90-004
Water	AMW-14-20160823-01	1608K90-005
Water	DUP-01-20160823-01	1608K90-006
Water	MW-26-20160823-01	1608K90-007
Water	AMW-2-20160823-01	1608K90-008
Water	MW-12R-20160824-01	1608K90-009
Water	MW-12IR-20160824-01	1608K90-010
Water	MW-28-20160824-01	1608K90-011
Water	MW-108-20160824-01	1608K90-012
Water	MW-205-20160824-01	1608K90-013
Water	MW-109-20160824-01	1608K90-014
Water	TRIP BLANK 01-20160824-01	1608K90-015
Water	MW-40120160824-01	1608M11-001
Water	MW-106-20160824-01	1608M11-002
Water	MW-10-20160824-01	1608M11-003
Water	MW-400-20160824-01	1608M11-004
Water	MW-103-20160824-01	1608M11-005
Water	AMW-15-20160824-01	1608M11-006
Water	DUP-04-20160824-01	1608M11-007
Water	MW-08-20160825-01	1608M11-008
Water	MW-14-20160825-01	1608M11-009
Water	MW-101-20160825-01	1608M11-010
Water	MW-104-20160825-01	1608M11-011
Water	MW-15-20160825-01	1608M11-012
Water	MW-21-20160825-01	1608M11-013
Water	MW-14I-20160825-01	1608M11-014
Water	MW-102-20160825-01	1608M11-016
Water	TB-01-20160825-01	1608M11-018
Water	TRIP BLANK #2	1608M11-019

ERM Analytical Data Validation Checklist

Project Name: AGLC/Macon	Laboratory: Analytical Environmental Services, Inc.
Project Reference: 0176740	Sample Matrix: Aqueous
ERM Project Phase Number: 13	Sample Start Date: 8/22/2016
Date Validated: 9/13/2016	Sample End Date: 8/25/2016

Sample Analyzed: Approximately ten percent (10%) of the samples collected were chosen for validation. The following samples within Order No: 1604599 & 1604772 were validated. For a full list of the samples collected, see the sample submittal summary above.

AMW-12-20160823-01	DUP-01-20160823-01
MW-400-20160824-01	DUP-04-20160824-01

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: 1608K90, 1608M11

PRECISION, ACCURACY, METHOD CONFORMANCE, AND COMPLETENESS ASSESSMENT

Precision:	**X**	Acceptable	Unacceptable	JMM	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	JMM	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	JMM	Initials

Comments: Method compliance was evaluated using holding times, internal standard recoveries, and surrogate recoveries. Overall method compliance was acceptable.

Completeness:	**X**	Acceptable	Unacceptable	JMM	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	JMM	Initials
Explanation: The laboratory identified the following nonconformance in the case narratives for the samples validated.						
Volatile Organic Compounds Analysis by Method 8260B: Due to sample matrix, sample 1608M11-017A required dilution during preparation and/or analysis resulting in elevated reporting limits. **Semi-Volatile Organic Compounds** Percent recovery for the surrogate spiking compound 2,4,6-tribromophenol on QC sample LCS-228603 was outside control limits biased high. Matrix spike and matrix spike duplicate analyses were not performed wwith Batch 228646 due to insufficient sample volume.						
2. Were samples Chain-of Custody (COC) forms complete?		Yes	**X**	No	JMM	Initials
Comments: Chains-of-Custody were complete and correct with the exception of a second trip blank not listed in batch 1608M11. The trip blank was analyzed by the laboratory.						
3. Were all the analyses requested for the samples on the COCs completed by the laboratory?	**X**	Yes		No	JMM	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?		Yes	X	No	JMM	Initials
Comments: Samples were received in good condition and at appropriate temperature with the exception of one vial from MW-20120160825-01 which had headspace present. The lab poroceeded with analysis using the remaining vial.						
5. Were the requested analytical methods in compliance with WP/QAPP, permit, or COC?	**X**	Yes		No	JMM	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	JMM	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	JMM	Initials
Comments: The laboratory reported the requested constituents.						
8. Were the sample holding times met?	**X**	Yes		No	JMM	Initials
Comments: All sample holding times were met.						
9. Were correct concentration units reported?	**X**	Yes		No	JMM	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	JMM	Initials
Comments: No data was flagged during the August 2016 sampling event.						
11. Were laboratory blank samples free of target analyte contamination?	**X**	Yes		No	JMM	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	JMM	Initials
Comments: Trip blanks were free of analytes.						
13. Were instrument calibrations within method control limits?	**X**	Yes		No	JMM	Initials
Comments: The initial calibrations were within control limits.						
14. Were surrogate recoveries within control limits?	**X**	Yes		No	JMM	Initials
Comments: Surrogate recoveries were within laboratory QC limits.						
15. Were laboratory control sample recoveries within control limits?	**X**	Yes		No	JMM	Initials
Comments: The LCS recoveries were within control limits.						
16. Were matrix spike recoveries within control limits?	**X**	Yes		No	JMM	Initials
Comments: All matrix spike recoveries were within control limits. Matrix spike and matrix spike duplicate analyses were not performed on batch 228646 due to insufficient sample volume.						
17. Were duplicate RPDs and/or serial dilution %Ds within control limits?	**X**	Yes		No	JMM	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	JMM	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	JMM	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	JMM	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	JMM	Initials
Comments: The largest RPD value that was recorded between the parent samples and the field duplicates was 53% for cyanide in sample MW-400-20160824-01 and the duplicate. An RPD of 19% for anthracene was recorded for these samples.						
22. Were qualitative criteria for organic target analyte identification met?	**X**	Yes		No	JMM	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	JMM	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

August 22 - 25, 2016

Parameter	AMW-12-20160823-01		DUP-01-20160823-01		RPD(%)
Barium	0.0388	mg/L	0.0397	mg/L	2
Chromium	0.0384	mg/L	0.0392	mg/L	2

Parameter	MW-400-20160824-01		DUP-04-20160824-01		RPD(%)
Cyanide	0.288	mg/L	0.167	mg/L	53
Barium	0.068	mg/L	0.0676	mg/L	1
Zinc	0.145	mg/L	0.147	mg/L	1
Fluorene	0.19	ug/L	0.21	ug/L	10
Anthracene	0.140	ug/L	0.17	ug/L	19
Pyrene	0.13	ug/L	0.13	ug/L	0

Sample Submittals
AGLC Macon
August 22 - 25, 2016

Matrix	Sample ID	Laboratory ID
Water	MW-24D-20160822-01	1608K91-001
Water	MW-12DRR-20160822-01	1608K91-002
Water	MW-23D-20160822-01	1608K91-003
Water	MW-27D-20160823-01	1608K91-004
Water	MW-200DR-20160823-01	1608K91-005
Water	MW-26D-20160823-01	1608K91-006
Water	MW-308D-20160823-01	1608K91-007
Water	MW-307D-20160823-01	1608K91-008
Water	MW-301D-20160823-01	1608K91-009
Water	MW-22D-20160823-01	1608K91-010
Water	MW-306D-20160823-01	1608K91-011
Water	MW-302DD-20160824-01	1608K91-014
Water	MW-204D-20160824-01	1608K91-015
Water	MW-110D-20160824-01	1608K91-016
Water	MW-205D-20160824-01	1608K91-017
Water	MW-205DD-20160824-01	1608K91-018
Water	DUP-02-20160824-01	1608K91-019
Water	DUP-03-20160824-01	1608K91-020
Water	TB-01-20160824-01	1608K91-021
Water	TRIP BLANK 2	1608K91-022
Water	TRIP BLANK 3	1608K91-023
Water	MW-305D-20160825-01	1608M11-017
Water		

ERM Analytical Data Validation Checklist

Project Name: AGLC/Macon	Laboratory: Analytical Environmental Services, Inc.
Project Reference: 0176740	Sample Matrix: Aqueous
ERM Project Phase Number: 052	Sample Start Date: 8/22016
Date Validated: September 14, 2016	Sample End Date: 8/25/2016

Sample Analyzed: Approximately ten percent (10%) of the samples collected were chosen for validation. The following samples within Order No: 1608K91 & 1608M11 were validated. For a full list of the samples collected, see the sample submittal summary above.

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: 1608K91, 1608M11

PRECISION, ACCURACY, METHOD CONFORMANCE, AND COMPLETENESS ASSESSMENT

Precision:	**X**	Acceptable		Unacceptable		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		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		Initials

Comments: Method compliance was evaluated using holding times, internal standard recoveries, and surrogate recoveries. Overall method compliance was acceptable.

Completeness:	**X**	Acceptable		Unacceptable		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.

EVALUATION CRITERIA CHECK

Data validation flags used in this review only include those used by the laboratory:

BRL	Below reporting limit

ERM Analytical Data Validation Checklist (Continued)

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.						
Semi-Volatile organics Analysis by Method 8270D: Percent recovery for the surrogate spiking compound 2-Fluorobiphenyl on QC sample LCS-222389 was outside control limits biased high. All other surrogate recoveries were within control limits.						
For sample "MW-26D-20160411-01" for SVOCs analysis, one of the two 1-Liter amber glass bottles was received broken, and no sample remained for analysis. The second of the two amber glass bottles was received with a broken lid, and only approximately 1/4Liter remained in the bottle. Per Adria Reimer via email 4/13/2016 11:25am, SVOCs analysis was not performed for sample "MW-26D-20160411-01" and Naphthalene was reported via method 8260 for Volatile Organic Compounds analysis.						
Volatile Organic Compounds Analysis by Method 8260B: Due to sample matrix, sample 1604771-003A required dilution during preparation and/or analysis resulting in elevated reporting limits. Due to sample matrix, sample 1604944-002A 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;						
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 April 2016 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	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-01-20160407-01	Primary Sample No.		MW-110D-20160407-01			
Duplicate Sample No. DUP-01-20160406-01	Primary Sample No.		MW-304D-20160406-01			
Duplicate Sample No. DUP-03-20160407-01	Primary Sample No.		MW-204D-20160407-01			
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

April 5-8, 2016

Parameter	MW-110D-20160407-01		DUP-01-20160407-01		RPD(%)
Benzene	96	ug/L	94	ug/L	2
Ethylbenzene	290	µg/L	280	µg/L	4
Xyenes, Total	7.0	ug/L	6.8	ug/L	3
Acenaphthene	76	µg/L	60	µg/L	24
Acenaphthylene	2.8	µg/L	< 1.0	µg/L	NC
Anthracene	7.1	ug/L	6.3	ug/L	12
Benzo(a)anthracene	0.20	ug/L	0.15	ug/L	29
Chrysene	**0.18**	**ug/L**	**0.13**	**ug/L**	**32**
Fluoranthene	4.4	ug/L	4.0	ug/L	10
Fluorene	21	µg/L	19	µg/L	10
Naphthalene (8270 SIM)	**1600**	**µg/L**	**< 0.50**	**ug/L**	**NC**
Naphthalene (8270 GC/MS)	1500	µg/L	1300	ug/L	14
Phenanthrene	40	µg/L	33	µg/L	19
Pyrene	5.9	µg/L	5.2	µg/L	13
Cyanide	< 0.010	mg/L	0.020	mg/L	NC
Barium	2.51	mg/L	2.49	mg/L	1
Nickel	0.177	mg/L	0.181	mg/L	2

Parameter	MW-304D-20160406-01		DUP-01-20160406-01		RPD(%)
Barium	4.50	mg/L	4.53	mg/L	1
Nickel	0.0465	mg/L	0.0397	mg/L	16

Parameter	MW-204D-20160407-01		DUP-03-20160407-01		RPD(%)
Benzene	450	ug/L	430	ug/L	5
Ethylbenzene	330	µg/L	290	µg/L	13
Xyenes, Total	35	ug/L	31	ug/L	12
Acenaphthene	60	µg/L	58	µg/L	3
Acenaphthylene	3.1	µg/L	2.4	µg/L	25
Anthracene	3.5	ug/L	3.3	ug/L	6
Benzo(a)anthracene	0.073	ug/L	0.071	ug/L	3
Fluoranthene	3.2	ug/L	3.1	ug/L	3
Fluorene	19	µg/L	19	µg/L	0
Naphthalene (8270 SIM)	**1700**	**µg/L**	**66**	**ug/L**	**185**
Naphthalene (8270 GC/MS)	**1300**	**µg/L**	**150**	**ug/L**	**159**
Phenanthrene	19	µg/L	20	µg/L	5
Pyrene	3.8	µg/L	3.6	µg/L	5
Barium	4.71	mg/L	4.70	mg/L	0
Nickel	0.0885	mg/L	0.0854	mg/L	4

Historical Data Summary (CD ONLY)

Appendix B-7

Project No. 0366660
Atlanta Gas Light Company

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

Appendix B-7a
Summary of Alluvium Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	AMW-1 (Abandoned)										
				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
Field Groundwater Quality Parameters														
pH	SU	N/A	N/A	5.96	6.58	6.15	6.23	5.92	6.21	6.10	6.38	6.46	6.52	6.90
Specific Conductance	mS/cm	N/A	N/A	944	1371	581	524	605	584	496	593	597	655	589
Temperature	°Celsius	N/A	N/A	21.15	27.21	15.66	22.66	26.50	22.67	21.37	24.40	27.69	21.87	21.53
Dissolved Oxygen (YSI)	mg/L	N/A	N/A	0.67	0.18	0.20	1.40	1.16	0.38	1.35	0.76	0.32	0.22	0.08
ORP	mV	N/A	N/A	-42.5	160.5	129.5	25.0	36.0	25.9	54.4	-68.2	126.9	-364.1	-490.3
Turbidity	NTU	N/A	N/A	27.5	7.41	4.97	10.38	284	17.4	23	864	790	234	74
Laboratory Results - Natural Attenuation Parameters														
Nitrogen, Nitrate	mg/L	N/A	N/A	--	--	< 0.050	--	--	--	0.75	--	--	--	< 0.050
Sulfate	mg/L	N/A	N/A	--	--	95	--	--	--	62	--	--	--	23
Sulfide	mg/L	N/A	N/A	--	--	< 1.0	--	--	--	1.5	--	--	--	< 1.0
Ferrous Iron	mg/L	N/A	N/A	--	--	0.47 HF	--	--	--	< 0.10 HF	--	--	--	2.2 HF
Total Iron	mg/L	N/A	N/A	--	--	1.2	--	--	--	4.2	--	--	--	14
Carbon Dioxide	mg/L	N/A	N/A	--	--	120	--	--	--	2.1	--	--	--	0.67
Methane	mg/L	N/A	N/A	--	--	1.3	--	--	--	< 0.58	--	--	--	430
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	15	--	--	--	5.5	--	--	--	4.5
Dissolved Oxygen	mg/L	N/A	N/A	--	--	5.1	--	--	--	1.8	--	--	--	1.5
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	22	51	170	300
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	11	10	34	42
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
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
Semivolatile Organic Compounds														
Acenaphthene	µg/L	2,000*	6,100	< 10	< 10	< 0.23	0.28	1.1	1.7	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 10	< 10	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 10	< 10	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.20	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.20	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.20	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 10	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 10	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 10	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.20	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 2.3	< 2.1	< 1.9	< 1.9	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	< 10	< 10	< 0.23	0.65	0.59	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	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 2.3	< 2.1	< 1.9	< 1.9	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 2.3	< 2.1	< 1.9	< 1.9	--	--	--	--	--
Naphthalene	µg/L	20*	20*	< 10	< 10	< 0.23	< 0.21	< 0.19	< 0.19	< 5.0	< 5.0	< 5.0 *	62	110
Phenanthrene	µg/L	470	3,100	< 10	< 10	< 0.23	< 0.21	< 0.19	< 0.19	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 10	< 1.2	< 1.1	< 0.19	< 0.19	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	< 10	< 0.23	0.22	0.26	< 0.96	--	--	--	--	--
Laboratory Results - Inorganic Constituents														
Antimony	µg/L	6.3	400	< 20.0	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--
Barium	µg/L	2,000	7,200	59.6	105	75	95	120	10	94	230	140	190	170
Beryllium	µg/L	31	200	< 10.0	< 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	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10	< 10	13	< 10	< 10	22	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	23	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20	< 20	20	21	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	< 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

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Stamdard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7a
Summary of Alluvium Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	AMW-2											
				08/23/16	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	N/A	N/A	6.24	5.92	6.52	6.30	5.96	5.36	6.00	5.99	6.02	5.74	5.84	5.98
Specific Conductance	mS/cm	N/A	N/A	258.2	309	352	401	502	492	403	388	544	717	507	414
Temperature	°Celsius	N/A	N/A	31.28	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	N/A	N/A	0.43	2.25	0.41	3.40	0.34	1.51	0.33	0.56	0.61	1.65	0.38	1.86
ORP	mV	N/A	N/A	-22.0	-39.3	130.9	106.6	52.9	48.6	-8.3	-47.9	150.8	147.0	-55.1	61.1
Turbidity	NTU	N/A	N/A	4.45	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	mg/L	N/A	N/A	--	--	--	4.0	--	--	--	1.3	--	--	--	4.9
Sulfate	mg/L	N/A	N/A	--	--	--	60	--	--	--	65	--	--	--	100
Sulfide	mg/L	N/A	N/A	--	--	--	< 1.0	--	--	--	< 1.0	--	--	--	< 1.0
Ferrous Iron	mg/L	N/A	N/A	--	--	--	2.3 HF	--	--	--	21 HF	--	--	--	7.4 HF
Total Iron	mg/L	N/A	N/A	--	--	--	4.2	--	--	--	25	--	--	--	8.2
Carbon Dioxide	mg/L	N/A	N/A	--	--	--	97	--	--	--	1.7	--	--	--	1.2
Methane	mg/L	N/A	N/A	--	--	--	17	--	--	--	39	--	--	--	30
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	--	18	--	--	--	4.9	--	--	--	4.1
Dissolved Oxygen	mg/L	N/A	N/A	--	--	--	6.2	--	--	--	1.5	--	--	--	1.4
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
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
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
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
Semivolatile Organic Compounds															
Acenaphthene	µg/L	2,000*	6,100	<0.50	< 10	< 10	2.8	4.2	8.4	12	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	<1.0	< 10	< 10	0.29	0.52	0.97	1.2	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	<0.050	< 10	< 10	< 0.22	< 0.22	< 0.20	< 0.22	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	<0.050	< 0.050	< 0.20	< 0.22	< 0.22	< 0.20	< 0.22	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	<0.050	< 0.050	< 0.20	< 0.22	< 0.22	< 0.20	< 0.22	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	<0.10	< 0.10	< 0.20	< 0.22	< 0.22	< 0.20	< 0.22	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	<0.10	< 10	< 10	< 0.22	< 0.22	< 0.20	< 0.22	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	<0.050	< 10	< 10	< 0.22	< 0.22	< 0.20	< 0.22	--	--	--	--	--
Chrysene	µg/L	117	392	<0.050	< 10	< 10	< 0.22	< 0.22	< 0.20	< 0.22	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	<0.10	< 0.10	< 0.20	< 0.22	< 0.22	< 0.20	< 0.22	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	<10	< 10	< 10	< 2.2	< 2.2	< 2.0	< 0.22	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	<0.10	< 10	< 10	< 0.22	0.38	0.49	< 2.2	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	<0.10	< 10	< 10	0.74	1.1	2.6	0.33	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	<0.050	< 0.050	< 0.20	< 0.22	< 0.22	< 0.20	< 0.22	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	<10	< 10	< 10	< 2.2	< 2.2	< 2.0	< 2.2	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	<10	< 10	< 10	< 2.2	< 2.2	< 2.0	< 2.2	--	--	--	--	--
Naphthalene	µg/L	20*	20*	<0.50	< 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	<0.050	< 10	< 10	< 0.22	< 0.22	< 0.20	< 0.22	--	--	--	--	--
Phenol	µg/L	9,390	61,000	<10	< 10	< 10	< 1.1	< 1.1	< 0.98	< 1.1	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	<0.050	< 10	< 10	0.25	0.87	0.73	1.4	--	--	--	--	--
Laboratory Results - Inorganic Constituents															
Antimony	µg/L	6.3	400	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--
Barium	µg/L	2,000	7,200	104	111	125	76	66	64	51	48	61	39	54	52
Beryllium	µg/L	31	200	<10.0	< 10.0	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--
Cadmium	µg/L	7.8	51	5.3	7.0	13.9	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Zinc	µg/L	4,700	31,000	66.3	91.4	< 20.0	245	< 20	< 20	< 20	--	--	--	--	--
Mercury	µg/L	2*	2*	<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

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Stamdard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7a
Summary of Alluvium Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	AMW-3 (Abandoned)											
				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
Field Groundwater Quality Parameters															
pH	SU	N/A	N/A	6.25	6.56	6.56	5.90	5.20	5.86	5.86	6.19	6.08	5.86	6.02	6.43
Specific Conductance	mS/cm	N/A	N/A	746	613	613	647	682	740	740	784	527	509	782	674
Temperature	°Celsius	N/A	N/A	25.67	19.33	19.33	22.73	25.72	24.84	24.84	19.26	23.02	24.46	19.79	18.59
Dissolved Oxygen (YSI)	mg/L	N/A	N/A	1.06	4.73	4.73	0.90	1.72	0.28	0.28	4.50	0.51	0.93	3.83	2.68
ORP	mV	N/A	N/A	142.8	114.3	114.3	153.6	189.5	123.5	123.5	-8.4	5.0	329.4	-29.2	0.0
Turbidity	NTU	N/A	N/A	0.97	1.79	1.79	3.25	281	8.09	8.09	3.32	292	>1000	13.2	8.42
Laboratory Results - Natural Attenuation Parameters															
Nitrogen, Nitrate	mg/L	N/A	N/A	--	1.3	1.4	--	--	--	--	6.1	--	--	--	5.4
Sulfate	mg/L	N/A	N/A	--	150	150	--	--	--	--	280	--	--	--	220
Sulfide	mg/L	N/A	N/A	--	< 1.0	< 1.0	--	--	--	--	1.4	--	--	--	< 1.0
Ferrous Iron	mg/L	N/A	N/A	--	< 0.10 HF	< 0.10 HF	--	--	--	--	< 0.10 HF	--	--	--	< 0.010 HF
Total Iron	mg/L	N/A	N/A	--	< 0.10	< 0.10	--	--	--	--	< 0.10	--	--	--	0.62
Carbon Dioxide	mg/L	N/A	N/A	--	61	66	--	--	--	--	1.0	--	--	--	0.91
Methane	mg/L	N/A	N/A	--	< 0.58	< 0.58	--	--	--	--	< 0.58	--	--	--	1.1
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	--	--	--	--	--	5.0	--	--	--	4.5
Dissolved Oxygen	mg/L	N/A	N/A	--	8.9	8.7	--	--	--	--	1.8	--	--	--	1.5
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
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 2.0	< 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	< 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	< 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	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds															
Acenaphthene	µg/L	2,000*	6,100	< 10	< 0.19	< 0.20	< 0.23	< 0.20	< 0.23	< 0.21	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 10	< 0.19	< 0.20	< 0.23	< 0.20	< 0.23	< 0.21	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 10	< 0.19	< 0.20	< 0.23	< 0.20	< 0.23	< 0.21	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.20	< 0.19	< 0.20	< 0.23	< 0.20	0.28	< 0.21	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.20	< 0.19	< 0.20	< 0.23	< 0.20	0.25	< 0.21	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.20	< 0.19	< 0.20	< 0.23	< 0.20	< 0.23	< 0.21	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 0.19	< 0.20	< 0.23	< 0.20	< 0.23	< 0.21	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 0.19	< 0.20	< 0.23	< 0.20	< 0.23	< 0.21	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 0.19	< 0.20	< 0.23	< 0.20	0.35	< 0.21	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.20	< 0.19	< 0.20	< 0.23	< 0.20	< 0.23	< 0.21	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 1.9	< 2.0	< 2.3	< 2.0	< 2.3	< 2.1	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 10	< 0.19	< 0.20	< 0.23	< 0.20	0.27	< 0.21	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	< 10	< 0.19	< 0.20	< 0.23	< 0.20	< 0.23	< 0.21	--	--	--	--	--
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	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 1.9	< 2.0	< 2.3	< 2.0	< 2.3	< 2.1	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 1.9	< 2.0	< 2.3	< 2.0	< 2.3	< 2.1	--	--	--	--	--
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
Phenanthrene	µg/L	470	3,100	< 10	< 0.19	< 0.20	< 0.23	< 0.20	< 0.23	< 0.21	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 0.97	< 0.99	< 1.2	< 0.98	< 1.1	< 1.0	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	< 0.19	< 0.20	< 0.23	< 0.20	0.58	0.22	--	--	--	--	--
Laboratory Results - Inorganic Constituents															
Antimony	µg/L	6.3	400	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--
Barium	µg/L	2,000	7,200	60.1	42	44	38	90	36	36	45	78	460	57	93
Beryllium	µg/L	31	200	< 10.0	< 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	< 5.0	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10	< 10	< 10	19	< 10	< 10	< 10	< 10	42	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	320	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10	< 10	< 10	20	< 10	< 10	< 10	25	560	< 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	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--
Mercury	µg/L	2*	2*	< 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

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Stamdard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7a
Summary of Alluvium Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	AMW-4 (Abandoned)									
				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	N/A	N/A	6.59	6.90	6.59	6.13	6.44	6.71	6.66	6.71	6.70	6.87
Specific Conductance	mS/cm	N/A	N/A	902	960	754	884	953	738	723	817	849	559
Temperature	°Celsius	N/A	N/A	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	N/A	N/A	0.65	2.91	2.62	0.33	0.78	1.86	1.00	0.23	0.52	0.50
ORP	mV	N/A	N/A	-73.9	63.6	-106.1	-82.9	74.1	-27.4	-96.7	150.2	-92.4	-370.1
Turbidity	NTU	N/A	N/A	7.84	8.72	2087	271	103	211	123	>1000	107	>999
Laboratory Results - Natural Attenuation Parameters													
Nitrogen, Nitrate	mg/L	N/A	N/A	--	14	--	--	--	0.59	--	--	--	9.6
Sulfate	mg/L	N/A	N/A	--	138	--	--	--	47	--	--	--	55
Sulfide	mg/L	N/A	N/A	--	< 1.0	--	--	--	< 1.0	--	--	--	1.5
Ferrous Iron	mg/L	N/A	N/A	--	< 0.10 HF	--	--	--	< 0.10 HF	--	--	--	< 0.010 HF
Total Iron	mg/L	N/A	N/A	--	0.26	--	--	--	1.0	--	--	--	8.0
Carbon Dioxide	mg/L	N/A	N/A	--	38	--	--	--	1.5	--	--	--	0.41
Methane	mg/L	N/A	N/A	--	37	--	--	--	82	--	--	--	140
Dissolved Nitrogen	mg/L	N/A	N/A	--	16	--	--	--	5.5	--	--	--	4.7
Dissolved Oxygen	mg/L	N/A	N/A	--	6.4	--	--	--	1.7	--	--	--	1.7
Laboratory Results - Organic Constituents													
Volatile Organic Compounds													
Benzene	µg/L	5*	9	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	< 20	< 20	< 20	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	230	<1.0	1200	430	300	140	640	450	890	290
Toluene	µg/L	1,000*	1,100	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	480	3.1	4,200	990	570	780	3,200	2,700	4,600	1,400
Semivolatile Organic Compounds													
Acenaphthene	µg/L	2,000*	6,100	< 10	<0.19	34	23	27	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 10	<0.19	54	42	35	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 10	<0.19	< 0.10	4.0	1.9	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.20	<0.19	< 0.10	< 2.1	< 1.1	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.20	<0.19	< 0.10	< 2.1	< 1.1	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.20	<0.19	< 0.10	< 2.1	< 1.1	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	<0.19	< 0.10	< 2.1	< 1.1	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	<0.19	< 0.10	< 2.1	< 1.1	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	<0.19	< 0.10	< 2.1	< 1.1	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.20	<0.19	< 0.10	< 2.1	< 1.1	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	<1.9	130	< 21	< 11	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 10	<0.19	< 0.10	3.2	< 1.1	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	< 10	<0.19	21	17	15	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.20	<0.19	< 0.10	< 2.1	< 1.1	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	<1.9	< 100	29	< 11	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	<1.9	< 100	< 21	< 11	--	--	--	--	--
Naphthalene	µg/L	20*	20*	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	42	46	25	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	<0.96	960	47	15	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	<0.19	< 0.10	3.9	1.3	--	--	--	--	--
Laboratory Results - Inorganic Constituents													
Antimony	µg/L	6.3	400	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 20	< 20	56	< 20	--	--	--	--	--
Barium	µg/L	2,000	7,200	127	130	340	1,100	170	250	320	620	170	120
Beryllium	µg/L	31	200	< 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	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10	< 10	430	< 10	< 10	< 10	22	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 20	< 20	310	< 20	< 20	< 20	91	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10	< 10	400	< 10	< 10	< 10	190	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 40	< 40	120	< 40	< 40	< 40	< 40	< 40	< 40
Zinc	µg/L	4,700	31,000	< 20.0	< 20	< 20	440	< 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	--	--	< 10

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Stamdard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7a
Summary of Alluvium Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	AMW-5 (Abandoned)											
				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
Field Groundwater Quality Parameters															
pH	SU	N/A	N/A	6.35	6.39	6.27	6.31	6.38	6.20	6.52	6.52	6.41	6.41	6.46	6.62
Specific Conductance	mS/cm	N/A	N/A	646	433	490	520	582	354	479	479	536	536	526	383
Temperature	°Celsius	N/A	N/A	21.95	17.76	22.09	24.69	23.75	19.55	21.24	21.24	21.70	21.70	18.86	19.99
Dissolved Oxygen (YSI)	mg/L	N/A	N/A	0.48	0.40	1.71	3.63	0.59	1.62	0.35	0.35	0.25	0.25	0.12	0.37
ORP	mV	N/A	N/A	-90.7	-225.5	-73.9	-21.1	-77.9	-19.9	-93.5	-93.5	151.8	151.8	-100.8	-356.3
Turbidity	NTU	N/A	N/A	4.46	8.82	5.10	2.84	1.45	1.48	9.86	9.86	>1000	>1000	36.9	>999
Laboratory Results - Natural Attenuation Parameters															
Nitrogen, Nitrate	mg/L	N/A	N/A	--	< 0.050	--	--	--	< 0.050	--	--	--	--	--	< 0.050
Sulfate	mg/L	N/A	N/A	--	6	--	--	--	< 5.0	--	--	--	--	--	< 5.0
Sulfide	mg/L	N/A	N/A	--	< 1.0	--	--	--	< 1.0	--	--	--	--	--	< 1.0
Ferrous Iron	mg/L	N/A	N/A	--	0.58 HF	--	--	--	5.6 HF	--	--	--	--	--	4.1 HF
Total Iron	mg/L	N/A	N/A	--	14	--	--	--	11	--	--	--	--	--	22
Carbon Dioxide	mg/L	N/A	N/A	--	100	--	--	--	2.0	--	--	--	--	--	0.92
Methane	mg/L	N/A	N/A	--	620	--	--	--	220	--	--	--	--	--	490
Dissolved Nitrogen	mg/L	N/A	N/A	--	19	--	--	--	5.3	--	--	--	--	--	3.0
Dissolved Oxygen	mg/L	N/A	N/A	--	5.1	--	--	--	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
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 10	< 10	< 10	< 20	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	700	280	1,000	500	460	220	480	550	830	680	580	920
Toluene	µg/L	1,000*	1,100	400	430	1,200	340	630	640	520	670	1,700	1,600	870	2,000
Total Xylenes	µg/L	31,000	200,000	1,300	2,200	4,100	1,400	2,300	2,400	1,500	1,700	3,600	2,900	3,000	4,000
Semivolatile Organic Compounds															
Acenaphthene	µg/L	2,000*	6,100	28	37	40	32	51	--	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	33	40	43	21	48	--	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 10	4.5	< 20	< 1.9	< 23	--	--	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	1.2	< 3.9	< 20	< 1.9	< 23	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	0.56	< 3.9	< 20	< 1.9	< 23	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	1.3	< 3.9	< 20	< 1.9	< 23	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 3.9	< 20	< 1.9	< 23	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 3.9	< 20	< 1.9	< 23	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 3.9	< 20	< 1.9	< 23	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	0.21	< 3.9	< 20	< 1.9	< 23	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	62	< 39	< 200	120	< 230	--	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 10	< 3.9	< 20	< 1.9	< 23	--	--	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	14	22	26	17	28	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	0.37	< 3.9	< 20	< 1.9	< 23	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	12	< 39	< 200	< 19	< 230	--	--	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	17	< 39	< 200	38	< 230	--	--	--	--	--	--	--
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
Phenanthrene	µg/L	470	3,100	42	70	130	38	62	--	--	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 20	< 98	< 9.5	< 110	--	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	< 3.9	< 20	2.1	< 23	--	--	--	--	--	--	--
Laboratory Results - Inorganic Constituents															
Antimony	µg/L	6.3	400	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 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
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	14	< 10	< 10	< 10	< 10	< 10	12	44	27	12
Copper	µg/L	630	4,100	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	22	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	33	< 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	< 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	< 10	< 10	< 10	< 10	< 10	--	--	--	--	--	< 10

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Stamdard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7a
Summary of Alluvium Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	AMW-6										
				08/22/16	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	N/A	N/A	5.66	7.23	5.97	5.62	5.79	5.71	5.89	6.20	5.65	5.94	6.02
Specific Conductance	mS/cm	N/A	N/A	527.5	602	492	516	541	499	426	507	597	736	441
Temperature	°Celsius	N/A	N/A	28.57	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	N/A	N/A	0.21	0.16	1.71	1.14	0.75	0.80	1.32	0.40	0.47	0.44	4.78
ORP	mV	N/A	N/A	176.7	-5.6	-35.7	4.0	48.2	65.4	-6.5	0.1	-16.1	-39.8	-2.6
Turbidity	NTU	N/A	N/A	1.51	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	mg/L	N/A	N/A	--	--	< 0.050	--	--	--	< 0.050	--	--	--	< 0.050
Sulfate	mg/L	N/A	N/A	--	--	140	--	--	--	120	--	--	--	130
Sulfide	mg/L	N/A	N/A	--	--	< 1.0	--	--	--	< 1.0	--	--	--	< 1.0
Ferrous Iron	mg/L	N/A	N/A	--	--	12 HF	--	--	--	5.1 HF	--	--	--	9.7 HF
Total Iron	mg/L	N/A	N/A	--	--	13	--	--	--	6.0	--	--	--	16
Carbon Dioxide	mg/L	N/A	N/A	--	--	140	--	--	--	2.6	--	--	--	2.1
Methane	mg/L	N/A	N/A	--	--	23	--	--	--	20	--	--	--	15
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	--	--	--	--	4.6	--	--	--	3.0
Dissolved Oxygen	mg/L	N/A	N/A	--	--	7.4	--	--	--	1.4	--	--	--	1.0
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
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
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
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
Semivolatile Organic Compounds														
Acenaphthene	µg/L	2,000*	6,100	<0.50	< 10	1.0	0.84	0.43	0.85	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	<1.0	< 10	< 0.20	< 0.21	< 0.23	< 0.22	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	<0.050	< 10	< 0.20	< 0.21	< 0.23	< 0.22	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	<0.050	< 0.20	< 0.20	< 0.21	< 0.23	0.24	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	<0.050	< 0.20	< 0.20	< 0.21	< 0.23	0.22	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	<0.10	< 0.20	< 0.20	< 0.21	< 0.23	0.39	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	<0.10	< 10	< 0.20	< 0.21	< 0.23	< 0.22	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	<0.050	< 10	< 0.20	< 0.21	< 0.23	< 0.22	--	--	--	--	--
Chrysene	µg/L	117	392	<0.050	< 10	< 0.20	< 0.21	< 0.23	0.26	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	<0.10	< 0.20	< 0.20	< 0.21	< 0.23	< 0.22	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	<10	< 10	< 2.0	< 2.1	< 2.3	< 2.2	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	<0.10	< 10	< 0.20	< 0.21	< 0.23	0.44	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	<0.10	< 10	< 0.20	< 0.21	< 0.23	< 0.22	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	<0.050	< 0.20	< 0.20	< 0.21	< 0.23	< 0.22	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	<10	< 10	< 2.0	< 2.1	< 2.3	< 2.2	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	<10	< 10	< 2.0	< 2.1	< 2.3	< 2.2	--	--	--	--	--
Naphthalene	µg/L	20*	20*	<0.50	< 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	<0.050	< 10	< 0.20	< 0.21	< 0.23	< 0.22	--	--	--	--	--
Phenol	µg/L	9,390	61,000	<10	< 10	< 1.0	< 1.0	< 1.1	< 1.1	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	<0.050	< 10	< 0.20	0.23	< 0.23	0.48	--	--	--	--	--
Laboratory Results - Inorganic Constituents														
Antimony	µg/L	6.3	400	< 20.0	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--
Barium	µg/L	2,000	7,200	39.3	36.6	63	60	54	51	62	71	74	66	81
Beryllium	µg/L	31	200	< 10.0	< 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	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--
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	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10

Notes:

Analyte was detected above laboratory detection limit

Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)

*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Stamdard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7a
Summary of Alluvium Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	AMW-7 (Abandoned)										AMW-8 (Abandoned)										
				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	N/A	N/A	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	mS/cm	N/A	N/A	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	N/A	N/A	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	N/A	N/A	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	N/A	N/A	-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	N/A	N/A	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	mg/L	N/A	N/A	--	0.19	--	--	--	0.47	--	--	--	0.22	--	0.28	--	--	--	0.23	--	--	--	--	--	1.0
Sulfate	mg/L	N/A	N/A	--	78	--	--	--	27	--	--	--	18	--	120	--	--	--	200	--	--	--	--	--	95
Sulfide	mg/L	N/A	N/A	--	1.1	--	--	--	1.6	--	--	--	3.1	--	< 1.0	--	--	--	< 1.0	--	--	--	--	--	5.3
Ferrous Iron	mg/L	N/A	N/A	--	1.1 HF	--	--	--	< 0.10 HF	--	--	--	1.4 HF	--	< 0.10 HF	--	--	--	2.5 HF	--	--	--	--	--	< 0.010 HF
Total Iron	mg/L	N/A	N/A	--	2.3	--	--	--	1.0	--	--	--	13	--	1.1	--	--	--	4.1	--	--	--	--	--	18
Carbon Dioxide	mg/L	N/A	N/A	--	61	--	--	--	1.2	--	--	--	0.74	--	71	--	--	--	2.6	--	--	--	--	--	1.1
Methane	mg/L	N/A	N/A	--	19	--	--	--	1.2	--	--	--	100	--	< 0.58	--	--	--	24	--	--	--	--	--	12
Dissolved Nitrogen	mg/L	N/A	N/A	--	19	--	--	--	4.7	--	--	--	4.2	--	17	--	--	--	5.2	--	--	--	--	--	3.9
Dissolved Oxyger	mg/L	N/A	N/A	--	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
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	--	--	--	--	--	--	--
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		310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	11	< 10	< 10	< 10	< 10	11	--	--	--	--	--	< 10

Notes:
Analyte was detected above laboratory detection limi
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well locatior
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Stamdard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7a
Summary of Alluvium Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	AMW-9 (Destroyed)											AMW-10 (abandoned)									
				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
Field Groundwater Quality Parameters																								
pH	SU	N/A	N/A	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
Specific Conductance	mS/cm	N/A	N/A	374	341	317	371	414	398	353	378	474	405	364	726	628	528	676	716	561	541	651	569	378
Temperature	°Celsius	N/A	N/A	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
Dissolved Oxygen (YSI)	mg/L	N/A	N/A	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
ORP	mV	N/A	N/A	-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
Turbidity	NTU	N/A	N/A	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
Laboratory Results - Natural Attenuation Parameters																								
Nitrogen, Nitrate	mg/L	N/A	N/A	--	--	< 0.050	--	--	--	< 0.050	--	--	--	< 0.050	--	< 0.050	--	--	--	< 0.050	--	--	--	< 0.050
Sulfate	mg/L	N/A	N/A	--	--	91	--	--	--	110	--	--	--	83	--	40	--	--	--	110	--	--	--	62
Sulfide	mg/L	N/A	N/A	--	--	1.0	--	--	--	< 1.0	--	--	--	< 1.0	--	< 1.0	--	--	--	1.2	--	--	--	< 1.0
Ferrous Iron	mg/L	N/A	N/A	--	--	< 0.10 HF	--	--	--	0.23 HF	--	--	--	1 HF	--	36 HF	--	--	--	16 HF	--	--	--	0.36 HF
Total Iron	mg/L	N/A	N/A	--	--	14	--	--	--	1.6	--	--	--	1.4	--	59	--	--	--	21	--	--	--	8.9
Carbon Dioxide	mg/L	N/A	N/A	--	--	110	--	--	--	2.5	--	--	--	1.5	--	200	--	--	--	3200	--	--	--	1.1
Methane	mg/L	N/A	N/A	--	--	1.7	--	--	--	1.3	--	--	--	14	--	250	--	--	--	< 0.58	--	--	--	35
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	16	--	--	--	6.6	--	--	--	4.7	--	--	--	--	--	5200	--	--	--	4.1
Dissolved Oxygen	mg/L	N/A	N/A	--	--	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
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	--	--	--	--	--
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
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
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
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	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 10	< 10	< 0.19	< 0.22	< 0.22	0.21	--	--	--	--	--	< 10	15	13	15	3.9	--	--	--	--	--
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	--	--	--	--	--
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	--	--	--	--	--
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	--	--	--	--	--
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	--	--	--	--	--
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	--	--	--	--	--
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	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 10	0.26	0.35	< 0.22	1.9	--	--	--	--	--	< 10	< 2.0	< 1.9	< 2.0	0.35	--	--	--	--	--
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	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 1.9	< 2.2	< 2.2	< 2.1	--	--	--	--	--	< 10	< 20	< 19	< 20	4.1	--	--	--	--	--
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	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	< 10	< 10	0.48	0.61	< 0.22	0.23	--	--	--	--	--	< 10	17	20	16	6.1	--	--	--	--	--
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	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 1.9	< 2.2	< 2.2	< 2.1	--	--	--	--	--	< 10	< 20	< 19	< 20	< 2.3	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 1.9	< 2.2	< 2.2	< 2.1	--	--	--	--	--	< 10	< 20	< 19	< 20	< 2.3	--	--	--	--	--
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
Phenanthrene	µg/L	470	3,100	< 10	< 10	1.3	0.95	0.22	1.4	--	--	--	--	--	< 10	36	31	37	8.8	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 10	0.97	< 1.1	< 1.1	< 1.1	--	--	--	--	--	< 10	11	< 9.7	23	12	--	--	--	--	--
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	--	--	--	--	--
Laboratory Results - Inorganic Constituents																								
Antimony	µg/L	6.3	400	< 20.0	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--
Barium	µg/L	2,000	7,200	34.5	44.9	83	44	40	36	35	97	96	1,400	46	42.3	440	450	810	240	300	220	600	370	170
Beryllium	µg/L	31	200	< 10.0	< 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	< 5.0	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	11	< 10	< 10	< 10	< 10	< 10	< 10	390	< 10	< 10.0	< 10	< 10	34	< 10	< 10	10	90	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	750	< 20	< 10.0	< 20	< 20	20	< 20	< 20	20	< 20	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10.0	20	< 10	< 10	< 10	< 10	< 10	< 10	1,200	< 10	< 10.0	< 10	< 10	20	< 10	< 10	10	120	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	200	< 40	< 20.0	< 40	< 40	< 40	< 40	< 40	40	< 40	< 40	< 40
Zinc	µg/L	4,700	31,000	< 20.0	64.7	98	100	110	100	--	--	--	--	--	< 20.0	32	< 20	32	< 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	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 10.0	< 10	< 10	16	24	< 10	< 10	--	--	--	< 10	< 10	< 10	28	< 10	< 10	< 10	--	--	--	< 10

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Stamdard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7a
Summary of Alluvium Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	AMW-11			AMW-12				AMW-13			AMW-14		AMW-15	
				08/22/16	04/28/15	08/06/13	08/23/16	8/16 DUP	04/28/15	08/06/13	08/23/16	04/28/15	08/06/13	08/23/16	04/29/15	08/24/16	04/29/15
Field Groundwater Quality Parameters																	
pH	SU	N/A	N/A	6.04	5.99	7.06	5.60		5.41	6.06	5.53	5.41	6.75	6.01	6.18	5.70	6.02
Specific Conductance	mS/cm	N/A	N/A	625.1	581	861	373.4		389	292	341.9	415	646	318.4	373	185.5	158
Temperature	°Celsius	N/A	N/A	30.86	19.31	26.81	25.53		19.61	26.11	26.88	22.22	27.72	28.35	18.46	26.88	17.72
Dissolved Oxygen (YSI)	mg/L	N/A	N/A	0.23	2.05	0.27	1.94		2.44	0.60	0.70	1.75	0.41	0.31	1.26	0.61	7.96
ORP	mV	N/A	N/A	99.1	-30.4	1.5	189.5		-31.4	146.4	435.7	-28.3	83.7	-13.7	-27.1	29.9	39.0
Turbidity	NTU	N/A	N/A	3.01	9.91	1.38	7.80		1.4	0.98	9.85	9.61	13.7	7.70	5.58	41.30	24.1
Laboratory Results - Natural Attenuation Parameters																	
Nitrogen, Nitrate	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfide	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ferrous Iron	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Iron	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methane	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dissolved Oxygen	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--
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	<5.0	< 5.0	< 5.0	63	< 5.0	120	57
Carbon Disulfide	µg/L	329	1,700	<5.0	< 5.0	< 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	< 5.0	<5.0	< 5.0	< 5.0	110	< 5.0	28	9.3
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	11	< 5.0	7	< 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	100	< 5.0	27	15
Semivolatile Organic Compounds																	
Acenaphthene	µg/L	2,000*	6,100	<0.50	< 10	< 10	<0.50	<0.50	< 10	< 10	<0.50	< 10	< 10	2.4	< 10	15	< 10
Acenaphthylene	µg/L	470	3,100	<1.0	< 10	< 10	<1.0	<1.0	< 10	< 10	<1.0	< 10	< 10	2.5	< 10	4.2	< 10
Anthracene	µg/L	4,700	31,000	<0.050	< 10	< 10	<0.050	<0.050	< 10	< 10	<0.050	< 10	< 10	2.6	< 10	0.81	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	<0.050	<0.050	< 0.20	<0.050	<0.050	<0.050	< 0.20	<0.050	<0.050	< 0.20	0.07	< 0.050	<0.050	< 0.050
Benzo[a]pyrene	µg/L	0.2*	0.39	<0.050	< 0.050	< 0.20	<0.050	<0.050	< 0.050	< 0.20	<0.050	< 0.050	< 0.20	<0.050	< 0.050	<0.050	< 0.050
Benzo[b]fluoranthene	µg/L	1.17	3.92	<0.10	< 0.10	< 0.20	<0.10	<0.10	< 0.10	< 0.20	<0.10	< 0.10	< 0.20	<0.10	< 0.10	<0.10	< 0.10
Benzo[g,h,i]perylene	µg/L	10	10	<0.10	< 10	< 10	<0.10	<0.10	< 10	< 10	<0.10	< 10	< 10	<0.10	< 10	<0.10	< 10
Benzo[k]fluoranthene	µg/L	11.7	39.2	<0.050	< 10	< 10	<0.050	<0.050	< 10	< 10	<0.050	< 10	< 10	<0.050	< 10	<0.050	< 10
Chrysene	µg/L	117	392	<0.050	< 10	< 10	<0.050	<0.050	< 10	< 10	<0.050	< 10	< 10	<0.050	< 10	<0.050	< 10
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	<0.10	< 0.10	< 0.20	<0.10	<0.10	< 0.10	< 0.20	<0.10	< 0.10	< 0.20	<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
Fluoranthene	µg/L	1,000*	4,100	<0.10	< 10	< 10	<0.10	<0.10	< 10	< 10	<0.10	< 10	< 10	0.98	< 10	0.44	< 10
Fluorene	µg/L	1,000*	4,100	<0.10	< 10	< 10	<0.10	<0.10	< 10	< 10	<0.10	< 10	< 10	1.1	< 10	5.4	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	<0.050	< 0.050	< 0.20	<0.050	<0.050	< 0.050	< 0.20	<0.050	< 0.050	< 0.20	<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
3 & 4 Methylphenol	µg/L	78	510	<10	< 10	< 10	<10	<10	< 10	< 10	<10	< 10	< 10	<10	< 10	<10	< 10
Naphthalene	µg/L	20*	20*	<0.50	< 10	< 10	<0.50	<0.50	< 10	< 10	<0.50	< 10	< 10	40	< 10	28	20
Phenanthrene	µg/L	470	3,100	<0.050	< 10	< 10	<0.050	<0.050	< 10	< 10	<0.050	< 10	< 10	2.8	< 10	8.0	< 10
Phenol	µg/L	9,390	61,000	<10	< 10	< 10	<10	<10	< 10	< 10	<10	< 10	< 10	<10	< 10	<10	< 10
Pyrene	µg/L	1,000*	3,100	<0.050	< 10	< 10	<0.050	<0.050	< 10	< 10	<0.050	< 10	< 10	0.99	< 10	0.39	< 10
Laboratory Results - Inorganic Constituents																	
Antimony	µg/L	6.3	400	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 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	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0
Barium	µg/L	2,000	7,200	**47.4**	42.3	53.6	38.8	39.7	42.8	38.5	45	48.8	93.9	201	92.5	164	15.8
Beryllium	µg/L	31	200	<0.0100	< 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
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	< 5.0	< 5.0	< 5.0
Chromium	µg/L	100	310	23.2	17.7	< 10.0	38.4	39.2	15.7	< 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	< 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	< 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	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
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	< 0.20	< 0.20
Total Cyanide	µg/L	310	2,000	<10	15	45	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Stamdard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7a
Summary of Alluvium Groundwater Analytical Data
November 2001 through August 2016
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	08/25/16	04/05/16	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	N/A	N/A	5.12		5.86	6.59	5.72	5.73	6.29	5.95	5.08	5.55	5.51	2.19	6.02	5.79	6.10
Specific Conductance	mS/cm	N/A	N/A	185		191	230	171	240.2	300	271	419	273	262	198	339	481	289
Temperature	°Celsius	N/A	N/A	24.16		15.37	25.85	18.88	25.60	20.84	19.59	25.97	20.01	21.22	17.64	17.89	23.98	23.37
Dissolved Oxygen (YSI)	mg/L	N/A	N/A	4.35		6.27	5.75	2.10	0.79	5.56	3.85	3.29	2.10	2.23	2.00	3.43	2.96	0.24
ORP	mV	N/A	N/A	-25.1		130.5	-122.4	97.0	29.0	73.5	59.2	34.6	186.2	73.2	5.7	73.4	-179.9	-8.2
Turbidity	NTU	N/A	N/A	8.62		2.97	1.82	12.9	0.76	7.76	1.01	0.21	6.62	5.2	78.3	4.31	1.50	1.64
Laboratory Results - Natural Attenuation Parameters																		
Nitrogen, Ammonia	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.894
Nitrogen, Nitrate	mg/L	N/A	N/A	--	--	1.3	0.45	--	--	--	--	--	0.26	0.38	0.065	0.091	< 0.050	< 0.0500
Sulfate	mg/L	N/A	N/A	--	--	33	59	--	--	--	--	--	60	55	35	64	92	27.5
Sulfide	mg/L	N/A	N/A	--	--	< 1.0	< 1.0	--	--	--	--	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.00
Dissolved Manganese	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.169
Total Manganese	mg/L	N/A	N/A	--	--	--	--	0.218	--	--	--	--	--	--	--	--	--	0.175
Ferrous Iron	mg/L	N/A	N/A	--	--	< 0.10 HF	< 0.010 HF	--	--	--	--	--	1.3 HF	0.40 HF	0.19 HF	0.29	2.8	4.86
Total Iron	mg/L	N/A	N/A	--	--	19	0.16	1.21	--	--	--	--	1.8	0.79	1.2	0.99	3.1	4.82
Carbon Dioxide	mg/L	N/A	N/A	--	--	120	0.37	--	--	--	--	--	110	1800	1.2	1.1	0.77	120
Methane	mg/L	N/A	N/A	--	--	< 0.58	<0.19	--	--	--	--	--	9.3	1.7	3.3	12	3.7	100
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	--	4.4	--	--	--	--	--	17	5300	3.9	4.2	4.7	16
Dissolved Oxygen	mg/L	N/A	N/A	--	--	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	< 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	< 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	< 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	< 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	< 5.0	< 5.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds																		
Acenaphthene	µg/L	2,000*	6,100	< 10	< 10	16	--	< 10	<0.50	< 0.50	< 10	< 10	1.3	--	--	--	--	< 10
Acenaphthylene	µg/L	470	3,100	< 10	< 10	13	--	< 10	<1.0	< 1.0	< 10	< 10	< 0.19	--	--	--	--	< 10
Anthracene	µg/L	4,700	31, 000	< 10	< 10	< 0.20	--	< 10	<0.050	< 0.050	< 10	< 10	< 0.19	--	--	--	--	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.20	< 0.20	< 0.20	--	--	<0.050	< 0.050	< 0.050	< 0.20	< 0.19	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.20	< 0.20	< 0.20	--	--	<0.050	< 0.050	< 0.050	< 0.20	< 0.19	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.20	< 0.20	< 0.20	--	--	<0.10	< 0.10	< 0.10	< 0.20	< 0.19	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 10	< 0.20	--	--	<0.10	< 0.10	< 10	< 10	< 0.19	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 10	< 0.20	--	--	<0.050	< 0.050	< 10	< 10	< 0.19	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 10	< 0.20	--	--	<0.050	< 0.050	< 10	< 10	< 0.19	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.20	< 0.20	< 0.20	--	--	<0.10	< 0.10	< 0.10	< 0.20	< 0.19	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 10	< 2.0	--	< 10	<10	< 10	< 10	< 10	< 1.9	--	--	--	--	< 10
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	1.6	--	< 10	<0.10	< 0.10	< 10	< 10	< 0.19	--	--	--	--	< 10
Fluorene	µg/L	1,000*	4,100	< 10	< 10	6.0	--	< 10	<0.10	< 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	0.10	< 0.050	< 0.20	< 0.19	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 2.0	--	< 10	<10	< 10	< 10	< 10	< 1.9	--	--	--	--	< 10
4-Methylphenol	µg/L	78	510	< 10	< 10	< 2.0	--	< 10	<10	< 10	< 10	< 10	< 1.9	--	--	--	--	< 10
Naphthalene	µg/L	20*	20*	< 10	< 10	7.8	< 9.8	< 10	<0.50	< 0.50	< 10	< 10	< 0.19	< 5.0	< 9.4	< 9.4	< 11	< 10
Phenanthrene	µg/L	470	3,100	< 10	< 10	0.48	--	< 10	<0.050	< 0.050	< 10	< 10	< 0.19	--	--	--	--	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 0.99	--	< 10	<10	< 10	< 10	< 10	< 0.97	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	< 10	4.7	--	< 10	0.16	< 0.050	< 10	< 10	0.29	--	--	--	--	< 10
Laboratory Results - Inorganic Constituents																		
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20	--	< 40	< 20.0	< 20.0	< 20.0	< 20.0	< 20	--	--	--	--	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 20	--	< 50	< 50.0	< 50.0	< 50.0	< 50.0	< 20	--	--	--	--	< 50
Barium	µg/L	2,000	7,200	31.2	31.4	100	59	39.6	59.5	48.6	72.5	61.6	66	69	58	64	0.11	56
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 4.0	--	--	< 10.0	< 10.0	< 10.0	< 10.0	< 4.0	--	--	--	--	--
Cadmium	mg/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	< 10	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 20	< 20	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 10
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10	< 10	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 40	< 40	< 20	< 20.0	< 20.0	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 20
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20	--	< 20	< 20.0	< 20.0	< 20.0	< 20.0	< 20	--	--	--	--	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	--	< 0.5	< 0.20	< 0.20	< 0.20	< 0.20	< 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

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Stamdard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7a
Summary of Alluvium Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-09 (Abandoned)																														
				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	N/A	N/A	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	mS/cm	N/A	N/A	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	N/A	N/A	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	N/A	N/A	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	N/A	N/A	-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	N/A	N/A	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	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.57	0.61	< 0.20	0.56	0.78	0.39	0.83	0.429	0.289	0.274	0.280
Nitrogen, Nitrate	mg/L	N/A	N/A	--	< 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	N/A	N/A	--	< 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	N/A	N/A	--	< 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	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	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	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	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	N/A	N/A	--	16 HF	--	--	--	--	< 10 HF	--	--	--	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	N/A	N/A	--	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	N/A	N/A	--	170	--	--	--	--	3.3	--	--	--	2.7	--	--	--	2.9	2.3	--	--	--	--	110	130	140	120	130	130	120	140	160	140	160
Methane	mg/L	N/A	N/A	--	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	N/A	N/A	--	--	--	--	--	--	4.4	--	--	--	3.9	--	--	--	3.3	4.0	--	--	--	--	19	17	16	15	21	17	14	15	19	15	16
Dissolved Oxygen	mg/L	N/A	N/A	--	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	3,800	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
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
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:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Stamdard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7a
Summary of Alluvium Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-10				MW-11																
				08/24/16	04/07/16	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	N/A	N/A	5.83	6.06	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	mS/cm	N/A	N/A	325.9	200	287	350	293	322	304	474	330	278	314	324	314	314	273	305	301	300	294	276	294
Temperature	°Celsius	N/A	N/A	26.56	19.02	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	N/A	N/A	0.09	1.87	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	N/A	N/A	20.7	80	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	N/A	N/A	1.44	23.9	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	mg/L	N/A	N/A	--	--	--	< 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	mg/L	N/A	N/A	--	--	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	N/A	N/A	--	--	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	N/A	N/A	--	--	< 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	N/A	N/A	--	--	--	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	N/A	N/A	--	--	--	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	N/A	N/A	--	--	< 0.10 HF	< 0.200 HF	< 0.10 HF	0.17 HF	0.15 HF	< 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	N/A	N/A	--	--	< 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	N/A	N/A	--	--	130	**	130	2.4	1.8	1.8	1.3	160	180	180	170	170	170	170	130	190	180	**	170
Methane	mg/L	N/A	N/A	--	--	< 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	N/A	N/A	--	--	--	**	--	5.2	4.6	4.6	4.1	22	15	14	14	18	18	17	14	14	17	**	15
Dissolved Oxygen	mg/L	N/A	N/A	--	--	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	<5.0	< 5.0	< 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	<5.0	< 5.0	< 2.0	--	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	<5.0	< 5.0	< 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
Toluene	µg/L	1,000*	1,100	<5.0	< 5.0	< 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
Total Xylenes	µg/L	31,000	200,000	<5.0	< 5.0	< 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
Semivolatile Organic Compounds																								
Acenaphthene	µg/L	2,000*	6,100	<0.50	< 0.50	< 0.20	< 10	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	<1.0	< 1.0	< 0.20	< 10	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31, 000	<0.050	< 0.050	< 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	<0.050	< 0.050	< 0.20	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	<0.050	< 0.050	< 0.20	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	<0.10	< 0.10	< 0.20	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	<0.10	< 0.10	< 0.20	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	<0.050	< 0.050	< 0.20	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	<0.050	< 0.050	< 0.20	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	<0.10	< 0.10	< 0.20	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	<10	< 10	< 2.0	< 10	< 2.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	<0.10	< 0.10	< 0.20	< 10	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	<0.10	< 0.10	< 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	<0.050	< 0.050	< 0.20	--	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	<10	< 10	< 2.0	< 10	< 2.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	<10	< 10	< 2.0	< 10	< 2.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	<0.50	< 0.50	< 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	<0.050	< 0.050	< 0.20	< 10	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	<10	< 10	< 0.98	< 10	< 0.98	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	<0.050	< 0.050	< 0.20	< 10	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Laboratory Results - Inorganic Constituents																								
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20	< 40	< 20	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 20	< 50	< 20	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	60.8	86.1	47	79.8	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	< 10.0	< 10.0	< 4.0	--	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	--	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 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	< 10.0	< 10.0	< 20	< 10	< 20	< 20	< 20	< 20	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 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	< 20.0	< 20.0	< 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	< 20.0	< 20.0	< 20	< 20	< 20	--	--	--	--	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 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	< 10	< 10	20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Stamdard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7a
Summary of Alluvium Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-12R							MW-12																
				08/24/16	04/06/16	02/06/13	02/09/12	02/15/11	2/11 DUP	02/23/10	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
Field Groundwater Quality Parameters																											
pH	SU	N/A	N/A	4.03	3.86	4.05	4.03	4.10	4.10	4.15	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
Specific Conductance	mS/cm	N/A	N/A	674.6	0.688	642	649	567	567	584	468	630	667	630	723	497	752	817	690	887	1492	1280	1196	968	617	964	788
Temperature	°Celsius	N/A	N/A	24.29	21.55	19.63	17.49	17.92	17.92	17.34	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
Dissolved Oxygen (YSI)	mg/L	N/A	N/A	0.14	0.25	1.24	1.26	4.12	4.12	0.70	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
ORP	mV	N/A	N/A	228.3	291.7	295.4	54.2	239.0	239.0	312.1	-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
Turbidity	NTU	N/A	N/A	2.15	6.91	4.15	8.55	2.26	2.26	1.85	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
Laboratory Results - Natural Attenuation Parameters																											
Nitrogen, Ammonia	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	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	mg/L	N/A	N/A	--	--	0.64	0.40	0.52	0.51	0.44	< 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
Sulfate	mg/L	N/A	N/A	--	--	290	270	260	250	230	--	--	--	--	--	227	161	164	134	517	487	607	378	481	301	457	281
Sulfide	mg/L	N/A	N/A	--	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	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
Dissolved Manganese	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	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	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	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	N/A	N/A	--	--	14 HF	15 HF	12 HF	12 HF	9.3	36	--	--	--	--	10.1	9.4	8.9	34	25.0	30.1	67.6	1.5	47.1	35.5	38.0	21.4
Total Iron	mg/L	N/A	N/A	--	--	15	17	13	13	9.8	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
Carbon Dioxide	mg/L	N/A	N/A	--	--	110	2.2	1.3	1.3	2.4	0.85	--	--	--	--	180	160	150	170	170	120	130	180	200	210	180	160
Methane	mg/L	N/A	N/A	--	--	51	79	31	34	36	1.7	--	--	--	--	14	6.9	4.3	25	10	16	7.6	21	43	82	33	40
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	--	5.6	3.7	4.3	3.9	4.4	--	--	--	--	26	16	15	15	20	18	13	14	18	15	22	11
Dissolved Oxygen	mg/L	N/A	N/A	--	--	6.3	1.8	1.4	1.5	1.3	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
Laboratory Results - Organic Constituents																											
Volatile Organic Compounds																											
Benzene	µg/L	5.0*	9.0	<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	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	5.9	31
Carbon Disulfide	µg/L	329	1700.0	<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	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 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	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 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
Total Xylenes	µg/L	31,000	200,000	<5.0	< 5.0	< 2.0	< 5.0	< 5.0	< 5.0	**6.8**	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 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	<0.50	< 0.50	< 0.19	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	<1.0	< 1.0	< 0.19	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31, 000	0.16	0.066	< 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	< 0.10	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	<0.050	< 0.050	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	<0.050	< 0.050	< 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	< 0.10	< 0.19	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	<0.10	< 0.10	< 0.19	--	--	--	--	--	--	--	--	--	< 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*	1.1	< 0.50	< 0.19	5.5	< 5.0	< 5.0	33	<9.8	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	26	24
Phenanthrene	µg/L	470	3,100	<0.050	< 0.050	< 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	1.2	0.17	0.47	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Laboratory Results - Inorganic Constituents																											
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20	--	--	--	--	--	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 20	--	--	--	--	--	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	< 20.0	< 20.0	< 10	12	15	15	20	40	< 20	< 20	22.1	< 20	< 20	< 20	21.0	< 20	< 20	< 20	24.8	< 20	< 20	< 20	35	31
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 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	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 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
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	14.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	<20	38.9	< 40	< 40	< 40	< 40	< 40	< 40	< 20	24.2	24.5	< 20	< 20	28.8	38.4	< 20	44.5	25.3	36.8	41	32	< 20	< 10	< 20
Zinc	µg/L	4,700	31,000	<20	12.1	76	--	--	--	--	--	--	--	--	--	111	183	246	74.2	320	149	215	254	187	51	107	26
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.54	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	< 10.0	< 10.0	74	73	66	66	46	< 10	< 10	< 10	< 10	12	< 10	< 10	44	18	39	21	33	10	27	19	30	19

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Stamdard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7a
Summary of Alluvium Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-12IR																	MW-12I																	
				08/24/16	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	N/A	N/A	5.60	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	mS/cm	N/A	N/A	613.2	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	N/A	N/A	22.28	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	N/A	N/A	0.10	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	N/A	N/A	59.2	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	N/A	N/A	7.50	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	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	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	mg/L	N/A	N/A	--	--	< 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	N/A	N/A	--	--	210	--	--	--	--	190	--	--	--	--	160	--	--	--	140	110	--	--	--	--	--	--	102	103	93.8	112	--	248	134	126	193	110	124	112	140	232
Sulfide	mg/L	N/A	N/A	--	--	< 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	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	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	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	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	N/A	N/A	--	--	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	N/A	N/A	--	--	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	N/A	N/A	--	--	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	N/A	N/A	--	--	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	N/A	N/A	--	--	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	N/A	N/A	--	--	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	< 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	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	<5.0	< 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	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	< 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	5.0	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	< 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	< 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
Semivolatile Organic Compounds																																							
Acenaphthene	µg/L	2,000*	6,100	6.8	< 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	4.4	< 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	0.43	< 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	0.60	0.47	0.62	0.58	0.72	0.72	0.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	0.072	< 0.20	< 0.19	< 0.23	< 0.19	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	<0.10	< 0.20	< 0.19	< 0.23	< 0.19	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	<0.10	< 10	< 0.19	< 0.23	< 0.19	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	<0.050	< 10	< 0.19	< 0.23	< 0.19	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	0.41	< 10	0.5	0.49	0.56	0.59	0.34	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	<0.10	< 0.20	< 0.19	< 0.23	< 0.19	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	<10	< 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	7.5	< 10	11	9.5	11	10	6.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	13	< 10	< 10	12	< 10	< 10
Fluorene	µg/L	1,000*	4,100	9.5	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	<0.050	< 0.20	< 0.19	< 0.23	< 0.19	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	<10	< 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	< 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*	<0.50	< 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	0.36	< 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	< 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	8.7	< 10	14	13	15	15	9.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	10	11	13	15	< 10	< 10	12	15	11	< 10
Laboratory Results - Inorganic Constituents																																							
Antimony	µg/L	6.3	40	<0.0200	< 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*	<0.0500	< 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	<20	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	< 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	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 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	< 10
Copper	µg/L	630	4,100	< 10.0	< 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	< 10
Lead	µg/L	15*	15*	< 10.0	< 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	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 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	<20	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	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 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	35	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	< 10

Notes:
Analyte was detected above laboratory detection limi
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well locatio
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemic
ft AMSL - feet Above Mean Sea Leve
RRS - Risk Reduction Standarc
SU - Stamdard Units
mS/cm - millisiemens per centimete
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity unit
N/A - RRS are not applicable to this paramete
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7a
Summary of Alluvium Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-14																				
				08/25/16	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	N/A	N/A	6.13	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	mS/cm	N/A	N/A	236.8	212	184	177	179	241	229	210	198	288	200	258	252	296	172	236	289	269	243	376	380	502
Temperature	°Celsius	N/A	N/A	24.99	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	N/A	N/A	0.74	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	N/A	N/A	64.8	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	N/A	N/A	4.01	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	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	< 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	mg/L	N/A	N/A	--	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	N/A	N/A	--	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	N/A	N/A	--	< 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	N/A	N/A	--	--	--	--	--	--	--	--	--	--	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	N/A	N/A	--	--	--	--	--	--	--	--	--	--	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	N/A	N/A	--	< 0.10 HF	3.5 HF	< 0.010 HF	< 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	N/A	N/A	--	< 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	N/A	N/A	--	54	1.7	0.47	0.50	0.46	--	--	--	--	53	85	75	78	46	50	64	82	60	84	66	120
Methane	mg/L	N/A	N/A	--	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	N/A	N/A	--	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	N/A	N/A	--	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	<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
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	< 5.0	< 5.0	< 5.0	< 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	< 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	< 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
Semivolatile Organic Compounds																								
Acenaphthene	µg/L	2,000*	6,100	4.1	< 0.22	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	4.0	< 0.22	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31, 000	0.12	< 0.22	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	<0.050	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	0.14	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	<0.10	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	<0.10	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	<0.050	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	<0.050	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	<0.10	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	<10	< 2.2	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	0.38	< 0.22	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	<0.10	< 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	1.9	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	<10	< 2.2	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	<10	< 2.2	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	<0.50	< 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	0.051	< 0.22	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	<10	< 1.1	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	0.84	< 0.22	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Laboratory Results - Inorganic Constituents																								
Antimony	µg/L	6.3	40	< 20	< 20	--	--	--	--	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 20	< 20	--	--	--	--	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	112	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	<10	< 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	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	< 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	< 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	< 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	< 20	--	--	--	--	--	--	--	--	297	126	< 20	22.6	< 20	< 20	< 20	24.3	47	36	< 20	37
Mercury	µg/L	2*	2*	< 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	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	12	< 10	< 10	43	52	120

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 2 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Stamdard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7a
Summary of Alluvium Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-14I																							
				08/25/16	04/05/16	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	N/A	N/A	6.24	6.52	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	mS/cm	N/A	N/A	514.8	0.4	269	250	278	315	423	448	416	401	432	399	417	467	--	463	393	436	421	421	453	453	429	464	461
Temperature	°Celsius	N/A	N/A	24.83	19.77	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	N/A	N/A	0.19	0.21	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	N/A	N/A	-27.7	4.9	-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	N/A	N/A	2.89	24.9	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	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	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	mg/L	N/A	N/A	--	--	< 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	N/A	N/A	--	--	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	N/A	N/A	--	--	< 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	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	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	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	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	N/A	N/A	--	--	6.4 HF	< 0.10 HF	3.4 HF	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	N/A	N/A	--	--	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	N/A	N/A	--	--	87	830	1.0	1.5	1.3	--	--	--	--	160	170	160	--	180	160	140	96	160	170	200	170	180	150
Methane	mg/L	N/A	N/A	--	--	74	2.4	14	82	69	--	--	--	--	320	430	420	--	400	44	340	550	610	470	700	520	650	280
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	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	N/A	N/A	--	--	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	<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	8.2	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	<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	< 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	<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	< 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	5.3	< 5.0	< 5.0
Semivolatile Organic Compounds																											
Acenaphthene	µg/L	2,000*	6,100	4.1	4.4	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	4.0	3.3	1.2	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	41
Anthracene	µg/L	4,700	31, 000	0.12	0.056	< 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	<0.050	< 0.050	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.392	0.14	< 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	< 0.10	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	12	39	<0.050	< 0.050	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	<0.050	< 0.050	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.392	<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	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	0.38	0.11	0.48	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	<0.10	1.60	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	1.9	< 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	< 10	< 10
4-Methylphenol	µg/L	78	510	<10	< 10	< 1.9	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	<0.50	< 0.50	< 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	0.051	< 0.050	< 0.19	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	<10	< 10	1.2	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	0.84	0.27	0.93	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Laboratory Results - Inorganic Constituents																											
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20	--	--	--	--	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 20	--	--	--	--	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	112	129	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	< 10.0	< 10.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 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	< 10.0	< 10.0	< 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*	< 10.0	< 10.0	< 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	< 20.0	< 20.0	< 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	20.9	< 20	--	--	--	--	--	--	--	--	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 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	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	14	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 2 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Stamdard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7a
Summary of Alluvium Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-15																												
				08/25/16	04/06/16	4/16 DUP	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	N/A	N/A	5.68	5.45		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	mS/cm	N/A	N/A	811.3	400		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	N/A	N/A	26.16	20.45		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	N/A	N/A	0.24	0.33		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	N/A	N/A	24.1	116.5		-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	N/A	N/A	3.40	11.10		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	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 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	mg/L	N/A	N/A	--	--	--	--	--	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	N/A	N/A	--	--	--	--	--	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	N/A	N/A	--	--	--	--	--	< 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	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	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	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	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	N/A	N/A	--	--	--	--	--	0.13 HF	0.28 HF	< 0.10 HF	0.11 HF	< 0.010 HF	< 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	N/A	N/A	--	--	--	--	--	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	N/A	N/A	--	--	--	--	--	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	N/A	N/A	--	--	--	--	--	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	N/A	N/A	--	--	--	--	--	--	--	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	N/A	N/A	--	--	--	--	--	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	< 5.0	< 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	< 5.0
Carbon Disulfide	µg/L	329	1700.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	<5.0	< 5.0	< 5.0	< 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	< 5.0
Toluene	µg/L	1,000*	1,100	<5.0	< 5.0	< 5.0	< 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	< 5.0
Total Xylenes	µg/L	31,000	200,000	<5.0	< 5.0	< 5.0	< 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	< 5.0
Semivolatile Organic Compounds																																
Acenaphthene	µg/L	2,000*	6,100	<0.50	< 0.50	< 0.50	< 0.50	< 10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	<1.0	< 1.0	< 1.0	< 1.0	< 10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31, 000	0.14	< 0.050	< 0.050	0.11	< 10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	0.13	< 0.050	< 0.050	< 0.050	< 0.050	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	0.14	< 0.050	< 0.050	< 0.050	< 0.050	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	0.12	< 0.10	< 0.10	< 0.10	< 0.10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	0.16	< 0.10	< 0.10	< 0.10	< 10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	0.14	< 0.050	< 0.050	< 0.050	< 10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	0.15	< 0.050	< 0.050	< 0.050	< 10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	<0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	0.13	< 10	< 10	< 10	< 10	< 2.1	< 2.1	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	<0.10	< 0.10	< 0.10	< 0.10	< 10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	<0.10	< 0.10	< 0.10	< 0.10	< 10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	< 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	0.15	< 0.050	< 0.050	< 0.050	< 0.050	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	<10	< 10	< 10	< 10	< 10	< 2.1	< 2.1	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	<10	< 10	< 10	< 10	< 10	< 2.1	< 2.1	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	<0.50	< 0.50	< 0.50	< 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	< 10
Phenanthrene	µg/L	470	3,100	<0.050	< 0.050	< 0.050	< 0.050	< 10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	< 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	< 1.1	< 1.1	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	0.055	< 0.050	< 0.050	< 0.050	< 10	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 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	< 20	--	--	--	--	--	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 20	< 20	--	--	--	--	--	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	31.7	31.5	32.6	33.6	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	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10.0	< 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	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 10.0	< 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	< 10
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 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	< 10
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 20.0	< 20.0	< 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	< 20
Zinc	µg/L	4,700	31,000	23.9	50.0	50.6	< 20.0	297	320	330	--	--	--	--	--	--	--	--	--	< 20	< 20	< 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	< 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	< 0.5
Total Cyanide	µg/L	310	2,000	14.1	14	12	11.3	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:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Stamdard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7a
Summary of Alluvium Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-21				MW-23		
				08/25/16	04/06/16	04/30/15	07/12/06	02/13/12	02/24/11	03/05/04
Field Groundwater Quality Parameters										
pH	SU	N/A	N/A		5.92	5.99	--	6.07	6.16	6.20
Specific Conductance	mS/cm	N/A	N/A		95	58	--	287	272	347
Temperature	°Celsius	N/A	N/A		17.35	16.44	--	19.25	16.63	20.76
Dissolved Oxygen (YSI)	mg/L	N/A	N/A		0.19	0.98	--	6.32	1.42	1.86
ORP	mV	N/A	N/A		5.7	-44.1	--	0.5	9.1	42.5
Turbidity	NTU	N/A	N/A		6.8	14.1	--	3.89	0.56	10.65
Laboratory Results - Natural Attenuation Parameters										
Nitrogen, Ammonia	mg/L	N/A	N/A	--	--	--	--	--	--	--
Nitrogen, Nitrate	mg/L	N/A	N/A	--	--	--	--	0.85	0.75	--
Sulfate	mg/L	N/A	N/A	--	--	--	--	36	35	--
Sulfide	mg/L	N/A	N/A	--	--	--	--	< 1.0	< 1.0	--
Dissolved Manganese	mg/L	N/A	N/A	--	--	--	--	--	--	--
Total Manganese	mg/L	N/A	N/A	--	--	--	--	--	--	< 0.005
Ferrous Iron	mg/L	N/A	N/A	--	--	--	--	< 0.10 HF	< 0.010 HF	--
Total Iron	mg/L	N/A	N/A	--	--	--	--	< 0.10	< 0.010	0.171
Carbon Dioxide	mg/L	N/A	N/A	--	--	--	--	1.6	1.0	--
Methane	mg/L	N/A	N/A	--	--	--	--	< 0.58	<0.58	--
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	--	--	5.0	4.4	--
Dissolved Oxygen	mg/L	N/A	N/A	--	--	--	--	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	< 5.0	< 5.0
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	< 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
Naphthalene	µg/L	31,000	200,000	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds										
Acenaphthene	µg/L	2,000*	6,100	<0.50	< 0.50	< 10	< 10	--	--	< 10
Acenaphthylene	µg/L	470	3,100	<1.0	< 1.0	< 10	< 10	--	--	< 10
Anthracene	µg/L	4,700	31, 000	<0.050	< 0.050	< 10	< 10	--	--	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	<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	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	<0.10	< 0.10	< 0.10	< 0.10	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	<0.10	< 0.10	< 10	< 10	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	<0.050	< 0.050	< 10	< 10	--	--	--
Chrysene	µg/L	117	392	<0.050	< 0.050	< 10	< 0.050	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	<0.10	< 0.10	< 0.10	< 0.10	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	<10	< 10	< 10	--	--	--	< 10
Fluoranthene	µg/L	1,000*	4,100	<0.10	< 0.10	< 10	< 10	--	--	< 10
Fluorene	µg/L	1,000*	4,100	<0.10	< 0.10	< 10	< 10	--	--	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	<0.050	< 0.050	< 0.050	< 0.050	--	--	--
2-Methylphenol	µg/L	780	5,100	<10	< 10	< 10	--	--	--	< 10
4-Methylphenol	µg/L	78	510	<10	< 10	< 10	--	--	--	< 10
Naphthalene	µg/L	20*	20*	<0.50	< 0.50	< 10	< 10	< 5.0	< 5.0	< 10
Phenanthrene	µg/L	470	3,100	<0.050	< 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	< 0.050	< 10	< 10	--	--	< 10
Laboratory Results - Inorganic Constituents										
Antimony	µg/L	6.3	40	<0.0200	< 20.0	< 20.0	< 20.0	--	--	< 40
Arsenic	µg/L	50*	50*	<0.0500	< 50.0	< 50.0	< 50.0	--	--	< 50
Barium	µg/L	2,000	7,200	**0.158**	96.8	75.6	73	74	67	71.8
Beryllium	µg/L	31	200	<0.0100	< 10.0	< 10.0	< 10.0	--	--	--
Cadmium	µg/L	7.8	51	0.0055	< 5.0	< 5.0	< 5.0	--	--	--
Chromium	µg/L	100	310	<0.0100	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10
Copper	µg/L	630	4,100	0.0143	< 10.0	< 10.0	< 10.0	< 20	< 20	< 10
Lead	µg/L	15*	15*	<0.0100	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10
Nickel	µg/L	100	2,000	<0.0200	< 20.0	< 20.0	< 20.0	< 40	< 40	< 20
Zinc	µg/L	4,700	31,000	0.134	165	< 20.0	< 20.0	--	--	< 20
Mercury	µg/L	2*	2*	<0.00020	< 0.20	< 0.20	< 0.20	--	--	< 0.5
Total Cyanide	µg/L	310	2,000	<0.010	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 2 RRS
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Stamdard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7a
Summary of Alluvium Groundwater Analytical Data
November 2001 through August 2016
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	N/A	N/A	5.16	4.48	5.35	5.45	5.44	5.08	5.33
Specific Conductance	mS/cm	N/A	N/A	409	342	391	331	398	346	334
Temperature	°Celsius	N/A	N/A	20.52	21.08	18.99	19.16	15.26	23.74	21.73
Dissolved Oxygen (YSI)	mg/L	N/A	N/A	0.66	0.44	1.01	0.88	3.33	6.63	0.25
ORP	mV	N/A	N/A	-31.1	523.5	79.2	447.3	175.9	-76.5	213.5
Turbidity	NTU	N/A	N/A	1.3	6.39	1.85	0.80	8.42	2.82	7.09
Laboratory Results - Natural Attenuation Parameters										
Nitrogen, Ammonia	mg/L	N/A	N/A	--	--	--	--	--	--	< 0.200
Nitrogen, Nitrate	mg/L	N/A	N/A	--	6.3	< 5.0	4.0	3.3	2.1	2.38
Sulfate	mg/L	N/A	N/A	--	89	< 5.0	96	110	95	85.1
Sulfide	mg/L	N/A	N/A	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dissolved Manganese	mg/L	N/A	N/A	--	--	--	--	--	--	0.0591
Total Manganese	mg/L	N/A	N/A	--	--	--	--	--	--	0.059
Ferrous Iron	mg/L	N/A	N/A	--	0.11 HF	37 HF	< 0.010 HF	< 0.010	< 0.1	< 0.1
Total Iron	mg/L	N/A	N/A	--	0.15	45	< 0.010	0.24	< 0.1	< 0.1
Carbon Dioxide	mg/L	N/A	N/A	--	170	4.2	0.96	2.1	0.74	230
Methane	mg/L	N/A	N/A	--	< 0.58	< 0.58	< 0.58	< 0.19	0.21	0.60
Dissolved Nitrogen	mg/L	N/A	N/A	--	16	4.1	4.7	3.7	4.2	14
Dissolved Oxygen	mg/L	N/A	N/A	--	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
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
Inorganic Constituents										
Antimony	µg/L	6.3	40	< 20.0	< 20	--	--	--	--	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 20	--	--	--	--	< 50
Barium	µg/L	2,000	7,200	33.6	32	820	33	40	32	33
Beryllium	µg/L	31	200	< 10.0	< 4.0	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 20	< 20	< 20	< 20	< 20	< 10
Lead	µg/L	15*	15*	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 40	< 40	< 40	< 40	< 40	< 20
Zinc	µg/L	4,700	31,000	47.0	59	--	--	--	--	28
Mercury	µg/L	2*	2*	< 0.20	< 0.20	--	--	--	--	< 0.5
Total Cyanide	µg/L	310	2,000	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Stamdard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7a
Summary of Alluvium Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-26		MW-28				
				08/23/16	02/05/13	8/24/2016	04/05/16	02/07/13	03/05/04	03/04 DUP
Field Groundwater Quality Parameters										
pH	SU	N/A	N/A	6.01	6.41	6.07	6.30	6.28	6.73	6.73
Specific Conductance	mS/cm	N/A	N/A	283.7	642	257.5	148	240	412	412
Temperature	°Celsius	N/A	N/A	22.81	14.36	33.48	21.42	16.97	17.56	17.56
Dissolved Oxygen (YSI)	mg/L	N/A	N/A	0.18	0.65	0.14	2.16	1.96	0.42	0.42
ORP	mV	N/A	N/A	21.0	-28.2	-61.6	42.1	14.0	-125.5	-125.5
Turbidity	NTU	N/A	N/A	5.25	2.02	1.31	48.4	8.27	20.2	20.2
Laboratory Results - Natural Attenuation Parameters										
Nitrogen, Ammonia	mg/L	N/A	N/A	--	--	--	--	--	--	--
Nitrogen, Nitrate	mg/L	N/A	N/A	--	< 0.050	--	--	0.12	--	--
Sulfate	mg/L	N/A	N/A	--	200	--	--	15	--	--
Sulfide	mg/L	N/A	N/A	--	4.5	--	--	< 1.0	--	--
Dissolved Manganese	mg/L	N/A	N/A	--	--	--	--	--	--	--
Total Manganese	mg/L	N/A	N/A	--	--	--	--	--	6.11	6.14
Ferrous Iron	mg/L	N/A	N/A	--	34 HF	--	--	9.2 HF	--	--
Total Iron	mg/L	N/A	N/A	--	50	--	--	10	34.3	35.6
Carbon Dioxide	mg/L	N/A	N/A	--	170	--	--	72.0	--	--
Methane	mg/L	N/A	N/A	--	32	--	--	82	--	--
Dissolved Nitrogen	mg/L	N/A	N/A	--	18	--	--	--	--	--
Dissolved Oxygen	mg/L	N/A	N/A	--	2.0	--	--	6.6	--	--
Laboratory Results - Organic Constituents										
Volatile Organic Compounds										
Benzene	µg/L	5.0*	9	<5.0	< 1.0	<5.0	< 5.0	< 1.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	<5.0	< 2.0	<5.0	< 5.0	< 2.0	--	--
Ethylbenzene	µg/L	700*	2,300	<5.0	< 1.0	<5.0	< 5.0	< 1.0	< 5.0	< 5.0
Toluene	µg/L	1,000*	1,100	<5.0	< 1.0	<5.0	< 5.0	< 1.0	< 5.0	< 5.0
Naphthalene	µg/L	31,000	200,000	<5.0	< 2.0	<5.0	< 5.0	< 2.0	< 5.0	< 5.0
Semivolatile Organic Compounds										
Acenaphthene	µg/L	2,000*	6,100	<0.50	< 2.0	<0.50	< 0.50	< 0.19	< 10	< 10
Acenaphthylene	µg/L	470	3,100	<1.0	< 2.0	<1.0	< 1.0	< 0.19	< 10	< 10
Anthracene	µg/L	4,700	31, 000	<0.050	< 2.0	<0.050	< 0.050	< 0.19	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	<0.050	< 2.0	<0.050	< 0.050	< 0.19	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	<0.050	< 2.0	<0.050	< 0.050	< 0.19	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	<0.10	< 2.0	<0.10	< 0.10	< 0.19	--	--
Benzo[g,h,i]perylene	µg/L	10	10	<0.10	< 2.0	<0.10	< 0.10	< 0.19	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	<0.050	< 2.0	<0.050	< 0.050	< 0.19	--	--
Chrysene	µg/L	117	392	<0.050	< 2.0	<0.050	< 0.050	< 0.19	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	<0.10	< 2.0	<0.10	< 0.10	< 0.19	--	--
2,4-Dimethylphenol	µg/L	700*	700*	<10	< 20	<10	< 10	< 1.9	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	<0.10	< 2.0	<0.10	< 0.10	< 0.19	< 10	< 10
Fluorene	µg/L	1,000*	4,100	<0.10	< 2.0	<0.10	< 0.10	< 0.19	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	<0.050	< 2.0	<0.050	< 0.050	< 0.19	--	--
2-Methylphenol	µg/L	780	5,100	<10	< 20	<10	< 10	< 1.9	< 10	< 10
4-Methylphenol	µg/L	78	510	<10	< 20	<10	< 10	< 1.9	< 10	< 10
Naphthalene	µg/L	20*	20*	<0.50	< 2.0	<0.50	< 0.50	< 0.19	< 10	< 10
Phenanthrene	µg/L	470	3,100	<0.050	< 2.0	0.053	< 0.050	< 0.19	< 10	< 10
Phenol	µg/L	9,390	61,000	<10	< 9.9	<10	< 10	< 0.97	< 10	< 10
Pyrene	µg/L	1,000*	3,100	<0.050	< 2.0	<0.050	< 0.050	< 0.19	< 10	< 10
Laboratory Results - Inorganic Constituents										
Antimony	µg/L	6.3	40	< 20.0	< 20	< 20.0	< 20.0	< 20	< 40	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 20	< 50.0	< 50.0	< 20	< 50	< 50
Barium	µg/L	2,000	7,200	48.7	120	8.07	64.9	82	115	115
Beryllium	µg/L	31	200	< 10.0	< 4.0	<10	< 10.0	< 4.0	--	--
Cadmium	µg/L	7.8	51	<5.0	< 5.0	< 5.0	40.3	< 5.0	--	--
Chromium	µg/L	100	310	< 10.0	< 10	< 10	< 10.0	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 20	< 20	< 10.0	< 20	< 10	< 10
Lead	µg/L	15*	15*	< 10.0	< 10	< 10	< 10.0	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 40	< 40	< 20.0	< 40	< 20	< 20
Zinc	µg/L	4,700	31,000	< 20.0	< 20	< 20	< 20.0	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	< 10.0	< 10	< 10	< 10.0	< 10	< 10	< 10

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 2 RRS (RRS applicable to the well location)
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Stamdard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7a
Summary of Alluvium Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-101																										
				08/25/16	04/07/16	4/16 DUP	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	N/A	N/A	5.94	6.10		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	mS/cm	N/A	N/A	370.8	400		534	490	498		814		1049		1125	976		828		997		1.185		404	696	954		958	948		720
Temperature	°Celsius	N/A	N/A	26.25	21.77		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	N/A	N/A	0.38	0.16		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	N/A	N/A	21.4	17.3		-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	N/A	N/A	6.43	23		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	mg/L	N/A	N/A	--			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Nitrate	mg/L	N/A	N/A	--			--	--	--	--	69	69	--	--	--	--	--	69	72	--	--	--	--	--	3.4	--	--	--	--	6.6
Sulfate	mg/L	N/A	N/A	--			--	--	--	--	120	120	--	--	--	--	--	170	160	--	--	--	--	--	280	--	--	--	--	210
Sulfide	mg/L	N/A	N/A	--			--	--	--	--	< 1.0	< 1.0	--	--	--	--	--	< 1.0	< 1.0	--	--	--	--	--	5.9	--	--	--	--	< 1.0
Dissolved Manganese	mg/L	N/A	N/A	--			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Manganese	mg/L	N/A	N/A	--			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ferrous Iron	mg/L	N/A	N/A	--			--	--	--	--	5.5 HF	5.6 HF	--	--	--	--	--	2.8 HF	2.4 HF	--	--	--	--	--	10 HF	--	--	--	--	5.6
Total Iron	mg/L	N/A	N/A	--			--	--	--	--	5.6	5.5	--	--	--	--	--	3.2	3.1	--	--	--	--	--	12	--	--	--	--	14
Carbon Dioxide	mg/L	N/A	N/A	--			--	--	--	--	76	69	--	--	--	--	--	1.3	1.3	--	--	--	--	--	0.62	--	--	--	--	1.3
Methane	mg/L	N/A	N/A	--			--	--	--	--	3.5	3.4	--	--	--	--	--	10	11	--	--	--	--	--	61	--	--	--	--	1400
Dissolved Nitrogen	mg/L	N/A	N/A	--			--	--	--	--	--	--	--	--	--	--	--	5.8	4.9	--	--	--	--	--	4.7	--	--	--	--	3.7
Dissolved Oxygen	mg/L	N/A	N/A	--			--	--	--	--	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	6.5	6.3	< 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	< 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	< 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	< 5.0	< 5.0	< 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	< 5.0	< 5.0	< 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
Semivolatile Organic Compounds																														
Acenaphthene	µg/L	2,000*	6,100	4.1	3.7	3.9	11	< 10	< 10	< 10	11	7.0	17	16	19	18	26	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	1.4	1.3	1.3	5.2	< 10	< 10	< 10	3.8	2.2	4.7	4.4	6.8	7.1	9.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	0.43	0.25	0.25	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	< 0.050	< 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	0.070	< 0.050	< 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	< 0.10	< 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	0.11	< 0.10	< 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	0.085	< 0.050	< 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	0.054	< 0.050	< 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	0.16	< 0.10	< 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	< 10	< 10	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	0.73	0.31	0.3	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	2.1	2.7	2.8	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	0.11	< 0.050	< 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	< 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	< 10	< 10	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	µg/L	20*	20*	<0.50	12	14	< 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	0.062	0.35	0.35	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	< 10	< 10	< 10	1.4	< 0.99	< 0.99	< 0.99	< 0.98	0.99	< 11	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	0.51	0.21	0.22	0.92	< 10	< 10	< 10	0.44	0.35	1.1	1.1	1.1	0.38	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Inorganic Constituents																														
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Barium	µg/L	2,000	7,200	39.4	86.1	88.6	45.3	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	< 10.0	< 10.0	< 10.0	< 10.0	< 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	< 5.0	< 5.0	< 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	< 10.0	< 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	< 10.0	< 10.0	< 10.0	< 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*	< 10.0	< 10.0	< 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
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 20.0	< 20.0	< 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	< 20.0	< 20.0	< 20.0	< 20.0	26.3	78.5	50.6	190	180	< 20	< 20	< 20	53	53	--	--	--	--	--	--	--	--	--	--	--	--	--	--
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	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	66	13	< 10	39	30	40	21	110	110	230	190	160	55	100	83	60	--	--	--	--	--	140	--	--	--	--	--	71

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Stamdard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7a
Summary of Alluvium Groundwater Analytical Data
November 2001 through August 2016
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	N/A	N/A	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	mS/cm	N/A	N/A	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	N/A	N/A	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	N/A	N/A	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	N/A	N/A	-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	N/A	N/A	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	mg/L	N/A	N/A	--	--	--	--	--	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	mg/L	N/A	N/A	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	N/A	N/A	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	N/A	N/A	< 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	N/A	N/A	--	--	--	--	--	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	N/A	N/A	--	--	--	--	--	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	N/A	N/A	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	N/A	N/A	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	N/A	N/A	0.41	--	--	--	--	160	170	150	140	120	110	75	99	98	100	100	110	110	120	120	180	220	200	220
Methane	mg/L	N/A	N/A	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	N/A	N/A	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	N/A	N/A	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
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
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:

Analyte was detected above laboratory detection limit

Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)

*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Stamdard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7a
Summary of Alluvium Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-102																														
				08/25/16	04/06/16	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	N/A	N/A	5.72	5.95	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	mS/cm	N/A	N/A	876.0	300	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	N/A	N/A	25.40	16.08	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	N/A	N/A	0.42	0.26	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[4]	0.55	0.23	0.40	0.06	0.12	NM	0.50
ORP	mV	N/A	N/A	94.1	59.0	-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	N/A	N/A	1.60	9.22	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	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.59	0.32	1.07	1.84	1.95	1.72	4.71	3.80	5.21	8.85	14.5
Nitrogen, Nitrate	mg/L	N/A	N/A	--	--	--	--	--	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	N/A	N/A	--	--	--	--	--	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	N/A	N/A	--	--	--	--	--	< 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	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	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	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	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	N/A	N/A	--	--	--	--	--	< 0.10 HF	--	--	--	< 0.10 HF	--	--	--	< 0.010 HF	--	--	--	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	N/A	N/A	--	--	--	--	--	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	N/A	N/A	--	--	--	--	--	37	--	--	--	0.97	--	--	--	0.78	--	--	--	0.45	1.1	--	--	--	--	100	83	49	160	120	98	120	90	49	81	150
Methane	mg/L	N/A	N/A	--	--	--	--	--	< 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	N/A	N/A	--	--	--	--	--	19	--	--	--	5.0	--	--	--	4.5	--	--	--	3.9	4.4	--	--	--	--	26	15	16	16	22	16	13	15	21	15	16
Dissolved Oxyger	mg/L	N/A	N/A	--	--	--	--	--	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	< 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	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	<5.0	< 5.0	< 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	< 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	< 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
Semivolatile Organic Compounds																																				
Acenaphthene	µg/L	2,000*	6,100	<0.50	< 0.50	< 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	< 1.0	< 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	< 0.050	< 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	0.069	< 0.050	< 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	< 0.050	< 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	< 0.10	< 0.10	< 0.20	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	<0.10	< 0.10	< 0.10	< 10	< 10	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	<0.050	< 0.050	< 0.050	< 10	< 10	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	<0.050	< 0.050	< 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	< 0.10	< 0.10	< 0.20	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylpheno	µg/L	700*	700*	<10	< 10	< 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	< 0.10	< 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	< 0.10	< 0.10	< 10	< 10	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	<0.050	< 0.050	< 0.050	< 0.050	< 0.20	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylpheno	µg/L	780	5,100	<10	< 10	< 10	< 10	< 10	< 2.5	< 2.0	< 1.9	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylpheno	µg/L	78	510	<10	< 10	< 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	< 0.50	< 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	< 0.050	< 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	< 10	< 10	< 1.2	< 0.99	< 0.95	< 1.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	11	< 10	< 10
Pyrene	µg/L	1,000*	3,100	<0.050	< 0.050	< 0.050	< 10	< 10	< 0.25	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Inorganic Constituents																																				
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 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	**129**	58.4	210	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	< 10.0	< 10.0	< 10.0	< 10.0	< 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	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 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	< 10.0	< 10.0	< 10.0	< 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*	< 10.0	< 10.0	< 10.0	< 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	<20	0.0408	< 20.0	< 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	304	532	242	124	184	470	28	< 20	30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 20	< 20	< 20	55	< 20	< 20	< 20	< 20	< 20	30	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 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	247	< 10.0	< 10.0	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:
Analyte was detected above laboratory detection limi
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well locatior
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Stamdard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7a
Summary of Alluvium Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-103																		
				8/24/2016	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	N/A	N/A	5.03	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	mS/cm	N/A	N/A	83.2	348	324	408	224	535	961	785	778	743	759	651	743	723	1,212	719	673	695	644	674
Temperature	°Celsius	N/A	N/A	25.60	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	N/A	N/A	1.12	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	N/A	N/A	263.3	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	N/A	N/A	2.11	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	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	33.6	25.9	17.8	31.2	25.4	1.02	40.0	37.4	9.89	9.66	20.3
Nitrogen, Nitrate	mg/L	N/A	N/A	--	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	N/A	N/A	--	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	N/A	N/A	--	< 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	N/A	N/A	--	--	--	--	--	--	--	--	--	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	N/A	N/A	--	--	--	--	--	--	--	--	--	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	N/A	N/A	--	< 0.10 HF	< 0.10 HF	0.22 HF	< 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	N/A	N/A	--	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	N/A	N/A	--	42	1.0	1.6	0.57	0.41	--	--	--	94	100	92	100	130	100	91	110	110	120	120
Methane	mg/L	N/A	N/A	--	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	N/A	N/A	--	--	7.7	4.0	3.6	4.8	--	--	--	24	15	14	19	22	17	15	13	19	15	15
Dissolved Oxygen	mg/L	N/A	N/A	--	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	<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	15	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1700	<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	< 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	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 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	< 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
Semivolatile Organic Compounds																						
Acenaphthene	µg/L	2,000*	6,100	<0.50	< 0.20	--	--	--	--	--	--	--	< 10	< 10	< 10	30	44	50	60	39	22 J	21	21
Acenaphthylene	µg/L	470	3,100	<1.0	< 0.20	--	--	--	--	--	--	--	< 10	< 10	14	14	28	30	45	18	< 10	11	< 10
Anthracene	µg/L	4,700	31, 000	<0.050	< 0.20	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 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	<0.10	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	<0.050	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	<0.050	< 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	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	<0.10	< 0.20	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	<0.10	< 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	<0.050	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	<10	< 2.0	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	<10	< 2.0	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	<0.50	< 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	<0.050	< 0.20	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	<10	< 1.0	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	<0.050	< 0.20	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Laboratory Results - Inorganic Constituents																						
Antimony	µg/L	6.3	40	< 20	< 20	--	--	--	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 20	< 20	--	--	--	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	38.3	100	160	28	75	250	193	251	135	135	178	139	180	184	169	148	150	192	180	229
Beryllium	µg/L	31	200	< 5.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 10	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 20	< 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	< 10	< 20	< 20	24	< 20	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 40	< 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	< 20	< 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	< 0.20	< 20	--	--	--	--	--	--	--	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 10	< 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	<0.010	< 10	< 10	61	< 10	12	12	13	22	38	37	< 10	23	14	21	19	< 10	< 10	57	< 10

Notes:

Analyte was detected above laboratory detection limit

Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)

*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Stamdard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7a
Summary of Alluvium Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-104																	
				8/25/2016	4/5/2016	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	N/A	N/A	5.40	6.53	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	mS/cm	N/A	N/A	181.8	300	159	154	168	127	241	217	238	259	280	273	280	279	271	298	316	361	361
Temperature	°Celsius	N/A	N/A	28.60	21.37	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	N/A	N/A	0.43	4.83	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	N/A	N/A	171.1	65.8	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	N/A	N/A	8.27	3.95	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	mg/L	N/A	N/A	--	--	--	--	--	--	--	< 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	mg/L	N/A	N/A	--	--	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	N/A	N/A	--	--	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	N/A	N/A	--	--	< 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	N/A	N/A	--	--	--	--	--	--	--	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	N/A	N/A	--	--	--	--	--	--	--	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	N/A	N/A	--	--	< 0.10 HF	< 0.10 HF	< 0.010 HF	< 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	N/A	N/A	--	--	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	N/A	N/A	--	--	60	1.3	0.77	0.59	2.2	100	110	110	130	110	130	110	120	120	120	150	150
Methane	mg/L	N/A	N/A	--	--	< 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	N/A	N/A	--	--	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	N/A	N/A	--	--	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	<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
Carbon Disulfide	µg/L	329	1,700	<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	< 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	< 5.0	< 5.0	< 5.0	< 5.0	< 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
Semivolatile Organic Compounds																						
Acenaphthene	µg/L	2,000*	6,100	<0.50	< 0.50	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	<1.0	< 1.0	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31, 000	<0.050	< 0.050	< 0.20	--	--	--	--	< 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	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	<0.050	< 0.050	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	<0.10	< 0.10	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	<0.10	< 0.10	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	<0.050	< 0.050	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	<0.050	< 0.050	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	<0.10	< 0.10	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	<10	< 10	< 2.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	<0.10	< 0.10	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	<0.10	< 0.10	< 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	<0.050	< 0.050	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	<10	< 10	< 2.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	<10	< 10	< 2.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	<0.50	< 0.50	< 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	<0.050	< 0.050	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	<10	< 10	< 0.99	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	<0.050	< 0.050	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	--	< 10	< 10	< 10	< 10	< 10
Laboratory Results - Inorganic Constituents																						
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 20	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	**36.1**	109	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	< 10.0	< 10.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20	--	--	--	--	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 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	< 10.0	< 10.0	< 10	< 10	< 10	< 10	12	< 10	< 10	< 10	< 10	< 10	< 10	10	< 10	< 10	< 10	11	11

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Stamdard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7a
Summary of Alluvium Groundwater Analytical Data
November 2001 through August 2016
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	04/07/16	02/06/13	06/11/03
Field Groundwater Quality Parameters																					
pH	SU	N/A	N/A	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	5.56	5.04	5.39
Specific Conductance	mS/cm	N/A	N/A	151	137	153	128	218	224	242	248	257	274	275	303	326	318	316	308	607	317	238
Temperature	°Celsius	N/A	N/A	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	19.95	20.97	21.75
Dissolved Oxygen (YSI)	mg/L	N/A	N/A	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	1.08	1.80	1.51
ORP	mV	N/A	N/A	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	98.7	257.2	208.7
Turbidity	NTU	N/A	N/A	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	8.43	9.9	12.8
Laboratory Results - Natural Attenuation Parameters																						
Nitrogen, Ammonia	mg/L	N/A	N/A	--	--	--	--	--	< 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	mg/L	N/A	N/A	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	N/A	N/A	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	N/A	N/A	< 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	N/A	N/A	--	--	--	--	--	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	N/A	N/A	--	--	--	--	--	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	N/A	N/A	< 0.10 HF	< 0.10 HF	< 0.010 HF	< 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	N/A	N/A	< 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	N/A	N/A	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	N/A	N/A	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	N/A	N/A	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	N/A	N/A	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	< 5.0	< 1.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5.0	< 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	< 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	< 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	< 5.0	< 2.0	< 5.0
Semivolatile Organic Compounds																						
Acenaphthene	µg/L	2,000*	6,100	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.50	< 0.20	< 10
Acenaphthylene	µg/L	470	3,100	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 1.0	< 0.20	< 10
Anthracene	µg/L	4,700	31, 000	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.050	< 0.20	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.050	< 0.20	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.050	< 0.20	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.10	< 0.20	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.10	< 0.20	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.050	< 0.20	--
Chrysene	µg/L	117	392	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.050	< 0.20	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.10	< 0.20	--
2,4-Dimethylphenol	µg/L	700*	700*	< 2.0	--	--	--	--	< 10	< 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	< 0.10	< 0.20	< 10
Fluorene	µg/L	1,000*	4,100	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.10	< 0.20	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.050	< 0.20	--
2-Methylphenol	µg/L	780	5,100	< 2.0	--	--	--	--	< 10	< 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	< 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	< 0.50	< 0.20	< 10
Phenanthrene	µg/L	470	3,100	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.050	< 0.20	< 10
Phenol	µg/L	9,390	61,000	< 0.99	--	--	--	--	< 10	< 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	< 0.050	< 0.20	< 10
Laboratory Results - Inorganic Constituents																						
Antimony	µg/L	6.3	40	< 20	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 0.0200	< 20	< 40
Arsenic	µg/L	50*	50*	< 20	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 0.0500	< 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	49	32	59.6
Beryllium	µg/L	31	200	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.0100	< 4.0	--
Cadmium	µg/L	7.8	51	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.0050	< 5.0	--
Chromium	µg/L	100	310	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.0100	< 10	< 10
Copper	µg/L	630	4,100	< 20	< 20	< 20	< 20	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.0100	< 20	< 10
Lead	µg/L	15*	15*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.0100	< 10	< 10
Nickel	µg/L	100	2,000	< 40	< 40	< 40	< 40	< 40	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 0.0200	< 40	< 20
Zinc	µg/L	4,700	31,000	< 20	--	--	--	--	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 0.0200	< 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	< 0.00020	< 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	< 0.010	< 10	< 10

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Stamdard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7a
Summary of Alluvium Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-106													MW-107												
				08/24/16	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	04/04/16	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																													
pH	SU	N/A	N/A	5.69	3.56	5.55	5.53	5.64	5.90	5.49	5.09	5.24	5.18	5.12	4.95	3.87	6.16	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	mS/cm	N/A	N/A	450.2	317	451	515	425	557	553	361	426	550	516	849	393	303	469	556	483	488	524	527	502	448	448	789	496	496
Temperature	°Celsius	N/A	N/A	24.40	17.43	20.93	21.51	21.04	22.55	23.83	20.49	22.8	23.61	21.44	22.61	24.22	21.23	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	N/A	N/A	0.83	3.56	0.73	0.35	0.42	0.75	0.20	0.43	3.07	0.30	0.45	0.25	0.33	0.19	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	N/A	N/A	419.6	59.4	148.4	186.8	180.6	158.2	-33.7	267.5	154.7	81.1	113.4	123.8	180.5	51.6	-58.3	-89.1	-90.7	-66.7	-110.6	-81.6	-193.3	28.3	28.3	-111.7	-94	-94
Turbidity	NTU	--	--	1.27	9.02	2.07	3.93	4.9	4.7	5.98	4.32	3.7	7.10	7.55	--	15.1	31.7	9.83	3.20	4.2	4.87	4.54	5.0	2.93	10.6	10.6	--	4.8	4.8
Laboratory Results - Natural Attenuation Parameters																													
Nitrogen, Ammonia	mg/L	N/A	N/A	--	--	--	--	--	--	--	< 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	mg/L	N/A	N/A	--	--	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	N/A	N/A	--	--	120	--	--	--	--	143	63.6	135	147	128	147	--	130	--	--	--	--	82.1	82.9	122	83.7	94.5	159	155
Sulfide	mg/L	N/A	N/A	--	--	< 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	N/A	N/A	--	--	--	--	--	--	--	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	N/A	N/A	--	--	--	--	--	--	--	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	N/A	N/A	--	--	< 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	N/A	N/A	--	--	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	N/A	N/A	--	--	140	--	--	--	--	200	210	250	230	240	75	--	100	--	--	--	--	120	140	150	150	110	81	73
Methane	mg/L	N/A	N/A	--	--	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	N/A	N/A	--	--	--	--	--	--	--	23	21	15	20	16	18	--	--	--	--	--	--	16	12	20	21	16	14	13
Dissolved Oxygen	mg/L	N/A	N/A	--	--	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	< 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	< 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	< 5.0	< 2.0	--	--	--	--	--	--	--	--	--	--	< 5.0	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	<5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 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	< 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	< 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	< 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	< 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	<0.50	< 10	< 0.22	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	1.3	1.6	--	--	--	--	< 10	< 10	< 10	< 10	< 10	10	< 10
Acenaphthylene	µg/L	470	3,100	<1.0	< 10	< 0.22	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 1.0	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31, 000	0.062	< 10	< 0.22	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	0.082	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	<0.050	<0.050	< 0.22	--	--	--	--	--	--	--	--	--	--	< 0.050	< 0.20	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	<0.050	< 0.050	< 0.22	--	--	--	--	--	--	--	--	--	--	< 0.050	< 0.20	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	<0.10	< 0.10	< 0.22	--	--	--	--	--	--	--	--	--	--	< 0.10	< 0.20	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	<0.10	< 10	< 0.22	--	--	--	--	--	--	--	--	--	--	< 0.10	< 0.20	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	<0.050	< 10	< 0.22	--	--	--	--	--	--	--	--	--	--	< 0.050	< 0.20	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	<0.050	< 10	< 0.22	--	--	--	--	--	--	--	--	--	--	< 0.050	< 0.20	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	<0.10	< 0.10	< 0.22	--	--	--	--	--	--	--	--	--	--	< 0.10	< 0.20	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	<10	< 10	< 2.2	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	<0.10	< 10	< 0.22	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 0.10	0.28	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	<0.10	< 10	< 0.22	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	0.41	1.3	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	<0.050	< 0.050	< 0.22	--	--	--	--	--	--	--	--	--	--	< 0.050	< 0.20	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	<10	< 10	< 2.2	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	<10	< 10	< 2.2	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	<0.50	< 10	< 0.22	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	47	0.79	< 0.20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	69	62
Phenanthrene	µg/L	470	3,100	<0.050	< 10	< 0.22	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 0.050	< 0.20	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	<10	< 10	< 1.1	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 1.0	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	0.47	< 10	< 0.22	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	0.36	1.4	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	--
Laboratory Results - Inorganic Constituents																													
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 20.0	< 20	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 20	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50.0	< 20	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	34.9	32.8	25	29.8	25.8	30.1	< 20	31.1	26.9	29.2	33.5	33.7	33.3	49.1	26.0	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	< 10.0	< 10.0	< 4.0	--	--	--	--	--	--	--	--	--	--	< 10.0	< 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	< 10.0	< 10	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10.0	< 10	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 20	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10.0	< 20	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	<10.0	11.9	< 10	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10.0	< 10	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 40	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20.0	< 40	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20	--	--	--	--	< 20	< 20	< 20	24.7	< 20	< 20	< 20.0	< 20	--	--	--	--	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.20	< 0.20	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	72	94	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	10	< 10.0	14	< 10	13	< 10	12	< 10	< 10	< 10	< 10	11	< 10	16

Notes:

Analyte was detected above laboratory detection limit

Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)

*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Stamdard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7a
Summary of Alluvium Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-108										MW-109									
				08/24/16	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	08/24/16	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	N/A	N/A	6.11	6.10	6.02	5.99	6.13	6.09	6.5	6.19	5.29	6.11	6.45	5.08	4.86	4.85	4.53	4.43	4.48		4.75	4.51	4.71	5.93
Specific Conductance	mS/cm	N/A	N/A	469.0	376	286	271	275	227	225	182	215	220	203	172.5	169	146	122	130	137		140	152	207	140
Temperature	°Celsius	N/A	N/A	23.55	19.09	21.19	20.71	20.4	18.59	28.28	20.07	22.74	25.13	22.15	29.53	19.49	25.55	20.78	20.69	20.15		17.49	25.85	20.31	24.02
Dissolved Oxygen (YSI)	mg/L	N/A	N/A	0.28	0.61	1.25	1.46	0.32	1.99	2.15	4.13	0.43	0.98	0.99	0.21	0.169	1.23	6.08	1.47	6.27		4.41	3.38	5.25	5.82
ORP	mV	N/A	N/A	-36.6	-39.40	154.9	9.2	39.9	64.3	47	50.9	-57	46.5	36.6	134.4	-38.3	189.2	342.6	10.2	413		153.20	-140.5	242.9	152.1
Turbidity	NTU	N/A	N/A	7.15	7.97	4.07	9.37	2.91	9.51	4.96	1.74	3.09	0.00	33.3	0.66	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	mg/L	N/A	N/A	--	--	--	--	--	--	--	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	< 0.20	< 0.20
Nitrogen, Nitrate	mg/L	N/A	N/A	--	--	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	N/A	N/A	--	--	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	N/A	N/A	--	--	< 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	N/A	N/A	--	--	--	--	--	--	--	0.144	0.178	0.164	0.182	--	--	--	--	--	--	--	--	--	0.164	0.218
Total Manganese	mg/L	N/A	N/A	--	--	--	--	--	--	--	0.157	0.173	0.162	0.183	--	--	--	--	--	--	--	--	--	0.181	0.176
Ferrous Iron	mg/L	N/A	N/A	--	--	0.29 HF	2.2 HF	3.1 HF	1.4	0.87	1.9	1.4	2.2	0.7	--	--	--	< 0.10 HF	< 0.10 HF	< 0.010 HF	< 0.010	< 0.010	< 0.1	< 0.1	< 0.1
Total Iron	mg/L	N/A	N/A	--	--	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	N/A	N/A	--	--	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	N/A	N/A	--	--	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	N/A	N/A	--	--	--	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	N/A	N/A	--	--	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	< 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	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1700	<5.0	< 5.0	< 2.0	--	--	--	--	--	--	--	--	<5.0	< 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	< 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	< 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	< 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	< 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	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds																									
Acenaphthene	µg/L	2,000*	6,100	<0.50	< 10	< 0.25	--	--	--	--	< 10	< 10	< 10	< 10	<0.50	< 10	< 10	4.4	--	--	--	--	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	<1.0	< 10	< 0.25	--	--	--	--	< 10	< 10	< 10	< 10	<1.0	< 10	< 10	11	--	--	--	--	< 10	< 10	< 10
Anthracene	µg/L	4,700	31, 000	0.23	< 10	< 0.25	--	--	--	--	< 10	< 10	< 10	< 10	<0.050	< 10	< 10	1.8	--	--	--	--	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	<0.050	<0.050	< 0.25	--	--	--	--	--	--	--	--	<0.050	<0.050	< 0.20	2.6	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	<0.050	< 0.050	< 0.25	--	--	--	--	--	--	--	--	<0.050	< 0.050	< 0.20	3.2	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	<0.10	< 0.10	< 0.25	--	--	--	--	--	--	--	--	<0.10	< 0.10	< 0.20	1.7	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	<0.10	< 10	< 0.25	--	--	--	--	--	--	--	--	<0.10	< 10	< 10	1.1	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	<0.050	< 10	< 0.25	--	--	--	--	--	--	--	--	<0.050	< 10	< 10	2.2	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	<0.050	< 10	< 0.25	--	--	--	--	--	--	--	--	<0.050	< 10	< 10	2.5	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	<0.10	< 0.10	< 0.25	--	--	--	--	--	--	--	--	<0.10	< 0.10	< 0.20	0.30	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	<10	< 10	< 2.5	--	--	--	--	< 10	< 10	< 10	< 10	<10	< 10	< 10	< 2.0	--	--	--	--	--	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	<0.10	< 10	< 0.25	--	--	--	--	< 10	< 10	< 10	< 10	<0.10	< 10	< 10	4.7	--	--	--	--	--	< 10	< 10
Fluorene	µg/L	1,000*	4,100	0.11	< 10	< 0.25	--	--	--	--	< 10	< 10	< 10	< 10	<0.10	< 10	< 10	6.3	--	--	--	--	--	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	<0.050	< 0.050	< 0.25	--	--	--	--	--	--	--	--	<0.050	< 0.050	< 0.20	0.65	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	<10	< 10	< 2.5	--	--	--	--	< 10	< 10	< 10	< 10	<10	< 10	< 10	< 2.0	--	--	--	--	--	< 10	< 10
3 & 4-Methylphenol	µg/L	78	510	<10	< 10	< 2.5	--	--	--	--	< 10	< 10	< 10	< 10	<10	< 10	< 10	< 2.0	--	--	--	--	--	< 10	< 10
Naphthalene	µg/L	20*	20*	4.1	< 10	< 0.25	< 5.0	< 5.0	<9.8	<9.4	< 10	< 10	< 10	< 10	<0.50	< 10	< 10	44	< 5.0	< 5.0	< 5.0	<9.4	<11	< 10	< 10
Phenanthrene	µg/L	470	3,100	0.064	< 10	< 0.25	--	--	--	--	< 10	< 10	< 10	< 10	<0.050	< 10	< 10	8.7	--	--	--	--	--	< 10	< 10
Phenol	µg/L	9,390	61,000	<10	< 10	< 1.2	--	--	--	--	< 10	< 10	< 10	< 10	<10	< 10	< 10	< 0.99	--	--	--	--	--	< 10	< 10
Pyrene	µg/L	1,000*	3,100	0.30	< 10	< 0.25	--	--	--	--	< 10	< 10	< 10	< 10	<0.050	< 10	< 10	7.4	--	--	--	--	--	< 10	< 10
Laboratory Results - Inorganic Constituents																									
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20	--	--	--	--	< 40	< 40	< 40	< 40	< 20.0	< 20.0	< 20.0	< 20	--	--	--	--	--	< 40	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 20	--	--	--	--	< 50	< 50	< 50	< 50	< 50.0	< 50.0	< 50.0	< 20	--	--	--	--	--	< 50	< 50
Barium	µg/L	2,000	7,200	39.3	61.1	79	78	61	62	54	47.2	53.0	51.7	56.9	82.3	78.6	73.4	36	75	97	98	77	58	164	402
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 4.0	--	--	--	--	--	--	--	--	< 10.0	< 10.0	< 10.0	< 4.0	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10	< 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	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 10	< 10	< 10	< 10	< 10.0	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 10	< 10
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10	< 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	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 20	< 20	< 20	< 20	< 20.0	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 20	< 20
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20	--	--	--	--	< 20	< 20	< 20	< 20	< 20.0	< 20.0	< 20.0	< 20	--	--	--	--	--	38.8	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	30

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 2 RRS (RRS applicable to the well location)
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Stamdard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7a
Summary of Alluvium Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-201 (Abandoned)																			
				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	N/A	N/A	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	mS/cm	N/A	N/A	383	263	311	259	291	283	270	297	361	286	270	326	326	360	391	351	351	271	502	408	537
Temperature	°Celsius	N/A	N/A	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	N/A	N/A	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	N/A	N/A	-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	N/A	N/A	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	N/A	N/A	--	< 0.050	--	--	--	0.083	--	--	--	0.32	--	--	--	--	< 0.050	0.077	0.074	--	--	--	--
Sulfate	mg/L	N/A	N/A	--	< 5.0	--	--	--	60	--	--	--	66	--	--	--	--	120	110	110	--	--	--	--
Sulfide	mg/L	N/A	N/A	--	< 1.0	--	--	--	1.9	--	--	--	< 1.0	--	--	--	--	< 1.0	< 1.0	< 1.0	--	--	--	--
Ferrous Iron	mg/L	N/A	N/A	--	29 HF	--	--	--	16 HF	--	--	--	10 HF	--	--	--	--	4.5	9.1	8.9	--	--	--	--
Total Iron	mg/L	N/A	N/A	--	28	--	--	--	15	--	--	--	11	--	--	--	--	4.5	9.1	9.1	--	--	--	--
Carbon Dioxide	mg/L	N/A	N/A	--	160	--	--	--	3.7	--	--	--	1.9	--	--	--	--	2	1.7	1.7	--	--	--	--
Methane	mg/L	N/A	N/A	--	250	--	--	--	350	--	--	--	190	--	--	--	--	100	96	100	--	--	--	--
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	--	--	--	4.6	--	--	--	4.2	--	--	--	--	4	4.2	4.2	--	--	--	--
Dissolved Oxygen	mg/L	N/A	N/A	--	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
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	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
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:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Stamdard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7a
Summary of Alluvium Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-202 (Aband.)		MW-203 (Destroyed)														
				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	N/A	N/A	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	mS/cm	N/A	N/A	257	377	292	287	144	144	134	150	186	188	327	276	293	246	246	175	76	120
Temperature	°Celsius	N/A	N/A	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	N/A	N/A	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	N/A	N/A	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	N/A	N/A	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	N/A	N/A	0.062	--	< 0.050	--	--	--	--	< 0.050	--	--	--	0.15	--	--	--	--	0.26	< 0.050
Sulfate	mg/L	N/A	N/A	40	--	9.2	--	--	--	--	9.0	--	--	--	< 5.0	--	--	--	--	< 5.0	310
Sulfide	mg/L	N/A	N/A	< 1.0	--	< 1.0	--	--	--	--	2.3	--	--	--	< 1.0	--	--	--	--	< 1.0	< 1.0
Ferrous Iron	mg/L	N/A	N/A	16 HF	--	15 HF	--	--	--	--	0.99 HF	--	--	--	13 HF	--	--	--	--	< 0.010	< 0.010
Total Iron	mg/L	N/A	N/A	18	--	31	--	--	--	--	2.2	--	--	--	26	--	--	--	--	1	0.34
Carbon Dioxide	mg/L	N/A	N/A	160	--	110	--	--	--	--	750	--	--	--	1.6	--	--	--	--	0.16	1.7
Methane	mg/L	N/A	N/A	600	--	97	--	--	--	--	19	--	--	--	230	--	--	--	--	2.4	1.1
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	--	--	--	--	--	5400	--	--	--	4.2	--	--	--	--	4	4.2
Dissolved Oxygen	mg/L	N/A	N/A	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
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	--	--	--	--	--	--	--	--	--	--	--
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:

Analyte was detected above laboratory detection limit

Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)

*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Stamdard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7a
Summary of Alluvium Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-204 (Abandoned)													
				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	N/A	N/A	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	mS/cm	N/A	N/A	702	287	668	673	680	497	719	680	678	385	543	658	601	501	794
Temperature	°Celsius	N/A	N/A	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	N/A	N/A	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	N/A	N/A	-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	N/A	N/A	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	N/A	N/A	--	< 0.050	--	--	--	0.060	--	--	--	0.062	--	--	--	< 0.050	0.056
Sulfate	mg/L	N/A	N/A	--	54	--	--	--	140	--	--	--	110	--	--	--	150	6.8
Sulfide	mg/L	N/A	N/A	--	< 1.0	--	--	--	< 1.0	--	--	--	< 1.0	--	--	--	< 1.0	< 1.0
Ferrous Iron	mg/L	N/A	N/A	--	0.15 HF	--	--	--	0.11 HF	--	--	--	0.11 HF	--	--	--	< 0.010	0.13
Total Iron	mg/L	N/A	N/A	--	< 0.10	--	--	--	0.36	--	--	--	1.9	--	--	--	0.82	1.3
Carbon Dioxide	mg/L	N/A	N/A	--	120	--	--	--	1.4	--	--	--	1.1	--	--	--	2.1	0.079
Methane	mg/L	N/A	N/A	--	< 0.58	--	--	--	1.1	--	--	--	<0.58	--	--	--	7.1	4.1
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	--	--	--	4.5	--	--	--	4.3	--	--	--	2.9	1.7
Dissolved Oxygen	mg/L	N/A	N/A	--	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
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	--	--	--	--	--	--	--	--	--	--
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:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Stamdard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7a
Summary of Alluvium Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-205																		MW-206
				08/24/16	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	N/A	N/A	5.80	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	mS/cm	N/A	N/A	65.3	272	293	244	276	297	295	251	293	289	323	273	273	314	314	328	328	314	339	521
Temperature	°Celsius	N/A	N/A	31.13	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	N/A	N/A	0.14	1.0	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	N/A	N/A	5.8	-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	N/A	N/A	12.70	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	N/A	N/A	--	--	--	< 0.050	--	--	--	< 0.050	--	--	--	< 0.050	0.07	--	--	--	--	--	< 0.050	< 0.050
Sulfate	mg/L	N/A	N/A	--	--	--	12	--	--	--	7.2	--	--	--	< 5.0	< 5.0	--	--	--	--	--	< 5.0	150
Sulfide	mg/L	N/A	N/A	--	--	--	< 1.0	--	--	--	< 1.0	--	--	--	< 1.0	< 1.0	--	--	--	--	--	< 1.0	< 1.0
Ferrous Iron	mg/L	N/A	N/A	--	--	--	17 HF	--	--	--	21 HF	--	--	--	6.1 HF	5.7 HF	--	--	--	--	--	23	14 HF
Total Iron	mg/L	N/A	N/A	--	--	--	20	--	--	--	24	--	--	--	26	22	--	--	--	--	--	30	15
Carbon Dioxide	mg/L	N/A	N/A	--	--	--	86	--	--	--	1.8	--	--	--	1.1	1.1	--	--	--	--	--	1.3	150
Methane	mg/L	N/A	N/A	--	--	--	22	--	--	--	42	--	--	--	55	62	--	--	--	--	--	150	7.1
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	--	--	--	--	--	6.5	--	--	--	4.3	4.5	--	--	--	--	--	3.3	--
Dissolved Oxygen	mg/L	N/A	N/A	--	--	--	5.0	--	--	--	1.9	--	--	--	1.3	1.4	--	--	--	--	--	0.98	6.6
Laboratory Results - Organic Constituents																						
Volatile Organic Compounds																						
Benzene	µg/L	5*	9	<5.0	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	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	< 2.0
Ethylbenzene	µg/L	700*	2,300	7.0	150	130	4.5	32	18	75	29	34	230	66	67	120	--	--	--	--	--	130	< 1.0
Toluene	µg/L	1,000*	1,100	<5.0	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	<5.0	100	98	7.2	15	11	57	29	18	240	42	51	99	--	--	--	--	--	100	< 2.0
Semivolatile Organic Compounds																						
Acenaphthene	µg/L	2,000*	6,100	9.1	72	55	36	47	34	49	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Acenaphthylene	µg/L	470	3,100	<1.0	< 10	< 10	< 0.19	< 0.23	4.0	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Anthracene	µg/L	4,700	31,000	0.62	< 10	< 10	1.3	2.1	2.1	2.5	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Benzo[a]anthracene	µg/L	1.17	3.92	0.12	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	< 0.050	< 0.20	< 0.19	< 0.23	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Benzo[b]fluoranthene	µg/L	1.17	3.92	<0.10	< 0.10	< 0.20	< 0.19	< 0.23	< 0.21	0.22	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Benzo[g,h,i]perylene	µg/L	10	10	<0.10	< 10	< 10	< 0.19	< 0.23	< 0.21	0.22	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Benzo[k]fluoranthene	µg/L	11.7	39.2	<0.050	< 10	< 10	< 0.19	< 0.23	< 0.21	0.21	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Chrysene	µg/L	117	392	0.11	< 10	< 10	0.26	< 0.23	0.22	0.31	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	<0.10	< 0.10	< 0.20	< 0.19	< 0.23	< 0.21	0.22	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
2,4-Dimehylphenol	µg/L	700*	700*	<10	< 10	< 10	< 1.9	< 2.3	< 2.1	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	< 2.0
Fluoranthene	µg/L	1,000*	4,100	1.1	< 10	< 10	2.9	3.6	3.6	3.0	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Fluorene	µg/L	1,000*	4,100	4.6	32	21	18	23	21	25	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	<0.050	< 0.050	< 0.20	< 0.19	< 0.23	< 0.21	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
2-Methylphenol	µg/L	780	5,100	<10	< 10	< 10	< 1.9	< 2.3	< 2.1	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	< 2.0
3 & 4 Methylphenol	µg/L	78	510	<10	< 10	< 10	< 1.9	< 2.3	< 2.1	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	< 2.0
Naphthalene	µg/L	20*	20*	10	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	2.1	29	17	3.7	9.4	5.8	14	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Phenol	µg/L	9,390	61,000	<10	< 10	< 10	1.0	< 1.1	< 1.0	< 1.0	--	--	--	--	--	--	--	--	--	--	--	--	< 1.0
Pyrene	µg/L	1,000*	3,100	1.2	< 10	< 10	4.1	3.8	4.1	4.3	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Laboratory Results - Inorganic Constituents																						
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	< 20
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	< 20
Barium	µg/L	2,000	7,200	21.9	90.8	91.5	51	64	58	68	63	87	190	71	82	64	--	--	--	--	--	110	29.0
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 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	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	< 5.0
Chromium	µg/L	100	310	< 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	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	--	--	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--	--	--	--	< 40	< 40
Zinc	µg/L	4,700	31,000	32.3	242	< 20.0	< 20	< 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	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	< 10	--	--	--	--	--	< 10	< 10

Notes:

Analyte was detected above laboratory detection limit

Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)

*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Stamdard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7a
Summary of Alluvium Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-400				MW-401
				8/24/2016	8/16 DUP	4/6/2016	04/29/15	08/24/16
oundwater Quality Parameters								
pH	SU	N/A	N/A	5.53		5.54	5.90	5.73
Specific Conductance	mS/cm	N/A	N/A	817.2		1000	520	201.2
Temperature	°Celsius	N/A	N/A	30.62		21.48	16.72	25.01
Dissolved Oxygen (YSI)	mg/L	N/A	N/A	3.81		0.24	2.71	0.27
ORP	mV	N/A	N/A	151.5		119.7	-7.1	48.4
Turbidity	NTU	N/A	N/A	1.38		4.37	9.2	8.19
Laboratory Results - Natural Attenuation Parameters								
Nitrogen, Nitrate (as N)	mg/L	N/A	N/A	--	--	--	--	--
Sulfate	mg/L	N/A	N/A	--	--	--	--	--
Sulfide	mg/L	N/A	N/A	--	--	--	--	--
Ferrous Iron	mg/L	N/A	N/A	--	--	--	--	--
Total Iron	mg/L	N/A	N/A	--	--	--	--	--
Carbon Dioxide	mg/L	N/A	N/A	--	--	--	--	--
Methane	mg/L	N/A	N/A	--	--	--	--	--
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	--	--	--
Dissolved Oxygen	mg/L	N/A	N/A	--	--	--	--	--
Laboratory Results - Organic Constituents								
Volatile Organic Compounds								
Benzene	µg/L	5*	9	<5.0	<5.0	11	< 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
Toluene	µg/L	1,000*	1,100	<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
Semivolatile Organic Compounds								
Acenaphthene	µg/L	2,000*	6,100	<0.50	0.52	1.0	< 10	<0.50
Acenaphthylene	µg/L	470	3,100	<1.0	<1.0	1.30	< 10	<1.0
Anthracene	µg/L	4,700	31,000	0.14	0.17	0.15	< 10	0.093
Benzo[a]anthracene	µg/L	1.17	3.92	<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
Benzo[b]fluoranthene	µg/L	1.17	3.92	<0.10	<0.10	< 0.10	< 0.10	<0.10
Benzo[g,h,i]perylene	µg/L	10	10	<0.10	<0.10	< 0.10	< 10	<0.10
Benzo[k]fluoranthene	µg/L	11.7	39.2	<0.050	<0.050	< 0.050	< 10	<0.050
Chrysene	µg/L	117	392	<0.050	<0.050	< 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
2,4-Dimehylphenol	µg/L	700*	700*	<10	<10	< 10	< 10	<10
Fluoranthene	µg/L	1,000*	4,100	<0.10	<0.10	0.11	< 10	<0.10
Fluorene	µg/L	1,000*	4,100	0.19	0.21	0.28	< 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
2-Methylphenol	µg/L	780	5,100	<10	<10	< 10	< 10	<10
3 & 4 Methylphenol	µg/L	78	510	<10	<10	< 10	< 10	<10
Naphthalene	µg/L	20*	20*	<0.50	<0.50	1.70	< 10	<0.50
Phenanthrene	µg/L	470	3,100	<0.050	<0.050	< 0.050	< 10	<0.050
Phenol	µg/L	9,390	61,000	<10	<10	< 10	< 10	<10
Pyrene	µg/L	1,000*	3,100	0.13	0.13	0.14	< 10	1.0
Inorganic Constituents								
Antimony	µg/L	6.3	40	< 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
Barium	µg/L	2,000	7,200	68	67.6	67.6	38.1	122
Beryllium	µg/L	31	200	< 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
Chromium	µg/L	100	310	< 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
Lead	µg/L	15*	15*	< 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
Zinc	µg/L	4,700	31,000	145	147	88.7	< 20.0	166
Mercury	µg/L	2*	2*	<0.20	<0.20	< 0.20	< 0.20	<0.20
Total Cyanide	µg/L	310	2,000	288	167	< 10	9.9	<10

Notes:

Analyte was detected above laboratory detection limit

Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)

*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Stamdard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7b
Summary of Bedrock Groundwater Analytical Data
November 2001 through August 2016
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	N/A	N/A	5.61	7.22	--
Specific Conductance	mS/cm	N/A	N/A	336	338	--
Temperature	°Celsius	N/A	N/A	21.31	22.45	--
Dissolved Oxygen	mg/L	N/A	N/A	0.49	0.95	--
ORP	mV	N/A	N/A	-66.2	-105.7	--
Turbidity	NTU	N/A	N/A	14.8	2.24	--
Laboratory Results - Natural Attenuation Parameters						
Nitrogen, Nitrate (as N)	mg/L	N/A	N/A	--	--	--
Sulfate	mg/L	N/A	N/A	--	--	--
Sulfide	mg/L	N/A	N/A	--	--	--
Ferrous Iron	mg/L	N/A	N/A	--	--	--
Total Iron	mg/L	N/A	N/A	--	--	--
Carbon Dioxide	mg/L	N/A	N/A	--	--	--
Methane	mg/L	N/A	N/A	--	--	--
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	--
Dissolved Oxygen	mg/L	N/A	N/A	--	--	--
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
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
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	2000	< 10	12	--

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Standard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7b
Summary of Bedrock Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-09D (Abandoned)																												
				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	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	N/A	N/A	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	6.58	6.70	6.70	7.06	8.85	8.85	8.85
Specific Conductance	mS/cm	N/A	N/A	257	364		419	243	225	400	273	374	385	385	433	433	425	243	270	281	278	404	404	362	320	285	277	277	308	355	355	326
Temperature	°Celsius	N/A	N/A	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	19.72	20.77	20.77	21.94	19.84	19.84	21.20
Dissolved Oxygen (YSI)	mg/L	N/A	N/A	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	0.31	0.46	0.46	0.20	1.53	1.53	1.69
ORP	mV	N/A	N/A	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	-105.0	-96.4	-96.4	-70.1	-65.8	-65.8	-47.5
Turbidity	NTU	N/A	N/A	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	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	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20	< 0.20	< 0.20
Nitrogen, Nitrate (as N)	mg/L	N/A	N/A	< 0.25	--	--	--	< 0.050	--	--	--	< 0.050	--	--	--	--	--	< 0.050	--	--	--	< 0.050	< 0.050	< 0.050	--	--	--	--	--	< 0.0500	< 0.500	< 0.0500
Sulfate	mg/L	N/A	N/A	2.1	--	--	--	< 5.0	--	--	--	< 5.0	--	--	--	--	--	< 5.0	--	--	--	< 5.0	< 5.0	< 5.0	--	--	--	--	--	1.32	4.42	3.78
Sulfide	mg/L	N/A	N/A	< 1.0	--	--	--	< 1.0	--	--	--	1.1	--	--	--	--	--	< 1.0	--	--	--	< 1.0	< 1.0	< 1.0	--	--	--	--	--	< 1.0	< 1.0	< 1.0
Dissolved Manganese	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0868	0.0825	0.0426
Total Manganese	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.141	0.142	0.138
Ferrous Iron	mg/L	N/A	N/A	< 0.100	--	--	--	<0.100	--	--	--	1.0 HF	--	--	--	--	--	0.55 HF	--	--	--	0.17	< 0.010	0.34	--	--	--	--	--	0.4	0.4	0.7
Total Iron	mg/L	N/A	N/A	0.211	--	--	--	0.211	--	--	--	2.7	--	--	--	--	--	1.1	--	--	--	1.1	1.2	1.5	--	--	--	--	--	1.65	1.59	2.40
Carbon Dioxide	mg/L	N/A	N/A	45	--	--	--	45	--	--	--	0.63	--	--	--	--	--	0.53	--	--	--	0.26	0.24	0.2	--	--	--	--	--	0.6	2.6	0.52
Methane	mg/L	N/A	N/A	15	--	--	--	15	--	--	--	1500	--	--	--	--	--	570	--	--	--	36	<0.19	<0.19	--	--	--	--	--	350	340	600
Dissolved Nitrogen	mg/L	N/A	N/A	19	--	--	--	19	--	--	--	5.1	--	--	--	--	--	3.8	--	--	--	3.7	4.3	4.4	--	--	--	--	--	22	20	20
Dissolved Oxygen	mg/L	N/A	N/A	4.7	--	--	--	4.7	--	--	--	1.6	--	--	--	--	--	1.3	--	--	--	1.1	1.3	1.5	--	--	--	--	--	4.8	2.6	1.4
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	58	45	44	120	550	550	560
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	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	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	< 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	5.0	8.4	8.2	14	44	45	98
Semivolatile Organic Compounds																																
Acenaphthene	µg/L	2,000*	6,100	< 10	< 10	< 10	< 10	0.87	< 0.19	0.71	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 10	< 10	< 10	< 10	< 0.26	< 0.19	< 0.19	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
Anthracene	µg/L	4,700	31,000	< 10	< 10	< 10	< 10	< 0.26	< 0.19	< 0.19	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
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	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	48	44	48
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	< 10	< 10	< 0.26	< 0.19	< 0.19	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 10	< 10	< 10	< 10	< 0.26	< 0.19	0.23	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
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	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 2.6	< 1.9	< 1.9	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
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	< 10	< 10	13	< 10	120	100	140
Phenanthrene	µg/L	470	3,100	< 10	< 10	< 10	< 10	< 0.26	< 0.19	< 0.19	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 1.3	< 0.97	< 0.95	< 1.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 10	< 10	< 10	< 10	< 0.26	< 0.19	< 0.19	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
Inorganic Constituents																																
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	2,290	3,050	3,080	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	1,580	1,480	1,470	1,380	1,100	1,110	1,080
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	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10
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	< 10.0	< 10.0	< 10.0	< 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	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10
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	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20	23	< 20	< 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	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	--	--	16	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Standard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7b
Summary of Bedrock Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-12DRR									
				08/22/16	04/05/16	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	N/A	N/A	6.34	6.48	6.36		6.54	6.68		6.41		6.33
Specific Conductance	mS/cm	N/A	N/A	399.0	540	530		438	445		504		521
Temperature	°Celsius	N/A	N/A	26.70	22.43	25.82		17.65	20.79		23.69		25.49
Dissolved Oxygen (YSI)	mg/L	N/A	N/A	0.16	0.37	0.32		0.55	0.22		0.38		0.58
ORP	mV	N/A	N/A	-107.9	-108.91	-170.70		-60.0	-56.1		-112.4		-94.7
Turbidity	NTU	N/A	N/A	0.5	1.84	6.65		4.20	1.45		0.52		9.41
Laboratory Results - Natural Attenuation Parameters													
Nitrogen, Nitrate (as N)	mg/L	N/A	N/A	--	--	--	--	< 0.25	< 0.25	< 0.25	--	--	--
Sulfate	mg/L	N/A	N/A	--	--	--	--	1.4	1.1	< 1.0	--	--	--
Sulfide	mg/L	N/A	N/A	--	--	--	--	< 1.0	< 1.0	< 1.0	--	--	--
Ferrous Iron	mg/L	N/A	N/A	--	--	--	--	3.98	2.1	1.92	--	--	--
Total Iron	mg/L	N/A	N/A	--	--	--	--	5.19	5.53	5.61	--	--	--
Carbon Dioxide	mg/L	N/A	N/A	--	--	--	--	94	85	84	--	--	--
Carbon Monoxide	mg/L	N/A	N/A	--	--	--	--	< 1.0	< 1.0	< 1.0	--	--	--
Methane	mg/L	N/A	N/A	--	--	--	--	920	840	780	--	--	--
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	--	--	21	20	19	--	--	--
Dissolved Oxygen	mg/L	N/A	N/A	--	--	--	--	2.7	2.6	2.0	--	--	--
Laboratory Results - Organic Constituents													
Volatile Organic Compounds													
Benzene	µg/L	5.0*	9.0	220	96	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	< 5.0	< 5.0
Ethylbenzene	µg/L	700*	2,300	76	36	110	77	100	120	130	130	160	180
Toluene	µg/L	1,000*	1,100	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	6.9	7.0	5.4	5.9	9.8
Total Xylenes	µg/L	31,000	200,000	48	22	60	43	100	94	98	56	65	100
Semivolatile Organic Compounds													
Acenaphthene	µg/L	2,000*	6,100	10	< 50	39	31	< 10	35	35	39	33	30
Acenaphthylene	µg/L	470	3,100	<1.0	8.9	9.6	7.5	< 10	12	12	16	14	14
Anthracene	µg/L	4,700	31, 000	0.65	1.7	3.7	3.0	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	0.16	0.140	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	< 0.050	< 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	< 0.10	< 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	< 0.10	< 0.10	0.12	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[k]fluoranthene	µg/L	11.7	39.2	<0.050	< 0.050	< 0.050	0.10	< 10	< 10	< 10	< 10	< 10	< 10
Chrysene	µg/L	117	392	0.13	0.12	0.14	0.22	< 10	< 10	< 10	< 10	< 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	< 0.20
2,4-Dimethylphenol	µg/L	700*	700*	<10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	3.6	4.6	6.3	5.8	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	14	31	36	28	31	40	41	48	42	35
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	<0.050	< 0.050	< 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	< 10	< 10
4-Methylphenol	µg/L	78	510	<10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	8.9	260	550	550	770	530	570	1,000	870	1,400
Phenanthrene	µg/L	470	3,100	0.66	7.6	18	13	13	14	17	25	23	28
Phenol	µg/L	9,390	61,000	<10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	3.7	5.2	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	< 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	< 50.0	< 50.0
Barium	µg/L	2,000	7,200	1100	1,390	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	< 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	< 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	< 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	< 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	< 10.0	< 10.0
Nickel	µg/L	100	2,000	< 20.0	42.1	< 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	< 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	< 0.20	< 0.20
Total Cyanide	µg/L	310	2,000	<10	23	26	37	33	26	20	48	37	40

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Standard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7b
Summary of Bedrock Groundwater Analytical Data
November 2001 through August 2016
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	06/10/03	03/12/03	12/10/02	09/18/02	11/06/01
Field Groundwater Quality Parameters																												
pH	SU	N/A	N/A	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	7.07	6.73	6.58	6.82	6.80
Specific Conductance	mS/cm	N/A	N/A	1,327	1,922	1,851	18,510	2,398	376	831	664	664	798	798	760	1,242	1642	1642	1,569	406	440	672	672	288	295	400	393	400	376
Temperature	°Celsius	N/A	N/A	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	23.57	22.36	22.27	24.14	24.49
Dissolved Oxygen (YSI)	mg/L	N/A	N/A	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	0.07	0.04	0.18	0.03	0.09
ORP	mV	N/A	N/A	-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	-156	-118.3	-99.6	-178.4	-135.2
Turbidity	NTU	N/A	N/A	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	5.1	0.9	4.3	10	31
Laboratory Results - Natural Attenuation Parameters																												
Nitrogen, Ammonia (as N)	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	5.84	9.49	10.3	13.0	0.42	0.56	0.47	0.47	0.60	0.546	0.754	0.505	0.724	0.448
Nitrogen, Nitrate (as N)	mg/L	N/A	N/A	--	--	--	--	< 0.050	< 0.050	--	--	--	--	--	--	< 0.500	0.0529	0.162	0.241	< 0.5	< 0.250	< 0.0500	< 0.0500	< 0.0500	< 0.500	< 0.0500	< 0.050	< 0.050	0.454
Sulfate	mg/L	N/A	N/A	--	--	--	--	290	26	--	--	--	--	--	--	302	352	486	187	2.19	2.70	3.73	4.16	8.82	3.06	5.81	5.10	4.08	4.28
Sulfide	mg/L	N/A	N/A	--	--	--	--	< 1.0	< 1.0	--	--	--	--	--	--	< 1.0	< 1.0	< 1.0	2.8	< 1.0	< 1.0	1.3	1.6	< 1.0	< 1.0	< 1.0	< 1.00	< 1.00	0.500
Dissolved Manganese	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	1.87	2.16	2.15	1.74	0.548	0.584	0.663	0.664	0.474	0.497	0.514	0.525	0.522	0.451
Total Manganese	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	1.90	2.29	2.39	1.77	0.556	0.673	0.669	0.668	0.504	0.543	0.532	0.614	0.483	0.519
Ferrous Iron	mg/L	N/A	N/A	--	--	--	--	< 0.010	0.24	--	--	--	--	--	--	0.9	< 0.1	< 0.1	< 0.1	2.4	3.2	1.5	8.6	1.9	1.9	1.69	2.78	1.55	1.89
Total Iron	mg/L	N/A	N/A	--	--	--	--	0.14	2.8	--	--	--	--	--	--	6.45	6.01	6.29	2.58	2.13	3.83	2.78	2.77	2.41	2.66	1.72	4.18	1.75	2.67
Carbon Dioxide	mg/L	N/A	N/A	--	--	--	--	< 0.050	0.15	--	--	--	--	--	--	120	150	150	130	41	< 0.6	51	49	14	21	40	40	33	23
Methane	mg/L	N/A	N/A	--	--	--	--	47	40	--	--	--	--	--	--	360	360	350	470	2,600	120	2,900	3,000	150	2,000	3,300	2,600	3,000	380
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	--	--	4	5	--	--	--	--	--	--	15	16	14	14	16	24	20	21	14	17	18	17	20	13
Dissolved Oxygen	mg/L	N/A	N/A	--	--	--	--	1.5	1.8	--	--	--	--	--	--	1.3	4.3	3.3	12	0.46	2.7	1.1	1.1	0.66	0.63	0.66	4.9	7.1	0.78
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	920	2,400	2,200	1,500	4,700
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	390	830	830	510	1,200
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	6.0	14	19	20	11
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	300	740	200	500	92
Semivolatile Organic Compounds																												
Acenaphthene	µg/L	2,000*	6,100	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	78	79	100	100	56	30	< 100	63	49	< 10
Acenaphthylene	µg/L	470	3,100	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	23	23	27	26	13	< 10	< 100	17	17	42
Anthracene	µg/L	4,700	31, 000	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 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	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 100	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 100	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	59	63	78	79	43	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	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 100	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 100	< 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	3,000	4,400	6,700	5,200	4,500
Phenanthrene	µg/L	470	3,100	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	62	70	80	83	33	21	< 100	50	40	23
Phenol	µg/L	9,390	61,000	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 100	--	--	--
Pyrene	µg/L	1,000*	3,100	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 100	< 10	< 10	< 10
Laboratory Results - 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	--	--	--	--	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	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	--	--	--	--	1,500	< 10.0	< 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
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	< 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	< 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	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	--	--	--	--	--	--	--	--	--	--	--	--	648	824	857	693	< 20	< 20	< 20	< 20	< 20	< 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	< 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	20	93	86	113	62

Notes:

Analyte was detected above laboratory detection limit

Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)

*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical

ft AMSL - feet Above Mean Sea Level

RRS - Risk Reduction Standard

SU - Standard Units

mS/cm - millisiemens per centimeter

µg/L - micrograms per liter

mg/L - milligrams per liter

mV - millivolts

NTU - nephelometric turbidity units

N/A - RRS are not applicable to this parameter

-- Not Analyzed

Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7b
Summary of Bedrock Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-12DD																
				04/06/16	02/16/15	08/05/14	02/19/14	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
Field Groundwater Quality Parameters																				
pH	SU	N/A	N/A	7.37	7.32	7.78	8.13	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
Specific Conductance	mS/cm	N/A	N/A	200	209	227	241	225	225	220	231	231	230	239	256	284	284	294	280	508
Temperature	°Celsius	N/A	N/A	23.01	18.44	24.35	24.24	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
Dissolved Oxygen (YSI)	mg/L	N/A	N/A	0.85	0.81	0.34	0.26	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
ORP	mV	N/A	N/A	-94.8	-53.0	-161.4	-172.8	-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
Turbidity	NTU	N/A	N/A	1.16	0.99	6.00	15.6	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
Laboratory Results - Natural Attenuation Parameters																				
Nitrogen, Ammonia (as N)	mg/L	N/A	N/A	--	--	--	--	--	< 0.050	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Nitrate (as N)	mg/L	N/A	N/A	--	--	--	< 0.25	--	< 5.0	--	--	--	< 0.050	--	--	--	--	< 0.050	--	--
Sulfate	mg/L	N/A	N/A	--	--	--	6.3	--	1.0	--	--	--	7.4	--	--	--	--	24	--	--
Sulfide	mg/L	N/A	N/A	--	--	--	1.6	--	--	--	--	--	< 1.0	--	--	--	--	< 1.0	--	--
Dissolved Manganese	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Manganese	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ferrous Iron	mg/L	N/A	N/A	--	--	--	0.258	--	< 0.10 HF	--	--	--	< 0.10 HF	--	--	--	--	< 0.010	--	--
Total Iron	mg/L	N/A	N/A	--	--	--	0.161	--	2.7 J	--	--	--	0.11	--	--	--	--	0.12	--	--
Carbon Dioxide	mg/L	N/A	N/A	--	--	--	< 5.0	--	< 1.0	--	--	--	100	--	--	--	--	0.081	--	--
Carbon Monoxide	mg/L	N/A	N/A	--	--	--	< 1.0	--	--	--	--	--	--	--	--	--	--	--	--	--
Methane	mg/L	N/A	N/A	--	--	--	260	--	160	--	--	--	< 0.58	--	--	--	--	1.6	--	--
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	--	14	--	--	--	--	--	5000	--	--	--	--	4.8	--	--
Dissolved Oxygen	mg/L	N/A	N/A	--	--	--	1.4	--	6.8	--	--	--	1500	--	--	--	--	1.6	--	--
Laboratory Results - Organic Constituents																				
Volatile Organic Compounds																				
Benzene	µg/L	5*	9	15	44	140	130	8.0	150	29	41	35	71	81	25	15	27	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	10	28	19	< 5.0	16	7.9	7.4	7.0	8.4	18	< 5.0	< 5.0	< 5.0	< 5.0	--	--
Toluene	µg/L	1,000*	1,100	< 5.0	< 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	--	--
Total Xylenes	µg/L	31,000	200,000	< 5.0	11	21	13	< 5.0	12	6.0	8.4	8.4	10	22		< 5.0	< 5.0	< 5.0	--	--
Semivolatile Organic Compounds																				
Acenaphthene	µg/L	2,000*	6,100	0.73	< 10	< 10	< 10	< 10	0.45	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 1.0	< 10	< 10	< 10	< 10	0.24	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 0.050	< 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	< 0.050	< 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	< 0.050	< 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	< 0.10	< 0.20	< 0.19	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 10	< 10	< 10	< 10	< 0.19	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 10	< 10	< 10	< 10	< 0.19	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 0.050	< 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	< 0.10	< 0.20	< 0.19	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	< 1.9	< 1.9	< 20	< 2.3	--	--	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 0.10	< 10	< 10	< 10	< 10	< 0.19	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	0.32	< 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	< 0.050	< 0.20	< 0.19	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	< 1.9	< 1.9	< 20	< 2.3	--	--	--	--	--	--	--	--
4-Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10	< 1.9	< 1.9	< 20	< 2.3	--	--	--	--	--	--	--	--
Naphthalene	µg/L	20*	20*	< 0.50	13	62	< 10	< 10	0.44	< 0.19	< 2.0	< 0.23	46	110	7.6	< 5.0	9.4	< 5.0	< 5.0	< 5.0
Phenanthrene	µg/L	470	3,100	0.10	< 10	< 10	< 10	< 10	< 0.19	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10	9.6	< 0.97	< 9.9	< 1.1	--	--	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 0.050	< 10	< 10	< 10	< 10	< 0.19	< 0.19	< 2.0	< 0.23	--	--	--	--	--	--	--	--
Inorganic Constituents																				
Antimony	µg/L	6.3	40	< 20.0	< 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	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--
Barium	µg/L	2,000	7,200	93.6	94.8	66.1	92.1	86.4	89	85	86	75	77	83	73	64	67	39	--	--
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 4.0	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	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	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--
Nickel	µg/L	100	2,000	26.0	< 20.0	< 20.0	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--
Zinc	µg/L	4,700	31,000	22.4	312	62.7	87.8	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	< 0.20	--	--	--	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 10	< 10	12	< 10	10	20	28	24	21	24	--	--	--	--	15	--	--

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Standard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7b
Summary of Bedrock Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-12DD (Continued)																		
				05/10/10	02/25/10	08/14/09	06/07/06	03/09/06	12/21/05	09/30/05	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	N/A	N/A	5.86	8.62	11.65	9.79	9.88	9.80	8.95	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	mS/cm	N/A	N/A	506	216	173	266	215	209	161	122	102	98	248	154	222	683	1057	1057	1,195	1,195	2,711	4,196	4,630
Temperature	°Celsius	N/A	N/A	23.54	22.12	27.75	25.03	24.40	23.91	23.22	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	N/A	N/A	0.72	0.54	1.15	0.26	0.27	0.23	0.35	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	N/A	N/A	-45.2	-3.1	158.7	-143.3	-142.5	-150.3	-22.4	-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	N/A	N/A	21.8	2.71	9.89	43.1	45	4.36	51.7	--	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	N/A	N/A	--	--	--	--	--	--	--	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	N/A	N/A	--	< 0.050	< 0.050	--	--	--	--	< 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	N/A	N/A	--	19	< 5.0	--	--	--	--	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	N/A	N/A	--	< 1.0	< 1.0	--	--	--	--	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	N/A	N/A	--	--	--	--	--	--	--	< 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	N/A	N/A	--	--	--	--	--	--	--	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	N/A	N/A	--	< 0.010	< 0.010	--	--	--	--	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	N/A	N/A	--	0.2	0.23	--	--	--	--	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	N/A	N/A	--	< 0.050	< 50	--	--	--	--	< 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	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methane	mg/L	N/A	N/A	--	120	150	--	--	--	--	280	160	120	200	25	94	170	180	190	200	200	220	200	220
Dissolved Nitrogen	mg/L	N/A	N/A	--	4.1	4.5	--	--	--	--	22	16	16	19	21	23	19	20	20	23	23	19	23	16
Dissolved Oxygen	mg/L	N/A	N/A	--	1.5	1.5	--	--	--	--	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	< 5.0	310	68	180	38	40	40	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	--	40	< 5.0	14	< 5.0	< 5.0	< 5.0	19	31	21	40	13	14	31	17	16	9.0	42	41	45	38
Toluene	µg/L	1,000*	1,100	--	10	< 5.0	5.3	< 5.0	< 5.0	< 5.0	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	--	46	< 5.0	15	< 5.0	< 5.0	< 5.0	28	35	20	38	5.0	13.8	30	17	17	6.2	46	21	61	23
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*	< 5.0	< 9.7	< 9.7	55	< 10	18	< 10	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
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	--	31	390	130	109	109	102	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	--	< 10	< 10	< 10	< 10	< 10.0	< 10	21.5	< 10	32.1	116	10.4	< 10	< 10	< 10	< 10	< 10	< 10	10	< 10	< 10
Copper	µg/L	630	4,100	--	< 20	< 20	< 10	< 10	< 10.0	< 10	< 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	15.1	12.3	< 10	< 10	< 10	< 10	< 10	< 10	< 10	23.4	21.9	< 10	12	< 10	< 10	< 10
Nickel	µg/L	100	2,000	--	< 40	< 40	< 20	< 20	< 20.0	< 20	< 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	--	12	88	23	19	27	28	18	10	< 10	< 10	36	< 10	< 10	< 10	< 10	16	15	< 10	< 10	< 10

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Standard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7b
Summary of Bedrock Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-22D					MW-23D									
				08/23/16	04/05/16	08/12/15	04/29/15	03/01/05	08/23/16	04/05/16	08/11/15	02/16/15	08/04/14	02.18/14	08/05/13	02/28/05	10/06/04	06/10/03
Field Groundwater Quality Parameters																		
pH	SU	N/A	N/A	6.74	9.07	7.69	6.83	6.66	6.04	6.17	5.93	5.87	6.38	6.15	5.55	6.07	5.91	6.17
Specific Conductance	mS/cm	N/A	N/A	372.2	300	327	475	423	381.1	400	304	369	374	372	363	378	388	399
Temperature	°Celsius	N/A	N/A	27.00	22.98	26.29	19.41	19.85	29.10	23.34	27.58	17.45	26.22	20.60	26.06	22.07	24.18	23.37
Dissolved Oxygen (YSI)	mg/L	N/A	N/A	0.73	3.83	0.31	0.50	1.03	0.70	0.26	0.26	0.82	0.36	0.58	1.09	2.78	0.11	0.14
ORP	mV	N/A	N/A	-81.5	106.5	-169.1	-74.0	-87.4	-7.1	121.5	149.7	200.9	72.9	163.0	-105.6	148.6	85.0	113.8
Turbidity	NTU	N/A	N/A	8.3	1.78	9.73	1.90	2.76	7.0	1.42	9.92	2.01	1.27	0.36	9.12	12.5	5.19	3.3
Laboratory Results - Natural Attenuation Parameters																		
Nitrogen, Ammonia (as N)	mg/L	N/A	N/A	--	--	--	--	< 0.20	--	--	--	--	--	--	--	< 0.20	< 0.20	< 0.200
Nitrogen, Nitrate (as N)	mg/L	N/A	N/A	--	--	--	--	< 0.500	--	--	--	--	--	< 0.25	--	< 0.0500	< 0.0500	< 0.0500
Sulfate	mg/L	N/A	N/A	--	--	--	--	2.67	--	--	--	--	--	49.0	--	28.0	55.2	39.7
Sulfide	mg/L	N/A	N/A	--	--	--	--	< 1.0	--	--	--	--	--	< 1.0	--	< 1.0	< 1.0	< 1.0
Dissolved Manganese	mg/L	N/A	N/A	--	--	--	--	1.45	--	--	--	--	--	< 0.100	--	0.596	0.510	0.637
Total Manganese	mg/L	N/A	N/A	--	--	--	--	1.43	--	--	--	--	--	< 0.100	--	0.622	0.529	0.651
Ferrous Iron	mg/L	N/A	N/A	--	--	--	--	6.7	--	--	--	--	--	78	--	< 0.1	< 0.1	0.7
Total Iron	mg/L	N/A	N/A	--	--	--	--	6.43	--	--	--	--	--	< 1.0	--	0.375	< 0.1	1.35
Carbon Dioxide	mg/L	N/A	N/A	--	--	--	--	31	--	--	--	--	--	17	--	140	150	170
Methane	mg/L	N/A	N/A	--	--	--	--	24	--	--	--	--	--	16	--	31	22	23
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	--	--	21	--	--	--	--	--	5.3	--	16	15	14
Dissolved Oxygen	mg/L	N/A	N/A	--	--	--	--	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	< 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	< 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	< 5.0	< 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
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
Semivolatile Organic Compounds																		
Acenaphthene	µg/L	2,000*	6,100	<0.50	< 0.50	< 10	< 0.50	< 10	<0.50	< 0.50	< 10	< 0.50	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	<1.0	< 1.0	< 10	< 1.0	< 10	<1.0	< 1.0	< 10	< 1.0	< 10	< 10	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31, 000	<0.050	< 0.050	< 10	< 0.050	< 10	<0.050	< 0.050	< 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	< 0.20	--	--	--
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	< 0.20	--	--	--
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	< 0.20	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	<0.10	< 0.10	< 10	< 0.10	--	<0.10	< 0.10	< 10	< 0.10	< 10	< 10	< 10	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	<0.050	< 0.050	< 10	< 0.050	--	<0.050	< 0.050	< 10	< 0.050	< 10	< 10	< 10	--	--	--
Chrysene	µg/L	117	392	<0.050	< 0.050	< 10	< 0.050	--	<0.050	< 0.050	< 10	< 0.050	< 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	< 0.20	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	<10	< 10	< 10	< 10	< 10	<10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	<0.10	< 0.10	< 10	< 0.10	< 10	<0.10	< 0.10	< 10	< 0.10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	<0.10	< 0.10	< 10	< 0.10	< 10	<0.10	< 0.10	< 10	< 0.10	< 10	< 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	--	<0.050	< 0.050	< 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	< 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
Naphthalene	µg/L	20*	20*	<0.50	< 0.50	< 10	< 0.50	< 10	<0.50	< 0.50	< 10	< 0.50	< 10	< 10	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	470	3,100	0.063	< 0.050	< 10	< 0.050	< 10	<0.050	< 0.050	< 10	< 0.050	< 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
Pyrene	µg/L	1,000*	3,100	<0.050	< 0.050	< 10	< 0.050	< 10	<0.050	< 0.050	< 10	< 0.050	< 10	< 10	< 10	< 10	< 10	< 10
Laboratory Results - Inorganic Constituents																		
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 40	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 50	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	1120	469	907	1,440	1,290	65.5	57.5	64.4	66.1	56.6	52.2	54.3	52.2	48.2	50
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 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	< 5.0	< 5.0	< 5.0	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10
Nickel	µg/L	100	2,000	45.4000	< 20.0	< 20.0	< 20.0	< 20	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.5	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 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

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Standard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7b
Summary of Bedrock Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-24D																												
				08/22/16	07/26/16	07/08/16	06/24/16	04/05/16	08/13/15	02/17/15	08/06/14	02/18/14	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	N/A	N/A	6.43		6.44	6.47	6.33	6.08	6.03	6.16	6.56	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	mS/cm	N/A	N/A	137.7		123.5	135.8	46	484	64	325	45	195	247	198	69	324	368	350	379	450	348	461	536	478	436	381	468	466	404	486	568	538
Temperature	°Celsius	N/A	N/A	23.80		23.84	22.58	17.78	21.66	15.75	22.39	16.26	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	N/A	N/A	0.20		0.53	0.29	4.46	0.21	1.45	0.58	6.58	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	N/A	N/A	-109.6		-66.3	-112.8	78.4	-80.8	100.1	-58.6	162.0	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	N/A	N/A	1.5		3.89	1.65	22.6	34	9.47	1.68	8.72	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	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 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	N/A	N/A	--	--	--	--	--	--	--	--	< 0.25	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	N/A	N/A	--	--	--	--	--	--	--	--	< 1.0	< 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	N/A	N/A	--	--	--	--	--	--	--	--	< 1.0	< 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	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	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	N/A	N/A	--	--	--	--	--	--	--	--	< 0.100	--	--	--	--	--	--	--	--	--	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	N/A	N/A	--	--	--	--	--	--	--	--	0.791	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	N/A	N/A	--	--	--	--	--	--	--	--	5.2	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	N/A	N/A	--	--	--	--	--	--	--	--	< 1.0	140	3.5	1.8	0.23	0.94	--	--	--	--	140	200	180	200	190	79	200	200	200	230	190	170
Methane	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	< 4	140	120	72	0.29	56	--	--	--	--	120	410	420	290	250	3.5	500	300	210	300	390	300
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	17	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	N/A	N/A	--	--	--	--	--	--	--	--	9.0	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	11	120	9.0	< 5.0	100	39	< 5.0	15	< 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	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	5.2	140	6.0	< 5.0	44	31	< 5.0	7.2	< 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	8	< 5.0	< 5.0	8.6	< 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	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Xylenes	µg/L	31,000	200,000	<5.0	18	< 5.0	< 5.0	8.3	< 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	< 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	1.7	14	1.3	0.78	< 0.50	15	< 10	< 10	< 10	2.3	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	13	< 10	13	< 10	< 10	15	< 10	< 10
Acenaphthylene	µg/L	470	3,100	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 10	< 10	< 10	0.32	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	15
Anthracene	µg/L	4,700	31, 000	0.19	0.35	0.32	0.25	0.27	0.41	< 10	< 10	< 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	0.087	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	<0.050	< 0.050	0.11	< 0.050	0.053	< 0.050	< 0.050	< 0.050	< 0.050	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	<0.10	< 0.10	0.26	< 0.10	0.14	< 0.10	< 0.10	< 0.10	< 0.10	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	<0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 10	< 10	< 10	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	<0.050	< 0.050	0.10	< 0.050	0.074	< 0.050	< 10	< 10	< 10	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	<0.050	< 0.050	0.15	< 0.050	0.077	< 0.050	< 10	< 10	< 10	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
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	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	<10	< 10	< 10	< 10	< 10	< 10	< 10	< 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	0.11	0.12	< 0.10	< 0.10	< 0.10	< 10	< 10	< 10	< 0.19	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	0.27	3.3	0.16	< 0.10	< 0.10	1.5	< 10	< 10	< 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	0.077	< 0.050	0.064	< 0.050	< 0.050	< 0.050	< 0.050	< 0.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	<10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 1.9	--	--	--	--	--	--	--	--	< 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	< 1.9	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	14	290	13.0	8.7	< 0.50	220	< 10	37	< 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	0.21	2	0.077	< 0.050	< 0.050	2.4	< 10	< 10	< 10	< 0.19	--	--	--	--	--	--	--	--	< 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	< 0.97	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	<0.050	0	0.18	< 0.050	0.075	0.11	< 10	< 10	< 10	< 0.19	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Laboratory Results - Inorganic Constituents																																
Antimony	µg/L	6.3	40	< 20	--	--		< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 20	--	--	--	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	1100	--	--	--	1,250	4,370	422	2,270	149	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	< 10.0	--	--	--	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 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	< 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	< 10.0	--	--	--	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 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*	< 10.0	--	--	--	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 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*	<0.02	--	--	--	< 20	< 20	< 20	< 20.0	< 20	< 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	<20	--	--	--	58.4	197	39.8	< 20.0	27.2	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	< 0.20	--	--	--	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	25.4	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Total Cyanide	µg/L	310	2,000	< 10	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10	15	< 10	< 10	< 10	< 10	< 10	< 10	17	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 2 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Standard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7b
Summary of Bedrock Groundwater Analytical Data
November 2001 through August 2016
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	08/04/14	02/18/14	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	N/A	N/A	5.40	5.60	5.69	5.69	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	mS/cm	N/A	N/A	0.446	0.371	0.461	0.461	441	408	416	484	464	426	403	489	485	418	471	502	470	493
Temperature	°Celsius	N/A	N/A	26.25	17.09	23.64	23.64	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	N/A	N/A	0.59	2.67	0.76	0.76	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	N/A	N/A	4.2	129.2	116.1	116.1	-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	N/A	N/A	0.52	2.43	8.36	8.36	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	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Nitrate (as N)	mg/L	N/A	N/A	--	--	--	3.9	--	3.4	--	--	--	4.2	--	--	--	4.2	--	--	--	3.7
Sulfate	mg/L	N/A	N/A	--	--	--	< 1.0	--	< 5.0	--	--	--	< 5.0	--	--	--	< 5.0	--	--	--	< 5.0
Sulfide	mg/L	N/A	N/A	--	--	--	< 1.0	--	< 1.0	--	--	--	< 1.0	--	--	--	< 1.0	--	--	--	< 1.0
Dissolved Manganese	mg/L	N/A	N/A	--	--	--	< 0.100	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Manganese	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ferrous Iron	mg/L	N/A	N/A	--	--	--	< 0.100	--	< 0.10 HF	--	--	--	< 0.10 HF	--	--	--	< 0.010	--	--	--	< 0.010
Total Iron	mg/L	N/A	N/A	--	--	--	91	--	< 0.10	--	--	--	< 0.10	--	--	--	< 0.010	--	--	--	< 0.010
Carbon Dioxide	mg/L	N/A	N/A	--	--	--	< 1.0	--	76	--	--	--	1.6	--	--	--	2.1	--	--	--	0.93
Methane	mg/L	N/A	N/A	--	--	--	< 4	--	< 0.58	--	--	--	< 0.58	--	--	--	<0.58	--	--	--	<0.19
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	--	20	--	18	--	--	--	5.6	--	--	--	4.4	--	--	--	3.8
Dissolved Oxygen	mg/L	N/A	N/A	--	--	--	6.6	--	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	< 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	< 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	< 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	< 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	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	< 5.0
Semivolatile Organic Compounds																				
Acenaphthene	µg/L	2,000*	6,100	< 0.50	< 10	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 1.0	< 10	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 0.050	< 10	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 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	< 0.050	< 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	< 0.10	< 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	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 10	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 0.050	< 10	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	< 1.9	< 2.0	< 2.0	< 2.1	--	--	--	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 0.10	< 10	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	< 0.10	< 10	< 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	< 0.050	< 0.050	< 0.20	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	< 1.9	< 2.0	< 2.0	< 2.1	--	--	--	--	--	--	--	--	--
4-Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10	< 1.9	< 2.0	< 2.0	< 2.1	--	--	--	--	--	--	--	--	--
Naphthalene	µg/L	20*	20*	< 0.50	< 10	< 10	< 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	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10	< 0.97	< 0.99	< 1.0	< 1.1	--	--	--	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 0.050	< 10	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.21	--	--	--	--	--	--	--	--	--
Inorganic Constituents																				
Antimony	µg/L	6.3	40	< 20.0	< 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	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--
Barium	µg/L	2,000	7,200	3,790	3,500	3,960	3,700	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	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 4.0	5.7	< 4.0	5.3	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 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	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	< 20
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--	--	< 40
Zinc	µg/L	4,700	31,000	< 20.0	29.2	< 20.0	29.3	< 20.0	< 20	25	< 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	--	--	--	--	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10	--	--	--	< 10

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Standard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7b
Summary of Bedrock Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-26D				MW-27D														
				08/23/16	04/11/16	03/01/05	03/05/04	08/23/16	04/05/16	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	N/A	N/A	11.70	11.89	12.05	11.81	6.26	6.52	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	mS/cm	N/A	N/A	1903.9	2,170	2,066	2,362	209.8	200	254	266	182	206	213	242	209	335	212	202	222	190	219	230
Temperature	°Celsius	N/A	N/A	25.40	16.6	17.67	18.69	22.00	19.73	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	N/A	N/A	0.40	2.22	1.38	1.22	1.00	0.42	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	N/A	N/A	-70.6	13.3	-444.4	8.6	38.6	-3.0	-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	N/A	N/A	1.6	4.36	2.95	1.41	4.2	8.77	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	N/A	N/A	--	--	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	N/A	N/A	--	--	< 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	N/A	N/A	--	--	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	N/A	N/A	--	--	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	N/A	N/A	--	--	< 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	N/A	N/A	--	--	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	N/A	N/A	--	--	< 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	N/A	N/A	--	--	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	N/A	N/A	--	--	< 0.60	--	--	--	--	--	62	67	61	68	72	65	59	72	75	67	68	42
Methane	mg/L	N/A	N/A	--	--	140	--	--	--	--	--	220	270	300	120	3.8	5.6	0.66	220	280	0.75	96	33
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	22	--	--	--	--	--	26	31	24	20	31	26	20	23	25	19	25	18
Dissolved Oxygen	mg/L	N/A	N/A	--	--	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	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Disulfide	µg/L	329	1700	<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	< 5.0	< 5.0	< 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	< 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	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds																						
Acenaphthene	µg/L	2,000*	6,100	<0.50	--	< 10	< 10	<0.50	< 0.50	< 0.50	< 0.50	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	<1.0	--	< 10	< 10	<1.0	< 1.0	< 1.0	< 1.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31, 000	<0.050	--	< 10	< 10	<0.050	< 0.050	< 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	< 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	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	<0.10	--	--	--	<0.10	< 0.10	< 0.10	< 0.10	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	<0.10	--	--	--	<0.10	< 0.10	< 0.10	< 0.10	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	<0.050	--	--	--	<0.050	< 0.050	< 0.050	< 0.050	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	<0.050	--	--	--	<0.050	< 0.050	< 0.050	< 0.050	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	<0.10	--	--	--	<0.10	< 0.10	< 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	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	<0.10	--	< 10	< 10	<0.10	< 0.10	< 0.10	< 0.10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	<0.10	--	< 10	< 10	<0.10	< 0.10	< 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	< 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
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
Naphthalene	µg/L	20*	20*	<0.50	< 5.0	< 10	< 10	<0.50	< 0.50	< 0.50	< 0.50	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	470	3,100	<0.050	--	< 10	< 10	<0.050	< 0.050	< 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	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	<0.050	--	< 10	< 10	0.17	< 0.050	< 0.050	< 0.050	< 10	< 10	< 10	< 10	< 10	< 10	12	< 10	< 10	< 10	< 10	< 10
Laboratory Results - Inorganic Constituents																						
Antimony	µg/L	6.3	40	<20.0	< 20.0	< 40	< 40	< 20	< 20	< 20	< 20	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 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	1340	1,740	1,450	1,720	934	961	813	813	869	862	878	865	954	904	921	600	910	968	825	859
Beryllium	µg/L	31	200	< 10	< 10	--	--	< 10	< 10	< 10	< 10	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 50	< 50	--	--	< 50	< 50	< 50	< 50	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 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	<10	12.9	< 10	< 10	< 10	< 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	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20	< 20	< 20	< 20	37.5	23	< 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	22.7	< 20	< 20	< 20	< 20	22	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.5	< 0.5	< 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	< 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

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 2 RRS (RRS applicable to the well location)
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Standard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7b
Summary of Bedrock Groundwater Analytical Data
November 2001 through August 2016
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	N/A	N/A	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	mS/cm	N/A	N/A	602	507	515	575	604	481	864	465	525	564	516	663	548
Temperature	°Celsius	N/A	N/A	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	N/A	N/A	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	N/A	N/A	-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	N/A	N/A	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	N/A	N/A	--	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	N/A	N/A	--	< 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	N/A	N/A	--	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	N/A	N/A	--	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	N/A	N/A	--	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	N/A	N/A	--	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	N/A	N/A	--	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	N/A	N/A	--	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	N/A	N/A	--	8.9	12	13	11	< 0.6	15	3.9	< 0.60	14	14	0.60	6.0
Methane	mg/L	N/A	N/A	--	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	N/A	N/A	--	24	19	18	20	22	20	22	19	23	18	20	17
Dissolved Oxygen	mg/L	N/A	N/A	--	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
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
Laboratory Results - Inorganic Constituents																
Antimony	µg/L	6.3	40	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	544	423	447	424	421	205	429	337	278	424	407	342	273
Beryllium	µg/L	31	200	< 10.0	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10	< 10	< 10	< 10	26	< 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
Nickel	µg/L	100	2,000	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	< 20.0	< 20	< 20	< 20	< 20	39.2	< 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	64	25	18	55	< 10	< 10	55	< 10	< 10	39	< 10	39	37

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Standard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7b
Summary of Bedrock Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-108D										
				4/8/2016	2/17/2015	8/5/2014	2/17/2014	02/06/13	02/07/12	02/23/11	02/23/10	08/12/09	03/02/05	12/16/04
Field Groundwater Quality Parameters														
pH	SU	N/A	N/A	7.04	6.96	6.92	7.01	6.73	5.22	6.47	6.51	8.89	8.21	10.15
Specific Conductance	mS/cm	N/A	N/A	200	140	158	151	151	426	115	111	141	169	246
Temperature	°Celsius	N/A	N/A	20.92	19.07	24.23	20.99	21.85	19.76	20.30	19.35	25.18	21.11	22.59
Dissolved Oxygen (YSI)	mg/L	N/A	N/A	0.54	2.00	1.68	2.16	0.65	0.57	2.19	3.67	5.94	0.87	0.58
ORP	mV	N/A	N/A	-66.4	86.3	27.8	76.1	-76.5	78.1	150.10	155.70	32.6	-191.4	-141.1
Turbidity	NTU	N/A	N/A	13.9	2.11	0.82	0.43	0.31	1.29	3.42	0.62	0	1.64	6.41
Laboratory Results - Natural Attenuation Parameters														
Nitrogen, Ammonia (as N)	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	< 0.20	< 0.20
Nitrogen, Nitrate (as N)	mg/L	N/A	N/A	--	--	--	0.43	< 0.050	4.2	< 0.050	< 0.050	< 0.050	< 0.0500	< 0.0500
Sulfate	mg/L	N/A	N/A	--	--	--	2.6	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	2.73	4.31
Sulfide	mg/L	N/A	N/A	--	--	--	< 1.0	< 1.0	< 1.0	1.60	< 1.0	< 1.0	< 1.0	< 1.0
Dissolved Manganese	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	0.198	0.0439
Total Manganese	mg/L	N/A	N/A	--	--	--	< 0.100	--	--	--	--	--	0.193	0.0984
Ferrous Iron	mg/L	N/A	N/A	--	--	--	0.139	< 0.10 HF	< 0.10 HF	< 0.010	< 0.010	< 0.010	0.3	0.1
Total Iron	mg/L	N/A	N/A	--	--	--	< 5.0	0.29	< 0.10	0.22	< 0.010	0.330	0.360	0.446
Carbon Dioxide	mg/L	N/A	N/A	--	--	--	< 1.0	7.2	1.6	0.18	0.16	< 0.050	0.71	< 0.60
Methane	mg/L	N/A	N/A	--	--	--	< 4	70	< 0.58	<0.58	<0.19	4.1	69	240
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	--	22	--	5.6	4.7	4.0	4.8	18	17
Dissolved Oxygen	mg/L	N/A	N/A	--	--	--	12	7.0	1.8	1.6	1.4	1.7	1.2	1.5
Laboratory Results - Organic Constituents														
Volatile Organic Compounds														
Benzene	µg/L	5*	9	< 5.0	< 5.0	< 5.0	< 5.0	< 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	< 5.0	< 5.0	< 2.0	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 5.0	< 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	< 5.0	< 5.0	< 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	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds														
Acenaphthene	µg/L	2,000*	6,100	< 0.50	< 10	< 10	< 10	< 0.25	--	--	--	--	< 10	< 10
Acenaphthylene	µg/L	470	3,100	< 1.0	< 10	< 10	< 10	< 0.25	--	--	--	--	< 10	< 10
Anthracene	µg/L	4,700	31,000	< 0.050	< 10	< 10	< 10	< 0.25	--	--	--	--	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.25	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.050	< 0.050	< 0.25	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.10	< 0.10	< 0.25	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 10	< 10	< 10	< 0.25	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 10	< 10	< 10	< 0.25	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 0.050	< 10	< 10	< 10	< 0.25	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	< 0.10	< 0.25	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 2.5	--	--	--	--	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	< 0.10	< 10	< 10	< 10	< 0.25	--	--	--	--	< 10	< 10
Fluorene	µg/L	1,000*	4,100	< 0.10	< 10	< 10	< 10	< 0.25	--	--	--	--	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.25	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 2.5	--	--	--	--	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 2.5	--	--	--	--	< 10	< 10
Naphthalene	µg/L	20*	20*	< 0.50	< 10	< 10	< 10	< 0.25	< 5.0	< 5.0	<9.9	<9.4	< 10	< 10
Phenanthrene	µg/L	470	3,100	< 0.050	< 10	< 10	< 10	< 0.25	--	--	--	--	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 1.2	--	--	--	--	< 10	< 10
Pyrene	µg/L	1,000*	3,100	< 0.050	< 10	< 10	< 10	< 0.25	--	--	--	--	< 10	< 10
Inorganic Constituents														
Antimony	µg/L	6.3	40	< 20	< 20	< 20	< 20	< 20	--	--	--	--	< 40	< 40
Arsenic	µg/L	50*	50*	< 50	< 50	< 50	< 50	< 20	--	--	--	--	< 50	< 50
Barium	µg/L	2,000	7,200	783	631	632	465	600	4,200	540	470	620	513	416
Beryllium	µg/L	31	200	< 10	< 10	< 10	< 10	< 4.0	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5	6.6	13.1	9.3	< 5.0	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10	< 10	< 10	< 10	< 20	< 20	< 20	< 20	< 20	< 10	< 10
Lead	µg/L	15*	15*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	44	< 20	< 20	< 20	< 40	< 40	< 40	< 40	< 40	< 20	< 20
Zinc	µg/L	4,700	31,000	< 20	43.3	50.1	113	< 20	--	--	--	--	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Standard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7b
Summary of Bedrock Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-110D															
				08/24/16	8/16 DUP	04/07/16	4/16 DUP	08/13/15	08/15 DUP	02/16/15	08/06/14	02/20/14	08/07/13	08/13 DUP	02/08/13	02/13 DUP	11/07/12	11/12 DUP
Field Groundwater Quality Parameters																		
pH	SU	N/A	N/A	6.22		6.43		6.14		6.18	6.21	6.28	5.07		6.27		6.32	
Specific Conductance	mS/cm	N/A	N/A	0.6		0.50		0.565		0.495	0.533	0.495	492		503		503	
Temperature	°Celsius	N/A	N/A	25.20		20.39		26.45		17.20	27.75	19.80	25.46		20.28		23.88	
Dissolved Oxygen (YSI)	mg/L	N/A	N/A	0.44		0.19		0.38		1.68	0.52	0.67	0.71		1.38		0.2	
ORP	mV	N/A	N/A	-69.1		-60.20		-146.7		-145.9	-52.6	-34.6	-142.9		-40.4		-113.2	
Turbidity	NTU	N/A	N/A	9.4		8.30		2.42		9.26	2.51	0.66	0.28		9.8		0.95	
Laboratory Results - Natural Attenuation Parameters																		
Nitrogen, Ammonia (as N)	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Nitrate (as N)	mg/L	N/A	N/A	--	--	--	--	--	--	< 0.25	--	< 0.25	--	--	0.34 *	< 0.050	--	--
Sulfate	mg/L	N/A	N/A	--	--	--	--	--	--	1.1	--	< 1.0	--	--	7.0	< 5.0	--	--
Sulfide	mg/L	N/A	N/A	--	--	--	--	--	--	< 1.00	--	< 1.0	--	--	< 1.0	< 1.0	--	--
Dissolved Manganese	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Manganese	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	5.00	--	--	--	--	--	--
Ferrous Iron	mg/L	N/A	N/A	--	--	--	--	--	--	5.60	--	5.89	--	--	4.6 HF	4.8 HF	--	--
Total Iron	mg/L	N/A	N/A	--	--	--	--	--	--	6.61	--	140	--	--	6.8	4.4	--	--
Carbon Dioxide	mg/L	N/A	N/A	--	--	--	--	--	--	150	--	< 1.0	--	--	120	66	--	--
Methane	mg/L	N/A	N/A	--	--	--	--	--	--	960	--	770	--	--	620	520	--	--
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	--	--	--	--	21	--	17	--	--	--	--	--	--
Dissolved Oxygen	mg/L	N/A	N/A	--	--	--	--	--	--	3.9	--	3.0	--	--	2.8	5.7	--	--
Laboratory Results - Organic Constituents																		
Volatile Organic Compounds																		
Benzene	µg/L	5*	9	86	88	96	94	120	120	340	480	480	580	620	150	150	430	280
Carbon Disulfide	µg/L	329	1,700	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 40	< 40	< 40	< 40
Ethylbenzene	µg/L	700*	2,300	280	240	290	280	420	450	560	620	540	390	460	310	320	550	440
Toluene	µg/L	1,000*	1,100	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	5.3	5.1	5.2	5.7	< 20	< 20	< 20	< 20
Total Xylenes	µg/L	31,000	200,000	5.2	<5.0	7.0	6.8	11	11	47	60	48	64	45	< 40	< 40	< 40	< 40
Semivolatile Organic Compounds																		
Acenaphthene	µg/L	2,000*	6,100	80	80	76	60	77	70	97	120	81	100	96	81	17	89	99
Acenaphthylene	µg/L	470	3,100	2.7	3.0	2.8	< 1.0	3.0	2.4	< 10	< 10	< 10	< 10	< 10	3.9	1.9	4.5	4.4
Anthracene	µg/L	4,700	31,000	8.3	8.9	7.1	6.3	8.1	5.9	< 10	< 10	< 10	< 10	< 10	6.4	0.34	6.8	6.7
Benzo[a]anthracene	µg/L	1.17	3.92	0.30	0.31	0.20	0.15	0.32	0.23	0.20	0.40	0.18	0.27	0.3	< 1.9	< 1.9	< 2.0	< 0.20
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	< 0.20	< 0.20	< 1.9	< 1.9	< 2.0	< 0.20
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	< 0.20	< 0.20	< 1.9	< 1.9	< 2.0	< 0.20
Benzo[g,h,i]perylene	µg/L	10	10	<0.10	<0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 10	< 10	< 10	< 10	< 10	< 1.9	< 1.9	< 2.0	< 0.20
Benzo[k]fluoranthene	µg/L	11.7	39.2	<0.050	<0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 10	< 10	< 10	< 10	< 10	< 1.9	< 1.9	< 2.0	< 0.20
Chrysene	µg/L	117	392	0.25	0.27	0.18	0.13	0.23	0.17	< 10	< 10	< 10	< 10	< 10	< 1.9	< 1.9	< 2.0	< 0.20
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	< 0.20	< 0.20	< 1.9	< 1.9	< 2.0	< 0.20
2,4-Dimehylphenol	µg/L	700*	700*	<10	<10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 19	< 19	< 20	< 2.0
Fluoranthene	µg/L	1,000*	4,100	6.3	6.6	4.4	4.0	6.5	4.8	< 10	< 10	< 10	< 10	< 10	5.3	2.1	5.2	5.5
Fluorene	µg/L	1,000*	4,100	28	26	21	19	19	16	33	40	25	32	31	25	14	28	29
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	< 0.20	< 0.20	< 1.9	< 1.9	< 2.0	< 0.20
2-Methylphenol	µg/L	780	5,100	<10	<10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 19	< 19	< 20	< 2.0
3 & 4 Methylphenol	µg/L	78	510	<10	<10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 19	< 19	< 20	< 2.0
Naphthalene	µg/L	20*	20*	3,100	3,100	1,600	1300 E	2,200	1,500	3,400	4,400	1,100	4,400	4,200	2,300	15	5,000	1,400
Phenanthrene	µg/L	470	3,100	50	48	40	33	43	37	53	69	40	59	60	42	42	49	58
Phenol	µg/L	9,390	61,000	<10	<10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 9.7	< 9.7	< 10	2.4
Pyrene	µg/L	1,000*	3,100	7.9	8.2	5.9	5.2	8.3	6.1	< 10	< 10	< 10	< 10	< 10	8.1	2.2	6.4	6.1
Inorganic Constituents																		
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 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	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 20	< 20	< 20	< 20
Barium	µg/L	2,000	7,200	3510	2900	2,510	2,490	2,800	3,780	4,007	4,850	4,770	5,100	5,210	3,200	800	5,000	4,800
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 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	< 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	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 20	< 20	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	122	120	177	181	104	103	107	110	125	138	140	160	< 40	160	160
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 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	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Total Cyanide	µg/L	310	2,000	14	12	< 10.0	0.020	0.015	0.012	< 0.010	0.024	0.021	18	18	20	32	24	25

Notes:

Analyte was detected above laboratory detection limit

Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)

*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Standard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7b
Summary of Bedrock Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-110D (continued)																				
				08/09/12	05/17/12	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	N/A	N/A	5.62	6.57	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	mS/cm	N/A	N/A	548	527	488		547	577	467	489	504	508	506	432		507	521	475	449	524	523		509	472
Temperature	°Celsius	N/A	N/A	26.84	24.06	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	N/A	N/A	0.17	0.83	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	N/A	N/A	-47.8	-61.2	-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	N/A	N/A	7.21	4.63	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	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20	< 0.20	< 0.20	< 0.20
Nitrogen, Nitrate (as N)	mg/L	N/A	N/A	--	--	< 0.050	< 0.050	--	--	--	< 0.050	--	--	--	< 0.050	< 0.050	0.19	--	--	--	--	< 0.500	< 0.500	< 0.0500	< 0.0500
Sulfate	mg/L	N/A	N/A	--	--	< 5.0	< 5.0	--	--	--	< 5.0	--	--	--	< 5.0	< 5.0	< 5.0	--	--	--	--	2.38	< 1.00	1.97	4.95
Sulfide	mg/L	N/A	N/A	--	--	1.0	< 1.0	--	--	--	< 1.0	--	--	--	< 1.0	< 1.0	< 1.0	--	--	--	--	1.3	< 1.0	< 1.0	< 1.0
Dissolved Manganese	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.760	0.762	0.584	1.36
Total Manganese	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.754	0.748	0.635	1.36
Ferrous Iron	mg/L	N/A	N/A	--	--	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	N/A	N/A	--	--	7.3	7.5	--	--	--	6.7	--	--	--	4.1	4.3	3.6	--	--	--	--	4.09	4.07	3.98	5.51
Carbon Dioxide	mg/L	N/A	N/A	--	--	2.3	2.3	--	--	--	1.6	--	--	--	1.8	1.8	1.5	--	--	--	--	140	150	170	160
Methane	mg/L	N/A	N/A	--	--	480	480	--	--	--	720	--	--	--	720	780	230	--	--	--	--	1,500	1,700	2700	1,500
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	4.8	5.5	--	--	--	4.1	--	--	--	4	4.1	4.1	--	--	--	--	17	18	16	16
Dissolved Oxygen	mg/L	N/A	N/A	--	--	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	380	400	< 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	< 40	< 40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	480	480	340	340	<250	<250	<250	350	--	--	--	490	460	440	710	770	350	950	900	950	900	820
Toluene	µg/L	1,000*	1,100	< 20	< 20	<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	< 40	< 40	<250	<250	<250	<250	<250	<250	--	--	--	91	82	29	330	370	370	490	480	520	570	410
Semivolatile Organic Compounds																								
Acenaphthene	µg/L	2,000*	6,100	100	110	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	110	100	120	83
Acenaphthylene	µg/L	470	3,100	5.3	6.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	43	42	30	49
Anthracene	µg/L	4,700	31,000	9.5	12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11	11	10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 1.9	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 1.9	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 1.9	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 1.9	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 1.9	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 1.9	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 1.9	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 19	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	7.7	8.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	35	38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	44	42	47	49
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 1.9	< 2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 19	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	< 19	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	1,900	4,100	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	69	71	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	73	70	74	64
Phenol	µg/L	9,390	61,000	< 9.6	< 9.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	13
Pyrene	µg/L	1,000*	3,100	9.9	8.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10	< 10
Inorganic Constituents																								
Antimony	µg/L	6.3	40	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 40	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 50	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	5,000	4,600	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	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10	< 10	< 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	< 20	< 20	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10	< 10	< 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	160	170	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	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	19	23	15	22	--	--	--	24	--	--	--	25	24	12	42	55	15	41	48	50	115	27

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Standard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7b
Summary of Bedrock Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-111D															
				8/13/2015	8/7/2014	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	N/A	N/A	6.21	6.48	6.62	6.48	6.47		6.42		6.58		6.60	6.41		6.67	6.51	6.51
Specific Conductance	mS/cm	N/A	N/A	542	559	547	540	598		691		772		618	683		673	739	719
Temperature	°Celsius	N/A	N/A	26.85	27.81	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	N/A	N/A	0.23	0.23	0.20	0.24	4.97		0.49		0.36		0.37	0.22		1.45	1.62	0.39
ORP	mV	N/A	N/A	-204.5	-134.3	-151.6	-124.3	-184.8		-107.7		-93.1		-85.0	-114.2		-84.4	-102.1	-127.5
Turbidity	NTU	N/A	N/A	5.59	5.64	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	N/A	N/A	--		--	--	--	--	--	--	--	--	--	--	--	0.51	0.61	< 0.20
Nitrogen, Nitrate (as N)	mg/L	N/A	N/A	--		--	--	< 0.050	< 0.050	--	--	--	--	--	--	--	< 0.500	< 0.0500	< 0.0500
Sulfate	mg/L	N/A	N/A	--		--	--	< 5.0	< 5.0	--	--	--	--	--	--	--	1.85	1.44	1.67
Sulfide	mg/L	N/A	N/A	--		--	--	2.3	2.3	--	--	--	--	--	--	--	1.1	< 1.0	< 1.0
Dissolved Manganese	mg/L	N/A	N/A	--		--	--	--	--	--	--	--	--	--	--	--	1.02	0.941	0.941
Total Manganese	mg/L	N/A	N/A	--		--	--	--	--	--	--	--	--	--	--	--	1.02	0.989	0.987
Ferrous Iron	mg/L	N/A	N/A	--		--	--	< 0.010	< 0.010	--	--	--	--	--	--	--	4.6	5.4	4.7
Total Iron	mg/L	N/A	N/A	--		--	--	1.8	1.9	--	--	--	--	--	--	--	4.54	4.97	4.72
Carbon Dioxide	mg/L	N/A	N/A	--		--	--	0.76	0.88	--	--	--	--	--	--	--	110	130	140
Methane	mg/L	N/A	N/A	--		--	--	28	29	--	--	--	--	--	--	--	3,100	2100	2,600
Dissolved Nitrogen	mg/L	N/A	N/A	--		--	--	5.3	4.5	--	--	--	--	--	--	--	18	18	18
Dissolved Oxygen	mg/L	N/A	N/A	--		--	--	1.9	1.6	--	--	--	--	--	--	--	0.78	3.6	0.97
Laboratory Results - Organic Constituents																			
Volatile Organic Compounds																			
Benzene	µg/L	5*	9	1,700	2,700	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	< 5.0	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	820	930	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	1200	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	670	220	940	900	850	1,200	1,100	1,400	1,400	570	1,100	1,600	980	780	830
Semivolatile Organic Compounds																			
Acenaphthene	µg/L	2,000*	6,100	53	59	84	--	--	--	--	--	--	--	--	--	--	140	150	150
Acenaphthylene	µg/L	470	3,100	44	70	14	--	--	--	--	--	--	--	--	--	--	12	< 10	< 10
Anthracene	µg/L	4,700	31,000	9.6	14	13	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	0.73	2.0	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	0.15	1.4	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	0.20	1.2	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 10	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	0.057	< 10	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	0.53	< 10	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	0.13	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	700*	700*	< 10	< 10	< 21	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	8.2	16	11	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	35	64	68	--	--	--	--	--	--	--	--	--	--	34	31	42
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	0.62	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 21	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
4-Methylphenol	µg/L	78	510	< 10	< 10	< 21	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	3.8	3,000	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	92	100	--	--	--	--	--	--	--	--	--	--	39	37	46
Phenol	µg/L	9,390	61,000	15	11	< 10	--	--	--	--	--	--	--	--	--	--	19	< 10	42
Pyrene	µg/L	1,000*	3,100	12	20	13	--	--	--	--	--	--	--	--	--	--	< 10	< 10	< 10
Laboratory Results - Inorganic Constituents																			
Antimony	µg/L	6.3	400	< 20.0	< 20.0	< 20	--	--	--	--	--	--	--	--	--	--	< 40	< 40	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 20	--	--	--	--	--	--	--	--	--	--	< 50	< 50	< 50
Barium	µg/L	2,000	7,200	1,009	910	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	< 10.0	< 10.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10.0	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 10	< 10	< 10	< 10	10.1	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10.0	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 20.0	40	49	< 40	< 40	< 10	< 10	< 10	< 10	< 20.0	< 10	< 10	< 20	< 20	< 20
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20	--	--	--	--	--	--	--	--	--	--	< 20	< 20	< 20
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.5	< 0.5
Total Cyanide	µg/L	310	2,000	13	10	19	--	< 10	10	< 10	< 10	< 10	< 10	< 10	11	< 10	< 10	25	< 10

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Standard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7b
Summary of Bedrock Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-112D																					
				4/5/2016	2/16/2015	8/5/2014	2/17/2014	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	N/A	N/A	9.70	9.77	9.12	8.95	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	mS/cm	N/A	N/A	301	306	304	288	296	390	366	382	389	318	372	391	426	355	327	435	427	407	536	558	585	422	464	489
Temperature	°Celsius	N/A	N/A	21.24	16.81	22.55	19.28	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	N/A	N/A	5.41	4.70	0.89	0.43	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	N/A	N/A	34.9	146.3	-4.2	40.1	-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	N/A	N/A	6.21	7.99	1.45	1.22	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	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20
Nitrogen, Nitrate (as N)	mg/L	N/A	N/A	--	1.0	--	< 0.25	--	0.29	--	--	--	0.29	--	--	--	0.27	--	--	--	0.32	0.21	--	--	--	--	< 0.0500
Sulfate	mg/L	N/A	N/A	--	4.1	--	3.1	--	< 5.0	--	--	--	< 5.0	--	--	--	5.7	--	--	--	7.3	7.3	--	--	--	--	10.6
Sulfide	mg/L	N/A	N/A	--	< 1.00	--	< 1.0	--	< 1.0	--	--	--	1.8	--	--	--	1.2	--	--	--	< 1.0	< 1.0	--	--	--	--	1.1
Dissolved Manganese	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.287
Total Manganese	mg/L	N/A	N/A	--	--	--	< 0.100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.302
Ferrous Iron	mg/L	N/A	N/A	--	< 0.100	--	< 0.100	--	< 0.10 HF	--	--	--	< 0.10 HF	--	--	--	< 0.010	--	--	--	< 0.010	< 0.010	--	--	--	--	0.5
Total Iron	mg/L	N/A	N/A	--	0.266	--	< 5.0	--	< 0.10	--	--	--	0.10	--	--	--	0.16	--	--	--	0.26	0.27	--	--	--	--	1.09
Carbon Dioxide	mg/L	N/A	N/A	--	< 5.0	--	< 1.0	--	< 5.0	--	--	--	< 0.050	--	--	--	< 0.050	--	--	--	0.14	< 0.050	--	--	--	--	35
Methane	mg/L	N/A	N/A	--	6	--	5	--	5.4	--	--	--	< 0.58	--	--	--	<0.58	--	--	--	4.8	20	--	--	--	--	26
Dissolved Nitrogen	mg/L	N/A	N/A	--	20	--	18	--	18	--	--	--	5.2	--	--	--	4.2	--	--	--	3.9	4.5	--	--	--	--	19
Dissolved Oxygen	mg/L	N/A	N/A	--	8.0	--	9.6	--	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	< 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	< 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	< 2.0	< 2.0	< 2.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 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	< 5.0
Toluene	µg/L	1,000*	1,100	< 5.0	< 5.0	< 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	< 5.0
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 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
Semivolatile Organic Compounds																									
Acenaphthene	µg/L	2,000*	6,100	< 0.50	< 10	< 10	< 10	< 10	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Acenaphthylene	µg/L	470	3,100	< 1.0	< 10	< 10	< 10	< 10	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Anthracene	µg/L	4,700	31,000	< 0.050	< 10	< 10	< 10	< 10	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 10	< 10	< 10	< 10	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 10	< 10	< 10	< 10	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 0.050	< 10	< 10	< 10	< 10	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	< 2.1	< 2.2	< 1.9	< 2.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Fluoranthene	µg/L	1,000*	4,100	< 0.10	< 10	< 10	< 10	< 10	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Fluorene	µg/L	1,000*	4,100	< 0.10	< 10	< 10	< 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	< 0.050	< 0.050	< 0.050	< 0.20	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	< 2.1	< 2.2	< 1.9	< 2.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10	< 2.1	< 2.2	< 1.9	< 2.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Naphthalene	µg/L	20*	20*	< 0.50	< 10	< 10	< 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	< 0.050	< 10	< 10	< 10	< 10	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10	< 1.1	< 1.1	< 0.95	< 1.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Pyrene	µg/L	1,000*	3,100	< 0.050	< 10	< 10	< 10	< 10	< 0.21	< 0.22	< 0.19	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Inorganic Constituents																									
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 50
Barium	µg/L	2,000	7,200	179	218	152	225	93.4	110	110	130	100	100	130	120	150	130	--	--	--	95	111	179	163	185	211	550
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	< 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	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10.0	< 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	< 10.0	< 10.0	< 10.0	< 10.0	< 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*	< 10.0	< 10.0	< 10.0	< 10.0	< 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	< 20.0	< 20.0	< 20.0	< 20.0	< 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	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 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	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	12	< 10	--	--	--	< 10	--	--	--	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 2 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Standard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7b
Summary of Bedrock Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-113D																					
				2/17/2015	8/5/2014	2/17/2014	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	N/A	N/A	5.63	6.09	5.92	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	mS/cm	N/A	N/A	354	349	353	357	362	363	366	363	295	351	368	369	321	356	360	352	363	368	373	374	321	370	357	385
Temperature	°Celsius	N/A	N/A	15.85	23.30	21.42	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	N/A	N/A	1.14	0.41	7.06	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	N/A	N/A	162.9	149.3	143.1	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	N/A	N/A	0.63	1.32	0.37	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	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.99
Nitrogen, Nitrate (as N)	mg/L	N/A	N/A	--	--	< 0.25	--	< 0.050	--	--	--	3.0	--	--	--	< 0.050	--	--	--	1.2	< 0.050	--	--	--	--	--	< 0.0500
Sulfate	mg/L	N/A	N/A	--	--	46	--	41	--	--	--	52	--	--	--	53	--	--	--	20	61	--	--	--	--	--	70.9
Sulfide	mg/L	N/A	N/A	--	--	< 1.0	--	< 1.0	--	--	--	1.2	--	--	--	< 1.0	--	--	--	< 1.0	< 1.0	--	--	--	--	--	< 1.0
Dissolved Manganese	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.22
Total Manganese	mg/L	N/A	N/A	--	--	< 0.100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.22
Ferrous Iron	mg/L	N/A	N/A	--	--	< 0.100	--	0.29 HF	--	--	--	< 0.10 HF	--	--	--	0.18	--	--	--	0.2	0.28	--	--	--	--	--	0.3
Total Iron	mg/L	N/A	N/A	--	--	110	--	0.40	--	--	--	< 0.10	--	--	--	0.29	--	--	--	0.25	0.38	--	--	--	--	--	2.86
Carbon Dioxide	mg/L	N/A	N/A	--	--	< 1.0	--	160	--	--	--	2.1	--	--	--	1.8	--	--	--	1.9	1.4	--	--	--	--	--	170
Methane	mg/L	N/A	N/A	--	--	25	--	32	--	--	--	< 0.58	--	--	--	8.2	--	--	--	25	37	--	--	--	--	--	140
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	19	--	18	--	--	--	4.4	--	--	--	4.1	--	--	--	3.8	4.2	--	--	--	--	--	19
Dissolved Oxygen	mg/L	N/A	N/A	--	--	10	--	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	< 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	< 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	< 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	< 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	< 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
Semivolatile Organic Compounds																									
Acenaphthene	µg/L	2,000*	6,100	< 10	< 10	< 10	< 10	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Acenaphthylene	µg/L	470	3,100	< 10	< 10	< 10	< 10	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Anthracene	µg/L	4,700	31,000	< 10	< 10	< 10	< 10	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.20	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.050	< 0.20	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.10	< 0.20	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 10	< 10	< 10	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 10	< 10	< 10	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 10	< 10	< 10	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	< 0.20	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 2.5	< 2.2	< 2.2	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	< 10	< 10	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Fluorene	µg/L	1,000*	4,100	< 10	< 10	< 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	< 0.050	< 0.050	< 0.20	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 2.5	< 2.2	< 2.2	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 2.5	< 2.2	< 2.2	< 2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Naphthalene	µg/L	20*	20*	< 10	< 10	< 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	< 10	< 10	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 1.3	< 1.1	< 1.1	< 1.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Pyrene	µg/L	1,000*	3,100	< 10	< 10	< 10	< 10	< 0.25	< 0.22	< 0.22	< 0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10
Inorganic Constituents																									
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 40
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 50
Barium	µg/L	2,000	7,200	75	80.3	72.7	72.3	65	110	67	72	48	72	71	84	65	--	--	--	65	69	63.8	60.9	47	65.0	--	87.7
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	< 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	< 10.0	--	--	--	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10	--	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 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*	< 10.0	< 10.0	< 10.0	< 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	< 20.0	< 20.0	< 20.0	< 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	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	68.4
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	10	15	11	< 10	--	--	--	10	--	--	--	< 10	< 10	< 10	< 10	< 10	10	--	< 10

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Standard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7b
Summary of Bedrock Groundwater Analytical Data
November 2001 through August 2016
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	N/A	N/A	7.9	9.51	9.99	7.12	7.00	7.26	7.77	7.02
Specific Conductance	mS/cm	N/A	N/A	395	291	383	500	432	422	431	462
Temperature	°Celsius	N/A	N/A	20.12	19.01	29.57	26.90	20.57	22.10	24.89	20.89
Dissolved Oxygen (YSI)	mg/L	N/A	N/A	6.23	7.22	5.85	0.37	0.45	0.31	0.09	0.72
ORP	mV	N/A	N/A	-29.8	23.2	-169.8	-154.2	-157.9	162.3	142.6	-86.9
Turbidity	NTU	N/A	N/A	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	N/A	N/A	--	--		--	--	--	--	< 0.20
Nitrogen, Nitrate (as N)	mg/L	N/A	N/A	--	< 0.050	0.93	--	--	--	--	< 0.500
Sulfate	mg/L	N/A	N/A	--	20	20	--	--	--	--	4.54
Sulfide	mg/L	N/A	N/A	--	< 1.0	< 1.0	--	--	--	--	< 1.0
Dissolved Manganese	mg/L	N/A	N/A	--	--	--	--	--	--	--	0.809
Total Manganese	mg/L	N/A	N/A	--	--	--	--	--	--	--	0.845
Ferrous Iron	mg/L	N/A	N/A	--	< 0.010	< 0.010	--	--	--	--	2.4
Total Iron	mg/L	N/A	N/A	--	< 0.010	< 0.010	--	--	--	--	2.85
Carbon Dioxide	mg/L	N/A	N/A	--	< 0.050	< 0.050	--	--	--	--	18
Methane	mg/L	N/A	N/A	--	1.2	1.2	--	--	--	--	99
Dissolved Nitrogen	mg/L	N/A	N/A	--	3.9	4.6	--	--	--	--	22
Dissolved Oxygen	mg/L	N/A	N/A	--	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
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
Inorganic Constituents											
Antimony	µg/L	6.3	40	< 20.0	--	--	--	--	--	--	< 40
Arsenic	µg/L	50*	50*	< 50.0	--	--	--	--	--	--	< 50
Barium	µg/L	2,000	7,200	493	140	140	558	613	636	763	1,260
Beryllium	µg/L	31	200	< 10.0	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	--	--	--	--	--	--	--
Cadmium	µg/L	100	310	< 10.0	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 20	< 20	< 10.0	< 10.0	< 10.0	< 10	< 10
Lead	µg/L	15*	15*	< 10.0	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 40	< 40	< 20.0	< 20.0	< 20.0	< 10	< 20
Zinc	µg/L	4,700	31,000	< 20.0	--	--	--	--	--	--	147
Mercury	µg/L	2*	2*	< 0.20	--	--	--	--	--	--	< 0.5
Total Cyanide	µg/L	310	2,000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; ther Exceeds Type 2 RRS (only indicated for off-site wells)
ft AMSL - feet Above Mean Sea Level Exceeds Type 4 RRS
RRS - Risk Reduction Standard
SU - Standard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7b
Summary of Bedrock Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-115D (Abandoned)																	
				08/05/14	02/20/14	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	N/A	N/A	7.22	7.38	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	mS/cm	N/A	N/A	257	344	217	228	258	256	244	198	213	222	225	222	208		200	209	235	
Temperature	°Celsius	N/A	N/A	24.47	22.62	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	N/A	N/A	0.42	0.40	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	N/A	N/A	34.4	-33.5	-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	N/A	N/A	0.00	9.47	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	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Nitrate (as N)	mg/L	N/A	N/A	--	< 0.25	--	< 0.050	--	--	--	< 0.050	--	--	--	< 0.050	--	--	--	--	0.2	< 0.050
Sulfate	mg/L	N/A	N/A	--	19	--	< 5.0	--	--	--	< 5.0	--	--	--	< 5.0	--	--	--	--	< 5.0	< 5.0
Sulfide	mg/L	N/A	N/A	--	< 1.0	--	< 1.0	--	--	--	< 1.0	--	--	--	2.1	--	--	--	--	< 1.0	< 1.0
Dissolved Manganese	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Manganese	mg/L	N/A	N/A	--	< 0.100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ferrous Iron	mg/L	N/A	N/A	--	0.727	--	< 0.10 HF	--	--	--	< 0.10 HF	--	--	--	< 0.010	--	--	--	--	< 0.010	< 0.010
Total Iron	mg/L	N/A	N/A	--	6.9	--	0.27	--	--	--	1.0	--	--	--	1.9	--	--	--	--	0.16	0.17
Carbon Dioxide	mg/L	N/A	N/A	--	< 1.0	--	7.5	--	--	--	0.052	--	--	--	< 0.050	--	--	--	--	< 0.050	< 0.050
Methane	mg/L	N/A	N/A	--	83	--	21	--	--	--	9.9	--	--	--	<0.58	--	--	--	--	<0.19	<0.19
Dissolved Nitrogen	mg/L	N/A	N/A	--	18	--	--	--	--	--	4.7	--	--	--	4.7	--	--	--	--	3.1	3.5
Dissolved Oxygen	mg/L	N/A	N/A	--	3.9	--	7.6	--	--	--	1.6	--	--	--	1.6	--	--	--	--	1.2	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	< 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	< 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	9.8	< 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
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	9.2	13	7.6	< 5.0	--	--	--	--	< 5.0	< 5.0
Semivolatile Organic Compounds																					
Acenaphthene	µg/L	2,000*	6,100	< 10	< 10	< 10	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 10	< 10	< 10	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 10	< 10	< 10	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	0.24	< 0.20	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	0.47	< 0.20	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	0.33	< 0.20	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 10	< 10	< 10	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 10	< 10	< 10	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 10	< 10	< 10	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	0.63	< 0.20	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 2.4	< 2.1	< 1.9	< 2.2	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 10	< 10	< 10	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	< 10	< 10	< 10	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	0.53	< 0.20	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 2.4	< 2.1	< 1.9	< 2.2	--	--	--	--	--	--	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 2.4	< 2.1	< 1.9	< 2.2	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	µg/L	20*	20*	< 10	< 10	< 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	< 10	< 10	< 0.24	< 0.21	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 1.2	< 1.0	< 0.95	< 1.1	--	--	--	--	--	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 10	< 10	< 10	< 0.24	< 0.21	< 0.19	< 0.22	--		--	--	--	--	--	--	--	--	--
Inorganic Constituents																					
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--
Barium	µg/L	2,000	7,200	2,490	80	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	< 10.0	< 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	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	--	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	--	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--	--	--	< 40	< 40
Zinc	µg/L	4,700	31,000	36	< 20.0	< 20.0	< 20	22	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--
Mercury	µg/L	2*	2*	< 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	--	--	--	--	17	< 10

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Standard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7b
Summary of Bedrock Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-200DR																				
				8/23/2016	4/7/2016	8/12/2015	8/15 DUP	2/17/2015	2/15 DUP	8/7/2014	2/20/2014	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	N/A	N/A	6.49	6.77	6.33		6.68		7.41	6.75	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	mS/cm	N/A	N/A	536.3	590	529		488		633	569	526	452	510	576	526	535	509	515	512	558	519	506	550	534
Temperature	°Celsius	N/A	N/A	26.51	24.09	25.23		17.44		25.53	22.50	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	N/A	N/A	0.24	0.36	0.12		2.38		0.51	0.36	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	N/A	N/A	-114.4	-866.7	-180.4		94.7		-85.9	-99.2	-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	N/A	N/A	1.4	4.38	0.7		1.22		4.19	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	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Nitrate (as N)	mg/L	N/A	N/A	--	--	--	--	--	--	--	< 0.25	--	0.073 *	--	--	--	< 0.050	--	--	--	< 0.050	--	--	--	< 0.050
Sulfate	mg/L	N/A	N/A	--	--	--	--	--	--	--	< 1.0	--	< 5.0	--	--	--	< 5.0	--	--	--	< 5.0	--	--	--	5.6
Sulfide	mg/L	N/A	N/A	--	--	--	--	--	--	--	< 1.0	--	< 1.0	--	--	--	1.6	--	--	--	7.5	--	--	--	< 1.0
Dissolved Manganese	mg/L	N/A	N/A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Manganese	mg/L	N/A	N/A	--	--	--	--	--	--	--	0.618	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ferrous Iron	mg/L	N/A	N/A	--	--	--	--	--	--	--	4.48	--	0.83 HF	--	--	--	0.84 HF	--	--	--	0.68	--	--	--	1.3
Total Iron	mg/L	N/A	N/A	--	--	--	--	--	--	--	97	--	6.9	--	--	--	4.3	--	--	--	4.3	--	--	--	4.8
Carbon Dioxide	mg/L	N/A	N/A	--	--	--	--	--	--	--	< 1.0	--	120	--	--	--	1.4	--	--	--	1.1	--	--	--	1.1
Methane	mg/L	N/A	N/A	--	--	--	--	--	--	--	1600	--	1100	--	--	--	1400	--	--	--	460	--	--	--	770
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	--	--	--	--	--	21	--	--	--	--	--	5.5	--	--	--	4.3	--	--	--	4.1
Dissolved Oxygen	mg/L	N/A	N/A	--	--	--	--	--	--	--	2.3	--	4.4	--	--	--	1.8	--	--	--	1.3	--	--	--	1.3
Laboratory Results - Organic Constituents																									
Volatile Organic Compounds																									
Benzene	µg/L	5*	9	85	29	36	34	< 5.0	< 5.0	19	7.5	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	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	40	20	26	24	< 5.0	< 5.0	8.1	< 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	< 5.0	16	< 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	8.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	7.2	< 5.0	< 5.0	2.0	13	2.0	< 2.0	< 5.0	< 5.0	< 5.0	6.0	< 5.0	--	--	--	6.8
Semivolatile Organic Compounds																									
Acenaphthene	µg/L	2,000*	6,100	24	1.5	5.0	< 0.50	< 10	< 10	14	21	35	81	25	25	15	--	--	--	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	26	< 1.0	< 1.0	< 1.0	< 10	< 10	< 10	< 10	< 10	4.9	2.8	2.8	1.8	--	--	--	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	3.6	0.069	0.058	< 0.050	< 10	< 10	< 10	< 10	< 10	6.5	0.47	0.38	< 0.22	--	--	--	--	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	0.080	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	0.052	0.12	< 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	< 0.050	< 0.050	< 0.050	0.12	< 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	< 0.10	< 0.10	< 0.10	0.11	< 0.20	< 1.9	< 0.20	< 0.20	< 0.22	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	<0.10	< 0.10	< 0.10	< 0.10	< 10	< 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	< 0.050	< 0.050	< 10	< 10	< 10	< 10	< 10	< 1.9	< 0.20	< 0.20	< 0.22	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	0.056	< 0.050	< 0.050	< 0.050	< 10	< 10	< 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	< 0.10	< 0.10	< 0.10	0.15	< 0.20	< 1.9	< 0.20	< 0.20	< 0.22	--	--	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	<10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 19	< 2.0	< 2.0	< 2.2	--	--	--	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	1.3	0.7	2.0	< 0.10	< 10	< 10	< 10	< 10	< 10	5.2	2.9	2.7	1.6	--	--	--	--	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	12	1.40	0.79	< 0.10	< 10	< 10	10	15	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	< 0.050	< 0.050	< 0.050	0.11	< 0.20	< 1.9	< 0.20	< 0.20	< 0.22	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	<10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 19	< 2.0	< 2.0	< 2.2	--	--	--	--	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	<10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 19	< 2.0	< 2.0	< 2.2	--	--	--	--	--	--	--	--	--
Naphthalene	µg/L	20*	20*	390	< 0.50	< 0.50	< 0.50	< 10	< 10	< 10	140	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	27	0.055	0.077	< 0.050	< 10	< 10	< 10	< 10	< 10	39	1.2	< 0.20	< 0.22	--	--	--	--	--	--	--	--	--
Phenol	µg/L	9,390	61,000	<10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 9.7	< 0.99	< 0.98	< 1.1	--	--	--	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	1.3	0.5	2.3	< 0.050	< 10	< 10	< 10	< 10	< 10	7.6	2.9	3.2	1.9	--	--	--	--	--	--	--	--	--
Inorganic Constituents																									
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 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	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 20	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--
Barium	µg/L	2,000	7,200	1270	1,190	1,730	1,710	682	738	938	948	1,230	3,200	900	810	690	750	810	730	810	670	--	--	--	540
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 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	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 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	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	< 20
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10
Nickel	µg/L	100	2,000	61.6	37	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	160	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--	--	< 40
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 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	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 10.0	16	< 10.0	43	34	34	21	54	43	< 10	61	54	24	42	--	--	--	54	--	--	--	42

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Standard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7b
Summary of Bedrock Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-205D													
				08/24/16	8/16 DUP	04/07/16	08/12/15	02/16/15	08/06/14	02/19/14	02/14 DUP	08/06/13	08/13 DUP	02/07/13	02/13 DUP	11/07/12	11/12 DUP
Field Groundwater Quality Parameters																	
pH	SU	N/A	N/A	6.54		6.71	6.60	6.81	7.38	6.79		6.20		6.89		6.70	
Specific Conductance	mS/cm	N/A	N/A	727.0		580	740	855	869	485		770		625		794	
Temperature	°Celsius	N/A	N/A	26.10		18.30	26.72	18.66	23.60	21.24		25.48		17.75		18.64	
Dissolved Oxygen (YSI)	mg/L	N/A	N/A	0.53		0.42	0.28	2.01	0.35	0.30		1.38		0.47		0.53	
ORP	mV	N/A	N/A	-75.3		-65.2	-163.5	-90.1	-68.9	-82.0		-184.4		-90.6		-17.8	
Turbidity	NTU	N/A	N/A	0.9		0.88	2.67	3.41	5.79	1.16		1.87		2.72		0.78	
Laboratory Results - Natural Attenuation Parameters																	
Nitrogen, Nitrate (as N)	mg/L	N/A	N/A	--	--	--	--	< 2.5	--	< 2.5	< 2.5	--	--	< 0.050	< 0.050	--	--
Sulfate	mg/L	N/A	N/A	--	--	--	--	< 10	--	< 10	< 10	--	--	< 5.0	< 5.0	--	--
Sulfide	mg/L	N/A	N/A	--	--	--	--	< 1.00	--	< 1.0	< 1.0	--	--	< 1.0	< 1.0	--	--
Ferrous Iron	mg/L	N/A	N/A	--	--	--	--	0.844	--	< 0.100	< 0.100	--	--	< 0.10 HF	< 0.10 HF	--	--
Total Iron	mg/L	N/A	N/A	--	--	--	--	4.37	--	3.23	3.25	--	--	4.8	4.9	--	--
Carbon Dioxide	mg/L	N/A	N/A	--	--	--	--	77	--	49	48	--	--	93	88	--	--
Methane	mg/L	N/A	N/A	--	--	--	--	3000	--	1700	2000	--	--	2600	2100	--	--
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	--	--	20	--	15	16	--	--	--	--	--	--
Dissolved Oxygen	mg/L	N/A	N/A	--	--	--	--	4.7	--	3.9	3.9	--	--	2.0	2.8	--	--
Laboratory Results - Organic Constituents																	
Volatile Organic Compounds																	
Benzene	µg/L	5*	9	5200	5,400	5,100	5,200	4,400	6,700	1,700	1,600	5,700	5,400	3,400	4,000	3,300	3,200
Carbon Disulfide	µg/L	329	1,700	<250	<5.0	< 5.0	< 250	< 5.0	< 5.0	< 5.0	< 5.0	< 250	< 250	< 100	< 100	< 100	< 40
Ethylbenzene	µg/L	700*	2,300	930	930	990	1,100	990	1,200	330	320	1,400	1,200	820	890	930	890
Toluene	µg/L	1,000*	1,100	<250	7.6	< 50	< 250	12	< 5.0	< 5.0	< 5.0	< 250	< 250	< 50	< 50	< 50	< 20
Total Xylenes	µg/L	31,000	200,000	410	430	620	580	560	720	300	290	960	820	400	460	250	240
Semivolatile Organic Compounds																	
Acenaphthene	µg/L	2,000*	6,100	150	130	140	160	130	200	54	57	220	200	89	95	150	170
Acenaphthylene	µg/L	470	3,100	1.7	1.7	1.7	1.8	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 2.3	< 0.21
Anthracene	µg/L	4,700	31,000	6.1	5.9	4.5	5.6	< 10	< 10	< 10	< 10	< 10	< 10	2.9	3.1	4.4	4.4
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	< 0.20	< 0.20	< 2.0	< 2.0	< 2.3	< 0.21
Benzo[a]pyrene	µg/L	0.2*	0.39	<0.050	0.092	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20	< 0.20	< 2.0	< 2.0	< 2.3	< 0.21
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	< 0.20	< 0.20	< 2.0	< 2.0	< 2.3	< 0.21
Benzo[g,h,i]perylene	µg/L	10	10	<0.10	<0.10	< 0.10	< 0.10	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 2.3	< 0.21
Benzo[k]fluoranthene	µg/L	11.7	39.2	<0.050	<0.050	< 0.050	< 0.050	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 2.3	< 0.21
Chrysene	µg/L	117	392	<0.050	<0.050	< 0.050	< 0.050	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 2.3	< 0.21
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	< 0.20	< 0.20	< 2.0	< 2.0	< 2.3	< 0.21
2,4-Dimehylphenol	µg/L	700*	700*	<10	<10	< 10	< 50	< 10	< 10	< 10	< 10	< 10	< 10	< 20	< 20	< 23	< 2.1
Fluoranthene	µg/L	1,000*	4,100	1.5	1.6	1.0	1.3	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 2.3	1.1
Fluorene	µg/L	1,000*	4,100	39	33	29	34	31	47	13	13	43	44	24	26	34	38
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	< 0.20	< 0.20	< 2.0	< 2.0	< 2.3	< 0.21
2-Methylphenol	µg/L	780	5,100	<10	<10	< 10	< 50	< 10	< 10	< 10	< 10	< 10	< 10	< 20	< 20	< 23	< 2.1
3 & 4 Methylphenol	µg/L	78	510	<10	<10	< 10	< 50	< 10	< 10	< 10	< 10	< 10	< 10	< 20	< 20	< 23	< 2.1
Naphthalene	µg/L	20*	20*	6,400	6,200	4,900	4,600	4,200	6,000	< 10	< 10	8,100	7,500	1,500	1,700	6,400	5,700
Phenanthrene	µg/L	470	3,100	39	34	30	35	29	44	11	11	43	43	20	22	34	39
Phenol	µg/L	9,390	61,000	<10	<10	18	< 50	< 10	18	26	23	< 10	< 10	< 10	< 9.9	11	14
Pyrene	µg/L	1,000*	3,100	1.6	1.7	1.1	1.4	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 2.3	1.1
Inorganic Constituents																	
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 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	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 20	< 20	< 20	< 20
Barium	µg/L	2,000	7,200	3150	3080	3,080	3,130	3,160	3,020	2,130	2,150	3,790	3,900	3,200	3,300	3,100	3,000
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 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	< 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	< 10.0	< 10.0	< 10	< 10	< 10	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 20	< 20	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	73.1	68.4	43.4	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 40	< 40	< 40	< 40
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 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	< 0.20	< 0.20	< 0.20	< 0.20
Total Cyanide	µg/L	310	2,000	26	27	< 10	< 10	< 10	0.020	< 10	< 10	12	17	10	< 10	< 10	17

Notes:

Analyte was detected above laboratory detection limit

Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)

*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Standard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7b
Summary of Bedrock Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-205D (Continued)														
				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	08/11/10	05/11/10	02/24/10
Field Groundwater Quality Parameters																		
pH	SU	N/A	N/A	6.14	7.13		6.65		5.9		5.60	6.57	6.6		6.47	6.56	6.41	6.55
Specific Conductance	mS/cm	N/A	N/A	801	766		791		372		778	615	664		679	701	690	733
Temperature	°Celsius	N/A	N/A	25.15	24.5		21.58		20.37		24.51	19.50	22.88		23.74	23.66	21.86	11.89
Dissolved Oxygen (YSI)	mg/L	N/A	N/A	0.31	1.93		0.63		1.19		1.36	0.88	0.31		0.17	1.77	0.36	0.55
ORP	mV	N/A	N/A	-58.9	-96.2		-95.2		-22		-9.5	-77.3	-91.1		-86.1	-92.4	-71.0	-145.5
Turbidity	NTU	N/A	N/A	6.16	3.68		1.05		8.86		4.10	2.94	3.65		0.91	0.1	1.06	0.87
Laboratory Results - Natural Attenuation Parameters																		
Nitrogen, Nitrate (as N)	mg/L	N/A	N/A	--	--	--	< 0.050	< 0.050	--	--	--	--	< 0.050	< 0.050	--	--	--	< 0.050
Sulfate	mg/L	N/A	N/A	--	--	--	< 5.0	< 5.0	--	--	--	--	< 5.0	< 5.0	--	--	--	< 5.0
Sulfide	mg/L	N/A	N/A	--	--	--	1.8	1.8	--	--	--	--	< 1.0	< 1.0	--	--	--	< 1.0
Ferrous Iron	mg/L	N/A	N/A	--	--	--	0.25 HF	0.25 HF	--	--	--	--	< 0.010	< 0.010	--	--	--	1.1
Total Iron	mg/L	N/A	N/A	--	--	--	3.7	3.7	--	--	--	--	4.4	4.5	--	--	--	3.6
Carbon Dioxide	mg/L	N/A	N/A	--	--	--	1.4	1.4	--	--	--	--	1.1	1.2	--	--	--	1.1
Methane	mg/L	N/A	N/A	--	--	--	2600	2500	--	--	--	--	2100	2200	--	--	--	1700
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	--	4.9	5.4	--	--	--	--	4.2	4.4	--	--	--	3.9
Dissolved Oxygen	mg/L	N/A	N/A	--	--	--	1.7	1.8	--	--	--	--	1.2	1.2	--	--	--	1.2
Laboratory Results - Organic Constituents																		
Volatile Organic Compounds																		
Benzene	µg/L	5*	9	5,800	4,700	4,600	3,200	3,500	< 250	< 250	3,900	3,500	1,900	2,300	3,500	3,700	3,800	4,000
Carbon Disulfide	µg/L	329	1,700	< 100	< 100	< 100	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	1,400	1,100	1,000	900	1,000	< 250	< 250	970	840	390	720	--	--	--	1,500
Toluene	µg/L	1,000*	1,100	< 50	< 50	< 50	< 250	< 250	< 250	< 250	<250	<250	<250	<250	--	--	--	280
Total Xylenes	µg/L	31,000	200,000	750	660	630	410	350	< 250	< 250	450	530	<250	360	--	--	--	1300
Semivolatile Organic Compounds																		
Acenaphthene	µg/L	2,000*	6,100	140	150	120	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 1.9	< 2.0	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	0.55	4.0	2.3	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 1.9	< 2.0	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 1.9	< 2.0	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 1.9	< 2.0	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 1.9	< 2.0	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 1.9	< 2.0	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	< 1.9	< 2.0	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 1.9	< 2.0	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 19	< 20	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 1.9	< 2.0	0.35	--	--	--	--	--	--	--	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	38	34	26	--	--	--	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 1.9	< 2.0	< 0.21	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 19	< 20	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 19	< 20	< 2.1	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	µg/L	20*	20*	3,900 D	2,100	35	5,500	5,300	< 250	690	7,100	6,900	3,500	5,700	10,000	7,900	4,800	5,600
Phenanthrene	µg/L	470	3,100	36	28	21	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 9.5	< 10	9.8	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 1.9	< 2.0	0.47	--	--	--	--	--	--	--	--	--	--	--	--
Inorganic Constituents																		
Antimony	µg/L	6.3	40	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--
Barium	µg/L	2,000	7,200	3,000	2,800	2,900	2,900	2,900	130	130	3,100	2,900	3,200	3,200	--	--	--	2,900
Beryllium	µg/L	31	200	< 4.0	< 4.0	< 4.0	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/L	7.8	51	< 5.0	< 5.0	< 5.0	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10
Copper	µg/L	630	4,100	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	< 20
Lead	µg/L	15*	15*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10
Nickel	µg/L	100	2,000	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--	--	< 40
Zinc	µg/L	4,700	31,000	< 20	< 20	< 20	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--	--	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	13	12	13	11	13	--	--	--	--	< 10	13	--	--	--	12

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Standard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7b
Summary of Bedrock Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-205DD								
				8/24/2016	4/6/2016	8/11/2015	2/17/2015	2/17 DUP	8/6/2014	08/14 DUP	2/19/2014	8/8/2013
Field Groundwater Quality Parameters												
pH	SU	N/A	N/A	9.29	9.31	9.17	9.65		8.95		7.64	11.65
Specific Conductance	mS/cm	N/A	N/A	296.9	300	246	229		194		141	1,302
Temperature	°Celsius	N/A	N/A	28.17	20.84	24.87	14.74		23.84		22.08	22.80
Dissolved Oxygen (YSI)	mg/L	N/A	N/A	2.83	1.06	1.01	0.91		0.96		3.42	0.25
ORP	mV	N/A	N/A	55.6	50.8	-101.4	-49.8		-49.2		114.6	-155.1
Turbidity	NTU	N/A	N/A	1.0	6.89	2.4	29.9		1.38		5.31	7.61
Laboratory Results - Natural Attenuation Parameters												
Nitrogen, Nitrate (as N)	mg/L	N/A	N/A	--	--	--	--	--	--	--	0.28	--
Sulfate	mg/L	N/A	N/A	--	--	--	--	--	--	--	9.3	--
Sulfide	mg/L	N/A	N/A	--	--	--	--	--	--	--	< 1.0	--
Ferrous Iron	mg/L	N/A	N/A	--	--	--	--	--	--	--	< 0.100	--
Total Iron	mg/L	N/A	N/A	--	--	--	--	--	--	--	0.289	--
Carbon Dioxide	mg/L	N/A	N/A	--	--	--	--	--	--	--	< 5.0	--
Methane	mg/L	N/A	N/A	--	--	--	--	--	--	--	< 4	--
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	--	--	--	--	--	17	--
Dissolved Oxygen	mg/L	N/A	N/A	--	--	--	--	--	--	--	7.9	--
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	< 5.0	84
Carbon Disulfide	µg/L	329	1,700	<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	< 5.0	< 5.0	6.0
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
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
Semivolatile Organic Compounds												
Acenaphthene	µg/L	2,000*	6,100	<0.50	0.83	< 0.50	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	<1.0	< 1.0	< 1.0	< 10	< 10	< 10	< 10	< 10	< 10
Anthracene	µg/L	4,700	31,000	0.055	< 0.050	< 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	< 0.20
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	< 0.20
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	< 0.20
Benzo[g,h,i]perylene	µg/L	10	10	<0.10	< 0.10	< 0.10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[k]fluoranthene	µg/L	11.7	39.2	<0.050	< 0.050	< 0.050	< 10	< 10	< 10	< 10	< 10	< 10
Chrysene	µg/L	117	392	<0.050	< 0.050	< 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	< 0.20
2,4-Dimehylphenol	µg/L	700*	700*	<10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	<0.10	< 0.10	< 0.10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	<0.10	< 0.10	< 0.10	< 10	< 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	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20
2-Methylphenol	µg/L	780	5,100	<10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	<10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	<0.50	1.1	< 0.50	< 10	< 10	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	470	3,100	<0.050	< 0.050	< 0.050	< 10	< 10	< 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	<0.050	< 0.050	< 0.050	< 10	< 10	< 10	< 10	< 10	< 10
Inorganic Constituents												
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	44.2
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0
Barium	µg/L	2,000	7,200	30.9	44.8	24.7	33.1	29.8	22.9	21.2	< 20.0	103
Beryllium	µg/L	31	200	< 10.0	< 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	< 5.0
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	14.6
Copper	µg/L	630	4,100	14.4	11.9	12	< 10.0	< 10.0	< 10.0	< 10.0	12.4	11.4
Lead	µg/L	15*	15*	< 10.0	< 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	23.3
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20.0	43.3	29.3	23.8	22.8	78.1	26.5
Mercury	µg/L	2*	2*	< 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

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Standard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7b
Summary of Bedrock Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-206D														
				4/6/2016	02/17/15	08/05/14	02/18/14	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	N/A	N/A	6.13	6.10	6.10	6.05	5.94	6.11	6.00	5.99		6.18	6.25	6.33	5.95	6.08	6.05
Specific Conductance	mS/cm	N/A	N/A	530	560	481	453	463	441	456	665		477	500	473	328	368	440
Temperature	°Celsius	N/A	N/A	22.36	13.62	24.50	21.60	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	N/A	N/A	0.35	0.77	0.51	0.33	1.42	0.27	0.25	0.2		0.22	0.22	0.31	0.93	0.58	0.19
ORP	mV	N/A	N/A	18.1	17.5	-0.2	11.6	-196.8	10.6	-6.8	-65.6		-74.4	-75.7	-69.8	22.1	-19.2	-15.4
Turbidity	NTU	N/A	N/A	5.1	55.7	2.29	4.31	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	N/A	N/A	--	--	--	< 0.25	--	< 0.050	--	--	--	--	< 0.050	--	--	--	< 0.050
Sulfate	mg/L	N/A	N/A	--	--	--	110	--	99	--	--	--	--	5.6	--	--	--	78
Sulfide	mg/L	N/A	N/A	--	--	--	< 1.0	--	< 1.0	--	--	--	--	8.8	--	--	--	< 1.0
Ferrous Iron	mg/L	N/A	N/A	--	--	--	4.00	--	15 HF	--	--	--	--	4.3 HF	--	--	--	12
Total Iron	mg/L	N/A	N/A	--	--	--	12.8	--	< 0.10	--	--	--	--	7.5	--	--	--	22
Carbon Dioxide	mg/L	N/A	N/A	--	--	--	110	--	70	--	--	--	--	2.3	--	--	--	1.3
Methane	mg/L	N/A	N/A	--	--	--	54	--	100	--	--	--	--	690	--	--	--	100
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	--	20	--	--	--	--	--	--	4.3	--	--	--	4.5
Dissolved Oxygen	mg/L	N/A	N/A	--	--	--	4.4	--	8.0	--	--	--	--	1.4	--	--	--	1.5
Laboratory Results - Organic Constituents																		
Volatile Organic Compounds																		
Benzene	µg/L	5*	9	< 5.0	< 5.0	< 5.0	< 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	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	--	--	--	--	--
Ethylbenzene	µg/L	700*	2,300	< 5.0	< 5.0	< 5.0	< 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	< 5.0	< 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	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	3.8	< 50	34	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds																		
Acenaphthene	µg/L	2,000*	6,100	3.3	< 10	< 10	< 10	< 10	< 0.20	13	22	34	18	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	4.3	< 10	< 10	< 10	< 10	< 0.20	18	1.4	2.1	2.9	--	--	--		--
Anthracene	µg/L	4,700	31,000	0.10	< 10	< 10	< 10	< 10	< 0.20	< 0.20	0.55	1.1	0.52	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	0.11	0.10	0.14	0.13	< 0.20	< 0.20	0.23	< 0.19	< 0.20	< 0.21	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.050	< 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	< 0.10	< 0.10	< 0.10	< 0.20	< 0.20	< 0.20	< 0.19	< 0.20	< 0.21	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 10	< 10	< 10	< 10	< 0.20	< 0.20	< 0.19	< 0.20	< 0.21	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 10	< 10	< 10	< 10	< 0.20	< 0.20	< 0.19	< 0.20	< 0.21	--	--	--	--	--
Chrysene	µg/L	117	392	0.084	< 10	< 10	< 10	< 10	< 0.20	< 0.20	< 0.19	< 0.20	< 0.21	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.20	< 0.20	< 0.19	< 0.20	< 0.21	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 1.9	< 2.0	< 2.1	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	0.54	< 10	< 10	< 10	< 10	< 0.20	1.0	1.3	1.8	1.1	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	1.9	< 10	< 10	< 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	< 0.050	< 0.050	< 0.050	< 0.20	< 0.20	< 0.20	< 0.19	< 0.20	< 0.21	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 1.9	< 2.0	< 2.1	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 1.9	< 2.0	< 2.1	--	--	--	--	--
Naphthalene	µg/L	20*	20*	< 0.50	< 10	< 10	< 10	< 10	< 0.20	3.4	28	170 D	180	1,300	990	< 5.0	54	< 5.0
Phenanthrene	µg/L	470	3,100	0.059	< 10	< 10	< 10	< 10	< 0.20	1.1	0.52	2.9	1.8	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10	< 0.98	< 1.0	< 0.96	< 0.99	< 1.1	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	3.6	< 10	< 10	< 10	< 10	< 0.20	4.2	1.9	2.4	3.3	--	--	--	--	--
Inorganic Constituents																		
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--
Barium	µg/L	2,000	7,200	49	120	143	62	86	< 89	62	1,900	1,900	470	2,700	1,900	55	250	170
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	< 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	< 5.0	< 5.0	< 5.0	< 5.0	--	--	--	--	--
Chromium	µg/L	100	310	< 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	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 40	< 40	110	110	52	130	110	< 40	44	< 40
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 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	23	18	15	42	--	--	--	15

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Standard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7b
Summary of Bedrock Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-207D																	
				04/06/16	02/17/15	08/05/14	02/20/14	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	N/A	N/A	7.01	6.85	7.26	7.00	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	mS/cm	N/A	N/A	0.500	0.499	0.584	0.493	506	526	326	529	469	473	452	494	473	394	394	231	482	467	485
Temperature	°Celsius	N/A	N/A	18.23	18.85	26.61	19.20	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	N/A	N/A	0.78	1.67	1.03	0.59	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	N/A	N/A	-67.9	-58.5	-82.2	183.5	-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	N/A	N/A	9.4	45.9	5.38	10.4	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	N/A	N/A	--	--	--	< 0.25	--	< 0.050	--	--	--	< 0.050	--	--	--	< 0.050	< 0.050	--	--	--	< 0.050
Sulfate	mg/L	N/A	N/A	--	--	--	4.4	--	< 5.0	--	--	--	< 5.0	--	--	--	< 5.0	< 5.0	--	--	--	< 5.0
Sulfide	mg/L	N/A	N/A	--	--	--	< 1.0	--	< 1.0	--	--	--	2.2	--	--	--	< 1.0	1.3	--	--	--	< 1.0
Ferrous Iron	mg/L	N/A	N/A	--	--	--	< 0.100	--	2.5 HF	--	--	--	1.1 HF	--	--	--	0.96	0.55	--	--	--	1.1
Total Iron	mg/L	N/A	N/A	--	--	--	0.687	--	8.8	--	--	--	5.4	--	--	--	4.1	4.5	--	--	--	5.4
Carbon Dioxide	mg/L	N/A	N/A	--	--	--	22	--	59	--	--	--	1.1	--	--	--	0.79	0.88	--	--	--	0.67
Methane	mg/L	N/A	N/A	--	--	--	48	--	2000	--	--	--	1200	--	--	--	470	530	--	--	--	58
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	--	19	--	--	--	--	--	4.9	--	--	--	4.9	4.3	--	--	--	4.0
Dissolved Oxygen	mg/L	N/A	N/A	--	--	--	5.4	--	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	< 5.0	< 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	< 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	< 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	< 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
Total Xylenes	µg/L	31,000	200,000	< 5.0	< 5.0	< 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
Semivolatile Organic Compounds																						
Acenaphthene	µg/L	2,000*	6,100	1.4	< 10	< 10	< 10	14	8.0	2.7	7.0	9.3	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 1.0	< 10	< 10	< 10	< 10	0.69	0.50	0.76	1.5	--	--	--	--	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	0.055	< 10	< 10	< 10	< 10	0.24	< 0.20	0.24	0.25	--	--	--	--	--	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	0.21	< 0.050	< 0.050	< 0.050	< 0.20	< 0.20	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	0.29	< 0.050	< 0.050	< 0.050	< 0.20	< 0.20	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	0.30	< 0.10	< 0.10	< 0.10	< 0.20	< 0.20	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	0.43	< 10	< 10	< 10	< 10	< 0.20	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	0.38	< 10	< 10	< 10	< 10	< 0.20	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	117	392	0.23	< 10	< 10	< 10	< 10	< 0.20	< 0.20	< 0.19	0.22	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	0.35	< 0.10	< 0.10	< 0.10	< 0.20	< 0.20	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 1.9	< 2.2	--	--	--	--	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	0.68	< 10	< 10	< 10	< 10	2.0	1.4	2.0	1.7	--	--	--	--	--	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	0.28	< 10	< 10	< 10	11	6.5	2.0	5.4	3.1	--	--	--	--	--	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	0.38	< 0.050	< 0.050	< 0.050	< 0.20	< 0.20	< 0.20	< 0.19	< 0.22	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 1.9	< 2.2	--	--	--	--	--	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 1.9	< 2.2	--	--	--	--	--	--	--	--	--	--
Naphthalene	µg/L	20*	20*	< 0.50	< 10	< 10	< 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	0.061	< 10	< 10	< 10	< 10	< 0.20	< 0.20	0.22	0.28	--	--	--	--	--	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10	< 0.99	< 0.99	< 0.97	< 1.1	--	--	--	--	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	1.1	< 10	< 10	< 10	< 10	2.9	1.9	2.6	2.9	--	--	--	--	--	--	--	--	--	--
Inorganic Constituents																						
Antimony	µg/L	6.3	40	< 20.0	< 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	< 50.0	40	41	< 20	< 20	--	--	--	--	--	--	--	--	--	--
Barium	µg/L	2,000	7,200	2,450	2,890	2,950	1,980	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	< 10.0	< 10.0	< 10.0	< 10.0	< 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	--	--	--	--	--	--	--	--	--	--
Chromium	µg/L	100	310	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 20	37	27	44	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	< 20
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	12	19	25	36	< 10	19	< 10	< 10	< 10	< 10	--	--	--	< 10
Nickel	µg/L	100	2,000	54	< 20.0	< 20.0	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	--	--	--	< 40
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	31	62	57	98	--	--	--	--	--	--	--	--	--	--
Mercury	µg/L	2*	2*	< 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	< 10.0	3.6	4.3	2	23	22	< 10	29	24	14	--	--	--	19	19	--	--	--	53

Notes:

Analyte was detected above laboratory detection limit

Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)

*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Standard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7b
Summary of Bedrock Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-300D												
				04/06/16	02/17/15	08/04/15	02/18/14	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	N/A	N/A	6.13	6.05	6.03	6.02	6.04	5.98	5.46	6.66	6.53	6.2	6.16	6.13	6.23
Specific Conductance	mS/cm	N/A	N/A	0.292	0.384	0.378	0.158	399	396	420	431	518	390	453	419	421
Temperature	°Celsius	N/A	N/A	17.77	16.29	24.89	20.89	20.37	20.90	22.72	23.84	16.90	19.76	25.76	21.39	21.81
Dissolved Oxygen (YSI)	mg/L	N/A	N/A	0.79	0.88	0.37	0.86	1.00	2.41	1.12	0.13	1.11	0.32	0.33	0.24	0.16
ORP	mV	N/A	N/A	66.1	21.6	14.2	96.1	23.6	-18.6	16.3	-78.8	-55.7	-63.6	150.5	-90.6	-32.6
Turbidity	NTU	N/A	N/A	0.83	0.44	2.67	0.88	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	N/A	N/A	--	--	--	< 0.25	< 0.050	--	--	--	< 0.050	--	--	--	< 0.050
Sulfate	mg/L	N/A	N/A	--	--	--	2.0	< 5.0	--	--	--	< 5.0	--	--	--	5.1
Sulfide	mg/L	N/A	N/A	--	--	--	< 1.0	< 1.0	--	--	--	1.4	--	--	--	< 1.0
Ferrous Iron	mg/L	N/A	N/A	--	--	--	< 0.100	6.8 HF	--	--	--	9.1 HF	--	--	--	3.8
Total Iron	mg/L	N/A	N/A	--	--	--	0.425	6.3	--	--	--	9.5	--	--	--	4.6
Carbon Dioxide	mg/L	N/A	N/A	--	--	--	< 5.0	55	--	--	--	0.98	--	--	--	0.63
Methane	mg/L	N/A	N/A	--	--	--	5	32	--	--	--	650	--	--	--	1.2
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	--	19	23	--	--	--	5.7	--	--	--	4.2
Dissolved Oxygen	mg/L	N/A	N/A	--	--	--	9.5	7.4	--	--	--	1.7	--	--	--	1.4
Laboratory Results - Organic Constituents																
Volatile Organic Compounds																
Benzene	µg/L	5*	9	< 5.0	< 5.0	< 5.0	< 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	< 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	< 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	< 5.0	< 5.0	< 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	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds																
Acenaphthene	µg/L	2,000*	6,100	< 0.50	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	< 1.0	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	< 0.050	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	< 0.050	< 0.050	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	< 0.10	< 0.10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Chrysene	µg/L	117	392	< 0.050	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	< 0.10	< 0.10	< 0.10	< 0.10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 1.9	< 2.0	< 2.0	< 2.2	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	< 0.10	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	< 0.10	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	< 0.050	< 0.050	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 1.9	< 2.0	< 2.0	< 2.2	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 1.9	< 2.0	< 2.0	< 2.2	--	--	--	--	--
Naphthalene	µg/L	20*	20*	< 0.50	< 10	< 10	< 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	< 0.050	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 0.97	< 1.0	< 1.0	< 1.1	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	< 0.050	< 10	< 10	< 10	< 0.19	< 0.20	< 0.20	< 0.22	--	--	--	--	--
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	1,270	1,550	1,520	619	1,500	1,600	1,700	1,500	1,700	1,600	1,600	1,700	1,500
Beryllium	µg/L	31	200	< 10.0	15.1	11.3	< 10.0	18	19	19	17	--	--	--	--	--
Cadmium	µg/L	7.8	51	52.1	< 5.0	< 5.0	20.3	< 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
Copper	µg/L	630	4,100	< 10.0	< 10.0	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Nickel	µg/L	100	2,000	55.8	25.3	25.1	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Zinc	µg/L	4,700	31,000	770	52.2	88.4	39.1	28	22	27	25	--	--	--	--	--
Mercury	µg/L	2*	2*	< 0.20	< 0.00020	< 0.00020	< 0.00020	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	< 10.0	< 0.010	< 0.010	< 0.010	< 10	< 10	< 10	< 10	< 10	--	--	--	< 10

Notes:

Analyte was detected above laboratory detection limit

Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)

*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Standard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7b
Summary of Bedrock Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-301D																	
				08/23/16	04/07/16	08/13/15	02/17/15	08/07/14	02/20/14	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	N/A	N/A	6.12	6.07	6.13	6.10	7.28	6.26	5.62	6.33		6.12		5.82	6.38		5.96		6.07	6.07	5.99	6.29
Specific Conductance	mS/cm	N/A	N/A	352.7	0.842	0.586	0.747	0.748	0.598	572	526		566		619	637		547		529	478	459	402
Temperature	°Celsius	N/A	N/A	27.77	17.10	22.07	13.45	23.12	18.36	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	N/A	N/A	0.20	0.29	0.05	3.51	0.18	0.48	0.41	0.64		0.21		1.27	0.25		1.98		0.37	1.31	0.54	0.29
ORP	mV	N/A	N/A	-47.9	-82.9	-104.9	-98.3	-160.5	-78.2	-190.8	-82.6		-167.4		3.0	-65.8		-65.9		-128.9	-98.1	-71.8	-25.7
Turbidity	NTU	N/A	N/A	3.6	3.24	0.86	1.41	0.00	7.12	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	N/A	N/A	--	--	--	--	--	< 0.25	--	< 0.050	< 0.050	--	--	--	--	--	< 0.050	< 0.050	--	--	--	< 0.050
Sulfate	mg/L	N/A	N/A	--	--	--	--	--	18	--	32	55	--	--	--	--	--	27	23	--	--	--	26
Sulfide	mg/L	N/A	N/A	--	--	--	--	--	2.6	--	2.0	2.4	--	--	--	--	--	12	12	--	--	--	< 1.0
Ferrous Iron	mg/L	N/A	N/A	--	--	--	--	--	4.31	--	7.0 HF	7.1 HF	--	--	--	--	--	5.7 HF	4.9 HF	--	--	--	2.8
Total Iron	mg/L	N/A	N/A	--	--	--	--	--	5.20	--	7.3	7.0	--	--	--	--	--	5.9	5.8	--	--	--	3.5
Carbon Dioxide	mg/L	N/A	N/A	--	--	--	--	--	91	--	58	56	--	--	--	--	--	1.3	1.2	--	--	--	0.51
Methane	mg/L	N/A	N/A	--	--	--	--	--	43	--	26	24	--	--	--	--	--	47	44	--	--	--	4.7
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	--	--	--	20	--	--	--	--	--	--	--	--	6.0	5.8	--	--	--	4.6
Dissolved Oxygen	mg/L	N/A	N/A	--	--	--	--	--	2.0	--	5.4	3.8	--	--	--	--	--	1.9	1.9	--	--	--	1.6
Laboratory Results - Organic Constituents																					
Volatile Organic Compounds																					
Benzene	µg/L	5*	9	<5.0	< 5.0	< 5.0	9.2	6.0	< 5.0	< 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	< 5.0	< 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	< 5.0	< 5.0	< 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	< 5.0	< 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	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0	< 2.0	< 10	< 2.0	< 10	< 5.0	< 50	< 50	< 10	< 10	130	51
Semivolatile Organic Compounds																					
Acenaphthene	µg/L	2,000*	6,100	0.97	0.58	0.51	< 10	< 10	< 10	< 10	< 2.0	< 2.0	0.26	0.24	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
Acenaphthylene	µg/L	470	3,100	<1.0	< 1.0	< 1.0	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 0.20	< 0.20	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
Anthracene	µg/L	4,700	31,000	0.16	0.17	0.13	< 10	< 10	< 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	< 0.050	< 0.050	< 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	< 0.050	< 0.050	< 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	< 0.10	< 0.10	< 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	< 0.10	< 0.10	< 10	< 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	< 0.050	< 0.050	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 0.20	< 0.20	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
Chrysene	µg/L	117	392	<0.050	< 0.050	< 0.050	< 10	< 10	< 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	< 0.10	< 0.10	< 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	< 10	< 10	< 10	< 10	< 20	< 20	< 2.0	< 2.1	< 1.9	< 22	< 22	--	--	--	--	--	--
Fluoranthene	µg/L	1,000*	4,100	<0.10	< 0.10	< 0.10	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 0.20	< 0.21	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
Fluorene	µg/L	1,000*	4,100	0.77	2.7	2.3	< 10	< 10	< 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	< 0.050	< 0.050	< 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	< 10	< 10	< 10	< 10	< 20	< 20	< 2.0	< 2.0	< 1.9	< 22	< 22	--	--	--	--	--	--
3 & 4 Methylphenol	µg/L	78	510	<10	< 10	< 10	< 10	< 10	< 10	< 10	< 20	< 20	< 2.0	< 2.0	< 1.9	< 22	< 22	--	--	--	--	--	--
Naphthalene	µg/L	20*	20*	<0.50	81	< 0.50	< 10	120	< 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	<0.050	0.87	0.23	< 10	< 10	< 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	< 10	< 10	< 10	< 10	< 0.99	< 0.99	< 0.97	< 11	< 11	--	--	--	--	--	--
Pyrene	µg/L	1,000*	3,100	0.91	0.070	0.080	< 10	< 10	< 10	< 10	< 2.0	< 2.0	< 0.20	< 0.20	< 0.19	< 2.2	< 2.2	--	--	--	--	--	--
Inorganic Constituents																					
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	--
Arsenic	µg/L	50*	50*	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	--	--	--	--	--	--
Barium	µg/L	2,000	7,200	50.2	264	771	713	851	1870	2100	1700	1600	2500	2200	2400	2400	2400	2500	2600	2500	2100	2300	1400
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	< 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	< 5.0	< 5.0	< 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	< 10.0	< 10.0	< 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	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 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	<20.0	43.4	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	< 20	< 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	< 0.20	< 0.20	< 0.20	< 0.20	--	--	--	--	--	--
Total Cyanide	µg/L	310	2,000	<10	121	43	87	106	62	83	84	81	93	96	< 10	85	91	96	86	--	--	--	97

Notes:

Analyte was detected above laboratory detection limit

Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)

*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Standard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7b
Summary of Bedrock Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-302D										MW-302DD								
				04/07/16	08/12/15	02/18/15	08/07/14	02/19/14	08/08/13	02/08/13	11/07/12	11/15/11	02/24/11	08/24/16	04/07/16	08/12/15	02/17/15	08/07/14	02/19/14	02/19/14 DUP	08/08/13	08/13 DUP
Field Groundwater Quality Parameters																						
pH	SU	N/A	N/A	5.72	5.67	5.67	5.93	5.79	5.73	5.91	5.83	6.11	6.51	7.49	7.50	7.47	7.77	7.54	7.58		7.31	
Specific Conductance	mS/cm	N/A	N/A	1202	1.068	1.173	0.957	1.052	1690	1502	1862	1432	1069	677.3	0.732	0.616	0.665	0.678	0.595		677	
Temperature	°Celsius	N/A	N/A	24.69	26.87	15.17	28.41	23.33	24.19	13.32	20.79	21.39	21.05	23.42	21.98	26.20	14.48	29.20	20.22		23.24	
Dissolved Oxygen (YSI)	mg/L	N/A	N/A	0.20	0.18	0.58	0.55	0.54	0.45	0.94	0.17	0.22	0.09	0.29	0.16	0.26	1.18	0.56	0.20		0.87	
ORP	mV	N/A	N/A	-113.3	-64.0	-45.4	3.2	-12.0	-32.5	-8.3	-77.1	-89	-74	-296.3	-240.1	-215.9	-169.5	-136.6	-141.5		-202.9	
Turbidity	NTU	N/A	N/A	5.22	4.07	4.33	15.3	8.87	9.42	9.2	2.25	6.67	8.62	6.8	2.96	31.9	4.42	2.85	1.95		4.82	
Laboratory Results - Natural Attenuation Parameters																						
Nitrogen, Nitrate (as N)	mg/L	N/A	N/A	--	--	--	--	< 2.5	--	< 0.050	--	--	< 0.050	--	--	--	--	--	< 0.25	< 0.25	--	--
Sulfate	mg/L	N/A	N/A	--	--	--	--	470	--	1.0	--	--	400	--	--	--	--	--	28.0	27.0	--	--
Sulfide	mg/L	N/A	N/A	--	--	--	--	< 1.0	--	< 1.0	--	--	< 1.0	--	--	--	--	--	< 1.0	< 1.0	--	--
Ferrous Iron	mg/L	N/A	N/A	--	--	--	--	6.04	--	31 HF	--	--	9.3	--	--	--	--	--	0.112	0.112	--	--
Total Iron	mg/L	N/A	N/A	--	--	--	--	6.84	--	< 0.10	--	--	15	--	--	--	--	--	1.25	1.27	--	--
Carbon Dioxide	mg/L	N/A	N/A	--	--	--	--	190	--	30	--	--	0.99	--	--	--	--	--	6.4	5.6	--	--
Methane	mg/L	N/A	N/A	--	--	--	--	35	--	44	--	--	24	--	--	--	--	--	100	98	--	--
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	--	--	24	--	--	--	--	4.2	--	--	--	--	--	16	17	--	--
Dissolved Oxygen	mg/L	N/A	N/A	--	--	--	--	2.4	--	10	--	--	1.4	--	--	--	--	--	2.2	2.9	--	--
Laboratory Results - Organic Constituents																						
Volatile Organic Compounds																						
Benzene	µg/L	5*	9	< 5.0	15	12	< 5.0	550	< 5.0	15	5.9	34	25	24	20	11	13	7.6	35	35	810	780
Carbon Disulfide	µg/L	329	1,700	< 5.0	< 5.0	< 5.0	< 5.0	< 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
Ethylbenzene	µg/L	700*	2,300	< 5.0	5.8	< 5.0	32	31	11	12	5.4	< 5.0	< 5.0	33	48	30	45	< 5.0	15	14	55	55
Toluene	µg/L	1,000*	1,100	< 5.0	19	12	< 5.0	610	49	1.4	16	36	< 5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	17	16
Total Xylenes	µg/L	31,000	200,000	6.8	16	13	< 5.0	170	39	10	15	21	< 5.0	6.8	5.4	< 5.0	< 5.0	7.2	17	16	61	63
Semivolatile Organic Compounds																						
Acenaphthene	µg/L	2,000*	6,100	0.75	4.6	< 10	< 10	< 10	< 10	< 0.24	7.0	--	--	1.4	1.1	1.0	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	1.5	21	17	< 10	< 10	42	< 0.24	29	--	--	1.2	< 1.0	1.8	< 10	< 10	< 10	< 10	< 10	
Anthracene	µg/L	4,700	31,000	< 0.050	4.1	< 10	< 10	< 10	< 10	< 0.24	3.5	--	--	0.066	0.057	0.083	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	< 0.050	0.053	0.26	0.069	0.18	0.31	< 0.24	0.21	--	--	<0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20	< 0.20
Benzo[a]pyrene	µg/L	0.2*	0.39	< 0.050	< 0.050	0.28	0.053	0.19	0.27	< 0.24	< 0.20	--	--	<0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.20	< 0.20
Benzo[b]fluoranthene	µg/L	1.17	3.92	< 0.10	< 0.10	0.22	< 0.10	0.17	< 0.20	< 0.24	< 0.20	--	--	<0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.20
Benzo[g,h,i]perylene	µg/L	10	10	< 0.10	< 0.10	< 10	< 10	< 10	< 10	< 0.24	< 0.20	--	--	<0.10	< 0.10	< 0.10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo[k]fluoranthene	µg/L	11.7	39.2	< 0.050	< 0.050	< 10	< 10	< 10	< 10	< 0.24	< 0.20	--	--	<0.050	< 0.050	< 0.050	< 10	< 10	< 10	< 10	< 10	< 10
Chrysene	µg/L	117	392	< 0.050	< 0.050	< 10	< 10	< 10	< 10	< 0.24	0.21	--	--	<0.050	< 0.050	< 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	< 0.20	< 0.24	< 0.20	--	--	<0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.13	< 0.20	< 0.20
2,4-Dimehylphenol	µg/L	700*	700*	< 10	< 10	< 10	< 10	< 10	< 10	< 2.4	< 2.0	--	--	<10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	0.20	2.2	< 10	< 10	< 10	< 10	< 0.24	2.1	--	--	<0.10	< 0.10	< 0.10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	0.11	9.0	12	< 10	< 10	15	< 0.24	18	--	--	0.77	0.55	0.68	< 10	< 10	< 10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	< 0.050	< 0.050	0.087	< 0.050	0.080	< 0.20	< 0.24	< 0.20	--	--	<0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	0.072	< 0.20	< 0.20
2-Methylphenol	µg/L	780	5,100	< 10	< 10	< 10	< 10	< 10	< 10	< 2.4	< 2.0	--	--	<10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	< 10	< 10	< 10	< 10	< 10	< 10	< 2.4	< 2.0	--	--	<10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	< 0.50	170	120	130	300	200	< 0.24	250	170	13	22	73	< 0.050	< 10	< 10	< 10	< 10	180	140
Phenanthrene	µg/L	470	3,100	0.058	21	15	< 10	17	21	< 0.24	26	--	--	0.13	0.19	0.17	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	< 10	< 10	< 10	< 10	< 10	< 10	< 1.2	< 0.99	--	--	<10	< 10	< 10	< 10	< 10	< 10	< 10	19	28
Pyrene	µg/L	1,000*	3,100	0.39	2.7	< 10	< 10	< 10	< 10	< 0.24	2.6	--	--	0.12	0.066	0.058	< 10	< 10	< 10	< 10	< 10	< 10
Inorganic Constituents																						
Antimony	µg/L	6.3	40	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20	< 20	--	--	< 20.0	< 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	< 20	< 20	--	--	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0
Barium	µg/L	2,000	7,200	55.3	60.6	68.7	71.5	48	26.3	24	26	130	210	808	865	819	757	654	546	554	601	613
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 4.0	< 4.0	--	--	< 10.0	< 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	--	--	< 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	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10	< 10	< 10	< 10	< 10.0	< 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	< 20	< 20	< 20	< 20	< 10.0	< 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	< 10	< 10	< 10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Nickel	µg/L	100	2,000	73.1	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 40	< 40	< 40	< 40	36.1	35.8	< 0.0200	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Zinc	µg/L	4,700	31,000	< 20.0	35	124	< 20.0	31.2	43.3	< 20	< 20	--	--	< 20.0	< 20.0	0.0686	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
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	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Total Cyanide	µg/L	310	2,000	< 10.0	< 10.0	0.017	0.189	0.425	382	< 10	< 10	--	32	< 10.0	< 10.0	42	24	69	38	39	70	63

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Standard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7b
Summary of Bedrock Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-303D (Abandoned)									
				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	N/A	N/A	6.61	6.94	6.45	6.44	7.01	6.94	6.81	6.43	6.42	5.64
Specific Conductance	mS/cm	N/A	N/A	147	133	125	176	170	152	183	172	156	194
Temperature	°Celsius	N/A	N/A	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	N/A	N/A	0.12	2.72	0.71	0.48	3.49	3.17	0.18	0.11	0.07	0.08
ORP	mV	N/A	N/A	-75.6	-104.1	-65.1	-85.4	72.5	-88.1	-120.3	158.5	-87.2	13.0
Turbidity	NTU	N/A	N/A	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	N/A	N/A	--	< 0.050	--	--	--	< 0.050	--	--	--	< 0.050
Sulfate	mg/L	N/A	N/A	--	5.0	--	--	--	< 5.0	--	--	--	< 5.0
Sulfide	mg/L	N/A	N/A	--	1.2	--	--	--	1.9	--	--	--	< 1.0
Ferrous Iron	mg/L	N/A	N/A	--	< 0.10 HF	--	--	--	0.90 HF	--	--	--	0.38
Total Iron	mg/L	N/A	N/A	--	1.6	--	--	--	2.6	--	--	--	1.7
Carbon Dioxide	mg/L	N/A	N/A	--	10	--	--	--	0.33	--	--	--	0.18
Methane	mg/L	N/A	N/A	--	130	--	--	--	680	--	--	--	6.9
Dissolved Nitrogen	mg/L	N/A	N/A	--	18	--	--	--	6000	--	--	--	4.8
Dissolved Oxygen	mg/L	N/A	N/A	--	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
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	--	--	--	--	--
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:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Standard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
HF - Holding time of 15 minutes was exceeded
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7b
Summary of Bedrock Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-305D					
				08/25/16	04/07/16	08/13/15	02/18/15	08/07/14	02/20/14
Field Groundwater Quality Parameters									
pH	SU	N/A	N/A	12.13	12.13	12.28	12.56	12.30	11.97
Specific Conductance	mS/cm	N/A	N/A	648.7	5,247	2,966	3,696	2,987	2,224
Temperature	°Celsius	N/A	N/A	26.70	23.92	26.30	11.21	23.22	22.08
Dissolved Oxygen (YSI)	mg/L	N/A	N/A	0.76	4.63	0.34	3.06	0.29	0.46
ORP	mV	N/A	N/A	-105.2	-44.3	-183.3	13.1	-152.2	-161.3
Turbidity	NTU	N/A	N/A	5.4	2.89	2.3	2.48	3.15	2.09
Laboratory Results - Natural Attenuation Parameters									
Nitrogen, Nitrate (as N)	mg/L	N/A	N/A	--	--	--	--	--	< 2.5
Sulfate	mg/L	N/A	N/A	--	--	--	--	--	< 10
Sulfide	mg/L	N/A	N/A	--	--	--	--	--	< 1.0
Ferrous Iron	mg/L	N/A	N/A	--	--	--	--	--	< 0.100
Total Iron	mg/L	N/A	N/A	--	--	--	--	--	< 0.100
Carbon Dioxide	mg/L	N/A	N/A	--	--	--	--	--	< 5.0
Methane	mg/L	N/A	N/A	--	--	--	--	--	13
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	--	--	--	17
Dissolved Oxygen	mg/L	N/A	N/A	--	--	--	--	--	4.1
Laboratory Results - Organic Constituents									
Volatile Organic Compounds									
Benzene	µg/L	5*	9	22,000	14,000	3,700	11,000	9,300	12,000
Carbon Disulfide	µg/L	329	1,700	<250	< 5.0	< 5.0	< 500	< 500	< 500
Ethylbenzene	µg/L	700*	2,300	770	290	49	< 500	< 500	< 500
Toluene	µg/L	1,000*	1,100	12,000	6,900	1,600	4,500	3,900	5,600
Total Xylenes	µg/L	31,000	200,000	3,000	1100	270	< 500	< 500	810
Semivolatile Organic Compounds									
Acenaphthene	µg/L	2,000*	6,100	13	2.5	2.7	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	200	51	12	73	79	78
Anthracene	µg/L	4,700	31,000	7.9	9.1	3.4	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	0.21	0.14	1.3	0.64	2.6	0.45
Benzo[a]pyrene	µg/L	0.2*	0.39	<0.050	0.077	0.91	0.49	1.90	0.16
Benzo[b]fluoranthene	µg/L	1.17	3.92	<0.10	0.16	1.1	0.45	1.6	0.18
Benzo[g,h,i]perylene	µg/L	10	10	0.15	< 1.0	0.36	< 10	< 10	< 10
Benzo[k]fluoranthene	µg/L	11.7	39.2	<0.050	< 0.050	0.24	< 10	< 10	< 10
Chrysene	µg/L	117	392	0.16	0.11	1.0	< 10	< 10	< 10
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	0.18	< 1.0	0.32	< 0.10	< 0.10	< 0.10
2,4-Dimehylphenol	µg/L	700*	700*	<10	< 50	< 50	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	4.1	1.1	4.3	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	46	7.2	7.8	21	24	22
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	0.12	< 0.050	0.32	0.13	0.56	< 0.050
2-Methylphenol	µg/L	780	5,100	<10	< 50	< 50	< 10	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	<10	< 50	< 50	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	9,600	3600	220	1,300	1,100	2,000
Phenanthrene	µg/L	470	3,100	52	10	16	33	39	37
Phenol	µg/L	9,390	61,000	<10	< 10	< 50	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	5.1	1.5	5.7	< 10	< 10	< 10
Inorganic Constituents									
Antimony	µg/L	6.3	40	< 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
Barium	µg/L	2,000	7,200	606	450	140	236	136	130
Beryllium	µg/L	31	200	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Cadmium	µg/L	7.8	51	< 10.0	< 10.0	< 50.0	< 50.0	< 50.0	< 50.0
Chromium	µg/L	100	310	19.7	< 5.0	169	107	112	245
Copper	µg/L	630	4,100	17.6	< 10.0	139	< 10.0	< 10.0	< 10.0
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Nickel	µg/L	100	2,000	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
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	< 10	< 10	< 10	< 10	< 10

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Standard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7b
Summary of Bedrock Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-306D					
				08/23/16	04/07/16	08/14/15	02/18/15	08/06/14	02/19/14
ield Groundwater Quality Parameters									
pH	SU	N/A	N/A	11.57	12.03	12.01	12.23	11.91	11.97
Specific Conductance	mS/cm	N/A	N/A	2094.7	3,670	3,275	2,321	3,425	2,351
Temperature	°Celsius	N/A	N/A	30.70	22.10	24.76	16.24	25.73	22.44
Dissolved Oxygen (YSI)	mg/L	N/A	N/A	5.70	4.89	3.40	7.05	1.02	3.09
ORP	mV	N/A	N/A	10.7	10.1	-114.5	41.8	-133.0	-99.4
Turbidity	NTU	N/A	N/A	0.9	0.79	1.75	4.17	1.29	0.48
Laboratory Results - Natural Attenuation Parameters									
Nitrogen, Nitrate (as N)	mg/L	N/A	N/A	--	--	--	< 2.5	--	< 2.5
Sulfate	mg/L	N/A	N/A	--	--	--	< 10	--	< 10
Sulfide	mg/L	N/A	N/A	--	--	--	< 1.0	--	< 1.0
Ferrous Iron	mg/L	N/A	N/A	--	--	--	< 0.100	--	< 0.100
Total Iron	mg/L	N/A	N/A	--	--	--	< 0.100	--	< 0.100
Carbon Dioxide	mg/L	N/A	N/A	--	--	--	< 5.0	--	< 5.0
Methane	mg/L	N/A	N/A	--	--	--	96	--	460
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	--	22	--	20
Dissolved Oxygen	mg/L	N/A	N/A	--	--	--	9.7	--	7.6
Laboratory Results - Organic Constituents									
Volatile Organic Compounds									
Benzene	µg/L	5*	9	190	440	570	790	1,200	1,400
Carbon Disulfide	µg/L	329	1,700	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/L	700*	2,300	23	87	110	130	230	360
Toluene	µg/L	1,000*	1,100	7.2	18	32	37	60	96
Total Xylenes	µg/L	31,000	200,000	18	61	79	130	190	340
Semivolatile Organic Compounds									
Acenaphthene	µg/L	2,000*	6,100	7.2	< 50	23	29	41	28
Acenaphthylene	µg/L	470	3,100	<1.0	< 1.0	< 1.0	< 10	< 10	< 10
Anthracene	µg/L	4,700	31,000	0.21	0.31	0.51	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	<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	< 0.050
Benzo[b]fluoranthene	µg/L	1.17	3.92	<0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	µg/L	10	10	<0.10	< 0.10	< 0.10	< 10	< 10	< 10
Benzo[k]fluoranthene	µg/L	11.7	39.2	<0.050	< 0.050	< 0.050	< 10	< 10	< 10
Chrysene	µg/L	117	392	<0.050	< 0.050	< 0.050	< 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
2,4-Dimehylphenol	µg/L	700*	700*	<10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	0.16	0.19	0.32	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	1.8	2.5	5.5	< 10	10	< 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
2-Methylphenol	µg/L	780	5,100	<10	< 10	< 10	< 10	14	11
3 & 4 Methylphenol	µg/L	78	510	<10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	1.1	63	6.5	31	< 10	190
Phenanthrene	µg/L	470	3,100	1.5	2.3	5.0	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	<10	< 10	< 10	< 10	< 10	97
Pyrene	µg/L	1,000*	3,100	0.19	0.25	0.39	< 10	< 10	< 10
Inorganic Constituents									
Antimony	µg/L	6.3	40	< 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
Barium	µg/L	2,000	7,200	109	170	349	229	415	271
Beryllium	µg/L	31	200	< 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
Chromium	µg/L	100	310	28.5	278	29.6	296	264	20
Copper	µg/L	630	4,100	30.0	28.8	26.3	16.8	12.8	< 10.0
Lead	µg/L	15*	15*	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Nickel	µg/L	100	2,000	28.8	21.9	< 20.0	< 20.0	< 20.0	< 20.0
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Total Cyanide	µg/L	310	2,000	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Standard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7b
Summary of Bedrock Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-307D					
				08/23/16	04/06/16	08/14/15	02/18/15	08/06/14	02/20/14
Field Groundwater Quality Parameters									
pH	SU	N/A	N/A	12.22	12.46	12.39	13.85	12.43	12.27
Specific Conductance	mS/cm	N/A	N/A	835.6	9983	7857	9568	9533	7342
Temperature	°Celsius	N/A	N/A	28.70	22.8	23.76	15.28	24.29	23.38
Dissolved Oxygen (YSI)	mg/L	N/A	N/A	2.74	1.92	5.24	1.08	2.24	4.92
ORP	mV	N/A	N/A	-96.7	-18.63	-110.9	-80.7	-131.1	-115.7
Turbidity	NTU	N/A	N/A	3.4	3.12	4.18	2.46	9.69	1.58
Laboratory Results - Natural Attenuation Parameters									
Nitrogen, Nitrate (as N)	mg/L	N/A	N/A	--	--	--	< 2.5	--	< 12
Sulfate	mg/L	N/A	N/A	--	--	--	< 10	--	< 50
Sulfide	mg/L	N/A	N/A	--	--	--	< 1.00	--	< 1.0
Ferrous Iron	mg/L	N/A	N/A	--	--	--	< 0.100	--	< 0.100
Total Iron	mg/L	N/A	N/A	--	--	--	< 0.100	--	< 0.100
Carbon Dioxide	mg/L	N/A	N/A	--	--	--	< 5.0	--	< 5.0
Methane	mg/L	N/A	N/A	--	--	--	79	--	21
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	--	24	--	20
Dissolved Oxygen	mg/L	N/A	N/A	--	--	--	8.2	--	9.4
Laboratory Results - Organic Constituents									
Volatile Organic Compounds									
Benzene	µg/L	5*	9	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	6
Carbon Disulfide	µg/L	329	1,700	<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	14
Toluene	µg/L	1,000*	1,100	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	15
Total Xylenes	µg/L	31,000	200,000	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	16
Semivolatile Organic Compounds									
Acenaphthene	µg/L	2,000*	6,100	1.3	2.1	2.2	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	<1.0	< 1.0	< 1.0	< 10	< 10	< 10
Anthracene	µg/L	4,700	31,000	0.29	0.26	0.25	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	<0.050	< 0.050	< 0.050	< 0.050	< 0.050	0.27
Benzo[a]pyrene	µg/L	0.2*	0.39	<0.050	< 0.050	< 0.050	< 0.050	< 0.050	0.3
Benzo[b]fluoranthene	µg/L	1.17	3.92	<0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.16
Benzo[g,h,i]perylene	µg/L	10	10	<0.10	< 0.10	< 0.10	< 10	< 10	< 10
Benzo[k]fluoranthene	µg/L	11.7	39.2	<0.050	< 0.050	< 0.050	< 10	< 10	< 10
Chrysene	µg/L	117	392	<0.050	< 0.050	< 0.050	< 10	< 10	< 10
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	<0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.58
2,4-Dimehylphenol	µg/L	700*	700*	<10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	1,000*	4,100	0.30	0.25	0.24	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	0.53	0.61	0.78	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	<0.050	< 0.050	< 0.050	< 0.050	< 0.050	0.32
2-Methylphenol	µg/L	780	5,100	<10	< 10	< 10	< 10	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	<10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	3.2	3.5	5.7	< 10	11	47
Phenanthrene	µg/L	470	3,100	2.7	3.2	3.0	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	<10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	0.35	0.28	0.29	< 10	< 10	< 10
Inorganic Constituents									
Antimony	µg/L	6.3	40	< 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
Barium	µg/L	2,000	7,200	1210	1,140	1,140	1,140	1,140	1,140
Beryllium	µg/L	31	200	< 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
Chromium	µg/L	100	310	72.2	68.4	65.4	33.9	78.3	68.8
Copper	µg/L	630	4,100	10.6	14.4	14.7	< 10.0	< 10.0	< 10.0
Lead	µg/L	15*	15*	< 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
Zinc	µg/L	4,700	31,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Total Cyanide	µg/L	310	2,000	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0

Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Standard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Appendix B-7b
Summary of Bedrock Groundwater Analytical Data
November 2001 through August 2016
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia

Parameter	Units	Type 2 RRS	Type 4 RRS	MW-308D					
				08/23/16	04/05/16	08/12/15	02/16/15	08/06/14	02/19/14
Field Groundwater Quality Parameters									
pH	SU	N/A	N/A	4.01	12.25	12.40	13.35	12.14	11.66
Specific Conductance	mS/cm	N/A	N/A	416.2	3.898	2.905	2.920	2.026	1.612
Temperature	°Celsius	N/A	N/A	29.66	19.99	25.43	17.87	22.47	23.89
Dissolved Oxygen (YSI)	mg/L	N/A	N/A	4.01	4.24	3.17	3.50	2.38	0.94
ORP	mV	N/A	N/A	-32.5	55.8	-88.4	-12.7	-107.9	-112.6
Turbidity	NTU	N/A	N/A	3.7	236	0.49	3.42	3.53	102
Laboratory Results - Natural Attenuation Parameters									
Nitrogen, Nitrate (as N)	mg/L	N/A	N/A	--	--	--	< 2.5	--	< 2.5
Sulfate	mg/L	N/A	N/A	--	--	--	19	--	12
Sulfide	mg/L	N/A	N/A	--	--	--	< 1.00	--	< 1.0
Ferrous Iron	mg/L	N/A	N/A	--	--	--	< 0.100	--	< 0.100
Total Iron	mg/L	N/A	N/A	--	--	--	< 0.100	--	1.65
Carbon Dioxide	mg/L	N/A	N/A	--	--	--	< 5.0	--	< 5.0
Methane	mg/L	N/A	N/A	--	--	--	47	--	140
Dissolved Nitrogen	mg/L	N/A	N/A	--	--	--	17	--	18
Dissolved Oxygen	mg/L	N/A	N/A	--	--	--	5.6	--	4.1
Laboratory Results - Organic Constituents									
Volatile Organic Compounds									
Benzene	µg/L	5*	9	13	24	23	8.2	< 5.0	6.8
Carbon Disulfide	µg/L	329	1,700	<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	5.8
Toluene	µg/L	1,000*	1,100	<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	5.4
Semivolatile Organic Compounds									
Acenaphthene	µg/L	2,000*	6,100	<0.50	< 0.50	< 0.50	< 10	< 10	< 10
Acenaphthylene	µg/L	470	3,100	<1.0	< 1.0	< 1.0	< 10	< 10	< 10
Anthracene	µg/L	4,700	31,000	<0.050	0.051	< 0.050	< 10	< 10	< 10
Benzo[a]anthracene	µg/L	1.17	3.92	<0.050	0.087	< 0.050	< 0.050	< 0.050	< 0.050
Benzo[a]pyrene	µg/L	0.2*	0.39	<0.050	0.12	< 0.050	< 0.050	< 0.050	< 0.050
Benzo[b]fluoranthene	µg/L	1.17	3.92	<0.10	0.15	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	µg/L	10	10	<0.10	0.21	< 0.10	< 10	< 10	< 10
Benzo[k]fluoranthene	µg/L	11.7	39.2	<0.050	0.15	< 0.050	< 10	< 10	< 10
Chrysene	µg/L	117	392	<0.050	0.091	< 0.050	< 10	< 10	< 10
Dibenz(a,h)anthracene	µg/L	0.3*	0.39	<0.10	0.16	< 0.10	< 0.10	< 0.10	< 0.10
2,4-Dimehylphenol	µg/L	700*	700*	<10	< 10	< 10	< 10	16	25
Fluoranthene	µg/L	1,000*	4,100	<0.10	< 0.10	< 0.10	< 10	< 10	< 10
Fluorene	µg/L	1,000*	4,100	<0.10	< 0.10	< 0.10	< 10	< 10	< 10
Indeno[1,2,3-cd]pyrene	µg/L	1.17	3.92	<0.050	0.19	< 0.050	< 0.050	< 0.050	< 0.050
2-Methylphenol	µg/L	780	5,100	<10	< 10	< 10	< 10	< 10	< 10
3 & 4 Methylphenol	µg/L	78	510	<10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20*	20*	<0.50	0.87	< 0.50	< 10	< 10	< 10
Phenanthrene	µg/L	470	3,100	<0.050	0.058	0.086	< 10	< 10	< 10
Phenol	µg/L	9,390	61,000	<10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	1,000*	3,100	<0.050	< 0.050	< 0.050	< 10	< 10	< 10
Inorganic Constituents									
Antimony	µg/L	6.3	40	< 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
Barium	µg/L	2,000	7,200	220	189	115	124	99.2	106
Beryllium	µg/L	31	200	< 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
Chromium	µg/L	100	310	36.5	31.4	30.7	33.9	26.8	25.7
Copper	µg/L	630	4,100	< 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
Nickel	µg/L	100	2,000	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Zinc	µg/L	4,700	31,000	<20.0	37.7	< 20.0	< 20.0	< 20.0	< 20.0
Mercury	µg/L	2*	2*	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Total Cyanide	µg/L	310	2,000	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0

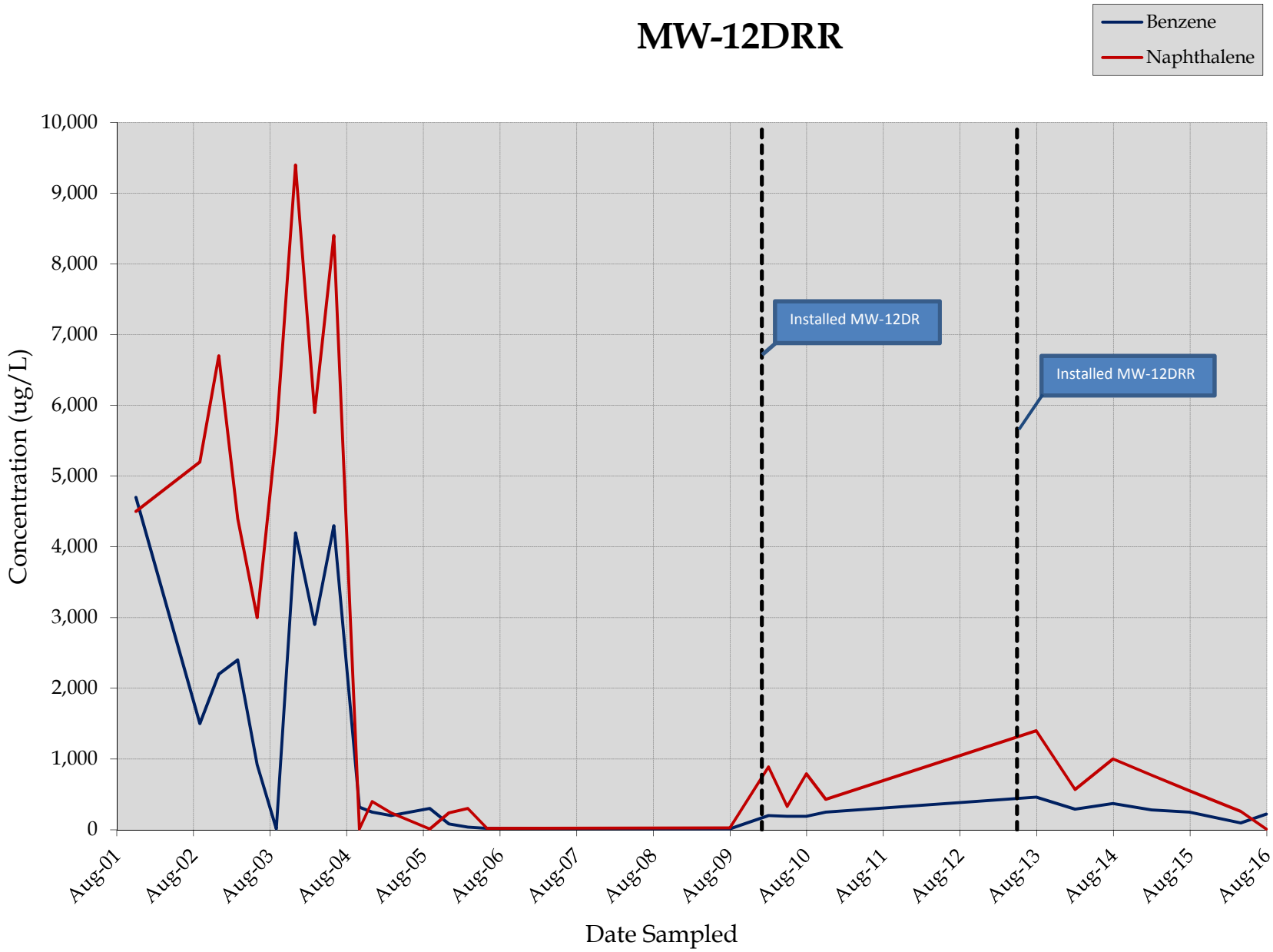
Notes:
Analyte was detected above laboratory detection limit
Analyte concentration exceeds the Type 4 RRS (RRS applicable to the well location)
*Highest RRS equals Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical
ft AMSL - feet Above Mean Sea Level
RRS - Risk Reduction Standard
SU - Standard Units
mS/cm - millisiemens per centimeter
µg/L - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
NTU - nephelometric turbidity units
N/A - RRS are not applicable to this parameter
-- Not Analyzed
Values are listed with the laboratory-reported number of significant figures, which varies between different constituents within the same groundwater sample, and between the same constituent in different wells.

Bedrock Monitoring Wells: Concentration and Groundwater Elevation Trend Graphs (CD ONLY)

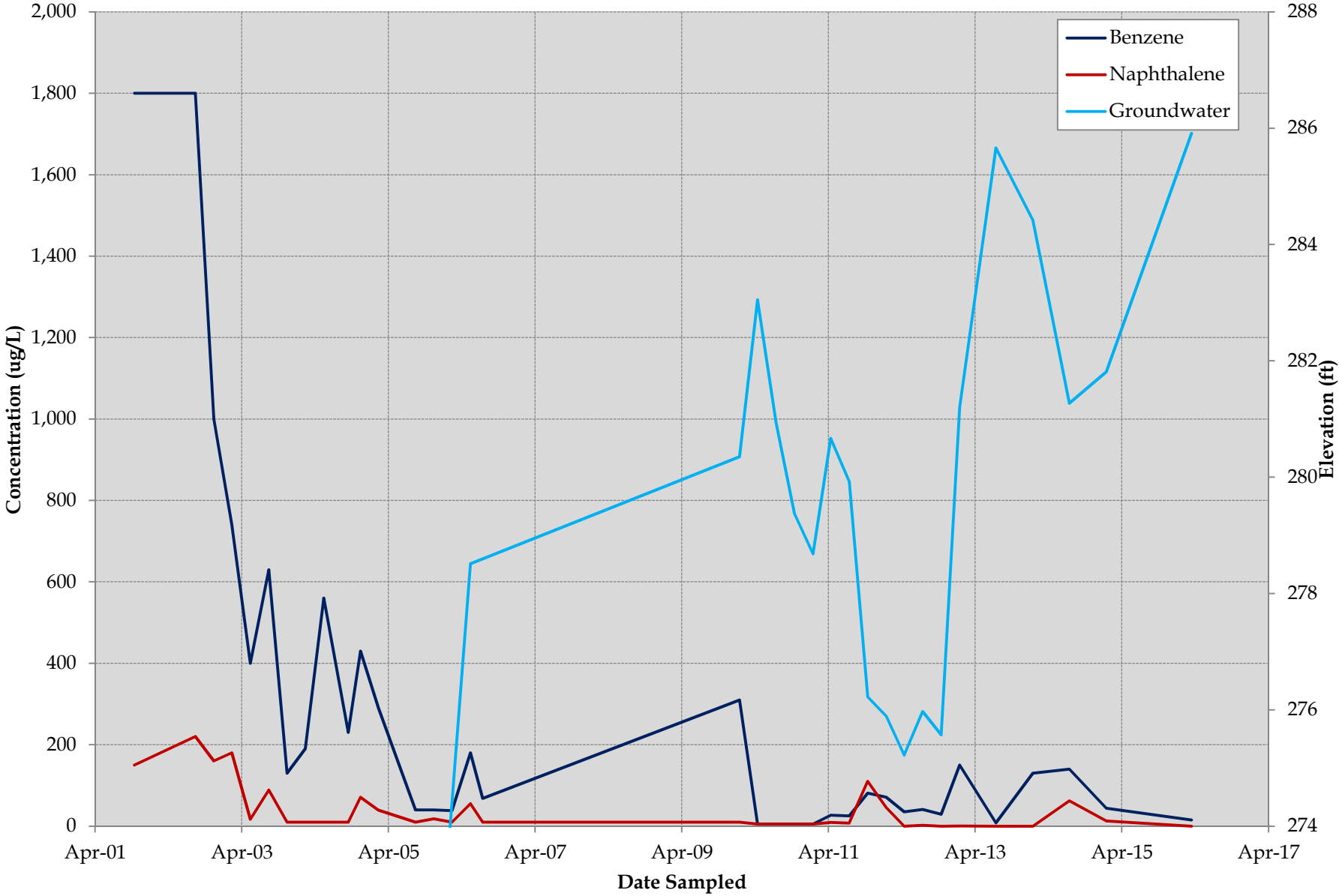
Appendix B-8

Project No. 0366660
Atlanta Gas Light Company

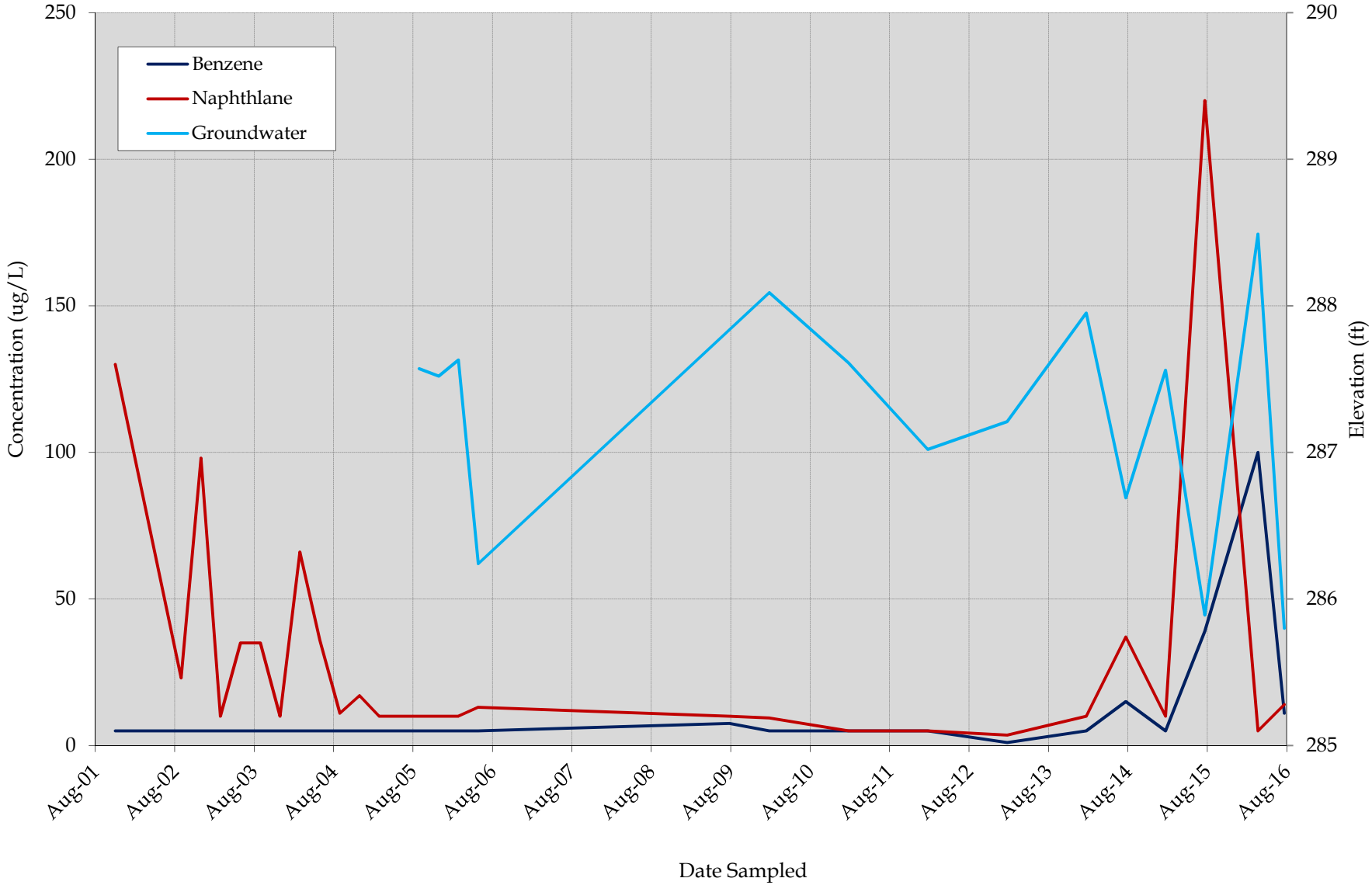
Environmental Resources Management Southeast, Inc.
3200 Windy Hill Rd. Suite 1500W
Atlanta, GA 30339
(678) 486-2700


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
Aug-16
Date Sampled

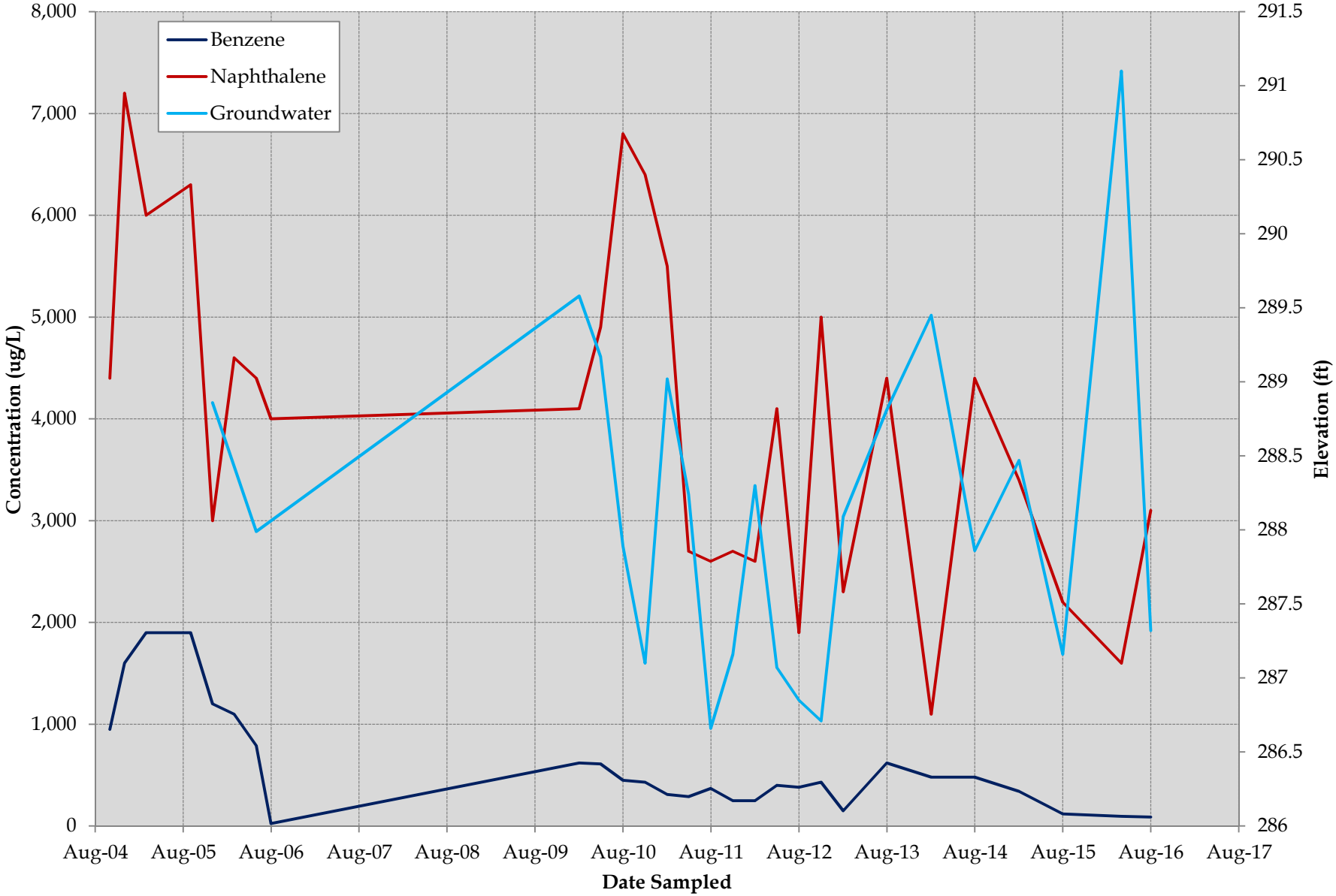
MW-12DD


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
Apr-17

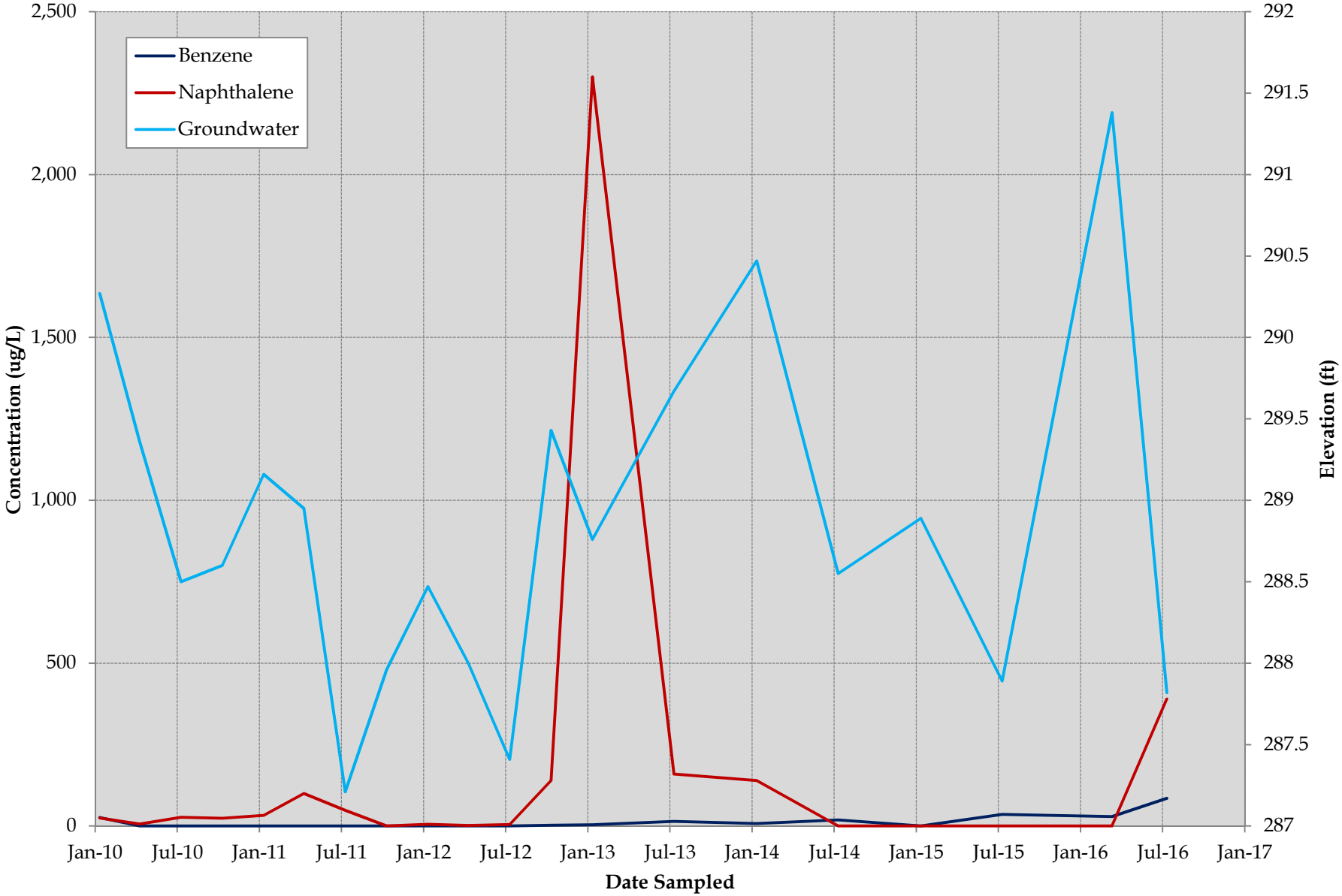
MW-24D


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

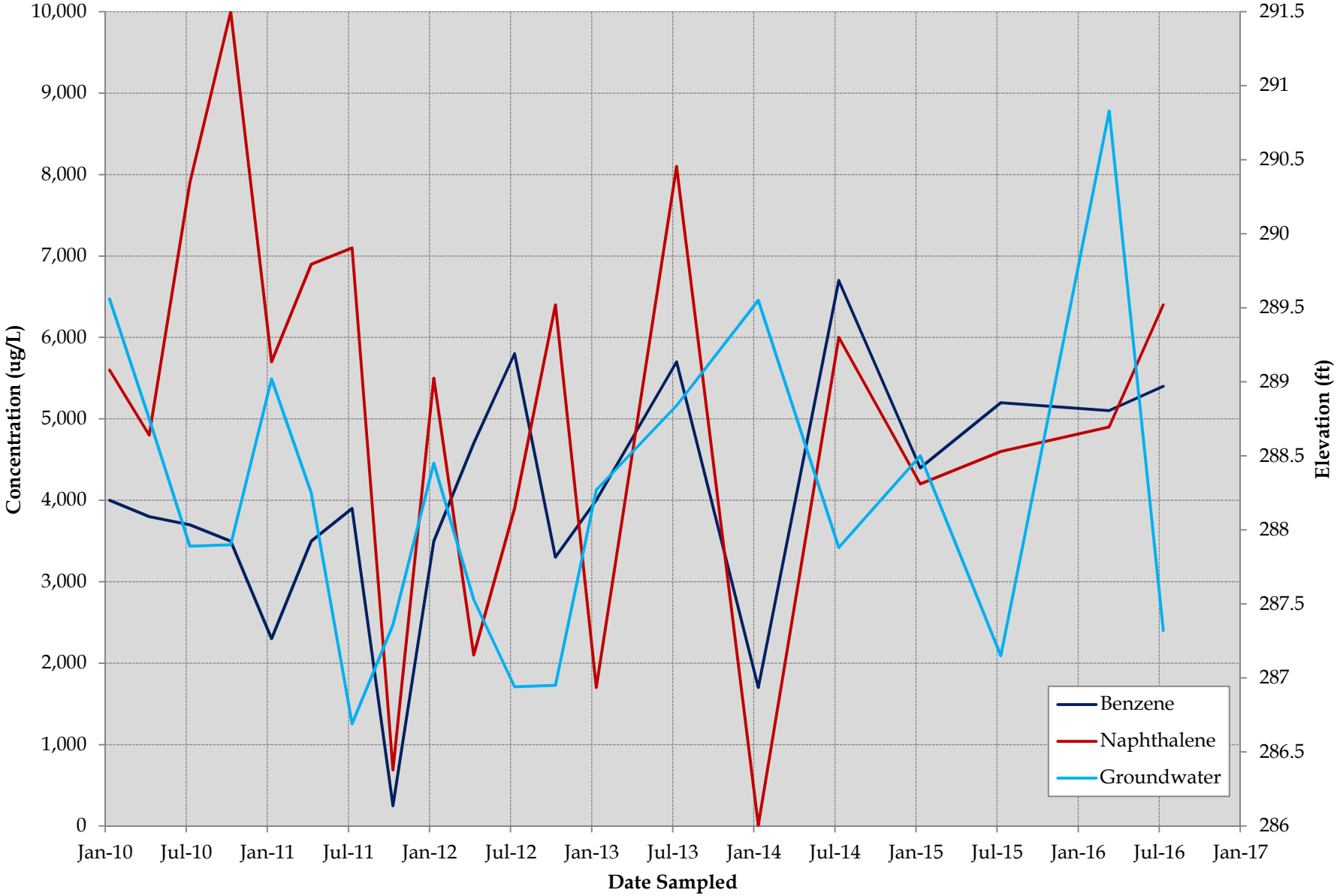
MW-110D


Benzene
Naphthalene
Groundwater
Concentration (ug/L)
Elevation (ft)
Date Sampled
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
291.5
291
290.5
290
289.5
289
288.5
288
287.5
287
286.5
286
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
Aug-17

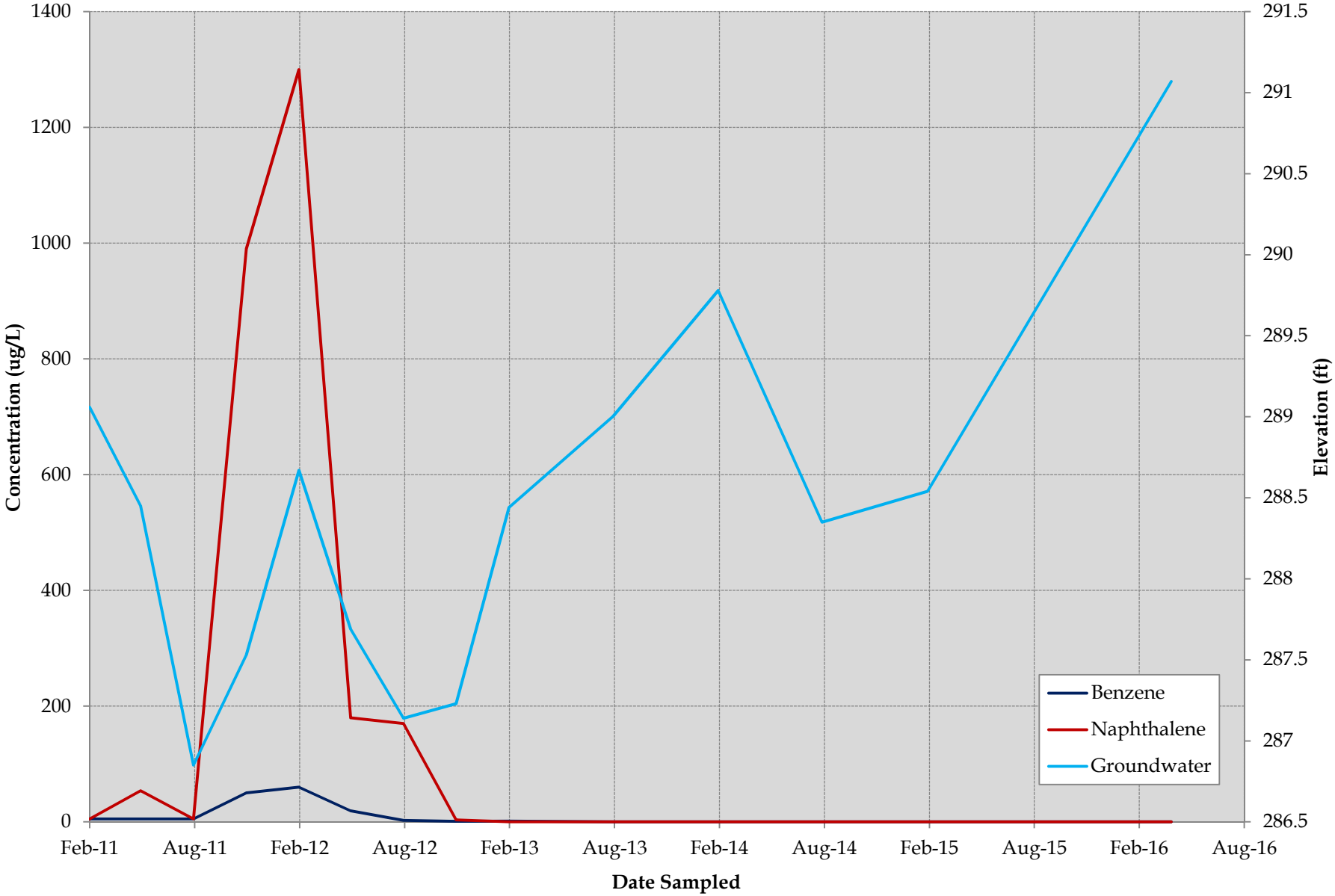
MW-200DR


Benzene
Naphthalene
Groundwater
2,500
2,000
1,500
1,000
500
0
Concentration (ug/L)
292
291.5
291
290.5
290
289.5
289
288.5
288
287.5
287
Elevation (ft)
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
Jul-16
Jan-17
Date Sampled

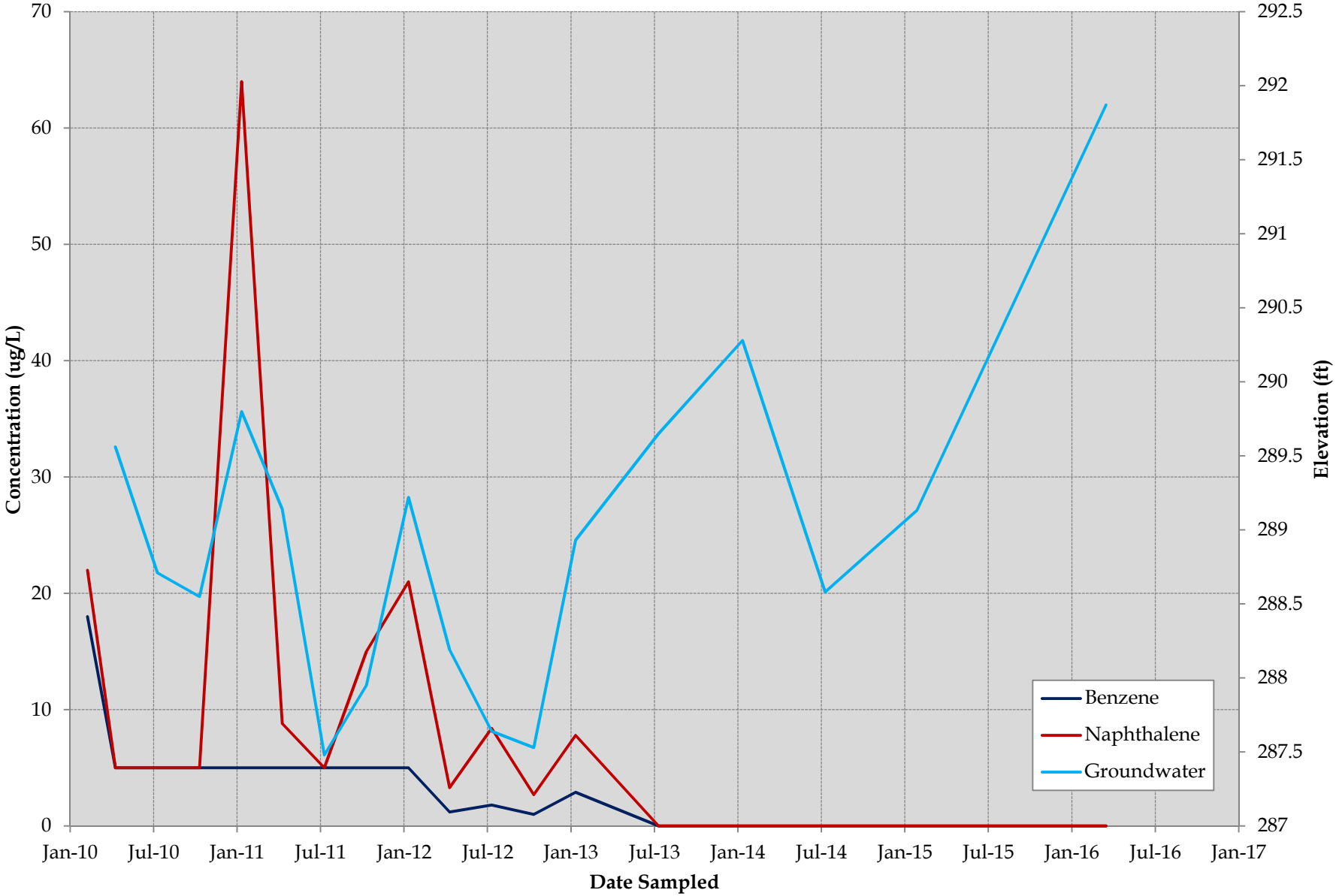
MW-205D


Concentration (ug/L)
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
Elevation (ft)
291.5
291
290.5
290
289.5
289
288.5
288
287.5
287
286.5
286
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
Jul-16
Jan-17
Date Sampled
Benzene
Naphthalene
Groundwater

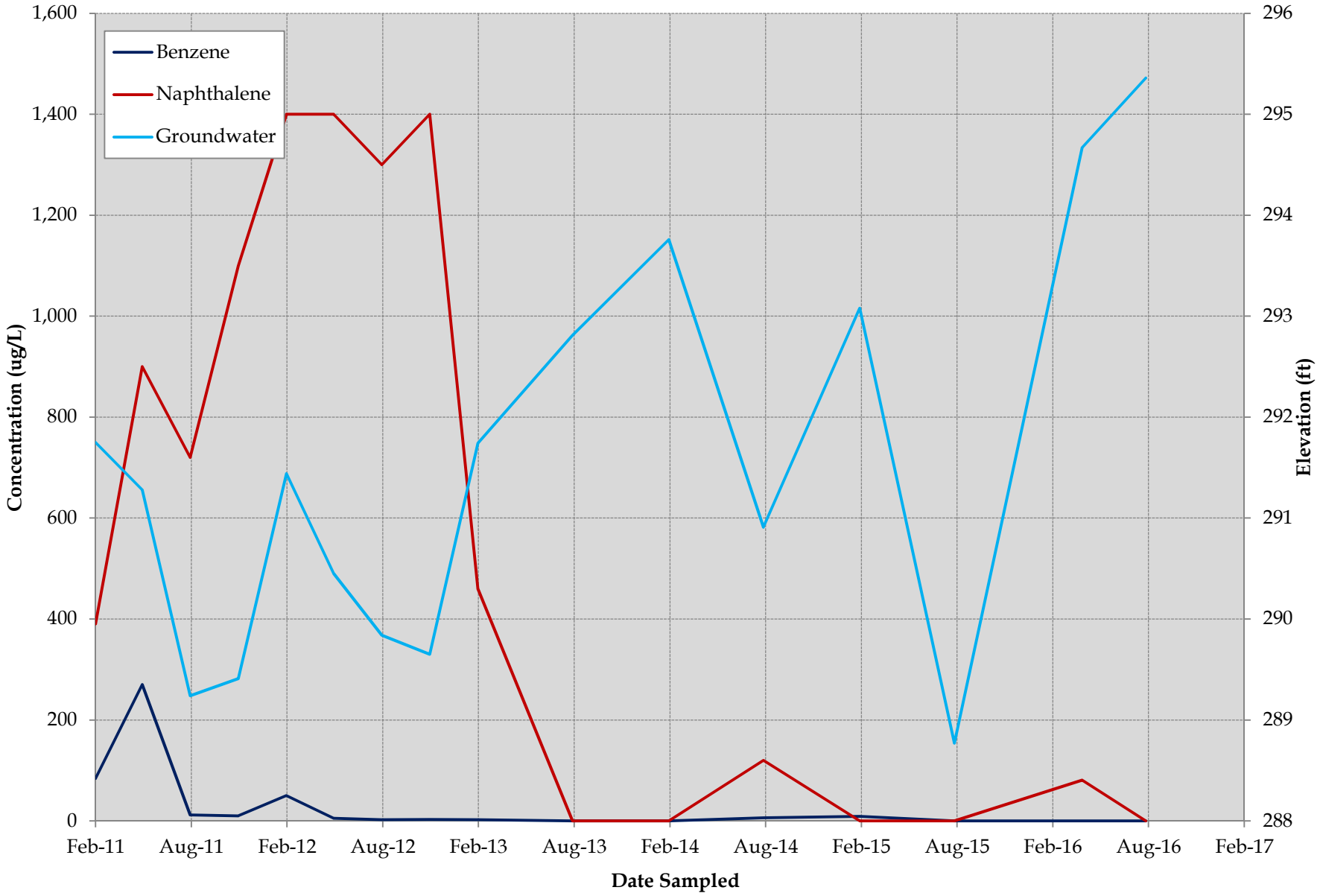
MW-206D


1400
1200
1000
800
600
400
200
0
Concentration (ug/L)
291.5
291
290.5
290
289.5
289
288.5
288
287.5
287
286.5
Elevation (ft)
Feb-11
Aug-11
Feb-12
Aug-12
Feb-13
Aug-13
Feb-14
Aug-14
Feb-15
Aug-15
Feb-16
Aug-16
Date Sampled
Benzene
Naphthalene
Groundwater

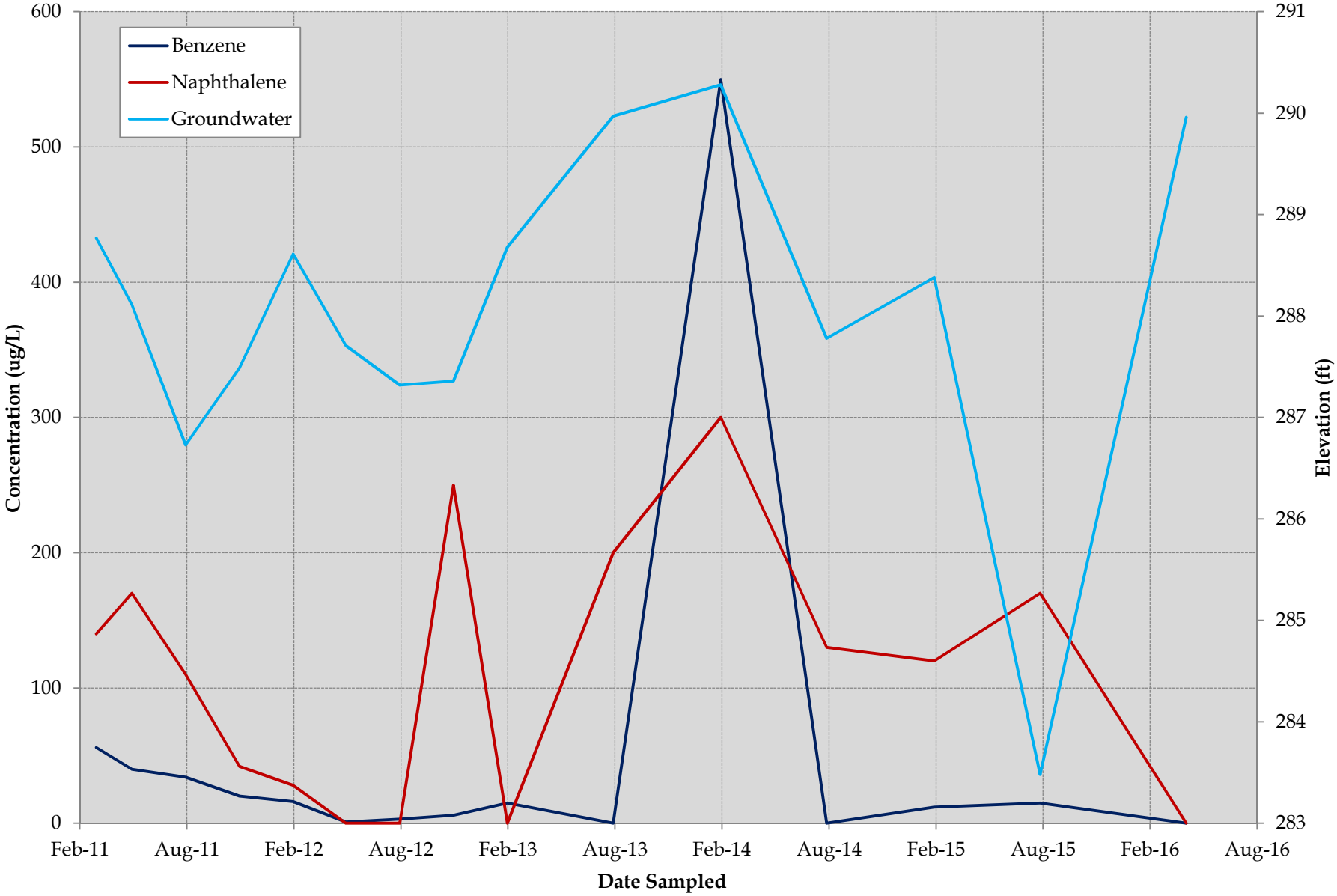
MW-207D


70
60
50
40
30
20
10
0
Concentration (ug/L)
292.5
292
291.5
291
290.5
290
289.5
289
288.5
288
287.5
287
Elevation (ft)
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
Jul-16
Jan-17
Date Sampled
Benzene
Naphthalene
Groundwater

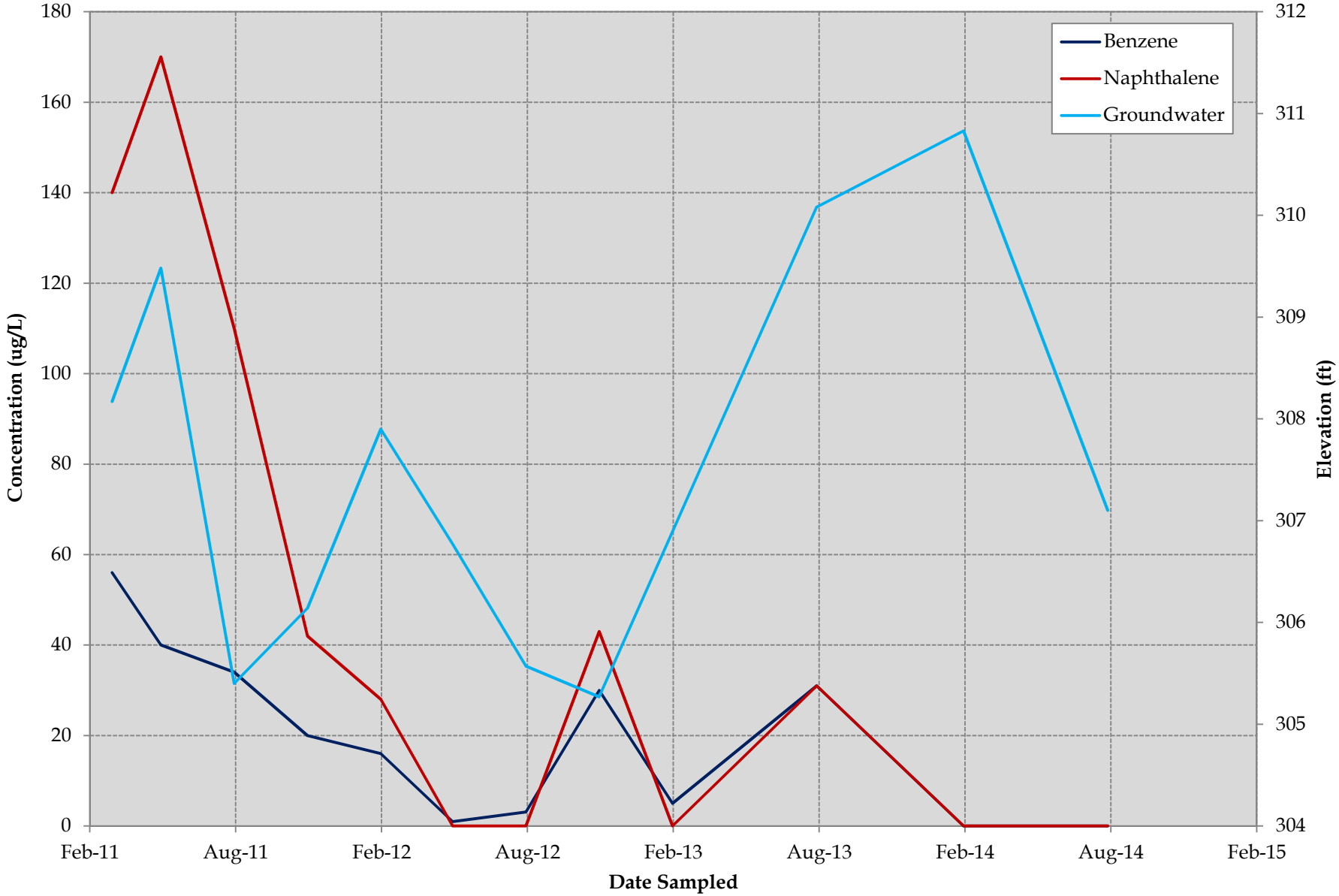
MW-301D


Benzene
Naphthalene
Groundwater
Concentration (ug/L)
Elevation (ft)
1,600
1,400
1,200
1,000
800
600
400
200
0
296
295
294
293
292
291
290
289
288
Feb-11
Aug-11
Feb-12
Aug-12
Feb-13
Aug-13
Feb-14
Aug-14
Feb-15
Aug-15
Feb-16
Aug-16
Feb-17
Date Sampled

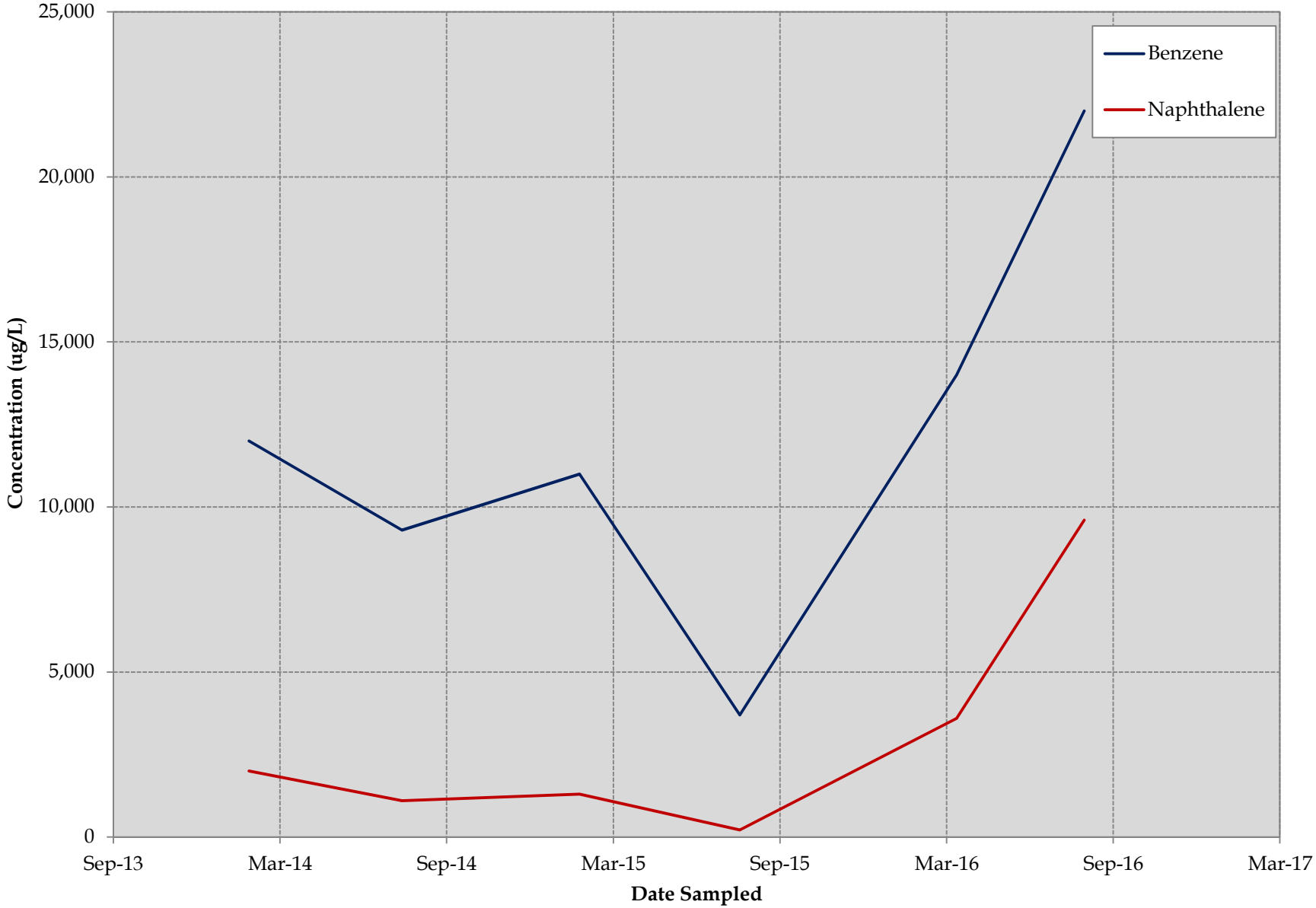
MW-302D


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
Aug-16

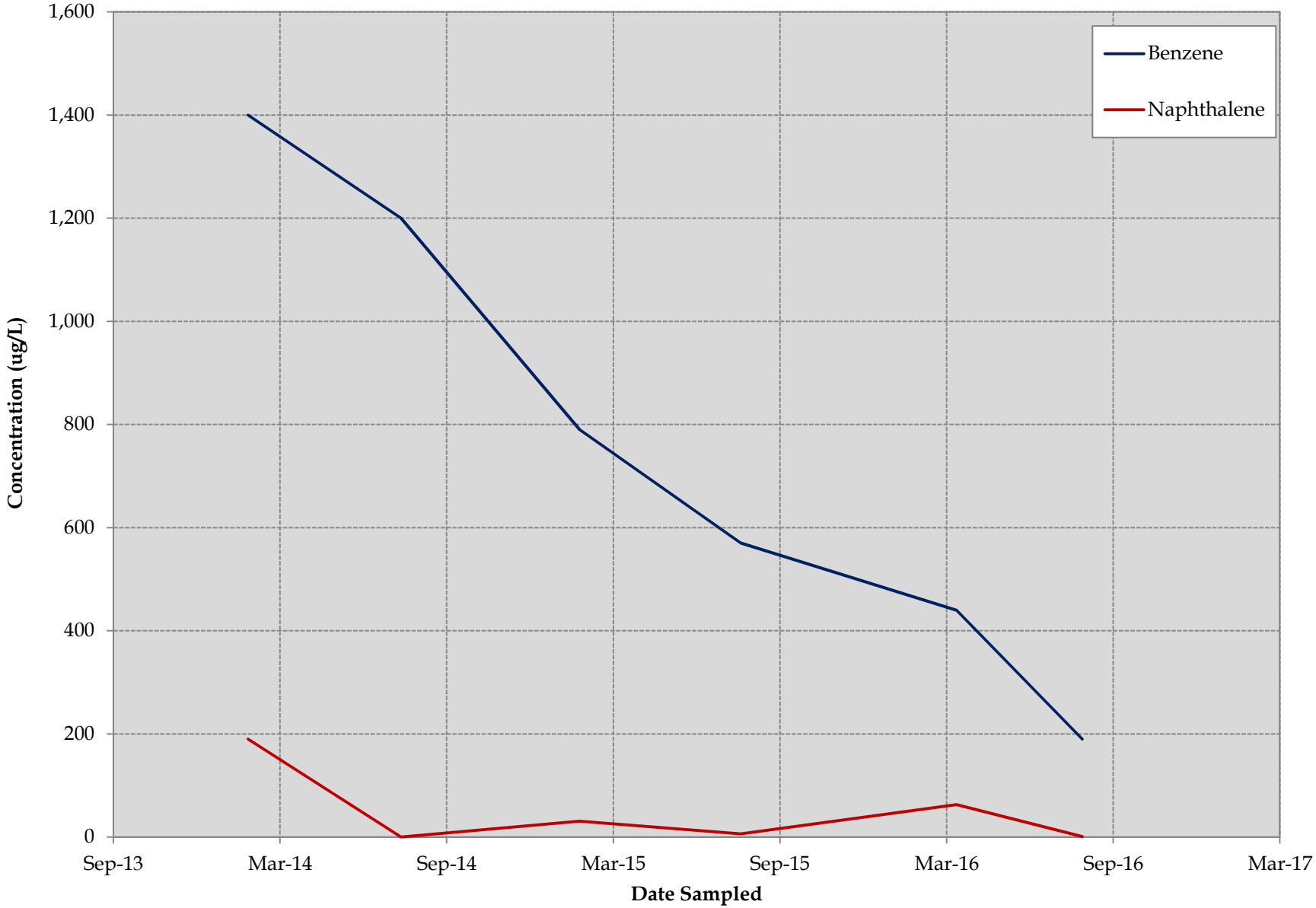
MW-303D (Abandoned)



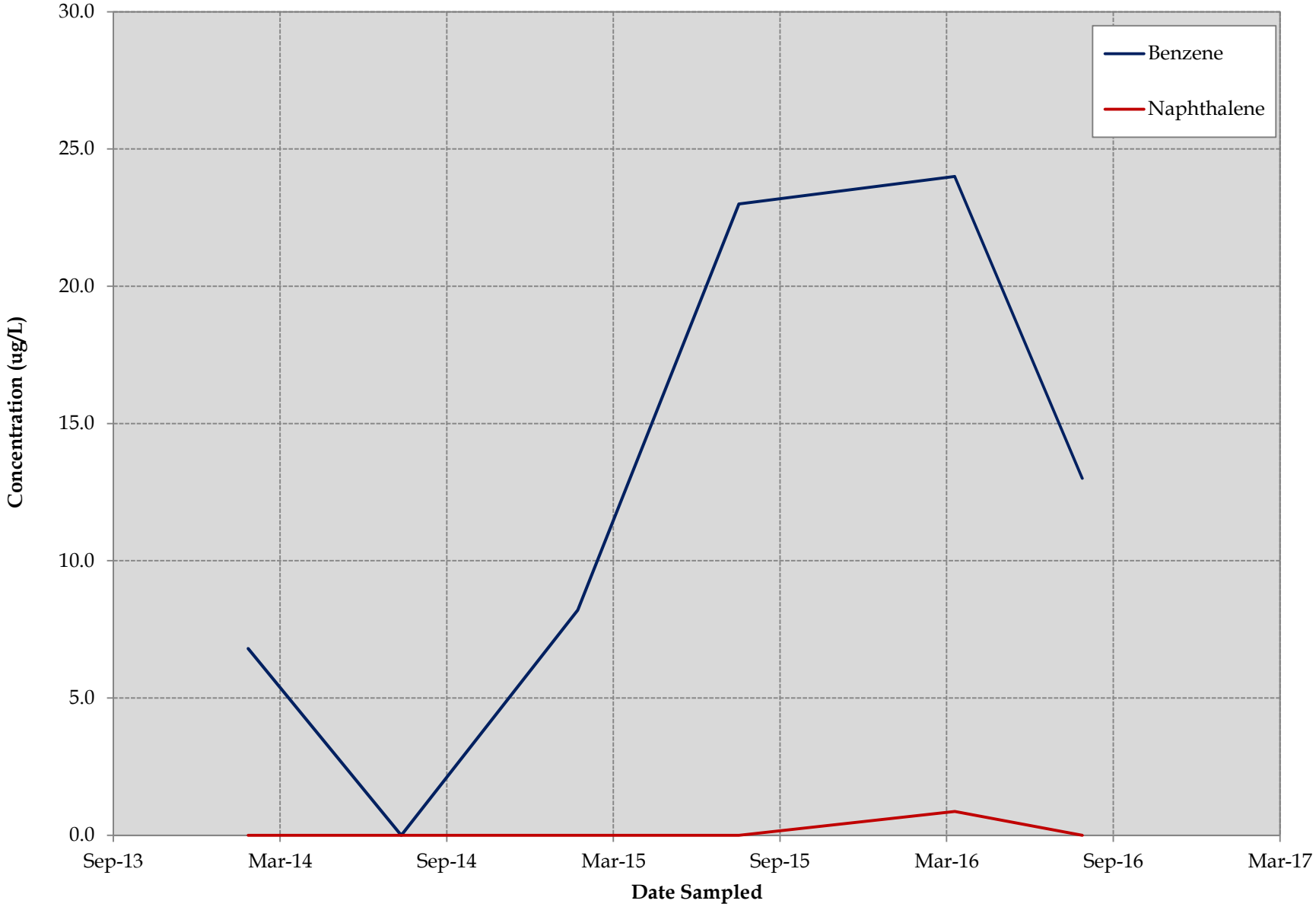
MW-305D


25,000
20,000
15,000
10,000
5,000
0
Concentration (ug/L)
Sep-13
Mar-14
Sep-14
Mar-15
Sep-15
Mar-16
Sep-16
Mar-17
Date Sampled
Benzene
Naphthalene

MW-306D


1,600
1,400
1,200
1,000
800
600
400
200
0
Concentration (ug/L)
Benzene
Naphthalene
Sep-13
Mar-14
Sep-14
Mar-15
Sep-15
Mar-16
Sep-16
Mar-17
Date Sampled

MW-308D


30.0
25.0
20.0
15.0
10.0
5.0
0.0
Concentration (ug/L)
Benzene
Naphthalene
Sep-13
Mar-14
Sep-14
Mar-15
Sep-15
Mar-16
Sep-16
Mar-17
Date Sampled

MW-24D Benzene And Naphthalene Concentration Graphs

Appendix C

Project No. 0366660
Atlanta Gas Light Company

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

Appendix C
MW-24D Benzene and Naphthalene Concentration Graphs
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Macon, Georgia
2001 through 2016